APPENDIX F

BIOLOGICAL RESOURCES

This Page Intentionally Left Blank

BIOLOGICAL RESOURCES TECHNICAL REPORT

WEST OF DEVERS UPGRADE PROJECT

SAN BERNARDINO AND RIVERSIDE COUNTIES, CALIFORNIA

LSA

October 2013

BIOLOGICAL RESOURCES TECHNICAL REPORT

WEST OF DEVERS UPGRADE PROJECT

SAN BERNARDINO AND RIVERSIDE COUNTIES, CALIFORNIA

Submitted to:

Southern California Edison
1218 South 5th Avenue
Monrovia, California 91016
(626) 462-8677

Prepared by:

LSA Associates, Inc.
20 Executive Park, Suite 200
Irvine, California 92614
(949) 553-0666

Project No. SCE1110

LSA

October 2013

TABLE OF CONTENTS

FIGURE

TABLES

APPENDICES

LIST OF ACRONYMS AND ABBREVIATIONS

°F	degrees Fahrenheit
ac	acre/acres
AMEC	AMEC Environmental and Infrastructure, Inc.
amsl	above mean sea level
ARL	Additional Reserve Land
Aspen	Aspen Environmental, Inc.
BLM	United States Bureau of Land Management
BRC	BioResource Consultants, Inc.
BRTR	Biological Resources Technical Report
CCR	California Code of Regulations
CDCA	California Desert Conservation Area
CDFW	California Department of Fish and Wildlife
CDRU	Colorado Desert Recovery Unit
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
RPR	California Department of Fish and Wildlife Rare Plant Rank
CVAG	Coachella Valley Association of Governments
CWA	Clean Water Act
ECORP	ECORP Consulting, Inc.
EO	Executive Order
FESA	Federal Endangered Species Act
FGC	California Fish and Game Code,
FR	Federal Register
GANDA	Garcia and Associates, Inc.
GPS	global positioning system
I-10	Interstate 10
I-15	Interstate 15
I-215	Interstate 215
JD	Jurisdictional Delineation
Karl	Alice E. Karl and Associates, Inc.
Kidd	Kidd Biological, Inc.
LSA	LSA Associates, Inc.

MBTA	Migratory Bird Treaty Act
Reservation	Morongo Band of Mission Indians Reservation
MSHCP	Multiple Species Habitat Conservation Plan
NCCP Act	Natural Communities Conservation Planning Act
NEPA	National Environmental Policy Act
NPPA	Native Plant Protection Act
O&M	operations and maintenance
OHWM	ordinary high water mark
Porter-Cologne Act	California Porter-Cologne Water Quality Control Act
PQP	Public/Quasi-Public
PRC	Public Resources Code
RWQCB	Regional Water Quality Control Board
SAA	Streambed Alteration Agreement
SCE	Southern California Edison
SHTAC	Swainson's Hawk Technical Advisory Committee
SR-60	State Route 60
SR-62	State Route 62
SR-79	State Route 79
SR-111	State Route 111
SR-210	State Route 210
SR-243	State Route 243
Study Area	West of Devers Upgrade Project
TNW	traditional navigable water
USACE	United States Army Corps of Engineers
USC	United States Code
USFS	United States Forest Service
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
WOD	West of Devers

1.0 SUMMARY

The West of Devers (WOD) Upgrade Project (Proposed Project) would upgrade the existing WOD transmission line by replacing existing 220-kilovolt (kV) transmission lines and associated structures with new, higher-capacity 220 kV transmission lines and structures; modifying existing substation facilities; removing and replacing existing subtransmission (66 kV) lines; removing and replacing existing distribution (12 kV) lines; temporarily utilizing new and existing staging yards, and making various telecommunication system and access road improvements.

The Proposed Project is located primarily within an existing utility corridor in the cities of Banning, Beaumont, Calimesa, Colton, Grand Terrace, Loma Linda, Palm Springs, Rancho Cucamonga,[1] Redlands, San Bernardino, and Yucaipa, and unincorporated areas of Riverside and San Bernardino Counties, including the reservation trust land of the Morongo Band of Mission Indians (Reservation). Biological survey areas for this technical report included the entire transmission corridor right-of-way (ROW), existing and proposed access roads, telecommunication lines, and temporary construction staging yards for the proposed removal and replacement of transmission lines.

The Project Study Area includes expanses of vegetation communities, many of which are in rugged terrain or hill areas that are not easily developed, as well as areas developed for urban, suburban, and/or agricultural uses. Table 1-1, Maximum Potential Project Effects to Land Cover, shows the maximum extent to which the Proposed Project could permanently and temporarily affect land cover types within the Project Study Area. The preliminary engineering that is the basis for this assessment intentionally overstates the potential impact area in order to identify potential issues. The subsequent engineering will result in smaller actual impact areas and provide opportunities to avoid impacts to biological resources.

Table 1-1: Maximum Potential Effects to Land Cover

Land Cover Type	Permanent Effects (acres)	Temporary Effects (acres)
Alluvial Scrub	8.1	85.0
Chaparral	34.8	209.3
Coast Live Oak Woodland	1.6	13.1
Coastal Sage Scrub	79.3	453.5
Desert Scrub	78.1	905.9
Grassland/Forbland	99.0	715.3
Open Water	–	0.2

[1] The Proposed Project component in the City of Rancho Cucamonga is limited to improvements within the Mechanical Electrical Equipment Room (MEER) at Etiwanda Substation. The extent of this work within an existing facility would not have the potential to affect biological resources in the City of Rancho Cucamonga; therefore, the City of Rancho Cucamonga is not included for further discussion.

Table 1-1: Maximum Potential Effects to Land Cover

Land Cover Type	Permanent Effects (acres)	Temporary Effects (acres)
Riparian Woodland	2.5	22.2
Agriculture	9.6	108.7
Developed/Disturbed	59.3	666.9
Total Effects	**372.5**	**3,180.2**

Each land cover type may provide suitable conditions for special-status plant and animal species, and the Proposed Project has the potential to affect such species; therefore, biological surveys focused on the special-status plant or animal species likely to occur in each land cover.

Special-status plant species found within the Project Study Area include chaparral sand-verbena, Yucaipa onion, Plummer's mariposa lily, smooth tarplant, Parry's spineflower, white-bracted spineflower, spiny-hair blazing star, Engelmann oak, and desert spike-moss. Special-status animal species detected within the Project Study Area include, but are not limited to, western spadefoot, coast horned lizard, coastal whiptail, red-diamond rattlesnake, desert tortoise, osprey, white-tailed kite, northern harrier, Cooper's hawk, Swainson's hawk, ferruginous hawk, golden eagle, burrowing owl, prairie falcon, loggerhead shrike, least Bell's vireo, Le Conte's thrasher, yellow warbler, yellow-breasted chat, Stephens' kangaroo rat, Palm Springs pocket mouse, Los Angeles pocket mouse, northwestern San Diego pocket mouse, pallid San Diego pocket mouse, San Diego desert woodrat, San Diego black-tailed jackrabbit, and western mastiff bat.

The Proposed Project may affect up to 3.3 acres (temporarily) of USFWS-designated critical habitat for Coachella Valley milk-vetch, and within up to 215.3 acres (i.e., 28.3 acres permanently, 187.0 acres temporarily) of USFWS-designated critical habitat for coastal California gnatcatcher.

In addition, the Proposed Project is expected to affect drainage features potentially jurisdictional by the U.S. Army Corps of Engineers (USACE) and/or the California Department of Fish and Wildlife (CDFW). Table 5-9, Maximum Potential Permanent Effects to Jurisdictional Drainage Features, and Table 5-10, Maximum Potential Temporary Effects to Jurisdictional Drainage Features, in Section 5.10, Wetlands and Other Waters, show the maximum potential linear footage and estimated maximum potential acreage of permanent and temporary impacts from the Proposed Project to these drainage features.

2.0 INTRODUCTION

LSA Associates, Inc. (LSA) has prepared this Biological Resources Technical Report (BRTR) for the West of Devers (WOD) Upgrade Project (Proposed Project), a Southern California Edison (SCE) transmission line upgrade project.

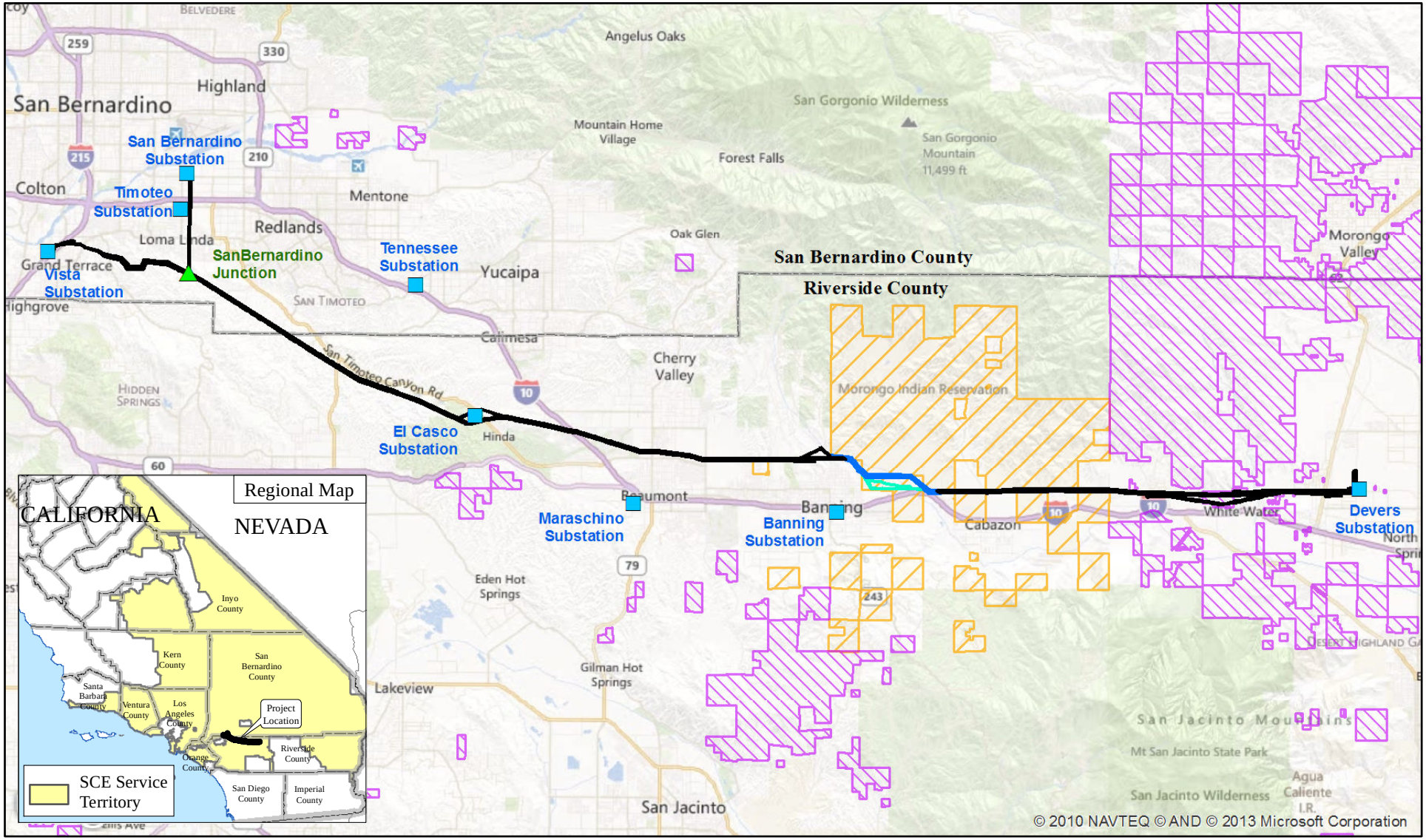
Biological surveys conducted for this technical report included the entire transmission corridor right-of-way (ROW), access roads, and temporary construction staging yards for the proposed removal and replacement of transmission lines. In general, the maximum survey buffer extends 500 feet from the edge of the existing WOD corridor. Survey buffers vary as appropriate for particular species or resources surveys as detailed in Section 3.0, Methodology, but were typically either 100 feet or 500 feet. Larger survey areas were used for raptors, and a minimum 4-mile buffer was used for golden eagle surveys. For biological resource surveys in 2013, surveys were initiated from the edge of the 500-foot buffer used for the 2012 surveys to cover additional disturbance areas associated with external project elements that extended beyond the existing WOD corridor (i.e., 66 kV subtransmission lines, 12 kV distribution lines, telecommunication lines, access roads, and staging yards, and the Alternative Project[2] on the Reservation). The transmission corridor ROW within the Proposed Project extends along an existing transmission line corridor from Vista Substation in the City of Grand Terrace in San Bernardino County, to Devers Substation, near North Palm Springs in Riverside County. The Proposed Project also extends from San Bernardino Junction (southern end of Segment 1, which is the intersection of Segment 1, 2, and 3) up to San Bernardino Substation between the Cities of San Bernardino and Redlands in San Bernardino County (Figure 2-1, Project Location Map).

This report describes the biological resources record searches and literature reviews, survey methodologies, general and focused survey results, and project impacts for the Proposed Project. The focus was on determining the presence or occurrence potential of special-status plants, animals, and natural communities, including federally or State-listed species (e.g., threatened, endangered).

2.1 Project Description

The Proposed Project is located primarily within an existing utility corridor in the cities of Banning, Beaumont, Calimesa, Colton, Grand Terrace, Loma Linda, Palm Springs, Rancho

[2] Approximately 3 miles of existing ROW would be abandoned and replaced with a new 3-mile alignment pursuant to the SCE-Morongo ROW agreement. In addition, this segment consists of an alternative to a new 3-mile alignment (220 kV Transmission Line Route Alternative 1).



LEGEND

- Existing Transmission Line Right of Way
- Existing Transmission Line Right of Way to be Removed
- Proposed and Alternative Transmission Line Right of Ways
- Substations
- Junctions
- U.S. Bureau of Land Management
- Morongo Reservation

0 2.25 4.5 MILES

SOURCE: Bing Maps (c. 2008); BLM (2012); BIA (2012); SCE (2012, 2013)

I:\SCE1110\GIS\MXD\Biology\ProjectArea_8x11.mxd (9/6/2013)

FIGURE 2-1

Southern California Edison
West of Devers Upgrade Project
Project Location Map

Cucamonga,[3] Redlands, San Bernardino, and Yucaipa, and unincorporated areas of Riverside and San Bernardino Counties, including the reservation trust land of the Morongo Band of Mission Indians (Reservation). The existing WOD corridor traverses a combination of residential, commercial, agricultural, and recreation uses, and open space.

The Proposed Project would upgrade the existing WOD system by replacing existing 220-kilovolt (kV) transmission lines and associated structures with new, higher-capacity 220 kV transmission lines and structures; modifying existing substation facilities; removing and replacing existing subtransmission (66 kV) lines; removing and replacing existing distribution (12 kV) lines; utilizing new and existing staging yards; and making various telecommunication system and access road improvements.

