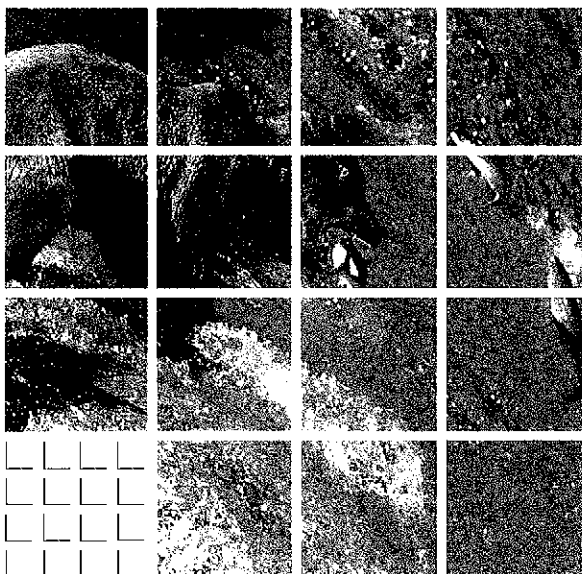


**DRAFT
BIOLOGICAL RESOURCES REPORT
VALLEY-IVYGLEN TRANSMISSION LINE PROJECT
RIVERSIDE COUNTY, CALIFORNIA**

Volume I of II

Prepared for:
SOUTHERN CALIFORNIA EDISON COMPANY
Rosemead, CA

Prepared by:
ENTRIX, INC.
Ventura, CA



February 1, 2006

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Prepared for:

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TABLE OF CONTENTS

	Page
List of Tables	iii
Acronyms	iv
1.0 Introduction	1-1
1.1 Project Background	1-1
1.2 Project Description	1-1
1.3 Project Location	1-2
1.4 Western Riverside Multi-Species Habitat Conservation Plan	1-2
2.0 Methods	2-1
2.1 Literature Review	2-1
2.1.1 Western Riverside MSHCP Criteria Species	2-5
2.1.2 Biological Surveys	2-9
3.0 Environmental Setting	3-1
3.1 Existing Conditions	3-1
3.2 Western Riverside MSHCP Plant Communities	3-1
3.3 Valley-Ivyglen Transmission Line Segments	3-4
4.0 Regulatory Setting	4-1
4.1 Jurisdictional Regulation	4-1
4.2 Definition of Significance	4-2
5.0 Avoidance Measures	5-1
6.0 References	6-1

Appendix A. Listed Candidate, Sensitive, and Species of Concern
Potentially Occurring in the Project Area

Appendix B. Plant and Wildlife Species Observed during the Ivyglen
Biological Resource Surveys

Volume II. Vegetation Maps

	Page
Table 2.1. MSHCP Criteria Species in the Valley-Ivyglen Transmission Line Study Area	2-3
Table 2.2. Personnel and Survey Dates	2-9
Table 2.3. Surveys Conducted	2-10
Table 3.1. Vegetation Communities of the Valley-Ivyglen Transmission Line Segments	3-5
Table 3.2. Valley-Ivyglen Transmission Line Study Areas.....	3-6

ACRONYMS

CDFG	California Department of Fish and Game
CESA	California Endangered Species Act
CEQA	California Environmental Quality Act
CNDDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CPUC	California Public Utilities Commission
CSC	California Special Concern Species
ESA	Endangered Species Act
FE	Federally Listed as Endangered
FSC	Federal Species of Concern
FT	Federally Listed at Threatened
GPS	geographic positioning system
HANS	Habitat Acquisition and Negotiation Strategy
kV	Kilowatt
MBTA	Migratory Bird Treaty Act
MSHCP	Western Riverside County Multiple Species Habitat Conservation Plan
NPDES	National Pollutant Discharge Elimination System
OHWM	ordinary high water mark

PEA	Proponent's Environmental Assessment
ROW	Right-of-way
SCE	Southern California Edison
SE	State Listed as Endangered
ST	State listed as Threatened
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey

1.1 PROJECT BACKGROUND

This report describes the methods and results of biological surveys undertaken in support of Southern California Edison's (SCE) construction of the Valley-Ivyglen Transmission Line to connect the Valley Substation to the Ivyglen Substation (Project). The Valley Substation is located in the southwest corner of an unincorporated area known as Romoland, adjacent to the city of Perris. The Ivyglen Substation is located in the southeastern portion of unincorporated Corona, along Temescal Canyon Road and near the Glen Ivy Hot Springs. The Ivyglen Substation is approximately 19 miles west of the Valley Substation.

The proposed Project is in the coverage area of the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP). The MSHCP provides conservation area for 146 special-status species, including endangered and threatened species, and provides incidental take permits for development projects that impact the covered species.

Projects that comply with the requirements of the MSHCP are considered to have met California Environmental Quality Act (CEQA) requirements for impacts to any special-status species and their habitats covered by the MSHCP.

1.2 PROJECT DESCRIPTION

SCE is proposing to construct the Valley-Ivyglen Transmission Line to connect the Valley Substation to the Ivyglen Substation. The proposed Project includes the construction of a new 115kV transmission line using existing right-of-way (ROW) where available, utility ROWs along roads, or the establishment of new ROWs where none exist.

The Project area has been divided into segments, labeled Segment A through Segment M, with the exception of Segment H which was removed from consideration as a Project alternative. Each segment is unique with a distinctive geographic location. Maps of the segments are shown in Volume II. The chosen segments will determine the transmission route alternatives for analysis in the required Proponent's Environmental Assessment (PEA).

Since each segment is unique, segment selection will influence equipment and construction, pole types, pole height, and other factors. Therefore, potential impacts may vary according to segments selected for construction.

The majority of the transmission poles will be 75 feet in height. However, 80 and 85-foot high poles may be installed for clearance purposes. Pole spacing (spanning) will be determined by ground clearance, overhead clearance, wind loading per California Public Utilities Commission (CPUC) standards, distance between angle points, and environmental constraints. The engineering intent is to maintain the pole spanning as uniformly as possible.

The biological study area for the proposed Project consists of a 200-foot wide corridor, 100 feet on each side of the proposed transmission line segment. The length of the biological study area is approximately 78 miles.

1.3 PROJECT LOCATION

The proposed Project is located in western Riverside County, and the segments traverse unincorporated Riverside County, the Cities of Lake Elsinore, Corona, Perris, Sun City and Canyon Lake, California. The segments are located between Highway 91 (Riverside Freeway), Interstate 215 (I-215, Escondido Freeway) and Interstate 15 (I-15). Highway 74 (Ortega Highway) bisects the Project area from the southwest to the northeast. The proposed Valley-Ivyglen Transmission Line segments are depicted on the U.S. Geological Survey (USGS) Lake Matthews, Steele Peak, Alberhill, Romoland, Perris and Lake Elsinore, California, 7.5-minute series topographic quadrangles (IGAGE 1999).

1.4 WESTERN RIVERSIDE MULTI-SPECIES HABITAT CONSERVATION PLAN

The proposed Valley-Ivyglen Transmission Line is in the coverage area of the Western Riverside MSHCP. The MSHCP has been adopted by the County of Riverside, which is currently implementing the plan. The U.S. Fish and Wildlife Service (USFWS) and the California Department of Fish and Game (CDFG) recently approved the MSHCP, signed an Implementation Agreement (required under the Federal Endangered Species Act for implementation at the federal and state level) for the Plan, and issued incidental take permits to the County and 14 cities. The MSHCP provides the conservation measures necessary for USFWS and CDFG to grant take permits pursuant to the federal and state endangered species acts for otherwise lawful actions. These take permits are issued in recognition of the conservation effects of the coordinated conservation system planned by the MSHCP. The permittees have the authority to grant Third Party Authorization to private developers, provided the terms of the MSHCP are satisfied.

The MSHCP covers 146 species, termed "covered species." A Project that complies with the MSHCP meets federal and state endangered species requirements and meets CEQA criteria for less than significant impacts to the covered species and their habitats.

The MSHCP involves the assembly and management of a Conservation Area of core habitat areas and habitat linkages for the conservation of natural habitats and their wildlife populations. The Conservation Area will be developed from lands in the Criteria Area. The Criteria Area is larger than the area that will eventually be included in the protected Conservation Area. The Criteria Area is mapped as cells of approximately 160 acres that are formed by overlaying USGS quarter sections on the Criteria Area. Each cell is uniquely identified and has specific conservation criteria. Some of the cells are grouped into Subunits of the Criteria Area. The MSHCP provides detailed maps of Criteria Areas cells within each Area Plan for assessment for inclusion in the MSHCP Conservation Area.

The overall MSHCP area is subdivided into 16 Area Plans, each of which includes Criteria Area cells. Each Area Plan has specific protection measures, criteria, and surveys that are required for a proposed development plan to comply with the MSHCP.

The MSHCP requires that developments within the Criteria Area must go through a Habitat Acquisition and Negotiation Strategy (HANS) process to determine whether a portion of the development site should be acquired for inclusion in the MSHCP Conservation Area.

The proposed Valley-Ivyglen Transmission Line lies within the Temescal Canyon, Elsinore, Lake Matthews/Woodcrest, Mead Valley, and Sun City/Menifee Area Plans of the MSHCP. Based on current mapping, portions of the proposed transmission line are within Criteria Area cells, and thus will be subject to the HANS process.

The MSHCP requires site surveys of riparian, riverine and vernal pool resources in order to conserve these resources and the species that use them. If surveys find these resources on a Project site, these resources may be conserved through inclusion in the Conservation Area during the HANS process. The MSHCP requires that projects on riparian, riverine and vernal pool resources that are not included in the Conservation Area must comply with mitigation requirements under CEQA. The MSHCP describes a strategy of impact avoidance, minimization, and mitigation for these resources. The MSHCP further requires that long-term conservation of these areas is assured, and recommends that indirect impacts be reviewed to provide protection for these areas. The MSHCP does not replace existing federal and state regulations covering lakes, streams, vernal pools and other wetland areas. Thus, projects must comply with existing regulations for these resources. These are discussed in further detail in the Jurisdictional Regulation section of this report.

Project specific surveys are not required for most of the 146 species covered by the MSHCP. The MSHCP requires surveys, however, for Criteria Species due to lack of sufficient information on occurrence. A review of the MSHCP maps

indicate that all or substantial portions of all transmission line segments lie within the Narrow Endemic Plant Species Survey Area or the Criteria Area Survey Species Area. The MSHCP requires Criteria Species surveys for seven special-status plants and one special-status animal species within the area of the proposed Valley-Ivyglen Transmission Line. These include the following plant species: Munz's onion (*Allium munzii*), San Diego ambrosia (*Ambrosia pumila*), smooth tarplant (*Centromadia pungens* ssp. *laevis*), slender-homed spineflower (*Dodecahema leptoceras*), many-stemmed dudleya (*Dudleya multicaulis*), round-leaved filaree (*Erodium macrophyllum*), little mousetail (*Myosurus minimus*), and one special-status animal species, the burrowing owl (*Athene cunicularia*).

2.1 LITERATURE REVIEW

Available literature was reviewed to identify any special-status plants, wildlife, or sensitive habitats known from the vicinity of the segments. A review of the California Natural Diversity Database (CNDDDB) for the Alberhill, Lake Elsinore, Lake Mathews, Perris, Romoland, and Steele Peak, California, 7.5-minute series topographic quadrangles was conducted to assess known locations of special-status species in the vicinity of the proposed Project (CDFG 2006).

For the purpose of this report, the term special-status plants and wildlife are defined as species that are:

- Listed or proposed for listing as Threatened (FT, FPT) or Endangered (FE, FPE) under the Federal Endangered Species Act (federal ESA) (50 CFR 17.11 [listed animals] and 50 CFR 17.12 [listed plants], and various notices in the Federal Register for proposed species);
- Listed by the State of California as Threatened (ST) or Endangered (SE) under the California Endangered Species Act (CESA) (14 CCR 670.5);
- Federal Candidates for listing as Threatened or Endangered (FC) under the federal ESA (58 FR 188: 51144-51190, September 30, 1993);
- Fully protected (FP) animals in California (CDFG Code, Sections 3511 [birds], 4700 [mammals], and 5050 [reptiles and amphibians]);
- Federal Species of Concern (FSC) or California Species of Special Concern (CSC);
- Plants listed as rare under the California Native Plant Protection Act of 1977 (California Fish And Game (CDFG) Code, Section 1900 et seq.);
- Plants considered by California Native Plant Society (CNPS) to be "rare, Threatened, or Endangered in California" (generally species from CNPS Lists 1B and 2); and
- Any other species included in the MSHCP.

The results of the literature review indicate the potential occurrence of 26 special-status plant species, seven of which are federally or state listed, and 28 special-status wildlife species, seven of which are federally or state listed; and six special-status plant communities. Appendix A presents a compilation of the special-status species known from the region and summarizes their agency status designations, habitat requirement, potential for occurrence, and whether or not it is an MSHCP covered species. MSHCP applicability is described in Section 1.4.

A review of the California Native Plant Society's (CNPS) Online Inventory of Rare and Endangered Plants of California was conducted for natural history information of the seven special-status plant species. The eight special-status species are shown in Table 2.1: *MSHCP Criteria Species in the Valley-Ivyglen Transmission Line Study Area*, along with details on their status, habitat requirements and potential for occurrence within the study area and described below in greater detail.

Table 2.1. MSHCP Criteria Species in the Valley-Ivyglen Transmission Line Study Area

Common Name Scientific Name	Status	General Habitat Description	Blooming Period	Potential for Occurrence
PLANTS				
Munz's onion <i>Allium munzii</i>	FE ST CNPS 1B	Chaparral, cismontane woodland, coastal scrub, pinyon and juniper woodland, valley and foothill grassland. Plants are restricted to clay soils in the rapidly disappearing grasslands of western Riverside County. Elevation 985 to 3,510 ft.	March - May	High
San Diego ambrosia <i>Ambrosia pumila</i>	FE CNPS 1B	Coastal scrub, chaparral, valley and foothill grassland, vernal pools often in disturbed areas. Riverside and San Diego counties. Elevation 65 to 1,365 ft.	April - October	High
Smooth tarplant <i>Centromadia pungens ssp. laevis</i>	CNPS 1B	Chenopod scrub, meadows and seeps, playas, riparian woodland, valley and foothill grassland. Elevation 0 - 1,575 ft.	April - September	Moderate
Slender-horned spineflower <i>Dodecahema leptoceras</i>	FE SE CNPS 1B	Chaparral, coastal scrub (alluvial fan sage scrub). Flood deposited terraces and washes; associations include encelia, dalea, lepidospartum, etc. Extirpated from much of range. Historically from LA, Riverside and San Bernardino counties. Elevation 655 to 2,495 ft.	April - June	Low

Common Name Scientific Name	Status	General Habitat Description	Blooming Period	Potential for Occurrence
Many-stemmed dudleya <i>Dudleya multicaulis</i>	CNPS 1B	Coastal scrub, valley and foothill grassland, chaparral. Heavy soils, often clayey, coastal plain. Elevation 50 to 2,595 ft.	April - July	Low
Round-leaved filaree <i>Erodium macrophyllum</i>	CNPS 2	Cismontane woodland, valley and foothill grassland, open sites. Elevation 50 to 3,940 ft.	March - May	Moderate
Little mousetail <i>Myosurus minimus</i>	CNPS 3	Valley and foothill grassland, vernal pools (alkaline). Wet places, vernal pools, and marshes. Elevation 65 to 1,510 ft.	March - June	Moderate
WILDLIFE				
Burrowing owl <i>Athene cunicularia</i>	CSC	A yearlong resident of open, dry grassland and desert habitats, and in grass, forb and open shrub stages of pinyon-juniper and ponderosa pine habitats. Uses rodent or other burrow for roosting and nesting cover. Frequents open grasslands and shrublands with perches and burrows.		Low (not expected)

Common Name <i>Scientific Name</i>	Status	General Habitat Description	Blooming Period	Potential for Occurrence
<p>Key: FE: Federally Listed as Endangered FT: Federally Listed at Threatened SE: State listed as Endangered ST: State listed as Threatened FSC: Federal Species of Concern CSC: California Special Concern Species</p> <p>CNPS List 1B: Rare, threatened, or endangered in California and elsewhere.</p> <p>CNPS List 2: Rare, threatened or endangered in California, but more common elsewhere. CNPS List 3: Plants for which more information is needed – review</p> <p>Potential for Occurrence:</p> <p>Low = Low potential for occurrence - No recent or historical records exist of the species occurring in the Project area or its immediate vicinity (within approximately 5 miles) and the diagnostic habitat requirements strongly associated with the species do not occur in the Project area or its immediate vicinity.</p> <p>Moderate = Moderate potential for occurrence - Either a historical record exists of the species in the Project area or its immediate vicinity or the diagnostic habitat requirements associated with the species occur in the Project area or its immediate vicinity.</p> <p>High = High potential for occurrence - Both a historical record exists of the species in the project area or its immediate vicinity and the diagnostic habitat requirements strongly associated with the species occur in the Project area or its immediate vicinity.</p>				

2.1.1 WESTERN RIVERSIDE MSHCP CRITERIA SPECIES

Munz's Onion

Munz's onion is a perennial herb that is found on mesic clay soils in western Riverside County, California. It occurs in vernal pools and other wetlands, or on clay soils and moist grasslands, generally on shallow slopes, and is associated with Alo, Altamont, Bosanko, or Auld soils (USFWS 1998). Munz's onion is typically found in association with southern needle grass grassland, mixed grassland, and grassy openings in coastal sage scrub. It is occasionally found in cismontane juniper woodlands with at least one specimen found associated with purple stipa (*Stipa pulchra*), slender oat (*Avena barbata*), with a few California junipers (*Juniperus californica*) (USFWS 1998).

This elusive wetland perennial is difficult to observe. Despite producing 10 to 36 white flowers at a time, Munz's onion only flowers during years with adequate rainfall, an event that irregularly occurs in southern California. Munz's onion does not even produce leaves during intense drought years, remaining dormant until sufficient rainfalls. This sensitivity to precipitation patterns makes this onion a difficult plant to study, which is evident from the lack of information on the

species. Surveys for this species must be conducted during years with good rainfall to obtain accurate occurrence records (CPC 2005).

San Diego Ambrosia

San Diego ambrosia is an herbaceous perennial arising from a branched system of rhizome-like roots. This rhizomatous perennial growth-form results in groupings of stems, often termed clones that are, or were, attached to one another. The leaves are 3 to 4 times pinnately divided into many small segments and are covered with short soft, gray-white, hairs. This species is monoecious, with separate male and female flowers on the same plant, and is wind-pollinated (USFWS 1999).

San Diego ambrosia is found on upper terraces of rivers and drainages as well as in open grasslands, openings in coastal sage scrub habitat, and dry lakebeds. The species may also be found in disturbed sites such as fuel breaks and roadways. Associated native plant species include inland saltgrass (*Distichlis spicata*), California Orcutt grass (*Orcuttia californica*), mule-fat (*Baccharis salicifolia*), and turkey-mullein (*Eremocarpus setigerus*). Populations of *Ambrosia pumila* occur on federal, state, local government, and private lands in western San Diego County, western Riverside County and in the northern state of Baja California, Mexico.

San Diego ambrosia flowers from May through October. The stems sprout in early spring after the winter rains and deteriorate in late summer. Therefore, the plant may not be evident from late summer to early spring. Because this species is a clonal plant, the numbers of genetically different individuals in a single occurrence, especially small occurrences, could be very low. It is possible that an occurrence that supports even 1,000 aerial stems may consist of very few plants. Low genetic diversity within smaller occurrences may lead to extinction of these occurrences (Barrett and Kohn 1991). San Diego ambrosia has good site tenacity but apparently does not readily colonize appropriate habitat, as do many closely related species (Reiser 1994).

Smooth Tarplant

Smooth tarplant is found in southwestern California and northwestern Baja California, Mexico. It occurs in San Bernardino, Riverside County, and San Diego Counties (Keil 1993). Western Riverside County accounts for over 60 percent of the reported populations (CNDDDB 2000).

Smooth tarplant occurs in a variety of habitats including alkali scrub, alkali playas, riparian woodland, watercourses, and grasslands with alkaline affinities. The majority of the populations in western Riverside County are associated with

alkali vernal plains. Smooth tarplant is frequently associated with other rare species, including San Jacinto Valley crownscale (*Atriplex coronata* var. *notatior*), Davidson's saltscale (*Atriplex serenana davidsonii*), Parish's brittlescale (*Atriplex parishii*), vernal barley (*Hordeum intercedens*), Coulter's goldfields (*Lasthenia glabrata* ssp. *coulteri*), and thread-leaved brodiaea (*Brodiaea filifolia*) (Bramlet 1993).

Smooth tarplant is restricted to clay and alkaline, silty-clay soils. The known core locations of smooth tarplant in western Riverside County are along the San Jacinto River, Salt Creek, and Temecula Creek (County of Riverside 2003).

Slender-horned Spineflower

Slender-horned spineflower is a small, spreading annual in the buckwheat family (*Polygonaceae*), with stems reaching one to six inches across. Spineflowers size varies with annual available moisture (Ferguson et al. 1996). Slender-horned spineflower germinates late February to early March in response to winter rains. This annual species has a basal rosette of leaves, from which rise dense flowering stalks. The white to pink flowers bloom from April through June. Abundant germination is known to occur following successive years of little or no seed production, suggesting that seeds remain viable in the soil for a number of years (Ferguson and Ellstrand 1999).

Slender-horned spineflower is known to occur in alluvial fans, floodplains, stream terraces, washes and associated benches, from 700 to 2,500 feet in elevation. It grows in riverbed alluvium which is high in silt and low in nutrients and organic matter. It also grows in silt-filled, shallow depressions on relatively flat surfaces surrounded by scattered, river-rounded, cobble-sized rocks (Allen 1996). The slender-horned spineflower is generally found in open areas among alluvial fan scrub, often associated with other spineflower species, and in areas with low densities of exotic grasses and other introduced weedy species.

The slender-horned spineflower is distributed in drainage systems of the Transverse and Peninsular Ranges and adjacent foothills in southern California in Los Angeles, Riverside, and San Bernardino counties (Young et. al. 2000).

Many-stemmed Dudleya

Many-stemmed dudleya is a perennial herb generally associated with clay soils in chaparral, grasslands, and coastal sage scrub. In Riverside County, many-stemmed dudleya has been associated with Palmer's grappling hook (*Harpagonella palmeri*), Munz's onion, manicure lupine (*Lupinus bicolor*), purple needlegrass (*Nassella pulchra*), foothill needlegrass (*N. lepida*), California

buckwheat (*Eriogonum fasciculatum*), and California sagebrush (*Artemisia californica*) (County of Riverside 2003b).

Many-stemmed dudleya is distributed along the southern coast of California, including Los Angeles, Orange, Riverside, San Diego and San Bernardino counties. About 10 populations of many-stemmed dudleya have been reported in western Riverside County. It is found below 1,970 feet in elevation.

Round-leaved Filaree

Round-leaved filaree is an annual, which typically grows in valley and foothill grasslands in open habitat, on friable clay soils, at elevations of 15 to 1,200 meters. The blooming period is from March through May. This small annual is well distributed in central and northern California, but is very rare in southern California.

Round-leaved filaree population sizes range from a few individuals to over 1000 and are restricted to heavy clay soils. Most populations are found on the eastern side of the Coast Ranges in California. The clay soils on which it is found typically have low cover of native and exotic species but often have other rare species. Based on herbarium records, Round-leaved filaree was probably once more common and may have occurred on other soil types (Gillespie 2005). Friable clay soil is rare in the region and may account for the rarity of several species restricted to this substrate (Reiser 1994).

Little Mousetail

In southern California, little mousetail occurs in association with vernal pools, as well as within the alkali vernal pools and alkali annual grassland components of alkali vernal plains (Ferren and Fiedler 1993). Little mousetail is found in areas that have semi-regular inundation. Due to the dependence of this species on floodplain hydrology and flooding, local densities fluctuate from year to year.

In Riverside County, little mousetail blooms from April to May on the Santa Rosa Plateau and from March to April in the lowlands, but is often detectable most of the year unless disturbed (County of Riverside 2003c). Little mousetail may not germinate or be detectable in dry years.

Burrowing Owl

The burrowing owl is a small, pale, buffy-brown owl that is unique in its habit of nesting in subterranean burrows. It occurs in grassland and other open habitats throughout much of the western United States, with a disjunct population in Florida. In California, the species is often found in areas containing California

ground squirrels (*Spermophilus beecheyi*), whose burrows are used by the owls. The burrowing owl is opportunistic in its use of burrow sites, and can use pipes or other suitable cavities at or below ground level. Burrows can be up to 10 feet long, and enlarged nesting chambers are constructed at the terminus. The entrances to burrows are often decorated with bits of animal dung, feathers, litter, and other objects. Clutches of up to 12 eggs are laid, primarily from February to May.

2.1.2 BIOLOGICAL SURVEYS

Biological surveys were conducted within the 12 segments to assess the biological resources and potential impact to biological resources from construction of a transmission line. Biological surveys were conducted between May 24 and July 19, 2005 by UltraSystems Environmental biologists, Mr. Gregg Miller, Ms. Jennifer Weiland, and Ms. Melissa Clemons, and UltraSystems Environmental botanist, Ms. Teresa Salvato (Table 2.2: *Personnel and Survey Dates*).

Table 2.2. Personnel and Survey Dates

	Gregg Miller, Senior Biologist	Jennifer Weiland, Biologist/Env. Analyst	Melissa Clemons, Field Biologist	Teresa Salvato, Botanist
Segment A	5/24, 6/3	5/24, 5/26	5/26, 6/2	6/2, 6/3
Segment B	5/25	5/25		
Segment C	5/25	5/25		
Segment D	6/7	6/10	6/6, 6/9	6/6, 6/7, 6/9, 6/10
Segment E		5/26	5/26	
Segment F		5/26, 6/13	5/26	6/13
Segment G	5/25	5/25		
Segment I	6/9	6/10		6/9, 6/10
Segment J	5/25	5/25	6/9	6/9
Segment K			6/16, 6/23, 7/14	6/16, 6/23, 7/14
Segment L			6/16, 6/23	6/16, 6/23
Segment M			7/19	7/19

The biological study area for the Valley-Ivyglen Transmission Project consists of a 200-foot wide corridor centered on the segment. The length of the total biological study area is approximately 78 miles.

The segments of the proposed Project were surveyed to map vegetation communities and assess biological resources, including United States Army Corps of Engineers (USACE) and CDFG jurisdictional areas. Data was collected by numerous techniques including the use of a hand-held geographic positioning

system (GPS), standardized data forms, photographs and use of aerial maps. Recent air photos at 1 inch = 400 feet were reviewed prior to field surveys.