2.1.1 Modifications to Existing Substations

There are no new substations proposed as part of the Proposed Project. Modifications to existing substation equipment would be performed to accommodate continuous and emergency power on the existing 220 kV transmission lines between the Vista, San Bernardino, El Casco, Etiwanda, and Devers Substations. Additionally, modifications to Timoteo and Tennessee Substations would also be performed to accommodate the 66 kV subtransmission line relocations.

All substation-related work would be conducted within the existing substation walls or fence lines. The Proposed Project would not result in changes to access or parking, changes to drainage, or perimeter modifications to walls or fencing at the existing substations. The following substations have proposed grading and surface improvements:

- San Bernardino Substation;
- Timoteo Substation;
- Vista Substation;
- Tennessee Substation;
- El Casco Substation; and
- Devers Substation.

2.1.2 220 kV Transmission Line Description

The Proposed Project would include the removal and rebuilding of approximately 181 circuit miles of existing 220 kV line facilities (approximately 48 transmission corridor miles)

[3] The Proposed Project component in the City of Rancho Cucamonga is limited to improvements within the Mechanical Electrical Equipment Room (MEER) at Etiwanda Substation. The extent of this work within an existing facility would not have the potential to affect biological resources in the City of Rancho Cucamonga; therefore, the City of Rancho Cucamonga is not included for further discussion.

primarily within existing WOD corridor. The Proposed Project would primarily be constructed on a combination of new 220 kV double-circuit LSTs, double-circuit tubular steel poles (TSPs), and single-phase TSPs. Each of the proposed 220 kV transmission lines would consist of overhead wires (conductors). Helicopters may be used to facilitate construction and support activities.

2.1.3 Access and Spur Roads

Access for construction activities associated with the Proposed Project would utilize a network of approximately 130 miles of existing and approximately 30 miles of new roads. SCE's existing access roads are located within WOD corridor/easements. New and/or expanded property rights may be required to construct new access/spur roads. The transmission roads are classified into two groups: access roads and spur roads. Access roads are through roads that run between structure sites along an ROW and serve as the main transportation route along the transmission corridor ROW. Spur roads branch from access roads and terminate at one or more structure sites.

During construction, the Proposed Project would utilize, to the maximum extent practical, existing public roads and existing transmission access roads. Construction of permanent and/or temporary access roads for the Proposed Project would occur within the existing and newly acquired transmission corridor ROW. However, with property owner approval, temporary construction activities outside of the transmission corridor ROW may be required in certain areas. Rehabilitation and/or upgrades to existing access roads may also be required to facilitate construction access and to support permanent operation and maintenance activities. In some locations, retaining wall-type structures would be installed to minimize extensive grading operations, minimize area of surface disturbance, and/or provide slope stabilization.

The typical transmission access road consists of a network of (dirt or paved or both) roads accessed from paved public and private roads. The extent of access road construction and improvements is dependent upon whether the roads would be used temporarily for construction activities only or kept for permanent access for operation and maintenance activities.

2.1.4 12 kV Distribution Work Resulting from 220 kV Transmission Line Work

Relocation of existing distribution facilities would be required to accommodate relocation of 220 kV transmission infrastructure. Distribution work resulting from the 220 kV transmission portion of the Proposed Project would include overhead and underground construction. Distribution work resulting from 220 kV transmission line work would be conducted in franchise or newly acquired utility ROW. The Dental 12 kV circuit would be relocated to a new underground system (approximately 1.5 miles). The Intern 12 kV circuit would be relocated into the same new underground system as the Dental 12 kV circuit, and a portion

would be underbuilt on an existing 66 kV subtransmission line. Additionally, the relocations of both the San Bernardino-Redlands-Timoteo 66 kV and the San Bernardino-Redlands-Tennessee 66 kV Subtransmission Lines would require the additional relocation of existing distribution circuits and associated equipment from existing poles to new subtransmission poles exclusively in Segment 1.

2.1.5 66 kV Subtransmission Line Description

The Proposed Project may require relocation of portions of the existing San Bernardino-Redlands-Timoteo (approximately 2 miles) and the San Bernardino–Redlands-Tennessee 66 kV (approximately 3.5 miles) subtransmission lines located within Segment 1 to new routes within the existing WOD corridor, newly acquired ROW, or franchise. The construction methods for the 66 kV subtransmission line and ancillary structures (including the 12 kV distribution line, access and spur roads, and temporary construction-related structures) and associated impacts would be similar to the 220 kV transmission line construction.

2.1.6 Telecommunications Description

New telecommunications infrastructure would be installed as part of the Proposed Project to maintain SCE's telecommunications systems during the Proposed Project construction and for the continued operation of telecommunications services after construction.

The new telecommunications infrastructure would include additions and modifications to the existing telecommunications system in order to maintain telecommunications operations during and after construction of the Proposed Project. The telecommunications infrastructure would be constructed in new and existing underground conduit and cable trenches, and on existing riser, distribution, and subtransmission poles. Additionally, removal of the fiber optic portions from the 220 kV existing structures to connections in the field and/or at existing substations would be required. Telecommunications equipment and cables would be installed along the same route as the 220 kV transmission lines, as well as other locations outside of the proposed WOD corridor.

2.2 Project Study Area

The Project Study Area traverses approximately 48 corridor miles predominantly along the existing WOD corridor, including the Alternative Project on the Reservation. Appendix A, West of Devers Study Area Components Figure, shows the components that make up the Project Study Area. Specifically, the Project Study Area includes approximately 12 linear miles within San Bernardino County, approximately 18.4 linear miles within the Western Riverside County Multiple Species Habitat Conservation Plan (WR-MSHCP) area, approximately 8 linear miles within the Reservation, approximately 2.2 linear miles of United States Bureau of Land Management (BLM) lands, and approximately 22 linear miles

of Coachella Valley MSHCP (CV-MSHCP) area. The Project Study Area also passes through several local jurisdictions within Riverside and San Bernardino Counties.

The elevation ranges from approximately 1,000 to 3,000 feet, transecting multiple habitats and urban landscapes, from the bajadas of the desert floor to the riparian habitats in San Timoteo Canyon and the steep hillsides of the Scott Canyon and Reche Canyon. The Project Study Area also crosses two rivers: the San Gorgonio River within the Reservation and the Whitewater River, which is located 3.4 miles west of Devers Substation.

Approximately 40 miles of the Project Study Area are located within the WR-MSHCP and CV-MSHCP. There is no applicable multi-species habitat conservation plan in San Bernardino County.

2.3 Segment Descriptions

The Proposed Project has been divided into six segments, beginning with Segments 1 and 2 in the west at San Bernardino and Vista Substations, proceeding southeast and then east to El Casco Substation, and terminating at Devers Substation in North Palm Springs with Segment 6. San Bernardino Junction is the named location where Segments 1, 2, and 3 meet in the southern portion of the City of Loma Linda. Figure 2-1, Project Location Map, shows the location of the Proposed Project segments and existing substations.

2.3.1 Segment 1

Segment 1 is approximately 3.5 miles long and is located in San Bernardino County. San Bernardino Substation is located at the cross streets of West San Bernardino Road and South Mountain View Avenue immediately south of the Santa Ana River. The transmission corridor begins north of Interstate 10 (I-10) in northwest Redlands and proceeds south passing over a linear stretch of agriculture area that is between commercial buildings and industrial buildings to Redlands Boulevard. From there, the transmission corridor continues to pass over noncontiguous agricultural areas bordered predominantly by residential areas. It then continues southwest into Scotts Canyon and ends at San Bernardino Junction. Segment 1 would include the following existing 220 kV transmission lines: Devers-San Bernardino, Etiwanda-San Bernardino, San Bernardino-Vista, and El Casco-San Bernardino.

2.3.2 Segment 2

Segment 2 is approximately 5.0 miles long and is located in San Bernardino County. The transmission corridor begins at Vista Substation in Grand Terrace and proceeds east across Interstate 215 (I-215). The transmission corridor traverses steep slopes on the border of residential areas, passes over Reche Canyon, and continues over the western portion of the San Timoteo Badlands to end at San Bernardino Junction. Segment 2 would include the following existing 220 kV transmission lines: Devers-Vista No. 1 and Devers-Vista No. 2.

2.3.3 Segment 3

Segment 3 is approximately 10.0 miles long and is situated in both San Bernardino County and Riverside County. This segment begins at San Bernardino Junction in Scott Canyon and can be accessed from Hulda Crooks Park where Mountain View Avenue turns into a dirt road. This section of transmission corridor continues southeast over the San Timoteo Badlands and over Norton Younglove Preserve/Reserve, Riverside County Regional Conservation Authority, Riverside Land Conservancy, County of Riverside Regional Parks and Open Space Districts, and California Department of Parks and Recreation areas. Segment 3 ends at El Casco Substation. Segment 3 would include the following existing 220 kV transmission lines: Devers-Vista No. 1, Devers-Vista No. 2, El Casco-San Bernardino, and Devers-San Bernardino.

2.3.4 Segment 4

Segment 4 is approximately 12.0 miles long and is located in Riverside County. This segment begins at El Casco Substation continues east across San Timoteo Wash and over San Timoteo Canyon. The transmission corridor continues north of Oak Valley Parkway, passes over I-10 and heads southeast over Oak Valley Golf Club within a residential area. The transmission corridor proceeds southeast, north of the City of Beaumont, and passes over Highland Springs Avenue into the City of Banning where it continues east parallel to East 14th Street. Segment 4 ends just west of North Mountain Avenue. Segment 4 would include the following existing 220 kV transmission lines: Devers-Vista No. 1, Devers-Vista No. 2, Devers-El Casco, and Devers-San Bernardino.

2.3.5 Segment 5

Segment 5 is approximately 9.0 miles long and is located in Riverside County. This segment begins at San Gorgonio Avenue in the City of Banning and proceeds east up through the Banning Bench (a geological uplift) and then continues down into the Reservation where it passes over the San Gorgonio River, exits the Reservation, and traverses Robertson's Plant 66 (a gravel mine). From the mine, the transmission corridor re-enters the Reservation, continues southeast for 0.25 mile and proceeds east over Morongo Road before again crossing the San Gorgonio River. Here, the transmission corridor passes southeast for 0.8 mile and continues over the alluvial drainages of Millard Canyon, Deep Canyon, and Lion Canyon. Once outside of the Reservation, the transmission corridor proceeds into the western portion of the Whitewater community, and finally ends at Rushmore Avenue. Segment 5 would include the following existing 220 kV transmission lines: Devers-Vista No. 1, Devers-Vista No. 2, Devers-El Casco, and Devers-San Bernardino. Segment 5 would also include the Alternative Project.

2.3.6 Segment 6

Segment 6 is approximately 8.0 miles long and is located in Riverside County. This segment begins approximately 1.0 mile east of the Reservation at Rushmore Avenue in the community of Whitewater. It then proceeds east across the alluvial drainages of Stubbe Canyon and Cottonwood Canyon, and then the alluvial terraces of the Whitewater River and the alluvial drainage of Super Creek. It finally passes over State Route 62 (SR-62) into the Coachella Valley, where it ends at Devers Substation located west of the City of Desert Hot Springs. Segment 6 would include the following existing 220 kV transmission lines: Devers-Vista No. 1, Devers-Vista No. 2, Devers-El Casco, and Devers-San Bernardino.

2.4 Project Setting

The Project Study Area is located in the Southwestern California region of the California Floristic Province, as described in *The Jepson Manual* (Baldwin et al. 2012) within the following subregions: the South Coast Ranges, the San Bernardino Mountains, and the Peninsular Ranges.

- The South Coast Ranges subregion is characterized by valleys and small hills extending from the coast inland to the foothills of the San Gorgonio (north) and San Jacinto (south) Mountain Ranges.
- The San Bernardino Mountains subregion is characterized by a topographically well-defined range.
- The Peninsular Ranges subregion is characterized by topographically well-defined ranges surrounding lowlands and foothills.

Specifically, the Proposed Project is located in San Bernardino and Riverside Counties. The transmission corridor passes over I-215 and SR-210 in San Bernardino County and SR-60, SR-79, SR-243, SR-111, and SR-62 in Riverside County and runs parallel to the I-10 corridor for the majority of the corridor in both San Bernardino and Riverside Counties. From west to east, the Project Study Area passes through the *San Bernardino South, Redlands, Sunnymead, El Casco, Beaumont, Cabazon, White Water,* and *Desert Hot Springs, California* 7.5-minute United States Geological Survey (USGS) quadrangles.

2.4.1 Land Use and Critical Habitat

Land uses in the Project Study Area include developed, disturbed, residential, agricultural, open space, and conservation lands. The Project Study Area also crosses privately owned lands (e.g., ranches, nurseries, and orchards), lands under local jurisdictions (e.g., local streets), the Reservation, and BLM lands. In addition, in Riverside County, portions of the Project Study Area are located within the conservation plan area boundaries for the WR-MSHCP and the CV-MSHCP.

The Project Study Area passes through federally designated Critical Habitat[4] areas for both coastal California gnatcatcher (*Polioptila californica californica*) and Coachella Valley milk-vetch (*Astragalus lentiginosus* var. *coachellae*). In Segment 2, designated Critical Habitat for the coastal California gnatcatcher occurs in San Bernardino County just east of Vista Substation where the existing WOD corridor passes through the cities of Grand Terrace and Loma Linda on either side of Reche Canyon Road. In Segment 6, the existing WOD corridor passes over the Whitewater River, where there is designated Critical Habitat for the Coachella Valley milk-vetch. See Appendix B, Land Management and Critical Habitat Areas Figure, for the locations of designated Critical Habitats. In Segment 2, designated Critical Habitat areas for San Bernardino kangaroo rat (*Dipodomys merriami parvus*) and Santa Ana sucker (*Catostomus santaanae*) occur in the Santa Ana River to the west and north and outside of the Project Study Area. In Segment 3, the southwestern willow flycatcher (*Empidonax traillii extimus*) occurs within 200 feet of the Proposed Project within San Timoteo Creek. As described in more detail in Section 4.4.2, Regulatory Setting, designated Critical Habitat has regulatory implications for Federal projects and some Federal approvals of projects. It is also an indication of the location of important habitat for the subject species.

2.4.2 Topography and Soils

In the Project Study Area, topography varies substantially and includes areas that consist of gently sloping broad plains, as well as steep ridges, and large alluvial drainages extending across the Project Study Area from foothills of the San Bernardino, San Gorgonio, and San Jacinto Mountains. Elevations range from approximately 1,000 to 3,000 feet above mean sea level (amsl). Segment 4 includes an alluvial deposit from the Little San Gorgonio Creek and Noble Creek, which flow into San Timoteo Creek. San Timoteo Creek then flows northwest along the northern edge of the San Timoteo Badlands, a distinct area consisting of steep hills and ridges separated by ephemeral streams. San Timoteo Creek continues northwest through San Timoteo Canyon, the City of Loma Linda, and eventually flows into the Santa Ana River.