A total of 40 wildlife species or their sign (including tracks, scat, carcasses, burrows, nests, excavations, and vocalizations) were observed in the Project study areas. A total of 208 plant species were observed in the Project study areas (Appendix B).

Special-status plant surveys were conducted on foot in areas of potential habitat for: Munz's onion, San Diego ambrosia, smooth tarplant, slender-horned spineflower, many-stemmed dudleya, round-leaved filaree, and little mousetail. Special-status plant surveys were conducted by vehicle in areas where there was little to no potential for occurrence or in highly disturbed areas. Some segments also contained areas that were inaccessible, due to extreme topographical changes and/or lack of road accessibility. For example, a portion of Segment D was surveyed from a vantage point due to steepness of terrain and lack of direct impacts expected in this area. This portion lies within the USGS Lake Elsinore 7.5-minute series topographic quadrangle, where it crosses Big Canyon, to the east of Snake Road. Furthermore, a portion of Segment M that was not surveyed by foot or car ran from the east side of Lake Lee westward to the end of Segment M. Table 2.3: *Surveys Conducted*, depicts which segments were walked, driven, or were not accessible.

Table 2.3. Surveys Conducted

	Walking Survey	Driving Survey	Inaccessible
Segment A	X	X	
Segment B	X	X	
Segment C		X	
Segment D	X	X	partially
Segment E		X	
Segment F	X	X	
Segment G	X	X	
Segment I	X	X	
Segment J	X	X	
Segment K	X	X	
Segment L	X	X	
Segment M	X	X	partially

The vegetation communities along each segment were described, and dominant plant species and community structure were recorded. Wetlands, streams and vernal pools were also noted for each segment.

Due to Project timing, most of the plant surveys were conducted during summer (June to July). Some plants had already entered senescence or desiccation. Therefore, target species were not readily evident or identifiable and there may have been populations of these species in the study area that were not detected.

Habitat on each segment was also assessed for burrowing owl use and potential use. Burrowing owl habitat assessments were conducted during the vegetation mapping and plant surveys. Burrowing owl habitat assessment surveys were conducted according to the CDFG and Burrowing Owl Consortium guidelines. Areas of potential burrowing owl habitat, including grasslands, sage scrub, and low growing vegetation were surveyed for potential owl burrows and owls. Potential owl habitat was also surveyed for ground squirrels and ground squirrel burrows. Surveyors walked areas of potential habitat while searching for burrowing owls, potential and active burrows, and owl sign such as feathers, pellets, and prey items. Surveys were conducted to allow 100 percent visual coverage of potential habitat. The guidelines require that, if the Project site contains burrows that could be used by burrowing owls, survey efforts should be directed towards determining owl presence on the site. Winter surveys were not conducted due to Project timing and the absence of potential burrows or evidence of burrowing owls.

3.1 EXISTING CONDITIONS

The vegetation communities and land cover types in the Valley-Ivyglen Project area are primarily dominated by grasslands, agriculture, developed disturbed land (ruderal habitat) and coastal sage scrub. Additional plant communities found within the study area include chaparral, vernal pools, riparian scrub/woodland/forest, water, and woodlands and forests. Vegetation communities described are classified using the plant community definitions in the Western Riverside MSHCP. Previous agriculture, grazing, fire suppression, and invasion of non-native plant species have contributed to the disturbed condition of many vegetation communities in the study area.

The topography in the study area is generally rolling hills. The approximately 78 miles of the study area contain a combination of agricultural, municipal, private, and reserve land, most with previous disturbance.

The study area is located within a Mediterranean climate region. The wet winter/dry summer seasonality of precipitation is the defining characteristic of this climate. Summer drought places stress on local vegetation, but local plants have evolved and adapted to summer drought stress. In summer, temperatures often reach 100° F and winter temperatures can dip down to the high 30's. Average annual temperature ranges are fairly moderate for the area, ranging from 49.3° F to 79.5° F. Average total precipitation for the area is approximately 10 inches per year (Western Regional Climate Center 2005).

3.2 WESTERN RIVERSIDE MSHCP PLANT COMMUNITIES

The Western Riverside MSHCP provides descriptions of plant communities within the boundaries of the MSHCP. The following reference descriptions from the MSHCP were used to classify plant communities observed during surveys.

Agricultural Land: Agricultural lands include areas occupied by dairies and livestock feed yards or areas that have been tilled for use as croplands, groves or orchards.

Chaparral: Chaparral is a shrub-dominated vegetation community that is composed largely of evergreen species that range from 1 to 4 meters in height (Keeley 2000). The most common and widespread species within chaparral is chamise (*Adenostoma fasciculatum*) (Hanes 1971). Other common shrub

species include manzanita (*Arctostaphylos* spp.), wild-lilac (*Ceanothus* spp.), oak (*Quercus* spp.), redberry (*Rhamnus* spp.), laurel sumac (*Malosma laurina*), mountain-mahogany (*Cercocarpus betuloides*), toyon (*Heteromeles arbutifolia*), and mission manzanita (*Xylococcus bicolor*) (Holland 1986). Soft-leaved subshrubs are less common in chaparral than in coastal sage scrub (see below) but occur within canopy gaps of mature stands (Holland 1986; Keeley and Keeley 1988; Sawyer and Keeler-Wolf 1995). Common subshrub species include California buckwheat (*Eriogonum fasciculatum*), sages (*Salvia* spp.), California sagebrush (*Artemisia californica*), and monkeyflower (*Mimulus* spp.). In addition, herbaceous species, including deerweed (*Lotus scoparius*), nightshade (*Solanum* spp.), Spanish bayonet (*Yucca whipplei*), rock-rose (*Helianthemum scoparium*), onion (*Allium* spp.), soap plant (*Chlorogalum* spp.), bunch grasses (*Nassella* spp., and *Melica* spp.), wild cucumber (*Marah* spp.), bedstraw (*Galium* spp.), and lupine (*Lupinus* spp.) are also present (Holland 1986; Keeley and Keeley 1988; Sawyer and Keeler-Wolf 1995).

Coastal Sage Scrub: Coastal sage scrub is dominated by a characteristic suite of low-statured, aromatic, drought-deciduous shrubs, and subshrub species. Composition varies substantially depending on physical circumstances and the successional status of the vegetation community; however, characteristic species include California sagebrush, California buckwheat, laurel sumac, California encelia (*Encelia californica*), and several species of sage (e.g., *Salvia mellifera*, *S. apiana*) (Holland, 1986; Sawyer-Wolf, 1995). Other common species include brittlebush (*Encelia farinosa*), lemonadeberry (*Rhus integrifolia*), sugarbush (*Rhus ovata*), yellow bush penstemon (*Keckiella antirrhinoides*), Mexican elderberry (*Sambucus mexicana*), sweetbush (*Bebbia juncea*), boxthorn (*Lycium* spp.), shore cactus (*Opuntia littoralis*), coastal cholla (*Opuntia prolifera*), tall prickly-pear (*Opuntia oricola*), and species of Dudleya.

Developed or Disturbed Land (Ruderal): Developed or disturbed lands consist of areas that have been disked, cleared, or otherwise altered. Developed lands may include roadways, existing buildings, and structures. Disturbed lands may include ornamental plantings for landscaping, escaped exotics, or ruderal vegetation dominated by non-native, weedy species such as mustard (*Brassica* sp.), fennel (*Foeniculum vulgare*), tocalote (*Centaurea melitensis*), and Russian thistle (*Salsola tragus*).

Grasslands: Two general types of grasslands occur in Southern California: (1) non-native dominated, primarily annual grassland ("nonnative grassland"); and (2) native dominated, perennial grassland ("valley and foothill grassland") (Heady 1977; Keeley 1989; Sims and Risser 2000).

Non-native grasslands are likely to be dominated by several species of grasses that have evolved to persist in concert with human agricultural practices: slender oat, wild oat (*A. fatua*), fox tail chess (*Bromus madritensis*), soft chess (*B.*

hordeaceus), ripgut grass (*B. diandrus*), barley (*Hordeum* spp.), rye grass (*Lolium multiflorum*), English ryegrass (*L. perenne*), rat-tail fescue (*Vulpia myuros*), and Mediterranean schismus (*Schismus barbatus*) (Jackson 1985; Sims and Risser 2000).

Valley and foothill grasslands typically contain the perennial bunch grasses *Nassella pulchra* and *Nassella lepida*. Lesser amounts of other native grasses, such as *Melica* spp., *Leymus* spp., *Muhlenbergia* spp., and beard grass (*Bothriochloa barbinodis*), may also be present. In addition, non-native grasses or forbs may be present to varying degrees. Native herbaceous plants commonly found within valley and foothill grasslands include yellow fiddleneck (*Amsinckia menziesii*), common calyptidium (*Calyptidium monardum*), suncup (*Camissonia* spp.), Chinese houses (*Collinsia heterophylla*), California poppy (*Eschscholzia californica*), tarweed (*Hemizonia* spp.), coast goldfields (*Lasthenia californica*), common tidy-tips (*Layia platyglossa*), *Lupinus* spp., *Plagiobothrys* spp., blue dicks (*Dichelostemma capitata*), *Muilla* spp., blue-eyed grass (*Sisyrinchium bellum*), and *Dudleya* spp. (Holland 1986; Sims and Risser 2000).

Playas and Vernal Pools: Vernal pools are ephemeral wetlands that form in shallow depressions underlain by a substrate near the surface that restricts the downward percolation of water. Depressions in the landscape fill with rainwater and runoff from adjacent areas during the winter and may remain inundated until spring or early summer, sometimes drying more than once during the wet season. Smaller pools can fill and dry, and larger pools can hold water longer and may in the deeper portions support species that are more representative of freshwater marshes. Vernal pools are well known for their high level of endemism (Stone 1990) and abundance of rare, threatened, or endangered species (Sawyer and Keeler-Wolf 1995). Many vernal pools are characterized by concentric rings of plants that flower sequentially as the pools dry. Vernal pools are dominated by native annual plants, with low to moderate levels of perennial herbaceous cover. Common vernal pool plant species in Western Riverside County include woolly marbles (*Psilocarphus brevissimus*), toad rush (*Juncus bufonius*), and spike rush (*Eleocharis* spp.). In addition, the following special-status plant species are found in one or more of these pools: California Orcutt grass, Coulter's goldfields, little mousetail, spreading navarretia (*Navarretia fossalis*), low navarretia (*N. prostrata*), Orcutt's brodiaea (*Brodiaea orcuttii*), thread-leaved brodiaea, Parish brittle-scale, Parish meadowfoam (*Limnanthes gracilis* ssp. *parishii*), San Diego button-celery (*Eryngium aristulatum* var. *parishii*), Wright's trichocoronis (*Trichocoronis wrightii* var. *wrightii*), San Jacinto Valley crowscale, and smooth tarplant (Sawyer and Keeler-Wolf 1995).

Riparian Scrub, Woodland, Forest: Riparian communities typically consist of one or more deciduous tree species with an assorted understory of shrubs and herbs (Holland and Keil 1995). Depending on community type, a riparian community may be dominated by any of several trees or shrubs, including box elder (*Acer negundo*), big-leaf maple (*A. macrophyllum*), coast live oak (*Q. agrifolia*), white

alder (*Alnus rhombifolia*), sycamore (*Platanus racemosa*), Fremont's cottonwood (*Populus fremontii*), California walnut (*Juglans californica*), Mexican elderberry, wild grape (*Vitis girdiana*), giant reed (*Arundo donax*), mulefat, tamarisk (*Tamarix* spp.), or any of several species of willow (*Salix* spp.). In addition, various understory herbs may be present, such as inland salt grass, wild cucumber (*Marah macrocarpus*), mugwort (*Artemisia douglasiana*), stinging nettle (*Urtica dioica*), and poison oak (*Toxicodendron diversilobum*).

Water: Open water typically is unvegetated due to a lack of light penetration. However, open water may contain suspended organisms such as filamentous green algae, phytoplankton (including diatoms), and desmids (Grenfell 1988). Floating plants such as duckweed (*Lemna* spp.), water buttercup (*Ranunculus aquatilis*), and mosquito fern (*Azolla filiculoides*) also may be present (Holland and Keil 1995). Open water includes inland depressions, ponds, lakes, reservoirs, and stream channels containing standing water. These bodies often occur in conjunction with riparian and upland vegetation communities. Depth may vary from hundreds of feet to a few inches.

Woodlands and Forests: Woodland and forest vegetation communities are dominated by Englemann oak (*Quercus englemannii*), coast live oak, canyon live oak (*Q. chrysolepis*), interior live oak (*Q. wislizenii*), and black oak (*Q. kelloggii*) in the canopy, which may be continuous to intermittent or savannah-like. Four-needle pinyon (*Pinus quadrifolia*), single-leaf pinyon pine (*Pinus monophylla*) and California juniper are the canopy species of peninsular juniper woodland which most commonly occur in southern California, forming a scattered canopy from 3 to 15 meters tall (Sawyer and Keller-Wolf 1995; Holland and Keil 1995).

Many understory plants in oak woodlands are shade tolerant and include wild blackberry (*Rubus ursinus*), snowberry (*Symphoricarpos mollis*), California walnut (*Juglans californica*), California-lilac (*Ceanothus* spp.), *Rhus* spp., currant (*Ribes* spp.), toyon, California bay (*Umbellularia californica*), Englemann oak, manzanita (*Arctostaphylos* spp.), laurel sumac, poison-oak and herbaceous plants including bracken fern (*Pteridium aquilinum*), polypody fern (*Polypodium californicum*), fiesta flower (*Pholistoma auritum*) and miner's lettuce (*Claytonia perfoliata*) (Holland and Keil 1995, Sawyer and Keeler-Wolf 1995, Thorne 1976, Brown 1982). Munz and Keck (1968) identify similar species for this community and include that a variety of grasses and soft shrubs also are commonly found. This community can occur on all aspects, on streamsides, canyon bottoms and flat to very steep topography.

3.3 VALLEY-IVYGLEN TRANSMISSION LINE SEGMENTS

Each segment of the proposed Project was surveyed separately and is presented with its habitat information in Tables 3.1 and 3.2. Table 3.1: *Vegetation Communities of Valley-Ivyglen Transmission Line Segments* depicts the

vegetation communities found within each segment. Table 3.2: *Valley-Ivyglen Transmission Line Study Areas* depicts linear feet, potential for special-status plants and potential for burrowing owl. Vegetation communities described are classified using the plant community definitions in the Western Riverside MSHCP.

Table 3.1. Vegetation Communities of the Valley-Ivyglen Transmission Line Segments

	Agricultural Land	Chaparral	Coastal Sage Scrub	Developed, Disturbed Land	Grassland	Playas and Vernal Pools	Riparian Scrub, Woodland Forest	Water	Woodlands and Forests
Segment									
A	X		X	X	X		X		
B	X			X	X		X		X
C				X	X				
D		X	X	X	X	X	X		
E		X		X	X			X	X
F		X	X	X	X		X		
G	X		X	X	X		X		X
I			X	X	X		X		
J				X	X				X
K	X		X	X	X		X		X
L				X	X		X		X
M			X	X	X		X		X

Table 3.2. Valley-Ivyglen Transmission Line Study Areas

Segment	Linear Feet (Approximate)	Presence/Potential for Special-Status Plants	Burrowing Owl Presence/Potential
A	39,204	not observed / high potential	not observed / no potential
B	43,778	not observed / low potential	not observed / no potential
C	5,445	not observed / low potential	not observed / no potential
D	55,539	not observed / high potential	not observed / no potential
E	37,244	not observed / low potential	not observed / no potential
F	26,136	not observed / medium potential	not observed / no potential
G	81,020	presence / high potential	not observed / no potential
I	14,593	not observed / low potential	not observed / no potential
J	9,583	not observed / medium potential	not observed / no potential
K	58,806	not observed / high potential	not observed / no potential
L	19,384	not observed / medium potential	not observed / no potential
M	20,473	not observed / low potential	not observed / no potential

The existing conditions described below include general site characteristics of the individual segments (A through G, and I through M), including vegetation communities and presence or absence of Criteria Area Survey Species. Volume II contains aerial maps with vegetation delineation that depict the current condition of the individual segments.

Segment A

Segment A begins in unincorporated Romoland at the Valley Substation (Transmission Node 1). Segment A then proceeds west for approximately 7.4

miles along the existing 500kV Valley-Serrano ROW, ending at Transmission Node 2 along Highway 74.

Distribution would be achieved by transferring the existing 12kV and 33kV facilities to new poles.

Vegetation communities in this corridor consist of approximately 13,286 linear feet of agricultural land, 8,494 linear feet of coastal sage scrub, 8,276 linear feet of developed/disturbed land, 8,276 linear feet of nonnative grasslands, and 871 linear feet of riparian scrub/woodland/forest.

None of the eight Criteria Area Survey Species were observed in Segment A during the survey period. No burrowing owl burrows, potential burrows or areas of potential owl habitat were found in Segment A. Since no potential burrows or areas of potential owl habitat were found, winter surveys are not recommended.

Segment A crosses the San Jacinto River at two points: once in an uninhabited area with ruderal grasslands to the east and coastal sage scrub to the west and many off-road vehicle (ORV) trails and again in a rural residential area east of Highway 74. The San Jacinto River is considered a jurisdictional area under both the USACE and CDFG.

Segment B

Segment B begins approximately 2,500 feet west of the Valley Substation and is approximately 8.2 miles long. Segment B runs west following the existing 33kV ROW along Ethanac Road, and then heads north along Goetz Road into the city of Perris. It then proceeds west following Mapes Road and Sophie Street for a short distance until it reaches Betty Road. Then Segment B follows Highway 74 south to Transmission Node 3, where it ends.

Distribution would be achieved by transferring the existing 12kV facilities to new poles as needed. Betty Road, Mapes Road, and Goetz Road currently have no SCE overhead utilities.

Vegetation communities in this corridor consist of approximately 15,464 linear feet of agricultural land, 17,424 linear feet of developed/disturbed land, 8,930 linear feet of nonnative grasslands, 653 linear feet of riparian scrub/woodland/forest and 1,307 linear feet of woodlands/forest.

None of the eight Criteria Area Survey Species were observed in Segment B during the survey period. No burrowing owl burrows, potential burrows or areas of potential owl habitat were found in Segment B. Since no potential burrows, or

Fig B.3-1

areas of potential owl habitat were found in Segment B, winter surveys are not recommended.

No jurisdictional areas, vernal pools or other areas of special concern were found in Segment B.

Segment C

Segment C follows Highway 74 from Transmission Node 2, the endpoint of Segment A, to Transmission Node 3, the endpoint of Segment B. It is approximately 1.0 mile long.

Distribution would be achieved by transferring existing 12kV facilities to new poles.

Vegetation communities in this corridor consist of approximately 1,525 linear feet of developed/disturbed land and 3,920 linear feet of nonnative grasslands.

None of the eight Criteria Area Survey Species were observed in Segment C during the survey period. No burrowing owl burrows, potential burrows or areas of potential owl habitat were found in Segment C. Since no potential burrows or areas of potential owl habitat were found, winter surveys are not recommended.

No jurisdictional areas, vernal pools or other areas of special concern were found in Segment C.

Segment D

Segment D begins at Transmission Node 2, the endpoint of Segment A. It runs west along the existing Valley-Serrano 500kV ROW for its entire length, through unincorporated parts of Perris and Lake Elsinore, and through the Lake Matthews Estelle Mountain Reserve, which is part of the MSHCP Conservation Area. It terminates just south of Dawson Canyon Road at Transmission Node 5. Segment D is approximately 10.5 miles long.

Vegetation communities in this corridor consist of approximately 7,841 linear feet of chaparral, 17,424 linear feet of coastal sage scrub, 1,960 linear feet of developed/disturbed land, 25,700 linear feet of nonnative grasslands, 1 acre of playas and vernal pools, and 2,396 linear feet of riparian scrub/woodland/forest.

None of the eight Criteria Area Survey Species were observed in Segment D during the survey period. However, there is potential for Munz's onion to occur in Segment D. Munz's onion was observed approximately 1,800 feet west of the

Segment D centerline. The Munz's onion was observed in a low-lying area of non-native grassland along a road edge and is within the Lake Matthews Estelle Mountain Reserve. Also, a red diamond rattlesnake (*Crotalus ruber*), which is a State Species of Special Concern, was found just outside the 200-foot boundary of this segment.

No burrowing owl burrows, potential burrows or areas of potential owl habitat were found in Segment D. Since no potential burrows or areas of potential owl habitat were found, winter surveys are not recommended.

Two vernal pools were observed in Segment D. The first is along a dirt road east of Lindell Road and west of El Toro Road, in open countryside. It is approximately 600 square feet (0.014 acres) in size. The second is along the east side of Lindell Road and north of Snake Road, north of the existing transmission line. The second vernal pool is approximately 400 square feet (0.009 acres) in size.

The east end of Segment D traverses the Lake Matthews Estelle Mountain Reserve and crosses an intermittent stream. The intermittent stream contains riparian scrub/woodland/forest and is considered both USACE and CDFG jurisdictional.

Segment E

Segment E begins at Transmission Node 3, the endpoint of Segment B. Segment E follows numerous local streets in a northwesterly direction and ends at Transmission Node 4 where Santa Rosa Mine Road becomes Gavilan Road, at the T-intersection with Lake Matthews Drive. Segment E is approximately 7.1 miles long.

Distribution would be achieved by transferring the existing 12kV facilities to new poles.

Vegetation communities in this corridor consist of approximately 8,276 linear feet of chaparral, 15,246 linear feet of developed/disturbed land, 11,979 linear feet of nonnative grasslands, 436 linear feet of open water habitat and 1,307 linear feet of woodlands and forests.

None of the eight Criteria Area Survey Species were observed in Segment E during the survey period. No burrowing owl burrows, potential burrows or areas of potential owl habitat were found in Segment E. Since no potential burrows or areas of potential owl habitat were found, winter surveys are not recommended.

No jurisdictional areas, vernal pools or other areas of special concern were found in Segment E.

Segment F

Segment F begins at Transmission Node 4, the endpoint of Segment E, and continues in a westerly direction to Transmission Node 5. Segment F follows Lake Matthews Drive to Dawson Canyon Road where it enters the Lake Matthews Estelle Mountain Reserve. Exiting the reserve the line heads in a southwesterly direction and connects with the Valley-Serrano 500kV ROW. Segment F terminates just south of Dawson Canyon Road at Transmission Node 5. Segment F is approximately 5.0 miles long.

Distribution would be achieved by transferring some existing 12kV facilities to new poles as needed.

Vegetation communities in this corridor consist of approximately 436 linear feet of chaparral, 4,574 linear feet of coastal sage scrub, 4,792 feet of developed/disturbed land, 16,117 linear feet of nonnative grasslands and 218 linear feet of riparian scrub/woodland/forest.

None of the eight Criteria Area Survey Species were observed in Segment F during the survey period. No burrowing owl burrows, potential burrows or areas of potential owl habitat were found in Segment F. Since no potential burrows or areas of potential owl habitat were found, winter surveys are not recommended.

The west end of Segment F traverses the Lake Matthews Estelle Mountain Reserve and crosses over Dawson Canyon Creek, an intermittent stream. Dawson Canyon Creek is considered both USACE and CDFG jurisdictional as the creek has a bed, bank, and contains riparian scrub/woodland/forest vegetation.

Segment G

Segment G begins at Transmission Node 2, then proceeds south along Highway 74 and crosses Interstate 15 in the City of Lake Elsinore. It then continues in a northwesterly direction along the south side of Interstate 15. Segment G terminates at Transmission Node 7 at the Ivyglen Substation, on Temescal Canyon Road. Segment G is approximately 15.4 miles long.

Distribution would be achieved by transferring existing 12kV and 33kV facilities to new poles.

Vegetation communities in this corridor consist of approximately 1,307 linear feet of agricultural land, 11,453 linear feet of coastal sage scrub, 44,431 linear feet of developed/disturbed land, 18,295 linear feet of nonnative grasslands, 4,574 linear feet of riparian scrub/woodland/forest, and 871 linear feet of woodlands and forests.

Two of the eight Criteria Area Survey Species were observed in Segment G during the surveys. San Diego ambrosia and smooth tarplant were both located approximately 700 feet northwest of the intersection of Pierce and Baker Streets. San Diego ambrosia and smooth tarplant were located within an eco-tone of non-native grassland and coastal sage scrub vegetation.

No burrowing owl burrows, potential burrows or areas of potential owl habitat were found in Segment G. Since no potential burrows or areas of potential owl habitat were found, winter surveys are not recommended.

There are several areas that are considered USACE and CDFG jurisdictional within and immediately adjacent to Segment G. Alberhill Creek, a tributary to Temescal Canyon Wash, is adjacent to Segment G and lies along the southwest side of Collier Avenue. The Creek has a bed and bank and high water indicators. Segment G is adjacent to the south edge of Temescal Canyon Wash, which contains riparian vegetation and numerous braided water channels. Additionally, Segment G is adjacent to an intermittent stream on the northeast side of Lake Street.

Segment I

Segment I begins at Transmission Node 5, follows the existing Valley-Serrano 500kV ROW west and ends at Transmission Node 6. Transmission Node 5 is just south of Dawson Canyon Road, where Segment F ends. Transmission Node 6 is at the intersection of Temescal Canyon Road and Dawson Canyon Road. Segment I is approximately 2.8 miles in length.

There are no existing distribution 12kV facilities in the Valley-Serrano 500kV ROW. Distribution would be achieved by transferring the existing 12kV and 33kV facilities to new poles outside of the 500kV ROW.

Vegetation communities in this corridor consist of approximately 5,663 linear feet of coastal sage scrub, 871 linear feet of developed/disturbed land, 5,881 linear feet of nonnative grasslands, and 2,178 linear feet of riparian scrub/woodland/forest.

The eastern portion of Segment I traverses Lake Matthews Estelle Mountain Reserve and crosses Dawson Canyon Creek.

None of the eight Criteria Area Survey Species were observed in Segment I during the survey period. No burrowing owl burrows, potential burrows or areas of potential owl habitat were found in Segment I. Since no potential burrows or areas of potential owl habitat were found, winter surveys are not recommended.

As described previously, Dawson Canyon Creek is considered both USACE and CDFG jurisdictional as the creek has a bed, bank, and contains riparian scrub/woodland/forest vegetation.

Segment J

Segment J begins at Transmission Node 6 and follows Temescal Canyon Road south to the Ivyglen Substation, located on Temescal Canyon Road. Segment J is approximately 1.8 miles in length.

Distribution would be achieved by transferring existing 12kV and 33kV facilities to new poles along Temescal Canyon Road.

Vegetation communities in this corridor consist of approximately 6,752 linear feet of developed/disturbed land, 2,178 linear feet of nonnative grasslands, and 653 linear feet of woodlands and forests.