The eastern portion of the Project Study Area (i.e., Segments 5 and 6) traverses the foothills of the San Gorgonio and San Jacinto Mountains. This area consists of alluvial deposits from multiple ephemeral rivers, streams, and washes. Major drainages in this portion are the San Gorgonio and Whitewater Rivers, which ultimately feed into the Salton Sea. This area is also known for high winds that disperse and transport sand, thereby creating distinct landscapes of sand dunes and windswept surfaces.

Dominant soil series or types are listed according to Project Study Area Segments. The soils described below are the dominant soil series identified in each segment and not the soil unit or mapping unit.

[4] Geographic areas designated by the United States Fish and Wildlife Service [USFWS] in Recovery Plans that contain features essential to conservation and recovery of threatened or endangered species.

- **Segment 1:**
  - Hanford Series: Well-drained and somewhat excessively drained soils on alluvial fans.
  - San Emigdio Series: Well-drained soils on alluvial fans.
- **Segment 2:**
  - San Timoteo, Saugus and Monserate Series: These are well-drained soils on dissected uplands or terraces and within alluvial fans.
- **Segment 3:**
  - Badland Series: A sedimentary rock composed of clay-rich soils that have been excessively eroded by wind or water.
  - Saugus and San Timoteo Series: Well-drained soils on dissected uplands or terraces and within alluvial fans.
- **Segment 4:**
  - Chino Series: A poorly drained soil.
  - Romona Series: A well-drained soil on alluvial fans.
  - Greenfield Series: Well-drained and developed in alluvium.
  - Badland Series: A sedimentary rock composed of clay-rich soils that have been excessively eroded by wind or water.
  - San Timoteo Series: Well-drained soils on dissected uplands or terraces and within alluvial fans.
  - Hanford Series: Well-drained and somewhat excessively drained soils on alluvial fans.
- **Segment 5:**
  - Gorgonio Series: An excessively drained soil on alluvial fans.
  - Soboba Series: On talus slopes and alluvial fans.
  - Terrace Escarpments: Features formed on terraces in variable alluvium.
  - Riverwash: Formed in the beds of major washes, creeks, and rivers.
  - Hanford Series: Well-drained and somewhat excessively drained soils on alluvial fans.
- **Segment 6:**
  - Carsitas Series: An excessively drained soil formed from alluvium.
  - Soboba Series: On talus slopes and alluvial fans.
  - Gorgonio Series: An excessively drained soil on alluvial fans.

2.4.3 Climate

Climatic conditions in the Project Study Area are characterized by mild, wet winters and dry summers. Average annual precipitation for the Project Study Area is 12.4 inches, with a high of 16.1 inches in San Bernardino and a low average precipitation of 5.5 inches in Palm Springs. The wet months are December through March, but can vary depending on summer thunderstorms (Western Regional Climate Center 2012).

The western section of the Project Study Area is located in a Mediterranean climate, which is moderated by cold ocean currents offshore and characterized by mild, rainy winters and warm, dry summers. The average year-round temperature for the western portion of the Project Study Area is 64 degrees Fahrenheit (°F) with average temperature highs of 96°F in July and August and average lows of 38°F in January.

The eastern section of the Project Study Area extends just into the western edge of the Sonoran Desert, an arid desert climate influenced by the peninsular ranges of the San Jacinto and San Bernardino Mountains. The average annual temperature for the eastern portion of the Project Study Area is 74°F with high average temperatures in July of 107°F and low averages in December of 45°F.

2.5 Regulatory Setting

2.5.1 Federal Endangered Species Act

The Federal Endangered Species Act (FESA) regulates actions that may result in the take of federally-listed as threatened or endangered species. The FESA defines take as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.[5] The USFWS lists threatened or endangered species that are at risk of extinction and may also adopt recovery plans that identify specific areas that are essential to the conservation of a listed species. Section 9 of the FESA prohibits the take of listed animal species without authorization, which may be obtained either through Section 7 consultations, or through a Section 10(a) permit in conjunction with an approved Habitat Conservation Plan (HCP). Under provisions of Section 7(a)(2) of the FESA, a Federal agency that permits, licenses, funds, or otherwise authorizes a project activity must consult with the USFWS to ensure that its actions would not jeopardize the continued existence of any listed species or destroy or adversely modify designated Critical Habitat. The USFWS may also designate critical habitat areas to provide special management considerations or protections for listed species.

A portion of the Project Study Area is located on land owned and operated by the Morongo Band of Mission Indians, a federally recognized tribe; therefore, projects located on

[5] Federal Endangered Species Act, § 3(19).

Reservation land are subject to Federal regulations such as FESA. Thus, the tribe requires focused species surveys for areas of suitable habitat for federally listed species.

2.5.2 Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA, 16 United States Code [U.S.C.] 703–712, as amended) governs take, possession, import, export, transport, selling, purchasing, or bartering of migratory birds, their eggs, parts and nests, except as authorized under a valid permit (50 C.F.R. 21.11). The take of all migratory birds is governed by the Act's regulation of taking migratory birds for educational, scientific, and recreational purposes, and requiring harvests to be limited to levels that prevent over-utilization. Section 704 of the MBTA authorizes the Secretary of the Interior to determine if, and by what means, the take of migratory birds should be allowed and to adopt suitable regulations permitting and governing take but ensuring that take is compatible with the protection of the species.

2.5.3 Federal Clean Water Act (1972) – Sections 404 and 401

The Federal Clean Water Act (CWA) and subsequent amendments establish the basic structure for regulating discharges of pollutants into the "waters of the United States" (33 C.F.R. Part 328) and regulating water quality standards for surface waters, including lakes, rivers, and wetlands. The boundaries of waters not subject to the ebb and flow of the tide are defined by the Ordinary High Water Mark (OHWM). "Wetlands" are defined in 33 C.F.R. 328.3(b) as areas inundated or saturated by surface or ground water for a frequency and/or duration sufficient to support a prevalence of vegetation adapted to saturated soil conditions.

2.5.3.1 Section 404 Permitting Dredge and Fill Activities in Wetlands and Waters of the U.S.

Pursuant to Section 404 of the CWA, the USACE regulates the discharge of dredged and/or fill material into "waters of the United States." Project proponents must obtain a permit from the USACE for discharges of fill or dredged material before proceeding with a proposed activity.

The USACE may issue either an individual permit or a general permit. General permits are preauthorized at the regional or national level and are issued to cover activities expected to result in only minimal adverse environmental effects. Nationwide Permits ("NWPs") are a type of general permit issued to cover activities that the USACE has determined to have minimal adverse effects, such as routine maintenance (Nationwide Permit 3) or utility line activities (Nationwide Permit 12).

Each NWP specifies particular conditions that must implemented by the permittee, including impact thresholds. NWPs are typically limited to projects of less than 1/2 acre of permanent impacts to waters of the U.S. for each "single and complete project," as defined by the USACE. For linear projects, a "single and complete project" means the portion of the project

that includes all crossings of a single waterbody at a specific location. Because each single and complete linear project need not have independent utility within the overall utility line, there may be many "single and complete projects" along the length of a linear project from its point of origin to its terminal point, so long as each crossing is separate and distant. If an NWP does not apply to a project, a project is required to obtain an individual permit for authorization under Section 404.

2.5.3.2 Section 401 Water Quality Certification

Section 401 of the CWA specifies that, for any activity that may result in a discharge into waters of the U.S., the SWRCB or applicable RWQCB must certify that the discharge would comply with state water quality standards, including beneficial uses (23 California Code of Regulations 3830, et seq.). Dredge and fill activities in wetlands and waterways that impact waters of the U.S. require a Federal Section 404 permit from the USACE. Before a Section 404 permit can be issued, a Section 401 certification must first be obtained from the RWQCB.

2.5.4 Bald and Golden Eagle Protection

The Bald and Golden Eagle Protection Act of 1940 (U.S.C. Title 16, Chapter 5A, Subchapter II, § 668 a–d), as subsequently amended, provides for the protection of the bald eagle (*Haliaeetus leucocephalus*) and the golden eagle (*Aquila chrysaetos*) by prohibiting, except under certain specified conditions, the taking, possession, and commerce of such birds. The 1972 amendments increased penalties for violating provisions of the Act or regulations issued pursuant thereto and strengthened other enforcement measures. Rewards are provided for information leading to arrest and conviction for violation of the Act. The 1978 amendment authorizes the Secretary of the Interior to permit the taking of golden eagle nests that interfere with resource development or recovery operations. (See also the Migratory Bird Treaty Act and the Federal Endangered Species Act.) A 1994 Memorandum (59 Federal Register [FR] 22953, April 29, 1994) from President Clinton to the heads of Executive Agencies and Departments sets out the policy concerning collection and distribution of eagle feathers for Native American religious purposes.

On August 9, 2007, bald eagles were delisted and are therefore no longer protected under the FESA. In 2010, the USFWS published new guidance for the golden eagle (Interim Golden Eagle Inventory and Monitoring Protocols; and Other Recommendations) outlining minimum monitoring inventory, effort, and techniques.

2.5.5 Invasive Species, Executive Order 13112

On February 3, 1999, President Clinton signed Executive Order (EO) 13112, requiring Federal agencies to combat the introduction or spread of invasive species in the United States. The order defines invasive species as any species, including its seeds, eggs, spores, or other biological material capable of propagating that species, that is not native to that

ecosystem whose introduction does or is likely to cause economic or environmental harm or harm to human health. Invasive plants and noxious weeds are managed on public lands by the BLM under the direction of the multi-agency National Invasive Species Council (NISC) established in 1999. Under this EO, Federal agencies whose actions may affect the status of invasive species shall: (1) identify such actions, (2) use relevant programs and authorities to prevent, control, monitor, and research such species, and (3) not authorize, fund, or carry out actions that it believes are likely to cause or promote the introduction or spread of invasive species in the United States or elsewhere. Additionally, Federal agencies shall pursue these duties in consultation with the Invasive Species Council, consistent with the Invasive Species Management Plan.

2.5.6 Executive Order 11990

On May 24, 1977, President Carter signed EO 11990, requiring Federal agencies to avoid adverse impacts (both long and short term) to wetlands whenever there is a practicable alternative available. The order defines wetlands as areas that are inundated by surface or ground water with a frequency to support a prevalence of vegetative or aquatic life that require saturation or seasonally saturated soil conditions for growth and reproduction.

2.5.7 Bureau of Land Management Lands

A small portion (approximately 1.2 miles in Segment 6) of the Project Study Area is located on land administered by the BLM. The BLM Special-Status Species Management Manual 6840 (BLM Special-Status Species Management Manual 6840, 2008) identifies BLM special-status species as species listed or proposed for listing under the FESA and species recognized as requiring special management consideration to lessen the likelihood for future listing. According to Manual 6840, the BLM shall retain in Federal ownership, habitats essential for the conservation of any listed species, particularly those that are part of a broader, logical public land ownership management unit. If a BLM special-status species, or any Federal candidate species, or proposed species is delisted, it will be monitored for the five years following its delisting as a BLM sensitive species.

2.5.8 California Desert Conservation Area Plan

In 1976, Congress passed the Federal Land Policy Management Act. Under that law, the California Desert Conservation Area (CDCA) was established, with 12,000,000 acres of public lands administered by the BLM. The CDCA plan consists of five recovery units: Upper Virgin River, Eastern Mojave, Northwestern Mojave, Western Mojave, and Colorado Desert. The Colorado Desert recovery unit overlaps the eastern section of the Project Study Area. The CDCA gives preservation of endangered species the highest priority, and one of the goals is to provide a system of desert wildlife management areas within the recovery unit. In 1994, the CDCA plan established strategies for recovering the desert tortoise: maintain high survivorship of adult desert tortoises; protect existing populations and habitat; institute habitat restoration where necessary; and implement a formal adaptive management program.

In addition, the CV-MSHCP is within the Colorado Desert Recovery Unit and establishes conservation areas and a reserve system for species and land cover types covered under the CV-MSHCP.

2.5.9 California Fish and Game Code

The California Fish and Game Code (FGC) details regulatory settings mandated for persons in the State of California who tamper with, affect, or alter environmental resources. The following sections illustrate three aspects of the FGC that pertain to the Proposed Project.

2.5.9.1 California Fish and Game Code Sections 3500-3516, and 3800

FGC 3513 furthers the intent of the MBTA by prohibiting any take or possession of birds in California that are designated by the MBTA as migratory non-game birds, except as allowed by Federal rules and regulations promulgated pursuant to the MBTA. In addition, FGC Sections 3503, 3503.5, 3511, and 3800 further protect nesting birds and their parts, including passerine birds, raptors, and state "fully protected" birds. These regulations protect almost all native nesting birds, not just special-status birds.

2.5.9.2 California Fish and Game Code Sections 3511, 4700, 5050, and 5515

FGC Sections 3511, 4700, 5050, and 5515 list the bird, mammal, reptile, amphibian, and fish species that are identified as "fully protected." Fully protected wildlife may not be harmed, taken, or possessed. The classification of "fully protected" was California's initial effort to identify and provide additional protection to those wildlife species that were rare or faced possible extinction. Lists were created for fish, amphibians and reptiles, birds, and mammals. Most of the species on these lists have subsequently been listed under the CESA and FESA; white-tailed kite, golden eagle, trumpeter swan, northern elephant seal, and ringtail are the exceptions. The white-tailed kite and the golden eagle are tracked in the California Natural Diversity Data Base (CNDDB); the trumpeter swan, northern elephant seal, and ringtail are not.

2.5.9.3 California Fish and Game Code Sections 1600–1602

FGC Sections 1600–1602 state that the CDFW 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. Streams (and rivers) are defined by the presence of a channel bed and banks and at least an intermittent flow of water. The CDFW regulates wetland areas only to the extent that those wetlands are a part of a river, stream, or lake as defined by the CDFW. While seasonal ponds are within the CDFW definition of wetlands, if they are not associated with a river, stream, or lake, they are not subject to jurisdiction of the CDFW under Section 1602 of the California Fish and Game Code.

The CDFW jurisdictional limits resemble those of the USACE. Exceptions are the CDFW's addition of irrigation ditches constructed on uplands and the addition of riparian habitat supported by a river, stream, or lake regardless of the riparian area's Federal wetland status. In addition, the lateral extent of the streambed may, in some situations, extend to include broader cross-sectional widths of drainages and floodplains above and beyond the area contained within the Federal ordinary high water mark OHWM as defined by USACE, depending on the hydrological regime of a stream or river since the CDFW area will also include associated riparian vegetation. For this reason, the dimensions of a CDFW-jurisdictional streambed may vary substantially from the measured OHWM within the same stream or river.