None of the eight Criteria Area Survey Species were observed in Segment J during the survey period. No burrowing owl burrows, potential burrows or areas of potential owl habitat were found in Segment J. Since no potential burrows or areas of potential owl habitat were found, winter surveys are not recommended.

Segment J crosses Coldwater Canyon Creek immediately north of Glen Ivy Road. Coldwater Canyon Creek is an intermittent stream with a defined bed. Coldwater Canyon Creek may be USACE jurisdictional and is considered CDFG jurisdictional.

Segment K

Segment K begins at Transmission Node 2, in the existing 500kV ROW near Highway 74 where Segment A ends. Segment K proceeds south along the north side of Highway 74, then proceeds northwest through northern areas of unincorporated Lake Elsinore. Then Segment K proceeds along the north side of Interstate 15 and terminates at Transmission Node 8, north of Hostettler Road. Segment K is approximately 11.1 miles in length.

Vegetation communities in this corridor consist of approximately 871 linear feet of agricultural land, 21,780 linear feet of coastal sage scrub, 14,157 linear feet of

developed/disturbed land, 20,038 linear feet of grasslands, 1,307 linear feet of riparian scrub/woodland/forest, and 653 linear feet of woodlands and forests.

None of the eight Criteria Area Survey Species were observed in Segment K during the survey period. However, a rosy boa (*Charina trivirgata*), which is a State Species of Special Concern, was found in this segment.

No burrowing owl burrows, potential burrows or areas of potential owl habitat were found in Segment K. Since no potential burrows or areas of potential owl habitat were found, winter surveys are not recommended.

Also, the coastal California gnatcatcher (*Polioptila californica californica*), a federally threatened bird was observed at two locations. The first gnatcatcher was observed in the study area, approximately 1,584 feet (0.3 mile) north of the Interstate 15 and Nichols Road intersection. The second gnatcatcher was observed just outside and to the north of the study area at the edge of a small patch of riparian habitat. The second gnatcatcher location is northeast of the Segment K crossing of Temescal Canyon Wash.

Temescal Canyon Wash, which contains riparian vegetation and numerous braided water channels, is considered both USACE and CDFG jurisdictional.

Segment L

Segment L connects Transmission Nodes 7 and 8 along the north side of Interstate 15. Segment L is approximately 3.7 miles in length.

Vegetation communities in this corridor consist of approximately 8,712 linear feet of developed/disturbed land, 9,365 linear feet of nonnative grasslands, 653 linear feet of riparian scrub/woodland/forest, and 653 linear feet of woodlands and forests.

None of the eight Criteria Area Survey Species were observed in Segment L during the survey period. No burrowing owl burrows, potential burrows or areas of potential owl habitat were found in Segment L. Since no potential burrows or areas of potential owl habitat were found, winter surveys are not recommended.

Segment L crosses Temescal Canyon Wash upstream of Lee Lake. This area of the Wash contains riparian vegetation, bed and bank and is considered both USACE and CDFG jurisdictional.

Segment M

Segment M begins at Transmission Node 8 along Segment K and proceeds northwesterly. It then crosses under Interstate 15 and ends at the Ivyglen Substation on Temescal Canyon Road. Segment M is approximately 3.9 miles in length.

Vegetation communities in this corridor consist of approximately 7,841 linear feet of coastal sage scrub, 3,049 linear feet of developed/disturbed land, 8,494 of nonnative grasslands, 653 linear feet of riparian scrub/woodland/forest and 436 linear feet of woodlands and forests.

Segment M runs between the Lake Matthews Estelle Mountain Reserve, to the southwest, and Temescal Canyon Wash, to the northeast.

None of the eight Criteria Area Survey Species were observed in Segment M during the survey period. No burrowing owl burrows, potential burrows or areas of potential owl habitat were found in Segment M. Since no potential burrows or areas of potential owl habitat were found, winter surveys are not recommended.

Segment M crosses Temescal Canyon Wash just west of El Hermano Road. Temescal Canyon Wash is considered USACE and CDFG jurisdictional as it has a bed and bank, high water marks, and contained flowing water during the survey.

4.1 JURISDICTIONAL REGULATION

Both the USACE and the CDFG have jurisdiction over streams, watercourses and wetlands within the Project area. Alteration, such as filling, of these jurisdictional areas requires a permit from USACE and a Streambed Alteration Agreement from CDFG. USACE regulates the filling of wetlands, streams, rivers and other water bodies defined as "waters of the United States" under Section 404 of the Clean Water Act. CDFG regulates all diversions, obstructions, or changes to the natural flow of bed, channel, or bank of any river, stream, or lake which supports fish or wildlife resources under Section 1600 of the California Fish and Game Code.

USACE regulates the filling of wetlands, streams, rivers and other water bodies under Section 404 of the Clean Water Act. The USACE issues permits for the discharge of dredged and/or fill material into "waters of the United States." It is not legal to place fill into waters of the U.S. without a USACE permit. Depending upon the area to be filled and the amount of fill, the permitting process may take up to two years.

The term "waters of the United States" is defined as: (1) all navigable waters (including all waters subject to the ebb and flow of the tide); (2) all interstate waters and wetlands; (3) all other waters, such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce; (4) all impoundments of waters mentioned above; (5) all tributaries to waters mentioned above; (6) the territorial seas; and (7) all wetlands adjacent to waters mentioned above.

In the absence of wetlands, the limits of USACE jurisdiction in non-tidal waters, such as rivers, lakes and intermittent streams, extend to the ordinary high water mark (OHWM), which is defined as:

... that line on the shore established by the fluctuation of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas (33 CFR 328.3(e)).

Typically in southern California, the OHWM is indicated by the presence of an incised streambed with defined bank shelving. However, in court cases the interpretation of the lateral extent of the OHWM has been based on various criteria such as vegetation and soil characteristics.

If the water of the United States consists only of wetlands, the limits of USACE jurisdiction extends to the limit of the wetlands and is defined as:

... those areas that are inundated, or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs and similar areas (33 CFR 328.3(b)).

CDFG regulates all diversions, obstructions, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake which supports fish or wildlife resources under Sections 1600-1603 of the California Fish and Game Code. The CDFG develops Streambed Alteration Agreements for the alteration of any of these areas. It is not legal to alter the bed or bank of a stream or lake or its natural water flow without a CDFG Streambed Alteration Agreement.

There are some significant differences between USACE and CDFG jurisdictions. The CDFG uses less well defined and more ecologically based criteria in its jurisdiction determinations. For a watercourse to be considered under CDFG jurisdiction, it must have a terminus, banks, and a channel through which water can flow, at least periodically. Historic court cases have further extended CDFG jurisdiction to include watercourses that seemingly disappear, but re-emerge elsewhere. Under the CDFG definition, a watercourse need not exhibit evidence of an OHWM to be claimed as jurisdictional.

4.2 DEFINITION OF SIGNIFICANCE

Section 15065 of the CEQA guidelines states that a Project may have a significant effect on biological resources if it has the potential to reduce the number or restrict the range of a rare or endangered plant or animal. A Project may also have a significant effect on biological resources if it has the potential to:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.

- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.
- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including but not limited to marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridor, or impede the use of native wildlife nursery sites.
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

All native breeding birds, (except game birds) regardless of their listing status, are protected under the Migratory Bird Treaty Act (MBTA)¹. Potential impacts to the breeding birds are considered significant under CEQA.

¹ *Migratory Bird Treaty Act (16 U.S.C. 703-711)*. This treaty with Canada, Mexico and Japan makes it unlawful at any time, by any means or in any manner, to pursue, hunt, take, capture, or kill migratory birds. The law applies to the removal of nests (such as swallow nests on bridges) occupied by migratory birds during the breeding season.

Following route selection and determination of new pole access roads, pole pads, line pulling sites, laydown areas and other construction site locations, the locations should be surveyed prior to construction for the eight Criteria Area Survey species as discussed in Section 2.

Specifically, a botanical survey should be conducted during the months of March or April, during the blooming season of the seven criteria plant species and other special-status plants that could potentially be present in the construction area (Appendix B). According to the *Guidelines for Assessing the Effects of Proposed Developments on Rare, Threatened, and Endangered Plants and Plant Communities* field surveys should be conducted in the field at the proper time of year when rare, threatened and endangered species are both evident and identifiable, usually when plants are flowering (CNPS 1998). The survey should also identify the locations of any native oak trees present in the construction area.

Should any of the Criteria Area Survey Species be found, the pole or construction location should be relocated to avoid impacts in accordance with the requirements of the MSHCP. The locations should be flagged and species-appropriate buffer areas should be fenced for avoidance prior to the initiation of construction. If the location cannot be relocated and impacts avoided, then mitigation measures such as translocation and monitoring will be required. As discussed in the Introduction to this report, the MSHCP requires avoidance or mitigation for Criteria Area Survey Species because sufficient information on these species is not available to provide conservation measures that would allow issuance of federal and state incidental take permits.

If native oaks subject to oak woodlands conservation requirements of the Public Resources Code would be removed or disturbed by Project activities, the pole or construction locations may be moved to avoid impacts. If this is not possible, mitigation (either as described in the Public Resources Code or as stipulated by Riverside County) must be implemented. Up to one-half of such mitigation may include planting replacement oaks. The remaining mitigation requirement must be met by (1) conserving existing oak woodlands through a conservation easement or similar measures, (2) contributing funds to the Oak Woodlands Conservation Fund, or (3) implementing other mitigation measures developed by the county.

Vegetation clearing and ground disturbing activities should be conducted outside of the bird-breeding season (March 15 through August 15) to avoid impacts to

migratory birds. Construction during the breeding season would require a pre-construction survey (within three days prior to work) by a qualified biologist to determine presence/absence of active nests within or adjacent to the construction location. If no breeding or nesting activities are detected within 200 feet of the proposed work area, construction activities may proceed. If breeding/nesting activity is confirmed, work activities within 200 feet of the active nest should be delayed until the young birds have fledged and left the nest. If it is not feasible to delay construction, SCE should coordinate with USFWS and CDFG to determine the appropriate course of action.

Additionally, the MSHCP requires that projects minimize indirect or edge effect impacts to the Conservation Area. Projects in proximity to the Conservation Area must implement measures to minimize effects from drainage, toxics, night lighting, noise, invasive plants, unauthorized access and grading. Drainage measures must be instituted so that runoff to the Conservation Area is not adversely altered from existing conditions. This can be largely achieved by meeting National Pollutant Discharge Elimination System (NPDES) requirements. Control measures for potentially toxic chemicals or bio-products must be implemented to prevent discharge to the Conservation Area. Night lighting must be shielded or directed away from the Conservation Area. Noise control measures should be implemented to meet residential noise standards in the Conservation Area. Noise controls can utilize setbacks, berms or walls. Invasive plant species should be avoided in landscaping adjacent to the Conservation Area. Unauthorized public access to the Conservation Area from a Project site should be minimized by use of barriers such as native landscaping, rocks/boulders, fencing, walls, signage and/or other appropriate mechanisms. Grading of Project slopes should not extend into the Conservation Area.

Ground disturbance in jurisdictional areas should be avoided whenever possible. Pole locations should be established so that poles are not located in jurisdictional areas or lines that span jurisdictional areas and riparian habitats. If ground disturbing construction activities in jurisdictional areas cannot be avoided, a formal jurisdictional delineation of the area will be required, and a USACE permit and a CDFG Streambed Alteration Agreement will be obtained prior to construction.

- Allen, E. B. 1996. Characterizing the habitat of slender-horned spineflower (*Dodecahema leptoceras*), ecological analysis. Long Beach: Prepared for California Department of Fish and Game, Region 5.
- Barrett, S. C. H. and Kohn, J.R. 1991. Genetic and evolutionary consequences of small population size in plants: implications for conservation. In: Falk D. A. and Holsinger K. E. [eds.]. Genetics and conservation of rare plants. New York, NY: Oxford University Press. P 3–30.
- Bramlet, D. 1993. Plant Species of special concern in the alkaline sinks of the San Jacinto River and Old Salt Creek Tributary Area. Unpublished.
- California Department of Fish and Game (CDFG), January 18, 2006. RareFind 2: A database application for the use of the California Department of Fish and Game Natural Diversity Base. Sacramento, CA.
- California Natural Diversity Database. 2000. *Hemizonia pungens* ssp. *laevis*, Sacramento, California: Natural Heritage Division, California Department of Fish and Game.
- California Native Plant Society (CNPS). 2005. Inventory of rare and endangered plants (online edition, v6-05c). Sacramento, CA. Accessed on Sep. 8, 2005 from www.cnps.org/inventory
- California Native Plant Society (CNPS). 1998. Policy on mitigation guidelines regarding impacts to rare, threatened, and endangered plants. Sacramento, CA.
- Center for Plant Conservation (CPC). 2005. CPC national collection plant profile for *Allium munzii*. Accessed on Sep. 8, 2005 from www.centerforplantconservation.org
- County of Riverside. 2003. Riverside County Integrated Project (RCIP) Multiple Species Habitat Conservation Plan (MSHCP): Column II B, Species Accounts, Plants, *Centromadia pungens* ssp. *laevis* (smooth tarplant), p. 412.