2.5.10 State and Regional Water Quality Control Board

The SWRCB has jurisdiction throughout California and protects water quality by setting statewide policy and coordinating the nine RWQCBs in California that exercise regulatory activities by basins. Typically, the areas subject to RWQCB jurisdiction coincide with those of the USACE (i.e., waters of the U.S., including any wetlands) and the RWQCB is therefore responsible for the administration of Section 401 of the Federal CWA. The RWQCB also asserts authority over waters of the State under waste discharge requirements pursuant to the Porter-Cologne Water Quality Control Act. Waters found to be isolated and not subject to CWA regulation are often still regulated by the RWQCB under the State Porter-Cologne Act. If a CWA Section 404 permit is not required for an action, the RWQCB may still require a permit (i.e., Waste Discharge Requirement) under the Porter-Cologne Water Quality Control Act.

2.5.11 California Endangered Species Act

The CESA is administered by the CDFW and prohibits the take of plant and animal species identified as either threatened or endangered in the State of California by the Fish and Game Commission (FGC § 2050–2089). Under the CESA, take means to hunt, pursue, catch, capture, or kill or attempt to hunt, pursue, catch, capture or kill, and does not include the harm or harassment provisions in the FESA definition. However, Sections 2081 and 2080.1 of the CESA allow the CDFW to authorize exceptions to the prohibition of take of the State-listed threatened or endangered plant and animal species for purposes such as public and private development based on a determination that the project or action includes measures sufficient to "fully mitigate" impacts.

2.5.12 California Native Plant Protection Act

The Native Plant Protection Act (NPPA) of 1977 (FGC § 1900–1913) gave the California Fish and Wildlife Commission the authority to designate native plants as endangered or rare and to protect these plants from take. Species that are considered by the California Native Plant Society (CNPS) to qualify for this status and meet the definitions of Section 1901, Chapter 10 (Native Plant Protection Act) or Sections 2062 and 2067 (CESA) of the FGC are

included on the CDFW's Rare Plant Ranks (RPR) 1A, 1B, and 2. Plants with RPRs of 3 and 4 do not automatically qualify for legal protection, but can be addressed in CEQA documents depending on specific site conditions. RPR definitions are as follows (CMPS 2010):

- 1A: Plants presumed to be extinct because they have not been seen or collected in the wild in California for many years. This rank includes plants that are both presumed extinct in California, as well as those plants that are presumed extirpated in California. A plant is extinct in California if it no longer occurs in or outside of California. A plant that is extirpated from California has been eliminated from California, but may still occur elsewhere in its range.
- **1B:** Plants that are rare throughout their range with the majority of them endemic to California. Most of the plants of RPR 1B have declined significantly over the last century.
- **2:** Plants that are rare throughout their range in California, but are common beyond the boundaries of California. RPR 2 recognizes the importance of protecting the geographic range of widespread species.
- **3:** A review list for plants for which there is inadequate information to assign them to one of the other lists or to reject them.
- **4:** A watch list for plants that are of limited distribution or infrequent throughout a broader area in California and their vulnerability or susceptibility to threat appears relatively low at this time.

2.5.13 California Department of Fish and Wildlife Staff Report on Burrowing Owl Mitigation (2012)

This document provides CDFW's comprehensive conservation and mitigation strategy for burrowing owls, a California species of concern. CDFW determined that reversing declining population and range trends for burrowing owls will require implementation of more effective conservation actions, including developing more rigorous burrowing owl survey methods; working to improve the adequacy of impacts assessments; developing clear and effective avoidance and minimization measures; and developing mitigation measures to ensure impacts to the species are effectively addressed at the project, local, and/or regional level. The 2012 Staff Report takes into account the California Burrowing Owl Consortium's Survey Protocol and Mitigation Guidelines (CBOC 1993, 1997) and supersedes the survey, avoidance, minimization, and mitigation recommendations in the earlier 1995 Staff Report.

2.5.14 California Desert Conservation Area Plan

In 1976, Congress passed the Federal Land Policy Management Act. Under that law, the California Desert Conservation Area (CDCA) was established, with 12,000,000 acres of public lands administered by the BLM. The CDCA plan consists of five recovery units: Upper Virgin River, Eastern Mojave, Northwestern Mojave, Western Mojave, and Colorado

Desert. The CDCA gives preservation of federally or State-listed species the highest priority, through providing a system of desert wildlife management areas within the recovery unit. In 1994, the CDCA plan established strategies for recovering the desert tortoise: maintain high survivorship of adult desert tortoise; protect existing populations and habitat; institute habitat restoration where necessary; and implement a formal adaptive management program. The CV-MSHCP is within the Colorado Desert Recovery Unit and establishes conservation areas and a reserve system for species and natural communities covered under the plan.

The Colorado Desert recovery unit overlaps the eastern section of the Project Study Area. The BLM manages 330,516 acres of the Federal and nonfederal lands out of a total 1,195,057 acres that make up the Coachella Valley planning area. Since 1980, when the CDCA Plan was completed, nine Coachella Valley species have been designated as threatened or endangered by the USFWS in addition to proposed species and candidate species being identified.

2.5.15 Regional Conservation Plans

2.5.15.1 Western Riverside County Multiple Species Habitat Conservation Plan

The WR-MSHCP serves as a comprehensive, multijurisdictional habitat conservation plan pursuant to Section 10(a)(1)(B) of the FESA and the California Natural Communities Conservation Planning Act (NCCP Act) that focuses on the conservation of species and their associated habitats in western Riverside County. The MSHCP Plan Area encompasses approximately 1.26 million acres (1,966 square miles); it includes all unincorporated Riverside County lands west of the crest of the San Jacinto Mountains to the Orange County line, as well as the jurisdictional areas of the cities of Temecula, Murrieta, Lake Elsinore, Canyon Lake, Norco, Corona, Riverside, Moreno Valley, Banning, Beaumont, Calimesa, Perris, Hemet, and San Jacinto (Figure 2-1, Project Location Map). Appendix B, Land Management and Critical Habitat Areas Figure, shows where the Proposed Project is located in the WR-MSHCP Plan Area.

Participants in the WR-MSHCP include all of the 19 cities in western Riverside County, Riverside County, and a number of countywide and State agencies. Any regional public facility provider (e.g., a utility company or a public district or agency) that operates and/or owns land within the Plan Area can apply to participate in the WR-MSHCP as a Participating Special Entity (PSE) to rely upon the WR-MSHCP to comply with FESA and CESA.

WR-MSHCP allows signatories and PSEs to obtain authorization for take of both Federal and/or State-listed species under the federal ESA and CESA, respectively, for activities covered by the WR-MSHCP. The WR-MSHCP provides for the assembly of a Conservation Area consisting of Core Areas and Linkages for the conservation of Covered Species (County of Riverside 2003) comprising 146 species of plants and animals of various Federal and State listing statuses. Take authorization is extended to covered species in cases where they become listed as threatened or endangered in the future. Covered species also include

several non-special-status species that are useful indicator species (such as predators and species with large home ranges). The Conservation Area is being assembled from Public/Quasi-Public (PQP) land and Additional Reserve Lands (ARLs), which area derived from portions of the WR-MSHCP Criteria Area. These consist of quarter-section (i.e., 160-acre) Criteria Cells, each with specific criteria for the species conservation within that cell.

The WR-MSHCP requires focused surveys for certain plant and animal species for project sites located within designated plant and animal survey areas when potential suitable habitat is present. Designated survey areas have been developed for some species, such as burrowing owl and certain "Narrow Endemic Plant Species" where the indicated focused surveys must be conducted. For these species, surveys outside of designated survey areas are not required. For other species, focused surveys are necessary throughout the entire plan area, when suitable habitat is present. For example, focused surveys for listed riparian birds (e.g., least Bell's vireo and southwestern willow flycatcher) are required when suitable riparian habitat is present, surveys for listed fairy shrimp species are required when vernal pools or other suitable habitat is present, and surveys for Delhi sands flower-loving fly (*Rhaphiomidas terminatus abdominalis*) may be required in areas having Delhi sands soils. Appendix C, Western Riverside County and Coachella Valley MSHCP Areas Figure, shows the locations of the WR-MSHCP survey areas.

The WR-MSHCP also includes provisions for the documentation of riverine, riparian, and vernal pool habitat. These areas are defined in the following manner:

- **Riparian/riverine** are lands dominated by trees, shrubs, persistent emergents, or emergent mosses and lichens that occur close to, or which depend on, soil moisture from a nearby freshwater source, or areas with freshwater flow during all or a portion of the year (WR-MSHCP 2003). WR-MSHCP Riparian/riverine and CDFW riparian resources are similar in definition. They are based on riparian habitat that includes willows, alders, or other vegetation typically associated with the banks of a stream or lake shoreline. Riparian habitat resources described by CDFW for the WR-MSHCP are wetlands and watercourses, whether intermittent or perennial, and should be retained and preserved.
- **Vernal pools** are seasonal wetlands that occur in depression areas that have all three wetland indicators (i.e., soils, vegetation, and hydrology) during the wetter portion of the growing season but normally lack the wetland indicators of hydrology and/or vegetation during the drier portion of the growing season.

Southern California Edison (SCE) is not a signatory to the WR-MSHCP. According to Section 11.8 of the WR-MSHCP Implementing Agreement, any public facility provider, such as SCE, may request to participate in the WR-MSHCP as a PSE. PSE activities must comply with the terms and requirements of the WR-MSHCP permits, the WR-MSHCP and Implementing Agreement. The process for submitting an application review by the Regional Conservation Authority (RCA) and the wildlife agencies, and granting of take authorizations

is described in Section 11.8 of the Implementing Agreement. For regional utility projects, PSEs shall pay a fee or take such other actions as may be agreed to by the RCA.

2.5.15.2 Coachella Valley Multiple Species Habitat Conservation Plan

Coachella Valley Association of Governments (CVAG) serves as lead agency for plan review and consideration of the CV-MSHCP. The CV-MSHCP pursuant to Section 10(a)(1)(B) of the FESA and the NCCP Act is a comprehensive, multi-jurisdictional habitat conservation plan that focuses on the conservation of species and their associated habitats in the Coachella Valley region of eastern Riverside County. The overall goal of the CV-MSHCP is to maintain and enhance biological diversity and ecosystem processes within the region, while allowing for future economic growth. The CV-MSHCP covers 27 special-status plant and animal species as well as 27 Natural Communities, including desert wetland communities. The overall provisions for the CV-MSHCP are subdivided according to specific resource conservation goals that are organized according to geographic areas defined as Conservation Areas. Each of these areas is categorized as Core, Essential, or Other Conserved Habitat (for special-status plant, invertebrate, amphibian, reptile, bird, and mammal species), Essential Ecological Process Areas, and Biological Corridors and Linkages. Each Conservation Area must satisfy specific Conservation Objectives. Appendix B, Land Management and Critical Habitat Areas Figure, shows where the Proposed Project is located in the CV-MSHCP Plan Area.

The CV-MSHCP requires focused surveys for certain plant and animal species for project sites located within Conservation Areas. For projects located outside of these Conservation Areas, there are no specific survey requirements for covered species; however, there are a couple of exceptions. For example, focused desert tortoise surveys are required if desert tortoise mottled habitat exists. Appendix C, Western Riverside County and Coachella Valley MSHCP Areas Figure, shows the locations of the CV-MSHCP core habitat areas.

The CV-MSHCP also includes provisions for the documentation of wetland communities. These community descriptions are based on the *Preliminary Description of the Terrestrial Natural Communities of California* (Holland 1986). The following wetland communities are included in the CV-MSHCP:

- Mesquite hummocks;
- Mesquite bosque;
- Desert saltbush scrub;
- Desert sink scrub;
- Southern arroyo willow riparian forests;
- Cottonwood willow riparian forest;
- Southern sycamore-alder riparian forest;
- Freshwater marsh;
- Cismontane alkali marsh;
- Desert fan palm oasis woodland; and
- Arrowweed scrub.

While this classification of communities does not correspond with more recent classification schemes, the listing of these communities is an indication that wetland and riparian resources in general are considered important in the CV-MSHCP, and by the USFWS and CDFW.

In addition, the existing WOD corridor passes through four CV-MSHCP conservation areas. As Table 2-1, Coachella Valley MSHCP Conservation Objectives by Conservation Area, shows, each area has unique conservation objectives, although some objectives have not yet been achieved.

Table 2-1: Coachella Valley MSHCP Conservation Objectives by Conservation Area

Conservation Area	Objective
Cabazon	Peninsular bighorn sheep, mesquite hummocks, southern sycamore riparian woodland, sand source, sand transport, Fornat wash corridor[1]
Stubbe and Cottonwood Canyons	Desert tortoise, Le Conte's thrasher, desert dry wash woodland, desert dry wash woodland, Sonoran cottonwood-willow riparian forest, sand transport, Stubbe Canyon wash corridor[2]
Whitewater Canyon	Desert tortoise-core habitat, sand source
Upper Creek Mission Creek/ Big Morongo Canyon	Coachella Valley Jerusalem cricket, Le Conte's thrasher, Palm Springs pocket mouse, Little San Bernardino Mountains linanthus, desert dry wash woodland, sand transport, sand source, Highway 62 corridor[3]

1 The Fornat wash corridor is between the San Bernardino Mountains and the San Jacinto Mountains. It is a culvert that passes under I-10 east of the Reservation.
2 The Stubbe Canyon wash corridor utilizes two culverts under I-10 and connects the San Bernardino Mountains to the San Jacinto Mountains through the Snow Creek/Windy Point Conservation Area.
3 The Highway 62 corridor provides a movement corridor under the highway provided by two bridges that span Mission Creek.

SCE is not a signatory to the CV-MSHCP. According to CV-MSHCP Section 7.4, any public service provider, such as SCE, that operates facilities or owns land with the CV-MSHCP Area may request "take authorization" for its activities from the Coachella Valley Conservation Commission (CVCC) pursuant to the permits (USFWS Section 10(a) permit and CDFW Natural Communities Conservation Planning Act permit) as a PSE. Such activities must be consistent with the terms and requirements of the CV-MSHCP permits, the CV-MSHCP, and IA. The process for submitting an application review by CVCC and the wildlife agencies, and granting of take authorizations is delineated in Section 11.7 of the IA. Participating special entities shall contribute to CV-MSHCP implementation through the payment of a fee or other appropriate mechanism based on the type of proposed activity.

2.5.15.3 Local Policies and Ordinances Protecting Biological Resources

The California Public Utilities Commission (CPUC) has jurisdiction over the siting and design of the Proposed Project because the CPUC regulates and authorizes the construction of investor-owned public utility (IOU) facilities. Although such projects are exempt from local land use and zoning regulations and permitting, General Order (GO) No. 131-D, Section III.C requires "the utility to communicate with, and obtain the input of, local authorities regarding land-use matters and obtain any nondiscretionary local permits." Table

2-2, Local Land Use Documents Applicable to Biological Resources, summarizes key policies in local land use plans applicable to biological resources. There are no relevant General Plan policies related to Biological Resources within the City of Colton General Plan.