- County of Riverside. 2003b. Riverside County Integrated Project (RCIP) Multiple Species Habitat Conservation Plan (MSHCP): Column II B, Species Accounts, Plants, Many-stemmed dudleya (*Dudleya multicaulis*).
- County of Riverside. 2003c. Riverside County Integrated Project (RCIP) Multiple Species Habitat Conservation Plan (MSHCP): Column II B, Species Accounts, Plants, little mousetail (*Myosurus minimus* ssp. *apus*), p. 173.
- Ferguson, N. J. and Ellstrand, N.C. 1999. Assessment of seed bank buffering of genetic change in *Dodecahema leptoceras* (slender-horned spineflower). Long Beach: Prepared for California Department of Fish and Game, Region 5.
- Ferguson, N. J.; Whitkus, R. and Ellstrand, N.C. 1996. Investigation into the population biology of *Dodecahema leptoceras* (slender-horned spineflower). Long Beach: Prepared for California Department of Fish and Game, Region 5.
- Ferren, W.R., and Fiedler, P.L. 1993. Rare and threatened wetlands of Central and Southern California. In: Keely J.E. [ed.] Interface between ecology and land development in California. Los Angeles: Southern California Academy of Sciences.
- Gillespie, I.G. 2005. Habitat characteristics and distribution of *Erodium macrophyllum* (Geraniaceae). Madrono: Vol. 52, No. 1, pp. 53-59.
- IGAGE Mapping Corporation. 1999. All Topo Maps Version 6; Lake Matthews, Steele Park, Alberhill, Romoland, Perris and Lake Elsinore Topographic Quadrangle Maps. Salt Lake City (UT)
- Keil, D.J. 1993. Asteraceae. In: Hickman, J.C. [ed.]. The Jepson Manual, Higher Plants of California. Berkeley, CA: University of California Press.
- Reiser, C. H. 1994. Rare plants of San Diego County. Imperial Beach, California: Aquafir Press.
- U.S. Fish and Wildlife Service (USFWS). 1998. Determination of endangered or threatened status for four southwestern California plants from vernal wetlands and clay soils. Federal Register. 63, 197: 54975-54994.
- U.S. Fish and Wildlife Service (USFWS). 1999. Endangered and threatened wildlife and plants; proposed endangered status for *Ambrosia pumila* (San Diego Ambrosia). December.

Western Regional Climate Center, Historical Climate Information for Riverside, California. Accessed on August 25, 2005. Available at: www.wrcc.dri.edu/cgi-bin/cliMAIN.pl?carvf

Young, J. C., Zink, T. and Allen, M. 2000. Slender-horned spineflower (*Dodecahema leptoceras*) microhabitat characterization of mycorrhizal associations. San Diego: Prepared for California Department of Fish and Game, Region 5.

APPENDIX A

LISTED CANDIDATE, SENSITIVE, AND SPECIES OF CONCERN POTENTIALLY
OCCURRING IN THE PROJECT AREA

Sensitive and Special Status Species with the Potential to Occur in the Study Area

PLANTS					
SPECIES	STATUS	GENERAL HABITAT REQUIREMENTS	BLOOMING PERIOD	POTENTIAL FOR OCCURRENCE	MSHCP COVERED SPECIES
<i>Abronia villosa</i> var. <i>aurita</i> chaparral sand-verbena	CNPS 1B	Chaparral, coastal scrub/sandy. Elevation 80-1,600 m	January-August	High (present)	-
<i>Allium munzii</i> Munz's onion	FE ST CNPS 1B	Chaparral, cismontane woodland, coastal scrub, pinyon and juniper woodland, valley and foothill grassland/mesic, clay. Elevation 300-1,070 m	March - May	High (present)	X
<i>Ambrosia pumila</i> San Diego ambrosia	FE CNPS 1B	Chaparral, coastal scrub, valley and foothill grassland, vernal pools/often in disturbed areas. Elevation 20-415 m	May-September	High (present)	X
<i>Atriplex coronata</i> var. <i>notatior</i> San Jacinto Valley crownscale	FE CNPS 1B	Playas, valley and foothill grassland. Elevation 380-500 m	April - August	High	X
<i>Atriplex pacifica</i> South Coast saltscale	CNPS 1B	Coastal buff scrub, coastal dunes, coastal scrub, playas. Elevation 0-100 m	March-October	Low	-
<i>Atriplex serenana</i> var. <i>davidsonii</i> Davidson's saltscale	CNPS 1B	Coastal buff scrub, coastal buff scrub/alkaline; Elevation 10-200 m	April-October	Low	X
<i>Brodiaea filifolia</i> thread-leaved brodiaea	FT SE CNPS 1B	Chaparral (openings), cismontane woodland, coastal scrub, playas, valley and foothill grassland, vernal pools/often clay. Elevation 30-615 m	March - June	High	X
<i>Centromadia pungens</i> ssp. <i>laevis</i> smooth tarplant	CNPS 1B	Chenopod scrub, meadows and seeps, playas, riparian woodland, valley and foothill grassland. Elevation 0-480 m	April-September	Moderate	X
<i>Chorizanthe parryi</i> var. <i>parryi</i> Parry's spine flower	CNPS 3	Chaparral, coastal scrub/sandy or rocky, openings. Elevation 40-1,705 m	April - June	Low	X

Sensitive and Special Status Species with the Potential to Occur in the Study Area

PLANTS					
SPECIES	STATUS	GENERAL HABITAT REQUIREMENTS	BLOOMING PERIOD	POTENTIAL FOR OCCURRENCE	MSHCP COVERED SPECIES
<i>Chorizanthe polygonoides</i> var. <i>longispina</i> long-spined spine flower	CNPS 1B	Chaparral, coastal scrub, meadows and seeps, valley and foothill grassland/ often clay. Elevation 30-1,450 m	April - July	High (present)	X
<i>Dodecahema leptoceras</i> slender-horned spineflower	FE SE CNPS 1B	Chaparral, cismontane woodland, coastal scrub (alluvial fan)/sandy. Elevation 200-760 m	April - June	Low	X
<i>Dudleya multicaulis</i> many-stemmed dudleya	CNPS 1B	Chaparral, coastal scrub, valley and foothill grassland/ often clay. Elevation: 15-790 m	April - July	Moderate	X
<i>Erodium macrophyllum</i> round-leaved filaree	CNPS 2	Cismontane woodland, valley and foothill grassland/clay. Elevation 15-1,200 m	March - May	High	X
<i>Horkelia cuneata</i> ssp. <i>puberula</i> mesa horkelia	CNPS 1B	Chaparral, cismontane woodland, coastal scrub / sandy or gravelly. Elevation 70-810 m	February-September	Low	-
<i>Lasthenia glabrata</i> ssp. <i>coulteri</i> Coulter's goldfields	CNPS 1B	Marshes and swamps (coastal salt), playas, vernal pools. Elevation 1-1,220 m	February - June	High	X
<i>Lepechinia cardiophylla</i> heart-leaved pitcher sage	CNPS 1B	Closed-cone coniferous forest, chaparral, cismontane woodland. Elevation 555-1,370 m	April - July	Low	X
<i>Monardella hypoleuca</i> ssp. <i>lanata</i> felt-leaved monardella	CNPS 1B	Chaparral, cismontane woodland. Elevation 300-1,190 m	June - August	Low	-
<i>Monardella macrantha</i> ssp. <i>hallii</i> Hall's monardella	CNPS 1B	Broadleaved upland forest, chaparral, cismontane woodland, lower montane coniferous forest, valley and foothill grassland. Elevation 730-2,195 m	June - August	Low	X
<i>Myosurus minimus</i> ssp. <i>apus</i> little mousetail	CNPS 3	Valley and foothill grassland, vernal pools (alkaline). Elevation 20-640 m	March - June	Moderate	X

Sensitive and Special Status Species with the Potential to Occur in the Study Area

PLANTS					
SPECIES	STATUS	GENERAL HABITAT REQUIREMENTS	BLOOMING PERIOD	POTENTIAL FOR OCCURRENCE	MSHCP COVERED SPECIES
<i>Navarretia fossalis</i> spreading navarretia	FT CNPS 1B	Chenopod scrub, marshes and swamps (assorted shallow freshwater), playas, vernal pools. Elevation 30-1,300 m	April - June	High	X
<i>Orcuttia californica</i> California Orcutt grass	FE SE CNPS 1B	Vernal pools. Elevation 15-660 m	April - August	Low	X
<i>Satureja chandleri</i> San Miguel savory	CNPS 1B	Chaparral, cismontane woodland, coastal scrub, riparian woodland, valley and foothill grassland/ rocky, gabbroic or metavolcanic. Elevation 120-1,075 m	March - July	Low	X
<i>Senecio aphanactis</i> rayless ragwort	CNPS 2	Chaparral, cismontane woodland, coastal scrub / alkaline. Elevation 15-800 m	January - April	Moderate	-
<i>Symphotrichum defoliatum</i> San Bernardino aster	CNPS 1B			Moderate	-
<i>Tortula californica</i> California screw-moss	CNPS 1B	Chenopod scrub, valley and foothill grasslands / sandy soil. Elevation 10-100 m	Moss	Low	-
<i>Trichocoronis wrightii</i> var. <i>wrightii</i> Wright's trichocoronis	CNPS 2	Meadows and seeps, marshes and swamps, riparian scrub, vernal pools/alkaline. Elevation 5-435 m	May - September	Low	X

Sensitive and Special Status Species with the Potential to Occur in the Study Area

WILDLIFE					
SPECIES	STATUS		GENERAL HABITAT REQUIREMENTS	POTENTIAL FOR OCCURRENCE	MSHCP COVERED SPECIES
	USFWS/ USDA	CDFG			
<i>Accipiter cooperii</i> Cooper's hawk		SC	(Nesting) woodland, chiefly of open, interrupted or marginal type nest sites mainly in riparian growths of deciduous trees, as in canyon bottoms on the river flood plains. Also in live oaks.	Moderate	X
<i>Agelaius tricolor</i> tricolored blackbird		SC	(Nesting Colony) Highly colonial species, most numerous in Central Valley and vicinity Largely endemic to California. Requires open water, protected nesting substrate, & foraging area with insect prey within a few miles of the colony.	Low	X
<i>Aimophila ruficeps canescens</i> southern California rufous-crowned sparrow		SC	Coastal sage scrub and sparse mixed chaparral. Frequents relatively steep, often rocky hillsides with grass and forb patches.	Moderate	X
<i>Amphispiza belli belli</i> Bell's sage sparrow		SC	(Nesting) Nests in chaparral dominated by fairly dense stands of chamise found in coastal sage scrub in south of range. Nest location on the ground beneath shrubs or in a shrub 6-18 inches above ground. Territories about 50 yards apart.	Moderate	X

Sensitive and Special Status Species with the Potential to Occur in the Study Area

WILDLIFE					
SPECIES	STATUS		GENERAL HABITAT REQUIREMENTS	POTENTIAL FOR OCCURRENCE	MSHCP COVERED SPECIES
	USFWS/ USDA	CDFG			
<i>Aquila chrysaetos</i> golden eagle		SC	(Nesting and Wintering) Rolling foothills, mountain areas, sage-juniper flats, desert. Cliff-walled canyons and large trees provide nesting habitat in most parts of range.	Low	X
<i>Asio otus</i> long-eared owl		SC	(Nesting) Riparian bottomlands grown to tall willows and cottonwoods. Also, belts of Live Oak paralleling stream courses. Require adjacent open land productive of mice and the presence of old nests of crows, hawks, or magpies for breeding.	Low	-
<i>Aspidoscelis hyperythra</i> orange-throated whiptail		SC	Inhabits low-elevation coastal scrub, chaparral and valley foothill hardwood habitats. Prefer washes and other sandy areas with patches of brush and rocks. Perennial plants necessary for termites, its major food.	Low	-
<i>Chaetodipus californicus femoralis</i> Dulzura pocket mouse		SC	Variety of habitats including coastal scrub, chaparral and grassland in San Diego County. Variety of habitats including coastal scrub, chaparral, and grasslands in San Diego County. Attracted to grass chaparral edges.	Low	-
<i>Chaetodipus fallax fallax</i> northwestern San Diego pocket mouse		SC	Coastal scrub, chaparral, grasslands, sagebrush, etc. in western San Diego County. Coastal scrub, chaparral, grasslands, sagebrush, etc in western San Diego County.	Low	X
<i>Charadrius alexandrinus nivosus</i> western snowy plover	FT	SC	(Nesting) Sandy beaches, salt pond levees and shores of large alkali lakes. Needs sandy, gravelly or friable soils for nesting.	Low	-

Sensitive and Special Status Species with the Potential to Occur in the Study Area

WILDLIFE					
SPECIES	STATUS		GENERAL HABITAT REQUIREMENTS	POTENTIAL FOR OCCURRENCE	MSHCP COVERED SPECIES
	USFWS/ USDA	CDFG			
<i>Charina trivirgata</i> rosy boa		SC	Desert and chaparral from the coast to the Mojave and Colorado deserts. Prefers moderate to dense vegetation and rocky cover. Habitats with a mix of brushy cover and rocky soil such as coastal canyons and hillsides, desert canyons, washes and mountains.	High (present)	-
<i>Crotalus ruber ruber</i> northern red-diamond rattlesnake		SC	Chaparral, woodland, grassland, and desert areas from coastal San Diego County to the eastern slopes of the mountains. Occurs in rocky areas and dense vegetation. Needs rodent burrows, cracks in rocks or surface cover objects.	High (present)	X
<i>Diadophis punctatus modestus</i> San Bernardino ringneck snake			Most common in open, relatively rocky areas. Often in somewhat moist microhabitats near intermittent streams. Avoids moving through open or barren areas by restricting movements to areas of surface litter or herbaceous vegetation.	Moderate	-
<i>Dipodomys stephensi</i> Stephens' kangaroo rat	FE	ST	Primarily annual and perennial grasslands, but also occurs in coastal scrub and sagebrush with sparse canopy cover. Prefers buckwheat, chamise, brome grass and filaree. Will burrow into firm soil.	Low	X
<i>Elanus leucurus</i> white-tailed kite			(Nesting) Rolling foothills/Valley margins with scattered (nesting) rolling foothills/valley margins w/scattered oaks & river bottomlands or marshes next to deciduous woodland open grasslands, meadows, or marshes for foraging close to isolated, dense-topped trees for nesting and perching.	Moderate	X