Table 2-2: Local Land Use Documents Applicable to Biological Resources

Document	Plans, Policies, Program
City of Banning General Plan, Biological Resources Element	**Goal:** A pattern of community development that supports a functional, productive, harmonious and balanced relationship between the built and natural environment. **Policy 1:** The City shall take continue to participate in the preservation of habitat for endangered, threatened and sensitive species.
City of Beaumont General Plan, Resource Management Element	**Goal 4:** The City of Beaumont will assist in the protection of biological resources. **Policy 11:** The City of Beaumont will work with landowners and government agencies in promoting development concepts that are sensitive to the environment and give maximum consideration to the preservation of natural habitats.
City of Calimesa General Plan, Land Use Element, Preservation of Natural Resources and Environmentally Sensitive Areas	**Goal 5:** Preserve the natural beauty, minimize degradation of the Calimesa area, and provide protection for the environmentally sensitive resources. **Policy 5.1:** To ensure that hillside areas are preserved and protected, all developments in areas having a slope of 25 percent or greater shall comply with the Calimesa Hillside Development Guidelines. **Policy 5.3:** Graded areas shall be revegetated with native plants compatible to the area to prevent erosion. **Policy 5.4:** Development shall be prohibited in areas containing sensitive biological resources and habitats, cultural resources, groundwater recharge areas, prominent ridgelines, unless adequate protection and/or preservation is provided.
City of Calimesa General Plan, Resource Management Element, Biological Resources	**Goal 3:** Conserve and protect significant stands of mature trees, native vegetation, and wildlife habitat within the planning area. **Policy 3.1:** Conserve and protect important plant communities and wildlife habitats, such as riparian areas, wetlands, oak woodlands, and other significant tree stands, and rare or endangered plant/animal species by using buffers, creative site planning, revegetation and open space easement/dedications. **Policy 3.3:** In areas that may contain important plant and animal communities, require developments to prepare biological assessments identifying species types and locations and develop measure to preserve sensitive species to the maximum extent possible. **Policy 3.4:** Allow new development to remove only the minimum natural vegetation and require revegetation of graded areas with native plant species.
City of Calimesa, Chapter 18.80 Oak Tree Preservation, Oak Tree Preservation Ordinance	**Municipal Code 18.80.060:** An oak tree pruning permit issued by the director of community development must be obtained before oak tree pruning is undertaken.

Table 2-2: Local Land Use Documents Applicable to Biological Resources

Document	Plans, Policies, Program
	Municipal Code 18.80.070: An oak tree removal permit issued by the director of community development must be obtained before oak tree removal is undertaken. **Municipal Code 18.80.080:** For any parcel or lot with a heritage oak tree or with more than three protected oak trees or protected stand of oak trees, an oak tree preservation and replacement plan shall be prepared by an arborist that is retained by the community development department and submitted in conjunction with an application for a tree preservation and replacement permit. The plant will include adequate mitigation, including the planting of replacement trees or acorns or the payment of replacement costs to the city for each tree removed.
City of Grand Terrace General Plan, Land Use Element	**Goal 2.5:** Provide for the preservation of natural resources and open space. **Policy 2.5.2:** Areas designated as Open Space shall be preserved to provide long term recreation opportunities as well as the preservation of scenic and environmental resources and the protection of public health and safety.
City of Loma Linda General Plan, Conservation and Open Space Element	**Guiding Policy 9.2.10.3: Avoidance of Environmentally Sensitive Areas-** New development shall be sited so as to maximize the permanent preservation of large blocks of unbroken open space and to minimize the loss of habitat, wildlife, and watershed resources. **Guiding Policy 9.2.10.4: Development to Respect Wildlife Habitats-** Development projects are to be designed to protect habitat values and to preserve significant habitat areas and habitat connections in their natural condition.
City of Loma Linda General Plan, Conservation and Open Space Element, Biological Resources	**Guiding Policy 9.4.4:** Preserve habitats supporting rare and endangered species of plants and animals including wildlife corridors.
City of Palm Springs General Plan, Open Space & Conservation Element	**Goal RC7:** Support the preservation and protection of biological resources, especially sensitive, rare, threatened, or endangered species, wildlife, or habitats. **Policy RC7.1:** Support local and regional efforts to evaluate, acquire, and protect natural habitats for sensitive, threatened, and endangered species occurring in the City and vicinity. **Policy RC7.5:** Protect and enhance known wildlife and migratory corridors, including corridors leading into the Santa Rosa Mountains, the San Jacinto Mountains, and along the Whitewater River. **Policy RC7.7:** Actively encourage and promote the understanding and appreciation of the natural environment and sensitive biological resources in and around Palm Springs.
City of Redlands General Plan, Open Space and Conservation Element, Biotic Resources	**Guiding Policy 7.21a:** Minimize disruption of wildlife and valued habitat throughout the Planning Area. **Guiding Policy 7.21b:** Preserve, protect, and enhance natural communities of special status.

Table 2-2: Local Land Use Documents Applicable to Biological Resources

Document	Plans, Policies, Program
	Guiding Policy 7.21c: Preserve, protect and enhance wildlife corridors connecting the San Bernardino National Forest, Santa Ana River Wash, Crafton Hills, San Timoteo/Live Oak Canyons, the Badlands, and other open space areas. **Guiding Policy 7.21e:** Preserve, restore, protect and enhance riparian corridors throughout the Planning Area. **Guiding Policy 7.21h:** Require a biological assessment of any proposed project site where species or the habitat of species defined as sensitive or special-status by the Department of Fish and Game or the U.S. Fish and Wildlife Service might be present. **Guiding Policy 7.21i:** Require that proposed projects adjacent to, surrounding or containing wetlands, riparian corridors, or wildlife corridors be subject to site-specific analysis which will determine the appropriate size and configuration of a buffer zone.
City of San Bernardino General Plan, Natural Resources and Conservation Element	**Goal 12.1:** Conserve and enhance San Bernardino's biological resources. **Policy 12.1.2:** Site and develop land uses in a manner that is sensitive to the unique characteristics of and that minimizes the impacts upon sensitive biological resources. **Goal 12.2:** Protect riparian corridors to provide habitat for fish and wildlife. **Policy 12.2.1:** Prohibit development and grading within fifty (50) feet of riparian corridors, as identified by a qualified biologist, unless no feasible alternative exists. **Policy 12.2.4:** Development adjacent to riparian corridors shall: a. Minimize removal of vegetation; b. Minimize erosion, sedimentation, and runoff by appropriate protection or vegetation and landscape;
City of Yucaipa General Plan, Citywide Goals	**Goal CW-5:** Encourage development which is environmentally sensitive and preserves major landforms, sensitive habitat and biological resources, as well as other important natural resources.
County of Riverside General Plan Multipurpose Open Space Element	**OS 17.2** Enforce the provisions of applicable MSHCPs, if adopted when developing transportation or other infrastructure projects that have been designated as covered activities in the applicable MSHCP. **OS 17.4** Require the preparation of biological reports in compliance with Riverside County Planning Department Biological Report Guidelines for development related uses that require discretionary approval to assess the impacts of such development and provide mitigation for impacts to biological resources until such time as the CVAG MSHCP and/or Western Riverside County MSHCP are adopted or should one or both MSHCPs not be adopted. **OS 18.1** Preserve multi-species habitat resources in the County of Riverside through the enforcement of the provisions of applicable MSHCPs, if adopted.

Table 2-2: Local Land Use Documents Applicable to Biological Resources

Document	Plans, Policies, Program
	Reche Canyon/Badlands Area Plan 13.1 Protect visual and biological resources in the Reche Canyon/Badlands area through adherence to General Plan policies found in the Multipurpose Open Space Element.
County of San Bernardino General Plan Conservation Element	**Goal CO 2.** The County will maintain and enhance biological diversity and healthy ecosystems throughout the County. **Policy CO 2.4** All discretionary approvals requiring mitigation measures for impacts to biological resources will include the condition that the mitigation measures be monitored and modified, if necessary, unless a finding is made that such monitoring is not feasible.

2.5.15.4 Morongo Band of Mission Indians Reservation

The Proposed Project will traverse approximately 8 miles of the tribal trust lands of the Morongo Indian Reservation east of Banning, California. Except for approximately two miles of new corridor between Malki Road and the western boundary of the Reservation, the Proposed Project will utilize the transmission corridor that has been used by existing SCE 220 kV transmission lines starting in 1945, and as subsequently expanded. Matters concerning the use of the Reservation's trust lands are subject to approval by the Morongo Band's General Membership, which consists of all enrolled adult voting members. The Morongo Band does not release its internal ordinances and other laws to the public.

The Morongo Band's General Membership has voted to approve the Bureau of Indian Affairs' grants to SCE of the rights of way and easements necessary for SCE to continue operating its existing 220 kV facilities on the Morongo Reservation and to replace and upgrade those facilities with the WOD Project. The Morongo Band's approval of these grants of rights of way and easements includes relocating approximately two miles of the corridor west of Malki Road into a new corridor depicted on Figure 2.3, Proposed and Alternative Transmission Line Routes, as either the Proposed Project (Alternative 1) or the Alternative Project (1X). The existing corridor, plus either Alternative 1 or 1X, thus would be consistent with all applicable tribal laws, and are the only corridors approved by the Morongo Band for the continued operation and eventual replacement of SCE's 220 kV facilities on and across the trust lands of the Morongo Indian Reservation.

3.0 METHODOLOGY

This section includes the methodology used for the focused surveys and mapping efforts to inventory biological resources in the Project Study Area. More detailed methodologies used for these assessments can be found in Appendix D, Botanical Resources Assessment Reports, through Appendix N, Drainage Assessment Report.

Special-status species identified in this document are defined as plant or wildlife species of particular interest to Federal, State, or regional groups. This includes Federal and/or State Listed or candidate species, State Species of Special Concern, California Rare Plant Rank (RPR) species, State Special Animal, Forest Service Sensitive Species, BLM Sensitive Species, and species covered under either the WR-MSHCP or the CV-MSHCP.

3.1 Literature Search

LSA conducted a literature search of both database records and published reports, using Federal and State resources as well as local and regional knowledge to: (a) identify the previous existence or potential occurrence of special-status species and Natural Communities on or in the vicinity of the Project Study Area, (b) assist in evaluating the suitability of habitat in the Project Study Area for those species that have potential to occur, and (c) determine the current nomenclature and legal and rarity status of each species.

3.1.1 Database Background Document Searches

The following databases and background documents provide useful information regarding the Project Study Area; therefore, they were incorporated into the literature search:

- Bureau of Land Management. 1980. California Desert Conservation Area Plan 1980, as amended.
- California Department of Fish and Game, California Natural Diversity Database (CNDDB), Version 3.1.0. RareFind dated 2012. The Resources Agency, Sacramento, California. *Desert Hot Springs, White Water, Cabazon, Beaumont, El Casco, Redlands, Sunnymead,* and *San Bernardino South* 7.5-minute USGS quadrangles.
- California Department of Fish and Wildlife.[6] 2013. Special Vascular Plants, Bryophytes, and Lichens List, April 2013. The Resources Agency, Sacramento.
- California Department of Fish and Game. 2011. Special Animals (898 taxa), January 2011. The Resources Agency, Sacramento.

[6] The California Department of Fish and Game changed its name to the California Department of Fish and Wildlife on January 1, 2013.

- Coachella Valley Association of Governments. September 2007. Final Recirculated Coachella Valley Multiple Species Habitat Conservation Plan.
- Consortium of California Herbaria. 2012. Herbarium record data provided by the participants of the Consortium of California Herbaria. http://ucjeps.berkeley.edu/consortium/.
- Western Riverside County Multiple Species Habitat Conservation Plan. 2003. Vol. 1, Vol. 2. http://www.rctlma.org/mshcp/volume2/SectionD.html. Site accessed October 2012.

3.1.2 Additional Survey Reports Conducted in the Vicinity

Over the years, biological consulting firms have conducted biological resources assessments, focused surveys, and vegetation mapping, all of which encompassed portions of the Project Study Area. Therefore, to ensure the most accurate assessment of the current Project Study Area, the results from these surveys were also incorporated into the literature search:

- Aspen Environmental, Inc. 2007. El Casco System Project. Draft Environmental Impact Report. Prepared for the California Public Utilities Commission. December. http://www.cpuc.ca.gov/Environment/info/aspen/elcasco/toc-deir.htm.
- Aspen Environmental, Inc. 2008a. El Casco System Project. Recirculated Draft Environmental Impact Report. Prepared for the California Public Utilities Commission. July. http://www.cpuc.ca.gov/Environment/info/aspen/elcasco/toc-recircdeir.htm.
- Aspen Environmental, Inc. 2008b. El Casco System Project. Recirculated Final Environmental Impact Report (Responses to Comments) for Southern California Edison's Application for a Permit to Construct. Prepared for the California Public Utilities Commission. October. http://www.cpuc.ca.gov/Environment/info/aspen/elcasco/toc-recircfeir.htm.
- Aspen Environmental, Inc. 2009. Devers-Palo Verde No. 2 Transmission Line Project. Addendum to Final Environmental Impact Report. Prepared for the California Public Utilities Commission. February.
- Aspen Environmental, Inc. 2011a. Devers-Palo Verde No. 2 Transmission Line Project. Final Supplemental Environmental Impact Report: Colorado River Substation Expansion. Prepared for the California Public Utilities Commission. April. http://www.cpuc.ca.gov/environment/info/aspen/dpv2/toc-sfeir.htm.
- Aspen Environmental, Inc. 2011b. El Casco System Project. Supplemental Draft Environmental Impact Report. Prepared for the California Public Utilities Commission. November. http://www.cpuc.ca.gov/Environment/info/aspen/elcasco/ElCasco-SDEIR_WEBSITE/toc-sdeir.htm.
- Aspen Environmental, Inc. 2012. El Casco System Project. Supplemental Final Environmental Impact Report. Prepared for the California Public Utilities Commission.

February. http://www.cpuc.ca.gov/Environment/info/aspen/elcasco/ElCasco_SFEIR/toc-sfeir.htm.

- BioResource Consultants, Inc. 2003. West of Devers 230 kV Transmission Line Upgrade. Biological Resources Inventory Report. Prepared for Southern California Edison. October.
- BioResource Consultants, Inc. 2008. Devers to Valley Transmission Line 2008 Sensitive Plant Field Surveys Summary and Recommendations. Prepared for Southern California Edison. February 16.
- CH2M HILL. 2011. Devers-Palo Verde No. 2 Transmission Line Project. Coachella Valley Milk-vetch Avoidance and Protection Plan. Prepared for Southern California Edison. August.
- Dudek. 2009. Focused Presence/Absence Surveys for Small Mammals for Devers to Palo Verde No. 2 Project – Valley Substation to Colorado River Segments, Riverside County, California. Prepared for Paul Yamazaki, Southern California Edison. June 5.
- ECORP Consulting, Inc. 2006. 90-Day Report of Findings Regarding Federally-Listed Branchiopods for the DPV-2 Transmission Project, San Bernardino County, California. Prepared for Aspen Environmental. August 2.
- Garcia and Associates, Inc. 2010a. Draft Sensitive Wildlife Investigations for the Morongo Relocation South of Interstate 10 Project. Prepared for Southern California Edison. September 13.
- Garcia and Associates, Inc. 2010b. Devers-Palo Verde No. 2 Transmission Line Project. Coastal California Gnatcatcher Habitat Assessment. Prepared for CH2M HILL. December.
- LSA Associates, Inc. 2010. Biological Assessment: Morongo Relocation South of Interstate 10 Alternative Project, Riverside County, California. Submitted to Southern California Edison. January. LSA Irvine Project No. SCE0702CS.