Sensitive and Special Status Species with the Potential to Occur in the Study Area

WILDLIFE					
SPECIES	STATUS		GENERAL HABITAT REQUIREMENTS	POTENTIAL FOR OCCURRENCE	MSHCP COVERED SPECIES
	USFWS/ USDA	CDFG			
<i>Emys</i> (= <i>Clemmys</i>) <i>marmorata</i> <i>pallida</i> southwestern pond turtle		SC	Inhabits permanent or nearly permanent bodies of water in many habitat types; below 6,000 ft elev. Requires basking sites such as partially submerged logs, vegetation mats, or open mud banks. Needs suitable nesting sites.	Low	X
<i>Eremophila</i> <i>alpestris actia</i> California horned lark		SC	Coastal regions, chiefly from Sonoma county to San Diego county. Also main part of San Joaquin valley & east to foothills. Short-grass prairie, "bald" hills, mountain meadows, open coastal plains, fallow grain fields, alkali flats.	Low	X
<i>Eumops perotis</i> <i>californicus</i> western mastiff bat		SC	Many open, semi-arid to arid habitats, including conifer & deciduous woodlands, coastal scrub, grasslands, chaparral etc. Roosts in crevices in cliff faces, high buildings, trees & tunnels.	Low	-
<i>Euphydryas</i> <i>editha quino</i> quino checkerspot butterfly	FE		Sunny openings within chaparral & coastal sage shrublands in parts of Riverside & San Diego counties. Hills & mesas near the coast. Need high densities of food plants: <i>Plantago erecta</i> , <i>P. insularis</i> , <i>Orthocarpus purpurescens</i>	Low	X
<i>Haliaeetus</i> <i>leucocephalus</i> bald eagle	FT	SE	(Nesting & Wintering) ocean shore, lake margins, & rivers for both nesting & wintering. Most nests within 1 mi of water. Nests in large, old-growth, or dominant live tree w/open branches, especially ponderosa pine. Roosts communally in winter.	Low	X

Sensitive and Special Status Species with the Potential to Occur in the Study Area

WILDLIFE					
SPECIES	STATUS		GENERAL HABITAT REQUIREMENTS	POTENTIAL FOR OCCURRENCE	MSHCP COVERED SPECIES
	USFWS/ USDA	CDFG			
<i>Icteria virens</i> yellow-breasted chat		SC	(Nesting) Summer resident; inhabits riparian thickets of willow & other brushy tangles near watercourses. Nests in low, dense riparian, consisting of willow, blackberry, wild grape. Forage and nest w/in 10 ft of ground.	Low	X
<i>Lasiurus xanthinus</i> Western yellow bat			Found in valley foothill riparian, desert riparian, desert wash, and palm oasis habitats. Roosts in trees, particularly palms. Forages over water and among trees.	Low	-
<i>Lepus californicus bennettii</i> San Diego black-tailed jackrabbit		SC	Intermediate canopy stages of shrub habitats & open shrub / herbaceous & tree / herbaceous edges. Coastal sage scrub habitats in southern California.	Moderate	X
<i>Neotoma lepida intermedia</i> San Diego desert woodrat		SC	Coastal scrub of southern California from San Diego county to San Luis Obispo county.	Moderate	X
<i>Perognathus longimembris brevinasus</i> Los Angeles pocket mouse		SC	Lower elevation grasslands & coastal sage communities in the Los Angeles Basin. Open ground with fine sandy soils. May not dig extensive burrows, hiding under weeds & dead leaves instead.	Moderate	X
<i>Phrynosoma coronatum (blainvillii)</i> Coast (San Diego) horned lizard		SC	Inhabits coastal sage scrub and chaparral in arid and semi-arid climate conditions. Prefers friable, rocky, or shallow sandy soils.	Moderate	X
<i>Poliopitila californica californica</i> coastal California gnatcatcher	FT	SC	Obligate, permanent resident of coastal sage scrub below 2,500 ft in southern California. Low, coastal sage scrub in arid washes, on mesas & slopes. Not all areas classified as coastal sage scrub are occupied.	High	X

Sensitive and Special Status Species with the Potential to Occur in the Study Area

WILDLIFE					
SPECIES	STATUS		GENERAL HABITAT REQUIREMENTS	POTENTIAL FOR OCCURRENCE	MSHCP COVERED SPECIES
	USFWS/ USDA	CDFG			
<i>Salvadora hexalepis virgulata</i> coast patch-nosed snake		SC	Brushy or shrubby vegetation in coastal southern California. Require small mammal burrows for refuge and over-wintering sites.	Low	-
<i>Spea (=Scaphiopus) hammondi</i> western spadefoot		SC	Occurs primarily in grassland habitats, but can be found in valley-foothill hardwood woodlands. Vernal pools are essential for breeding and egg-laying.	Low	X
<i>Streptocephalus woottoni</i> Riverside fairy shrimp	FE		Endemic to western Riverside, Orange & San Diego counties in areas of tectonic swales/earth slump basins in grassland & coastal sage scrub. Inhabit seasonally astatic pools filled by winter/spring rains. Hatch in warm water later in the season.	Low	X
<i>Taxidea taxus</i> American badger		SC	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils. Need sufficient food, friable soils & open, uncultivated ground. Prey on burrowing rodents and dig burrows.	Low	-
<i>Vireo bellii pusillus</i> least Bell's vireo	FE	SE	(Nesting) Summer resident of southern California in low riparian. In vicinity of water or in dry river bottoms; below 2000 ft. Nests placed along margins of bushes or on twigs projecting into pathways, usually willow, baccharis, mesquite.	Low	X

Sensitive and Special Status Species with the Potential to Occur in the Study Area

WILDLIFE					
SPECIES	STATUS		GENERAL HABITAT REQUIREMENTS	POTENTIAL FOR OCCURRENCE	MSHCP COVERED SPECIES
	USFWS/ USDA	CDFG			
<p>Key: FE: Federally Listed as Endangered FT: Federally Listed at Threatened FS: USDA Forest Service Sensitive SE: State listed as Endangered ST: State listed as Threatened SC: Species of Special Concern CNPS List 1B: Rare, threatened, or endangered in California and elsewhere. CNPS List 2: Rare, threatened or endangered in California, but more common elsewhere. CNPS List 3: Plants for which more information is needed.</p> <p>Potential for Occurrence:</p> <p>Low = Low potential for occurrence - No recent or historical records exist of the species occurring in the project area or its immediate vicinity (within approximately 5 miles) and the diagnostic habitat requirements strongly associated with the species do not occur in the Project area or its immediate vicinity.</p> <p>Moderate = Moderate potential for occurrence - Either a historical record exists of the species in the project area or its immediate vicinity or the diagnostic habitat requirements associated with the species occur in the Project area or its immediate vicinity.</p> <p>High = High potential for occurrence - Both a historical record exists of the species in the project area or its immediate vicinity and the diagnostic habitat requirements strongly associated with the species occur in the project area or its immediate vicinity.</p>					

APPENDIX B

PLANT AND WILDLIFE SPECIES OBSERVED DURING THE IVYGLEN
BIOLOGICAL RESOURCE SURVEYS

Wildlife Species Observed During the Ivyglen Biological Resource Surveys

SCIENTIFIC NAME	COMMON NAME
<i>Eleodes</i> spp.	stink beetle
<i>Icaricia acmon</i>	Acmon blue
<i>Pepsis</i> spp.	tarantula hawk
<i>Gerris gibbifer</i>	water strider
<i>Charina trivirgata</i>	rosy boa
<i>Crotalus ruber</i>	red diamond rattlesnake
<i>Pituophis catenifer</i>	gopher snake
<i>Agelaius phoeniceus</i>	red-winged blackbird
<i>Ardea herodias</i>	great blue heron.
<i>Buteo jamaicensis</i>	red tailed hawk
<i>Callipepla californica</i>	California quail
<i>Calypte anna</i>	Anna's hummingbird
<i>Carduelis psaltria</i>	lesser goldfinch
<i>Carpodacus mexicanus</i>	house finch
<i>Cathartes aura</i>	turkey vulture
<i>Chamaea fasciata</i>	wrenit
<i>Colaptes auratus</i>	northern Flicker
<i>Columba livia</i>	rock dove
<i>Corvus corax</i>	common raven
<i>Falco sparverius</i>	American kestrel
<i>Lanius ludovicianus</i>	Loggerhead shrike
<i>Melospiza melodia</i>	song sparrow
<i>Passer domesticatus</i>	house sparrow
<i>Petrochelidon pyrrhonota</i>	cliff swallow
<i>Picoides nuttallii</i>	Nuttall's woodpecker
<i>Pipilo crissalis</i>	California towhee
<i>Polioptila californica californica</i>	Coastal California gnatcatcher
<i>Psaltriparus minimus</i>	bushitit
<i>Sayornis nigricans</i>	Black phoebe
<i>Sturnella neglecta</i>	Western meadowlark
<i>Sturnus vulgaris</i>	European starling
<i>Troglodytes aedon</i>	house wren
<i>Tyrannus verticalis</i>	western kingbird
<i>Tyto alba</i>	barn owl
<i>Zenaida macroura</i>	mourning dove
<i>Zonotrichia leucophrys</i>	white-crowned sparrow
<i>Capra aegagrus hircus</i>	domestic goat
<i>Canis latrans</i>	coyote
<i>Lepus californicus</i>	black-tailed jackrabbit (dead)
<i>Thomomys bottae</i>	pocket gopher

Plant Species Observed During the Ivyglen Biological Resource Surveys

Scientific Name	Family	Habit	Native/Introduced	Notes
<i>Glinus lotoides</i>	Aizoaceae	annual	I	
	Aizoaceae		I	
<i>Mesembryanthemum nodiflorum</i>		annual		
<i>Sesuvium verrucosum</i>	Aizoaceae	perennial	N	
	Amaranthaceae		I	
<i>Amaranthus albus</i>		annual		
	Amaranthaceae		N	
<i>Amaranthus blitoides</i>		annual		
<i>Rhus laurina</i>	Anacardiaceae	shrub	N	
<i>Schinus molle</i>	Anacardiaceae	tree	I	
<i>Toxicodendron diversilobum</i>	Anacardiaceae	shrub/liana	N	
<i>Daucus pusillus</i>	Apiaceae	annual	N	
<i>Lomatium utriculatum</i>	Apiaceae	perennial	N	
<i>Ambrosia acanthicarpa</i>	Asteraceae	annual	N	
<i>Ambrosia psilostachya</i>	Asteraceae	perennial	N	
	Asteraceae		N	MSHCP Criteria Species
<i>Ambrosia pumila</i>		perennial		
<i>Anthemis cotula</i>	Asteraceae	annual	I	
<i>Artemisia californica</i>	Asteraceae	shrub	N	
<i>Artemisia douglasiana</i>	Asteraceae	perennial	N	
<i>Artemisia dracuncululus</i>	Asteraceae	perennial	N	
<i>Baccharis salicifolia</i>	Asteraceae	shrub	N	
<i>Bebbia juncea</i>	Asteraceae	shrub	N	
<i>Centaurea melitensis</i>	Asteraceae	annual	I	
	Asteraceae		N	MSHCP Criteria Species
<i>Centromadia pungens</i> ssp. <i>laevis</i>		annual		
<i>Chaenactis artemisiifolia</i>	Asteraceae	annual	N	
<i>Chaenactis glabriuscula</i>	Asteraceae	annual	N	
<i>Conyza canadensis</i>	Asteraceae	annual	N	
<i>Conyza coulteri</i>	Asteraceae	annual	N	
<i>Cotula coronopifolia</i>	Asteraceae	perennial	I	
<i>Crepis</i> sp.	Asteraceae	annual	I	
<i>Encelia farinosa</i>	Asteraceae	shrub	N	
	Asteraceae		N	
<i>Ericameria palmeri</i> var. <i>pachylepis</i>		shrub		
<i>Erigeron foliosus</i>	Asteraceae	perennial	N	