3.2 Survey Methods

3.2.1 Survey Areas and Maps

3.2.1.1 Survey Areas

Focused and general surveys conducted in 2011–2012 (2012 surveys) were based on ROW limits available at the time of the surveys. Surveys conducted in 2012 were along the existing transmission corridor ROW with additional survey buffers added to the edges of the corridor ROW, as appropriate with consideration of the biological resource. The specific survey buffer used for each biological resource is described below in the methods for each resource.

Additional studies were conducted in 2013 for disturbance areas added to the project that were not covered by the 2012 surveys. These include the Alternative Project, overhead and underground telecommunications routes, subtransmission and distribution lines, access roads, and staging yards. These additional areas, along with the transmission corridor ROW used for the 2012 surveys are the "WOD Survey Area." The same resource-specific survey buffers established for the 2012 surveys were used for these new 2013 survey areas. Appendix A, West of Devers Study Area Components Figure, shows the Project Study Area.

3.2.1.2 Maps

Field Maps. Field maps were prepared using a recent aerial photograph base (Bing 2010 and orthorectified by Bing in 2011) typically at a scale of 1 inch is equal to 300 feet. In addition, to comply with relevant survey guidelines in the WR-MSHCP, data were collected and mapped using aerial photograph maps at a scale of 1 inch is equal to 400 feet or larger.

Special-Status Species Mapping. Locations of all federally and State-listed species, along with State Species of Special Concern, that were observed during 2011–2013 surveys of the Project Study Area or in the immediate vicinity, were mapped using a handheld global positioning system (GPS), if possible. Other species of special interest covered by an MSHCP or the BLM were recorded only on an incidental basis and were not always associated with specific GPS coordinates. In cases where species were observed but GPS coordinates were not obtained, the species was reported as observed but specific locations were not mapped.

3.2.2 Personnel and Survey Dates

Table 3-1, Survey Schedule and Personnel for the West of Devers Upgrade Project, lists the 2011–2013 survey types, dates, and field personnel who conducted the focused species surveys and drainage assessment for the WOD Upgrade Project.

Table 3-1: Survey Schedule and Personnel for the West of Devers Upgrade Project

Survey Type	Dates	Personnel
Drainage Assessment	**2012:** April 16–20, 23–27 June 11–15, 18–22, 25–28 **2013:** March 3–8, 11–12 April 25 May 15–16	**BioGin:** Susan (Gin) Ingram **Dudek:** Emily Wier **LSA:** Claudia Bauer, Erin Martinelli, Ingri Quon, Jim Harrison, Jodi Ross-Borrego, Lonnie, Rodriguez, Maria Lum, Matt Teutimez, Stanley Spencer, Stefan De Barros, Wendy Davis

Table 3-1: Survey Schedule and Personnel for the West of Devers Upgrade Project

Survey Type	Dates	Personnel
Plant Survey	**2012:** March 12–16, 19–23 April 16–20 May 1–5 June 12–15 **2013:** April 1–5 May 28–30	**BRC:** Cedrick Villaseñor, David Magney (2012 only), James Peet, Therin Rhaintre, Steve Jones (2013 only), Sarah Termondt
Fairy Shrimp	**2011:** November 30 December 15, 30 **2012:** March 26 April 2, 10, 19, 23 May 8, 22 October 1 (dry season survey) November 15, 27 December 10, 20, 21 **2013:** January 3, 4, 18, 31 February 12, 21 March 7, 13, 14, 27	**LSA:** David Muth (dry season sampling only), Stanley Spencer Note: Dates include only survey days and do not include site visits to check water levels.
Coachella Valley Jerusalem cricket, Coachella giant sand treader cricket	**2011:** November 17-18 December 13 – end of year **2012:** Beginning of year – April 27	○ **AMEC:** Nathan Moorhatch, Michael Wilcox Ted Rado (a subconsultant)
Desert Tortoise	**2012:** April 9–14 **2013:** May 8–10, 17, 21–23, and 29	**Karl:** Alice Karl, Art Schaub, Paul Frank **LSA:** Denise Woodard, Lonnie Rodriguez, Stan Spencer, Elizabeth Hohertz, Erin Martinelli, Jill Carpenter, Stefan De Barros, Jodi Ross
Burrowing Owl	**2012:** March 7–17, 21–25, 27–31 April 1 June 18–22 **2013:** March 6–8, 12–14, 19–21, 26–28 April 2–4, 6 May 14–16	**BioGin:** Susan (Gin) Ingram **Dudek:** Christopher Kallstrand, Dale Powell, Daniel Burnett, Danielle Mullen, Dave Compton, Emily Wier, Joel Boggus **Kidd:** Christopher Waterston, Jared Bond, Jeff Kidd, Kyle McCann, Nina Jimerson-Kidd, Scott Thomas, Thomas Dixon, Wendy Pearson **LSA:** Agnieszka Napiatek, Anthony Greco, Brooks Smith, Claudia Bauer, Daniel Rosie, Erin Martinelli, Hillary Sweeney, Jacqueline Hall, Jaime Morales, Jason Collins, Jason Miller, Jill Carpenter, Liz Hohertz, Logan Freeberg, Lonnie Rodriguez, Maria Lum, Matthew Willis, Matthew Teutimez, Milo Rivera, Riordin Goodwin, Sandy Duarte, Sarah Barrera, Stanley Spencer, Wendy Davis

Table 3-1: Survey Schedule and Personnel for the West of Devers Upgrade Project

Survey Type	Dates	Personnel
Swainson's Hawk and Raptors	**2012:** March 14, 28 April 1, 6, 14, 28 May 9, 16, 23 July 1, 8, 15, 22, 29	**Kidd:** Jeff Kidd, Nina Jimerson-Kidd, Scott Thomas
Coastal California Gnatcatcher	**2012:** March 21–22, 27–28 April 3–5, 17–19 May 1–2, 8–9, 22–23 **2013:** March 18, 19, 25, 26 April 1, 2, 8, 9, 15, 16, 24, 26	**LSA:** Denise Woodard, Ingri Quon, Maria Lum, Stanley Spencer, Wendy Davis
Least Bell's Vireo, Southwestern Willow Flycatcher, Yellow-billed Cuckoo	**2012:** April 16, 17, 18 May 3, 4, 15, 16 June 11, 12, 21 July 2, 3, 12, 13, 22, 23, 24	**LSA:** Denise Woodard, Ingri Quon, Maria Lum, Stan Spencer, Wendy Davis
Golden Eagle	**2013:** March 27–29 May 10	**WRI:** Staff
Stephens' Kangaroo Rat	**2012:** March 4–9, 11-16, 26–31 April 7–12, 15–20, 22–28, 29–30 May 1–9, 11–16, 27–31 June 1, 3–8, 10–15, 17–22 September 8–13 **2013:** April 15–26 May 1–24, 26–31	**Dudek:** Philippe Vergne **LSA:** Agnieszka Napiatek, Leo Simone, Richard Erickson
Palm Springs Pocket Mouse	**2012:** April 30 May 1–2, 6–12, 20–25	**Dudek:** Philippe Vergne **LSA:** Leo Simone, Richard Erickson
Los Angeles Pocket Mouse	**2012:** April 29–30 May 1–12, 20–25 June 10–15, 17–22 July 8–13, 22–24, 29–31 August 1–3, 11–16, 19–24 **2013:** May 7–12, 19–24, 26–31	**Dudek:** Philippe Vergne **LSA:** Leo Simone, Richard Erickson, Wendy Davis
Bats	**2012:** December 10 **2013:** April 3, 4	**LSA:** Ingri Quon, Jill Carpenter

BioGin = BioGin Consulting
Karl = Alice E. Karl and Associates
LSA = LSA Associates, Inc.
BRC = BioResource Consultants, Inc.
Kidd = Kidd Biological, Inc.
WRI = Wildlife Research Institute, Inc.

3.2.3 Focused Rare Plant Surveys, Vegetation Communities, and Invasive Species Mapping

In the spring and summer of 2012 and 2013, plant surveys focused on identification and locations of special-status plant species. Field surveys also included mapping invasive species concentration areas and updating a vegetation community map (GANDA 2011c). Field transect surveys were conducted on foot, and two survey passes were conducted in 2012: one during March and April and the other in May and June, with surveys in 2013 conducted in April and May. Each was conducted so as to provide for 100 percent visual coverage of the ground, access permitting. The botanical Project Study Area in 2012 included a 100-foot buffer on either side of the edge of the existing WOD corridor. In 2013, the botanical Project Study Area included a 100-foot buffer from the edge of the additional identified disturbance areas (e.g., access roads, telecommunications lines, and staging yards) that are outside of the 500-foot existing WOD corridor buffer. Vegetation mapping followed the California Native Plant Society (CNPS) *Manual of California Vegetation* (Sawyer et al. 2009).

The flowering seasons for native plant species vary from year to year and depend on the frequency, duration, and seasonal timing of rainfall events, moisture availability, and soil and air temperatures. The western portion of the Project Study Area may experience somewhat more moderate temperatures than the eastern portion, which may often be somewhat warmer. The potential for detection of plant species is also variable from month to month and year to year. Therefore, as much as practical, the surveys were scheduled so as to correspond with the optimal time for detecting special-interest plants in the Project Study Area.

Natural communities within the Project Study Area were classified and mapped primarily following the CNPS *Manual of California Vegetation* (Sawyer et al. 2009); however, some of the alliances and associations used differ from those recognized by Sawyer et al. (2009). Surveyors noted general site conditions, vegetation communities, and suitability of habitat for special-status species. All plant taxa observed were documented and identified at least to the taxonomic level required to determine rarity status and, when found, special-status species locations were recorded with GPS units and mapped on aerial photographs (1 inch is equal to 300 feet scale). Plants not identified in the field were collected in order to more closely examine the plant characteristics or were submitted to botanical experts for identification. Photographs were taken of all special-status plant species and representative habitat conditions along the transmission corridor ROW. All incidental special-status animal species observed or otherwise detected during this field survey were also noted.

Invasive exotic species, particularly those classified as Invasive and/or Noxious by the California Invasive Plant Council, were noted in the field with GPS waypoints and were mapped. Representative photographs were taken if invasive species dominated a given location within the Project Study Area.

See Appendix D, Botanical Resources Assessment Reports, for the 2012–2013 focused plant survey report, including the full methodology used.

3.2.4 Fairy Shrimp Habitat Assessment and Protocol Surveys

The two target fairy shrimp species, vernal pool fairy shrimp (*Branchinecta lynchi*) and the Riverside fairy shrimp (*Streptocephalus wootoni*), are not known to occur in desert areas. Therefore, at the direction of Karin Cleary-Rose of the United States Fish and Wildlife Service (USFWS), fairy shrimp surveys were only conducted within the Project Study Area west of Hargrave Street in the City of Banning (Appendix E, Fairy Shrimp Survey Reports). The fairy shrimp study used a 100-foot buffer from the edge of the Project Study Area. Focused wet season surveys for the fairy shrimp were conducted by LSA biologist Stanley Spencer (USFWS 10(a)(1)(A) Permit TE-777965). The dry season survey was conducted by LSA biologist David Muth (USFWS 10(a)(1)(A) Permit TE-797234) and Dr. Spencer. All surveys were conducted in accordance with the April 19, 1996, *Interim Survey Guidelines to Permittees for Recovery Permits under Section 10(a)(1)(A) of the Endangered Species Act for the Listed Vernal Pool Branchiopods*. One complete protocol survey requires either both a wet and dry season survey, or two wet season surveys.

3.2.4.1 Wet Season Survey

A wet season survey is spread throughout the season to determine if water is present in ponding features following storm events and, if present, pools are sampled for fairy shrimp at required intervals until those pools have dried and remain dry. Wet pool features were sampled following protocol techniques by drawing a handheld net through the water column, occasionally bumping the bottom to stir up any benthic organisms. The net was periodically removed from the water to check for aquatic species. Sampling was continued until the net was pulled through a sufficient portion of the water body to indicate the probable absence of fairy shrimp or the capture of shrimp for identification. The following surveys complete the wet season surveys for the entire Project Study Area:

- A wet season survey for pools *west* of El Casco Substation was conducted between November 30, 2011, and May 22, 2012.
- A wet season survey for pools *east* of El Casco Substation was conducted from November 15, 2012 through March 27, 2013.

3.2.4.2 Dry Season Survey

A dry season survey consists of one visit to a dry pool to collect soil samples that are then sifted and examined under a microscope for fairy shrimp cysts (i.e., eggs). The following surveys complete the dry season surveys for the entire Project Study Area:

- An in-field dry season survey for all suitable pools within the Project Study Area was conducted on October 1, 2012.

- A laboratory soil analysis was conducted on October 15, 16, and 23, and November 6, 2012.

See Appendix E, Fairy Shrimp Survey Reports, for the fairy shrimp 2011–2012 and 2012–2013 wet season survey letter reports and the 2012 dry season survey letter report, including the full methodology used.

3.2.5 Coachella Valley Jerusalem Cricket and Coachella Giant Sand Treader Cricket Habitat Assessment and Protocol Surveys

Coachella Valley Jerusalem cricket and Coachella giant sand treader cricket surveys were conducted concurrently by AMEC in 2012 within the known range of these species (potentially suitable habitat in Segment 6). Focused surveys were initiated in December 2011 following measurable precipitation from winter storms and continued through April 2012. All potential habitats within the Project Study Area were assessed on foot for components of potentially suitability for each species. Surveyed areas included habitats within the east portion of the Whitewater River floodplain and continued east 0.62 miles past SR-62 within the Project Study Area (AMEC 2012c).

All areas within this segment that contained fine sandy loose aeolian and alluvial substrates (active and stabilized dunes, sand fields, hummocks, washes, and areas of sand transport) and were determined suitable for these two species were mapped (AMEC 2012c). Surveys were conducted in accordance with established methods, and recommended timing, temperature, and rainfall events.

3.2.6 Desert Tortoise Habitat Assessment and Protocol Surveys

Desert tortoise surveys were conducted within the known range of the species (suitable habitat in Segments 5 and 6) by AMEC in 2011, Karl in 2012, and LSA in 2013. The 2011 survey covered the eastern portion of the Reservation (Segment 5) and all suitable habitat areas east of the Reservation (Segment 6). The 2012 survey covered east of the Reservation (Segment 6) and the 2013 survey covered all potentially suitable habitat areas on the Reservation. All three surveys were conducted in accordance with the methods, timing, and temperature requirements in the currently prescribed survey protocol (USFWS 2010).

In order to survey 100 percent of the ground surface, biologists walked adjacent transects spaced approximately 33 feet (10 meters) apart within the WOD corridor and any necessary survey protocol buffers. Transects were programmed into Global Positioning Systems (GPS) units to ensure accurate and complete ROW coverage and buffer transect locations. All potential desert tortoise habitats were surveyed in 2011 and 2012 where there were no access restrictions; however, in 2013, there was one fenced, private property on the Reservation which was not surveyed. Where habitat was not suitable for desert tortoise (i.e., areas that are poorly vegetated or too steep) biologists did not conduct pedestrian transect surveys. Instead, these areas were sampled (i.e., visited a representative location to verify that conditions were

unsuitable). The 2011 surveys were conducted from October 11 through 21 within the WOD corridor. The 2012 surveys were conducted from April 9 through 14. In addition, per protocol, single buffer transects were walked at approximately 656, 1,312, and 1,968 feet (200, 400, and 600 meters) from the edge of the WOD corridor comprising an approximately 1,970-foot (600-meter) total survey buffer. For 2013 surveys, conducted from May 8 through 29, on the Reservation, the survey areas covered 100 percent of the WOD corridor and the Alternative Project. Additional buffer transects were not required because desert tortoise sign was found in the Project Study Area (i.e., action area). The protocol does not require three additional belt transects if live desert tortoise or its sign (burrows, scat, carcasses) are found within the action area.

See Appendix F, Desert Tortoise Survey Reports, for the 2012 and 2013 desert tortoise focused survey letter reports, including the full methodology used.

3.2.7 Burrowing Owl Habitat Assessment and Focused Surveys

Burrowing owl surveys were conducted throughout the Project Study Area within suitable habitat, access permitting, including the WOD ROW corridor, transmission lines and disturbance areas outside of the ROW (e.g., staging yards and access roads), and the Alternative Project. Field personnel from LSA, BioGin, Dudek, and Kidd performed all fieldwork in 2012 and/or 2013.

Surveys generally followed the field methods described in the Staff Report on Burrowing Owl Mitigation (CDFG 2012).[7] for the habitat assessment, but included a modified breeding season survey due to the extensive nature of the Project Study Area and, in 2013, the available survey schedule. The Staff Report on Burrowing Owl Mitigation calls for several biologists walking straight-line transects spaced up to 65 feet (20 meters, per protocol) apart to search for burrows, sign, and owls followed by four breeding season survey visits (one survey each in April, May, June, and after June) to each burrowing owl location and/or potential burrow location.

In 2012, the following methods were implemented for a modified survey approach, which focused the survey effort on determining the owl use areas and population distribution and evaluated all burrows (approximately 500). Methods included revisiting each area supporting large groupings of potential burrows to reevaluate and take detailed notes on the condition of the burrows. Evaluations included consideration of vegetation height and type, topography, actual burrow size, distance to avian predator nest, and distance to nearest known owl(s). In most cases, a combination of various factors enabled determination of which burrows/ locations can be reasonably eliminated from further surveys. Therefore, based on the results of the burrow survey in March 2012, each occupied site and each site supporting sign was visited one or two times between the end of May and late June to distinguish where nesting

[7] Note: The California Department of Fish and Game (CDFG) changed its name as of January 1, 2013, to the California Department of Fish and Wildlife (CDFW).

birds were located from sites that might have been occupied by migrants during the burrow survey in March. In this way, nest site locations were mapped and burrowing owl pairs were documented.

The 2013 surveys consisted of a habitat assessment and a comprehensive burrow survey of additional identified disturbance areas (e.g., access roads, telecommunication lines, staging yards, and Alternative Project) and the 500-foot buffer from the edge of the additional identified disturbance areas, access permitting. Potential burrowing owl burrows, sign, and owl locations were mapped as part of the survey. However, follow-up breeding season surveys were not conducted per the recommendations in the 2012 CDFG staff report due to schedule constraints that precluded conducting surveys in accordance with the 2012 CDFG staff report within the April to July survey schedule. Focused breeding burrowing owl surveys were conducted per the methods in the 1993 CDFG Staff Report on Burrowing Owl Mitigation (CDFG 1993) in suitable habitat areas for the underground trenching at the telecommunications routes (i.e., south of I-10 and the cities of Beaumont and Banning). The 1993 CDFG Staff Report on Burrowing Owl Mitigation calls for four breeding season survey visits on four separate days between April 15 and July 15.

Methods also followed the Western Riverside and the CV-MSHCP burrowing owl survey instructions (WR-MSHCP 2003 and CV-MSHCP 2007) with exception of the Phase III survey, as described above.

See Appendix G, Burrowing Owl Survey Report, for the combined 2012 and 2013 burrowing owl focused survey report, including the full methodology used.

3.2.8 Coastal California Gnatcatcher Habitat Assessment and Protocol Surveys

On March 21 and 22, 2012, a coastal California gnatcatcher habitat assessment was conducted by permitted biologists from a vehicle and on foot to assess potentially suitable California gnatcatcher habitat. Potentially suitable habitat was mapped within the transmission corridor ROW and mapping was extended to cover a 500-foot buffer from the transmission corridor ROW. Pedestrian surveys of these habitat areas were then surveyed over a two-day period by two permitted biologists to cover the entire study area within Segments 1, 2, and 3, which included Critical Habitat for this species. Focused surveys were conducted from March 27 through May 23, 2012, and again from March 18 through April 26, 2013. All surveys were conducted in accordance with the 1997 survey protocol (USFWS 1997), which requires pedestrian surveys with playback of taped vocalizations during specified hours (6:00 a.m. to noon). The locations of these suitable habitat areas are shown in Appendix H, Coastal California Gnatcatcher Survey Reports. Access was not restricted due to private land, so all identified habitats were surveyed.

See Appendix H, Coastal California Gnatcatcher Survey Reports, for both the 2012 and 2013 Protocol Coastal California Gnatcatcher Survey Results letter reports, including the full methodology used.

3.2.9 Least Bell's Vireo and Southwestern Willow Flycatcher Habitat Assessment and Protocol Surveys and Western Yellow-billed Cuckoo Survey

On April 17 and 18, 2012, a riparian bird habitat assessment was conducted to identify potentially suitable habitat for least Bell's vireo, southwestern willow flycatcher, and western yellow-billed cuckoo within the existing WOD corridor and a 500-foot buffer. Focused riparian bird surveys were then conducted for these three endangered species as well as special-status riparian bird species known to occur or potentially occur in the Project Study Area. LSA biologists conducted eight protocol surveys west of the Reservation following the least Bell's vireo protocol (USFWS 2001) and southwestern willow flycatcher protocol (USFWS 2010) with eight least Bell's vireo surveys conducted from April 17 through July 24, 2012, and five concurrent southwestern willow flycatcher surveys conducted from May 15 through July 13, 2012. Each pedestrian survey pass was conducted over a 2-day period, and during each survey pass, a total of five potentially suitable habitat areas were visited, totaling approximately 55 acres. Access was not restricted by private land, so all potentially suitable habitats were surveyed.

A specific survey protocol for western yellow-billed cuckoo has not been adopted by the CDFW or USFWS, although several have been proposed. The proposed protocols generally call for 3 or 4 visits between June 15 and August 15 and the broadcasting of recorded cuckoo calls. Because the cuckoo's habitat requirements are similar to those of the southwestern willow flycatcher and least Bell's vireo, focused surveys for those species provide ample opportunity for the detection of cuckoos. This species has a low potential to occur occasionally since it was observed in 2007 in San Timoteo Creek southeast of El Casco Substation; however, breeding is not expected in this area.

Protocol riparian bird surveys were not conducted in 2013 since suitably sized habitat was not present within the additional proposed project locations and associated buffers.

See Appendix I, Least Bell's Vireo and Southwestern Willow Flycatcher Survey Report, for the 2012 riparian bird focused survey letter report, including the full methodology used.

3.2.10 Swainson's Hawk Focused Surveys and General Raptor Surveys

Swainson's hawk focused surveys and general raptor surveys were conducted by Kidd Biological, Inc., in 2012. Aerial surveys via helicopter were conducted on March 14 and April 6, 2012, while ground surveys were conducted between March 23 and July 27, 2012. Aerial and ground surveys for nesting raptors were completed throughout the Project Study Area and within a half-mile buffer from the edge of each side of the existing WOD corridor

in accordance with the Swainson's Hawk Technical Advisory Committee (SHTAC 2000) survey recommendations and the Swainson's hawk survey protocols, impact avoidance, and minimization measures for renewable energy projects in the Antelope Valley of Los Angeles and Kern Counties, California (CEC and CDFG 2010). Field methods included surveying during the approved survey windows (i.e., dates, times, and weather conditions) via on the ground vehicle surveys conducted per "windshield surveys" protocol to minimize disturbance.

Protocol Swainson's hawk and general raptor surveys were not conducted in 2013 since the additional proposed project location buffers would have been nearly identical to the survey area in 2012 and focused golden eagle surveys were already being conducted for the project in 2013. All surveys documented all observed raptors.

See Appendix J, Swainson's Hawk & General Raptor Survey Report, for the 2012 Swainson's hawk focused survey letter report and the general raptor survey report, including the full methodologies used.

3.2.11 Golden Eagle Focused Surveys

Golden eagle focused surveys were conducted by Wildlife Research Institute, Inc. (WRI), in 2013. Aerial surveys via helicopter were conducted March 27 through March 29, and May 10, 2013. Golden eagle surveys were conducted throughout the Project Study Area and within an approximately 4-mile buffer from the edge of the existing WOD corridor. Due to the large territory size of golden eagles, and because the study also included inspection of known nest areas in the vicinity, the survey area extended substantially beyond the 4-mile spatial buffer to include suitable golden eagle habitat in parts of the Soboba Hills, San Jacinto Mountains, San Bernardino Mountains, and the Badlands of Moreno Valley. Surveys were conducted in accordance with the current USFWS *Interim Golden Eagle Inventory and Monitoring Protocols* (USFWS 2010) and the subsequent *Draft Eagle Conservation Plan Guidance* (USFWS 2011). March surveys were scheduled to coincide with late courtship and/or egg-laying and focused on identifying any areas with suitable golden eagle nesting habitat (e.g., cliffs with flat ledges or shallow cavities) with possible nesting substrate (e.g., nest decorations or leafy green branches). The May survey focused on golden eagle nests found during the March surveys to record any reproductive efforts made by the eagles and count any possible chicks. Other significant wildlife observed was also noted.

Nest site and other location-specific data were documented using handheld GPS units. All active golden eagle nests were photographed using optically-stabilized zoom lenses. Some other raptor nests were also documented with GPS and photographs.

See Appendix K, Golden Eagle Survey Report, for the 2013 golden eagle report including the full methodologies used.

3.2.12 Rodent Habitat Assessment and Focused Trapping Surveys

Habitat assessments were conducted in 2012 and 2013 prior to conducting small mammal trapping within the Project Study Area. Examination of aerial images to locate suitable habitat was followed up by ground visits to many areas to identify the most promising trapping sites for the target species. Protocol surveys consisted of five consecutive nights of trapping at each location. USFWS protocol states that trapping may be terminated if the target species is captured. Traps were usually arranged in one to several lines placed in the most appropriate microhabitats for the target species. Each trap was opened and baited at dusk, checked near mid-night, and checked and closed at dawn. All animals were identified and released unharmed where they were captured.

The 2012 effort involved 110 nights of trapping from March 4 through September 13 at 25 locations, for a total of 18,145 trap nights. A total of 60 nights and 9,785 trap nights were focused on Stephens' kangaroo rat (*Dipodomys stephensi*), 52 nights and 8,660 trap nights targeted the Los Angeles pocket mouse (*Perognathus longimembris brevinasus*), and 18 nights and 3,175 trap nights were focused on the Palm Springs pocket mouse (*Perognathus longimembris bangsi*). Note that more than one species was targeted at some locations. In 2013, protocol trapping was conducted for 35 nights from April 15 through May 31 at 7 locations, for a total of 4,350 trap nights. All 35 nights and 4,350 trap nights were focused on Stephens' kangaroo rat, with 20 nights and 2,100 trap nights also targeting the Los Angeles pocket mouse.

All LSA personnel conducted trapping pursuant to LSA's USFWS Permit TE-777965-9 (April 8, 2008–April 7, 2012) and TE-777965-10 (March 22, 20013–March 21, 2017) and a CDFW attachment to Scientific Collecting Permit SC-000777 providing Conditions for Research on Listed Mammals (September 30, 2009–April 30, 2012 and November 27, 2012–January 31, 2017). Trapping by Dudek's Philippe Vergne was conducted pursuant to USFWS Permit TE-068072-3 and a CDFW Memorandum of Understanding providing conditions for research on listed and other special-status mammals.

See Appendix L, Special-Status Rodent Trapping Survey Report, for the 2012 and 2013 small mammal focused surveys summary report, including the full methodology used.

3.2.13 Bat Habitat Suitability Assessment

In 2012, a reconnaissance-level bat habitat suitability assessment was conducted along the length of the proposed WOD corridor; specifically, the study area included the existing WOD corridor with a 500-foot buffer. Potential bat roosting sites were initially identified by examining aerial imagery (e.g., Google and Bing online maps) for the presence of any mature trees, rock cliffs, boulders, and anthropogenic structures such as bridges, culverts, and buildings. In addition, LSA biologists noted the locations of any potential roosting and foraging habitat observed while conducting various wildlife and botanical surveys within the study area.

On December 10, 2012, a site visit was conducted by LSA Senior Biologist and bat specialist Jill Carpenter and LSA Senior Biologist Ingri Quon to confirm the suitability of the locations identified on aerial maps or by various biologists in the field as containing roosting habitat, to more closely examine these potential roosting areas, and to determine if any other suitable sites are present within the study area. Due to safety issues and/or access restrictions such as fencing, many of the observed structures could not be approached and examined for bats or sign (e.g., guano, urine staining, or vocalizations) of bats. In addition, potential roost sites in locations where the 500-foot buffer included commercial or residential areas were not visited due to restrictions associated with trespassing on private property.

Potential foraging habitat was assessed on the basis of vegetation composition, existence of adjacent foraging or roosting habitat, and/or the presence of a water source, while potential day- and night-roosting sites were identified through the examination of mature or dead trees and anthropogenic structures such as culverts for suitable crevices and cavities that may be suitable for roosting as well as any presence of bat sign (e.g., guano, urine staining, or vocalizations). Large trees within the study area that are suitable for foliage-roosting species were noted, but roosting activity at these locations could not be confirmed during the assessment due to the nature of this roosting behavior (these species tend to roost singly, beneath leaves, and may roost in a different location each night).