Plant Species Observed During the Ivyglen Biological Resource Surveys

Scientific Name	Family	Habit	Native/Intr Notes euced
<i>Eriophyllum confertiflorum</i>	Asteraceae	subshrub	N
<i>Filago californica</i>	Asteraceae	annual	N
<i>Filago gallica</i>	Asteraceae	annual	I
<i>Gnaphalium californicum</i>	Asteraceae	perennial	N
<i>Gnaphalium luteo-album</i>	Asteraceae	annual	I
<i>Gnaphalium palustre</i>	Asteraceae	annual	N
	Asteraceae		N
<i>Gutierrezia californica</i>		subshrub	
<i>Hedypnois cretica</i>	Asteraceae	annual	I
<i>Helianthus annuus</i>	Asteraceae	annual	I
<i>Hemizonia fasciculata</i>	Asteraceae	annual	N
<i>Hemizonia kelloggii</i>	Asteraceae	annual	N
	Asteraceae		N
<i>Hemizonia paniculata</i>		annual	
<i>Heterotheca grandiflora</i>	Asteraceae	biennial	N
<i>Iva axillaris</i>	Asteraceae	perennial	N
<i>Lactuca serriola</i>	Asteraceae	annual	I
<i>Lasthenia californica</i>	Asteraceae	annual	N
<i>Lepidospartum squamatum</i>	Asteraceae	shrub	N
<i>Lessingia filaginifolia</i>	Asteraceae	perennial	N
<i>Malacothrix saxatilis</i>	Asteraceae	perennial	N
<i>Matricaria globifera</i>	Asteraceae	annual	I
<i>Matricaria matricarioides</i>	Asteraceae	annual	I
<i>Picris echioides</i>	Asteraceae	annual	I
<i>Silybum marianum</i>	Asteraceae	biennial	I
<i>Sonchus asper</i>	Asteraceae	annual	I
<i>Stephanomeria virgata</i>	Asteraceae	annual	N
<i>Stylocline gnaphalioides</i>	Asteraceae	annual	N
<i>Tetradymia comosa</i>	Asteraceae	shrub	N
<i>Xanthium strumarium</i>	Asteraceae	annual	N
<i>Amsinckia intermedia</i>	Boraginaceae	annual	N
<i>Amsinckia retrorsa</i>	Boraginaceae	annual	N
<i>Cryptantha corollata</i>	Boraginaceae	annual	N
<i>Cryptantha intermedia</i>	Boraginaceae	annual	N
<i>Heliotropium curassavicum</i>	Boraginaceae	perennial	N
<i>Pectocarya linearis</i>	Boraginaceae	annual	N
<i>Plagiobothrys canescens</i>	Boraginaceae	annual	N
<i>Brassica geniculata</i>	Brassicaceae	annual/perennial	I

Plant Species Observed During the Ivyglen Biological Resource Surveys

Scientific Name	Family	Habit	Native/Intr Notes euced
<i>Brassica rapa</i>	Brassicaceae	annual	I
<i>Brassica tournefortii</i>	Brassicaceae	annual	I
<i>Lepidium nitidum</i>	Brassicaceae	annual	N
<i>Lepidium virginicum ssp. robinsonii</i>	Brassicaceae	biennial	
<i>Raphanus sativus</i>	Brassicaceae	annual	I
<i>Rorippa nasturtium-aquaticum</i>	Brassicaceae	perennial	N
<i>Sisymbrium irio</i>	Brassicaceae	annual	I
<i>Opuntia californica</i>	Cactaceae	succulent shrub	
<i>Opuntia littoralis</i>	Cactaceae	succulent shrub	N
<i>Cannabis sativa</i>	Cannabaceae	annual	I
<i>Sambucus mexicana</i>	Caprifoliaceae	shrub/tree	N
<i>Atriplex argentea</i>	Chenopodiaceae	annual	N
<i>Atriplex argentea</i>	Chenopodiaceae	annual	N
<i>Atriplex serenana</i>	Chenopodiaceae	annual	N
<i>Atriplex suberecta</i>	Chenopodiaceae	annual	I
<i>Bassia hyssopifolia</i>	Chenopodiaceae	annual	I
<i>Chenopodium berlandieri</i>	Chenopodiaceae	annual	N
<i>Chenopodium californicum</i>	Chenopodiaceae	perennial	N
<i>Chenopodium macrospermum</i>	Chenopodiaceae	annual	
<i>Chenopodium murale</i>	Chenopodiaceae	annual	I
<i>Chenopodium pumilio</i>	Chenopodiaceae	annual	I
<i>Salsola tragus</i>	Chenopodiaceae	annual	I
<i>Calystegia macrostegia</i>	Convolvulaceae	perennial vine	N
<i>Cressa truxillensis</i>	Convolvulaceae	perennial	N
<i>Cuscuta californica</i>	Convolvulaceae	annual vine	N
<i>Cuscuta salina</i>	Convolvulaceae	annual vine	N
<i>Crassula connata</i>	Crassulaceae	annual	N
<i>Dudleya lanceolata</i>	Crassulaceae	perennial	N
<i>Dudleya pulverulenta</i>	Crassulaceae	succulent perennial	N
<i>Loeflingia squarrosa</i>	Caryophyllaceae	annual	N
<i>Silene antirrhina</i>	Caryophyllaceae	annual	N
<i>Spergularia bocconii</i>	Caryophyllaceae	annual	I
<i>Spergularia rubra</i>	Caryophyllaceae	annual	I
<i>Cyperus eragrostis</i>	Cyperaceae	perennial	I
<i>Cyperus squarrosus</i>	Cyperaceae	annual	N
<i>Eleocharis macrostachya</i>	Cyperaceae	perennial	N
<i>Scirpus acutus</i>	Cyperaceae	perennial	N
<i>Croton californicus</i>	Euphorbiaceae	perennial	N
<i>Croton setiger</i>	Euphorbiaceae	annual	N

Plant Species Observed During the Ivyglen Biological Resource Surveys

Scientific Name	Family	Habit	Native/Intr Notes euced
<i>Euphorbia albomarginata</i>	Euphorbiaceae	perennial	N
<i>Euphorbia polycarpa</i>	Euphorbiaceae	perennial	N
<i>Ricinus communis</i>	Euphorbiaceae	shrub (weak)	I
<i>Astragalus pomonensis</i>	Fabaceae	perennial	N
<i>Lotus hamatus</i>	Fabaceae	annual	N
<i>Lotus purshianus</i>	Fabaceae	annual	N
<i>Lotus salsuginosus</i>	Fabaceae	annual	N
<i>Lotus scoparius</i> ssp. <i>brevialatus</i>		subshrub	
<i>Lotus strigosus</i>	Fabaceae	annual	N
<i>Lupinus bicolor</i>	Fabaceae	annual	N
<i>Lupinus excubitus</i>	Fabaceae	perennial	N
<i>Medicago polymorpha</i>	Fabaceae	annual	I
<i>Parkinsonia aculeata</i>	Fabaceae	tree	I
<i>Trifolium obtusiflorum</i>	Fabaceae	annual	N
	Fagaceae		N
<i>Quercus agrifolia</i> var. <i>agrifolia</i>		tree	
<i>Frankenia salina</i>	Frankeniaceae	subshrub	N
<i>Centaureum venustum</i>	Gentianaceae	annual	N
<i>Erodium cicutarium</i>	Geraniaceae	annual	I
<i>Geranium carolinianum</i>	Geraniaceae	annual	N
<i>Emmenanthe penduliflora</i> var. <i>penduliflora</i>	Hydrophyllaceae	annual	N
<i>Eucrypta chrysanthemifolia</i>	Hydrophyllaceae	annual	N
<i>Phacelia cicutaria</i> var. <i>hispida</i>	Hydrophyllaceae	annual	N
<i>Phacelia distans</i>	Hydrophyllaceae	annual	N
<i>Phacelia minor</i>	Hydrophyllaceae	annual	N
<i>Juncus balticus</i>	Juncaceae	perennial	N
<i>Juncus bufonius</i>	Juncaceae	annual	N
<i>Juncus rugulosus</i>	Juncaceae	perennial	N
<i>Marrubium vulgare</i>	Lamiaceae	perennial	I
<i>Salvia apiana</i>	Lamiaceae	shrub	N
<i>Salvia columbariae</i>	Lamiaceae	annual	N
<i>Salvia mellifera</i>	Lamiaceae	shrub	N
<i>Stachys ajugoides</i>	Lamiaceae	perennial	N
<i>Trichostema lanceolatum</i>	Lamiaceae	annual	N
<i>Calochortus weedii</i> var. <i>weedii</i>	Liliaceae	perennial	
<i>Allium munzii</i>	Liliaceae	perennial	N

Plant Species Observed During the Ivyglen Biological Resource Surveys

Scientific Name	Family	Habit	Native/Intr Notes duced
<i>Chlorogalum parviflorum</i>	Liliaceae	perennial	N
<i>Muilla maritima</i>	Liliaceae	perennial	N
<i>Lemna</i>	Lemnaceae	annual	N
<i>Mentzelia micrantha</i>	Loasaceae	annual	N
<i>Lythrum californicum</i>	Lythraceae	perennial	N
<i>Lythrum hyssopifolia</i>	Lythraceae	annual	I
<i>Malacothamnus fasciculatus</i>	Malvaceae	shrub	N
<i>Malvella leprosa</i>	Malvaceae	perennial	N
<i>Abronia villosa var. aurita</i>	Nyctaginaceae	perennial	N
<i>Boerhavia coccinea</i>	Nyctaginaceae	annual	N
<i>Camissonia bistorta</i>	Onagraceae	annual	N
<i>Camissonia californica</i>	Onagraceae	annual	N
<i>Camissonia hirtella</i>	Onagraceae	annual	N
<i>Clarkia purpurea</i>	Onagraceae	annual	N
<i>Epilobium canum</i>	Onagraceae	perennial	N
<i>Epilobium ciliatum</i>	Onagraceae	annual/perennial	N
<i>Dicentra chrysantha</i>	Papaveraceae	perennial	N
<i>Eschscholzia caespitosa</i>	Papaveraceae	annual	N
<i>Romneya coulteri</i>	Papaveraceae	perennial	N
<i>Plantago erecta</i>	Plantaginaceae	annual	N
<i>Plantago lanceolata</i>	Plantaginaceae	perennial	I
<i>Platanus racemosa</i>	Platanaceae	tree	N
<i>Arundo donax</i>	Poaceae	perennial	I
<i>Avena fatua</i>	Poaceae	annual	I
<i>Bromus catharticus</i>	Poaceae	perennial	I
<i>Bromus diandrus</i>	Poaceae	annual	I
<i>Bromus hordeaceus</i>	Poaceae	annual	I
<i>Bromus madritensis ssp. rubens</i>		annual	
<i>Elymus condensatus</i>	Poaceae	perennial	N
<i>Elymus condensatus</i>	Poaceae	perennial	N
<i>Lolium perenne</i>	Poaceae	annual	I
<i>Phalaris paradoxa</i>	Poaceae	annual	I
<i>Polypogon monspeliensis</i>	Poaceae	annual	I
<i>Stipa lepida</i>	Poaceae	perennial	N
<i>Allophylum glutinosum</i>	Polemoniaceae	annual	N
<i>Eriastrum sapphirinum</i>	Polemoniaceae	annual	N
<i>Gilia diegensis</i>	Polemoniaceae	annual	N
<i>Gilia spp.</i>	Polemoniaceae	annual	N

Plant Species Observed During the Ivyglen Biological Resource Surveys

Scientific Name	Family	Habit	Native/Intr Notes educed
<i>Gilia angelensis</i>	Polemoniaceae	annual	N
<i>Linanthus liniflorus</i>	Polemoniaceae	annual	N
<i>Navarretia atractyloides</i>	Polemoniaceae	annual	N
<i>Chorizanthe coriacea</i>	Polygonaceae	annual	N
<i>Chorizanthe parryi</i> var. <i>parryi</i>	Polygonaceae	annual	N
<i>Chorizanthe polygonoides</i> var. <i>longispina</i>		annual	
<i>Chorizanthe staticoides</i>	Polygonaceae	annual	N
<i>Eriogonum elongatum</i>	Polygonaceae	perennial	N
<i>Eriogonum fasciculatum</i> var. <i>foliolosum</i>		shrub	
<i>Eriogonum gracile</i>	Polygonaceae	annual	N
<i>Polygonum aviculare</i>	Polygonaceae	annual	I
<i>Rumex crispus</i>	Polygonaceae	perennial	I
<i>Rumex salicifolius</i>	Polygonaceae	perennial	N
<i>Calyptidium monandrum</i>	Portulacaceae	annual	N
<i>Claytonia</i> sp.	Portulacaceae	annual	N
<i>Anagallis arvensis</i>	Primulaceae	annual	I
<i>Dodecatheon clevelandii</i>	Primulaceae		N
<i>Ceanothus crassifolius</i>	Rhamnaceae	shrub	N
<i>Rhamnus crocea</i>	Rhamnaceae	shrub	N
<i>Adenostoma fasciculatum</i>	Rosaceae	shrub	N
<i>Salix gooddingii</i>	Salicaceae	tree	N
<i>Antirrhinum coulterianum</i>	Scrophulariaceae	annual	N
<i>Antirrhinum nuttallianum</i>	Scrophulariaceae	perennial	N
<i>Castilleja affinis</i>	Scrophulariaceae	perennial	N
<i>Castilleja exserta</i>	Scrophulariaceae	annual	N
<i>Keckiella antirrhinoides</i>	Scrophulariaceae	shrub	N
<i>Mimulus brevipes</i>	Scrophulariaceae	annual	N
<i>Mimulus cardinalis</i>	Scrophulariaceae	perennial	N
<i>Mimulus guttatus</i>	Scrophulariaceae	perennial	N
<i>Mimulus pilosus</i>		annual	
<i>Penstemon spectabilis</i>	Scrophulariaceae	perennial	N
<i>Selaginella bigelovii</i>	Selaginellaceae	perennial	N
<i>Ailanthus altissima</i>	Simaroubaceae	tree	I
<i>Datura wrightii</i>	Solanaceae	perennial	N
<i>Nicotiana quadrivalvis</i>	Solanaceae	annual	N
<i>Solanum douglasii</i>	Solanaceae	perennial	N

Plant Species Observed During the Ivyglen Biological Resource Surveys

Scientific Name	Family	Habit	Native/Intr Notes duced
<i>Anemopsis californica</i>	Saururaceae	perennial	N
<i>Urtica dioica</i>	Urticaceae	perennial	N
<i>Verbena lasiostachys</i>	Verbenaceae	perennial	N

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