In 2013, a reconnaissance-level bat habitat suitability assessment was conducted for areas added to the Proposed Project subsequent to the 2012 assessment. These additional areas included access roads, subtransmission and telecommunication lines, and staging yards, and were assessed using the methods described above. Site visits were conducted on April 3 and 4, 2013, by LSA Senior Biologist and bat specialist Jill Carpenter, concurrently with burrowing owl surveys, to more closely examine some of the potential roosting areas that had been previously identified by other biologists conducting wildlife surveys. Potential roosting areas identified during review of aerial imagery were also examined where feasible.

In June 2013, the CDFW Commission proposed the Townsends's big-eared bat for listing as endangered. During this one-year comment and review period, the species will be afforded all of the protections given to a fully listed endangered species. However, the CDFW is currently working on protocols for Townsend's big-eared bat focused surveys, and therefore no protocol surveys for this species were conducted for the Proposed Project.

See Appendix M, Bat Habitat Assessment Report, for the bat habitat suitability assessment report, including the full methodology used.

3.2.14 Jurisdictional Drainage Assessment and Mapping

A drainage assessment was prepared by LSA to identify and map drainage features, determine the maximum extent of Proposed Project effects, and to provide data for the development of final engineering plans so drainage features may be avoided if possible. Regulatory considerations addressed in this assessment include the following: Section 404 of

the CWA, Streambed Alteration Agreement (SAA) Notification processing under Section 1600 of the California Fish and Game Code, and Certification of Water Quality or Waste Discharge Requirements under Section 401 of the CWA.

For this assessment, the term "drainage features" was used to identify all features with water flow patterns and includes both potentially jurisdictional defined drainage courses, and non-jurisdictional features such as swales or rills. Additionally, potentially jurisdictional defined drainage courses will be referred to simply as "drainages."

The drainage assessment in the Project Study Area for 2012 surveys included the SCE ROW with a 200-foot buffer for assessing drainage features and a 500-foot buffer for mapping riparian vegetation. Additionally, for 2013 surveys, the Project Study Area included areas unmapped during the 2012 assessment surveys. These new areas included buffers associated with telecommunication lines, subtransmission lines, temporary staging yards, and the Alternative Project on the Reservation, as well as along access roads intended for use within the Proposed Project. These areas included a 100-foot buffer around telecommunication lines, subtransmission lines, and staging yards; a 200-foot or 250-foot buffer along existing or proposed access roads, respectively, for assessing drainage features; and a 500-foot buffer for mapping riparian vegetation.

The drainage assessments along the existing WOD corridor involved pedestrian surveys performed between April 16 and September 20, 2012. A subsequent drainage assessment for the project components outside of the ROW, such as external access roads, staging yards, and project-related potential disturbance areas was conducted between March 4 and May 20, 2013. Drainage assessment surveys for the western portion of the Reservation and the Alternative Project were conducted on May 16, 2013. In August and September of 2013, lands between the 200-foot and 500-foot ROW buffers for all segments and the V-shaped relocated distribution line in Segment 1 (Appendix O, Land Cover Figure, labeled as 'Not Surveyed for Biological Resources') were assessed for drainage features using Google Earth and Bing aerial imagery; therefore, these areas were not surveyed as pedestrian surveys. If needed, during the routine jurisdictional delineation, these areas can be visited and mapped using final engineering plans.

A drainage assessment consists of a preliminary determination of the location of potentially jurisdictional waters and is not a complete routine jurisdictional delineation. In the field, the drainage features were typically recorded with average widths and depths for the entire drainage. A single line was drawn on an aerial photograph and then digitized to show the general centerline for each drainage feature, including very wide drainages. Thus, the exact drainage extent or area (polygon mapping) was not determined as would be done for a routine delineation, which could be used for a more precise determination of impacts.

Most of the drainage features were assessed for characteristics such as width and vegetation in the field during pedestrian surveys, with drainage characteristics recorded on data sheets, locations marked on aerial field maps, and representative drainage features photographed.

Google and/or Bing aerial imagery was used to facilitate or augment the assessment of drainages that were extensive and/or difficult to access, but this was implemented only occasionally when drainages were too steep to access or too wide to measure with a tape or accurately estimate. Aerial imagery was used primarily in the San Gorgonio River drainage area in Segment 5 to locate drainage boundaries and then determine estimated average drainage widths. This aerial imagery was also used to assess potential connections to a TNW by following the path of water flow for the drainage features that continued outside the Project Study Area; in this way, jurisdictional status was evaluated (e.g., drainages that appeared to connect to a TNW were considered to potentially be subject to USACE jurisdiction).

See Appendix N, Drainage Assessment Report, for the jurisdictional drainage assessment survey results, including the full methodology used and all mapped drainage features.

3.2.14.1 Western Riverside County MSHCP Riparian/Riverine/Vernal Pool Areas

Potential riparian/riverine/vernal pool areas as defined in the WR-MSHCP (see Section 2.5.15, Regional Conservation Plans) were assessed during the drainage assessment surveys described in Section 3.2.3, Jurisdictional Drainage Assessment and Mapping, or the fairy shrimp habitat assessment surveys described in Section 3.2.7, Fairy Shrimp Habitat Assessment and Protocol Surveys.

- **Riparian/Riverine:** Any riparian/riverine areas that could potentially meet the WR-MSHCP criteria and were within the WR-MSHCP portions of the Project Study Area and survey buffers, were mapped during the drainage assessments conducted in 2012 and 2013.
- **Vernal Pools:** Any ephemeral vernal pools that could potentially meet the WR-MSHCP vernal pool criteria and were within the WR-MSHCP portions of the Project Study Area and survey buffers, were mapped during the fairy shrimp habitat assessment surveys conducted during wet seasons of 2011, 2012, and 2013.

The locations of the riparian/riverine and pool areas are shown in Appendix N, Drainage Assessment Report. However, none of these ephemeral pool areas are considered vernal pools.

3.2.14.2 Coachella Valley MSHCP Desert Wetland Communities

Any wetland communities that could potentially meet the CV-MSHCP criteria (see Section 2.5.15, Regional Conservation Plans) for a desert wetland and were within the CV-MSHCP portions of the Project Study Area and survey buffers were mapped during the drainage assessments conducted in 2012 and 2013. Locations of potentially jurisdictional drainage features occurring within the CV-MSHCP portion of the Project Study Area are shown in Appendix N, Drainage Assessment Report.

3.3 Limitations That May Influence Results

The collection of biological field data can be influenced by several factors including environmental reasons or access issues that cannot be reliably predicted or controlled. Consequently, the interpretation of field data must be conservative and consider the uncertainties and limitations imposed by the environment and human actions. However, due to the experience and qualifications of the consultant biologists involved in the surveys, repeated visits to the same area during protocol surveys for a single species (California gnatcatcher surveys require six passes) and the visits made by different field survey teams (drainage assessment, fairy shrimp, California gnatcatcher, burrowing owl), literature searches of databases, and survey data from previous reports and multiple recent surveys, these limitations are not expected to severely influence the results or substantially alter the findings.

The following limitations applied during the 2011, 2012, and/or 2013 biological resource surveys:

- Complete pedestrian coverage was not always feasible for such surveys as burrowing owls and drainage assessments. Dense vegetation, steep terrain, or restricted access were the main reasons for these instances. However, the limitations presented did not substantially curtail the full detectability of the resource that was being surveyed for. For example, if during the desert tortoise survey the terrain was too steep for biologists to safely maneuver, then due to the locomotive limitations of the study species, the terrain would also be unsuitable for desert tortoises. See the above survey method descriptions for survey-specific information.
- Access to the Reservation, which includes most of Segment 5, was not granted until late in the 2012 spring survey season (June). Therefore, focused surveys did not always follow the optimal or protocol schedule. This was the case for plants, burrowing owl, and, to a certain extent, general raptor surveys.
- Riparian bird surveys in the San Gorgonio River and the adjacent aggregate mine (Robertson's Plant No. 66) were not initiated at the protocol start time since the gate to the mine area was not open, but focused surveys were completed by the protocol ending time.
- Drainage assessment fieldwork was limited in some areas due to the inaccessibility of some drainages. For example, some drainages continued onto privately owned land that could not be entered or some drainage areas were physically difficult to access as in the case of steep slopes with loose soil. Additionally, some drainages were either too large or their banks too steep for specific field width measurements to be taken; in such cases, widths were assessed using aerial images (Google, Bing).

4.0 RESULTS

The results of the focused surveys and mapping efforts to inventory the biological resources in the Project Study Area, described above in Section 3.0, Methodology, are summarized below and are represented in Appendix O, Land Cover Figure, through Appendix Q, Wildlife Species Detected List. The focused survey reports can be found in Appendix D, Botanical Resources Assessment Reports, through Appendix N, Drainage Assessment Report.

4.1 Land Cover

The Project Study Area consists of several types of land cover as classified for this report. For example, these cover types include natural vegetation communities, developed and agricultural lands, and areas of open water. Additionally, within each vegetation community, there may exist several alliances or stands with similar species, but with different compositions. Vegetation identified during the 2012 and 2013 plant surveys was mapped at the alliance/stand and association level (refer to the Appendix O, Land Cover Figure, for mapping at the alliance/stand and association level). The alliances and stands that make up each vegetation community and the acreage of each vegetation community located within the Project Study Area are listed below in Table 4-1, Land Cover Types within the Project Study Area.

Several fires in 2013 occurred after the biological resource surveys and the vegetation mapping were conducted, thereby modifying a small portion of the Project Study Area and immediate vicinity. According to the California Department of Forestry and Fire (CALFIRE) and Google maps (Google 2013), there have been three recent fires within 1 mile of or within the Project Study Area (CALFIRE 2012).

One fire burned within Segment 4 of the Project Study Area. The Summit Fire began north of the City of Banning on the afternoon of May 1, 2013, and was contained on the evening of May 4, 2013. The fire burned 3,166 acres in the vicinity of Mias Canyon and Bluff Road and the fire's southwest edge crossed into the Project Study Area (*Banning-Beaumont Patch* 2013*)*. A mapped range of this fire can be found in Appendix O, Land Cover Figure.

Two fires burned land cover within 1 mile of the Project Study Area. The Viper Fire started near Viper Road along the southern edge of San Timoteo Canyon Road just west of Redlands Boulevard and north of the City of Moreno Valley. The 42-acre fire began on June 8, 2013, and was contained the same day. The small fire was centrally located in Segment 3 within 500 feet of the existing WOD corridor. The Redlands Fire started just west of Redlands Boulevard south of San Timoteo Canyon Road and north of the City of Moreno Valley. The 150-acre fire began on July 16, 2013, and was contained the next day. The small fire was centrally located in Segment 3 within 0.25 mile of the existing WOD corridor. For purposes of this assessment, it is assumed that the burned areas will recover to approximately the pre-

fire condition as represented by the vegetation mapping shown in Appendix O, Land Cover Figure.

Table 4-1: Land Cover Types within the Project Study Area

Vegetation Community Land Cover Type	Alliances and Similar Categories	Acreage within the Proposed Project Study Area
Alluvial Scrub	*Ericameria paniculata* Shrubland Alliance (2 associations) *Lepidospartum squamatum* Shrubland Alliance (3 associations)	386.0
Chaparral	*Adenostoma fasciculatum* Shrubland Alliance (2 associations) *Adenostoma fasciculatum/Artemisia californica* Shrubland Alliance (8 associations) *Adenostoma fasciculatum/Ceanothus perplexans* Shrubland Alliance (3 associations) *Adenostoma fasciculatum/Eriogonum fasciculatum* Shrubland Alliance *Adenostoma fasciculatum/Salvia mellifera* Shrubland Alliance	576.8
Coast Live Oak Woodland	*Quercus agrifolia* Woodland Alliance	49.0
Coastal Sage Scrub	*Artemisia californica* Shrubland Alliance (2 associations) *Artemisia californica-Salvia mellifera* Shrubland Alliance *Ceanothus perplexans* Shrubland Alliance *Encelia farinosa* Shrubland Alliance (16 associations), in part *Encelia farinosa-Eriogonum fasciculatum* Shrubland Alliance (2 associations) *Ericameria palmeri* Shrubland Alliance *Eriogonum fasciculatum* Shrubland Alliance (5 associations) *Keckiella antirrhinoides* Shrubland Alliance (3 associations) *Rhamnuc crocea* Shrubland Alliance (2 associations) *Rhus ovata* Shrubland Alliance (3 associations) *Rhus trilobata* Shrubland Alliance *Toxicodendron diversilobum* Shrubland Alliance	1,373.9
Desert Scrub	*Ambrosia dumosa* Shrubland Alliance (2 associations) *Encelia farinosa* Shrubland Alliance (16 associations), in part *Encelia farinosa-Ephedra* Shrubland Alliance (3 associations) *Larrea tridentata* Shrubland Alliance (7 associations) *Senegalia greggii* Shrubland Alliance (3 associations) *Stillingia linearis* Shrubland Alliance *Thamnosma montana* Shrubland Alliance *Yucca schidigeria* Shrubland Alliance	3,345.2
Grassland/Forbland	*Bromus* Semi-Natural Herbaceous Stands (6 stand types) *Juncus mexicanus* Herbaceous Alliance *Amsinkia* Herbaceous Alliance (2 associations) California Herblands (3 associations) *Corethrogyne filaginifolia* Herbaceous Alliance *Croton californicus* Herbaceous Alliance *Brassica* and Other Mustards Semi-Natural Herbaceous Stands (2 stand types)	2,490.1
Open Water		10.3

Table 4-1: Land Cover Types within the Project Study Area

Vegetation Community Land Cover Type	Alliances and Similar Categories	Acreage within the Proposed Project Study Area
Riparian Woodland	*Chilopsis linearis* Riparian Woodland Alliance *Populus fremontii* Forest Alliance *Salix laevigata* Woodland Alliance	145.1
Agriculture	Active horticulture/agriculture Fallow agricultural field	441.2
Developed/ Disturbed	Developed Developed – Parkland Developed – Rural Residence Developed – Urban Residential Developed/Disturbed/Disturbed	3,432.4
Total		**12,249.9**

4.1.1 Forbland/Grassland

The Forbland/Grassland habitat group consists of herbaceous, nonwoody plant communities and is dominated by nonnative annual forbs and grasses. Although forbland is dominated by nonnative species, it provides suitable habitat for native special-status plant and animal species. Therefore, it is included in this discussion as a "natural" community.

Forbland and Grassland are scattered throughout the Project Study Area and are often encountered in transitional areas associated with some type of disturbance, such as development, wildfire, or livestock grazing. Dominant plant species found within the Forbland/Grassland habitat include fiddleneck (*Amsinckia* spp.), common sandaster (*Corethrogyne filaginifolia*), California croton (*Croton californicus*), short-pod mustard (*Hirschfeldia incana*), chess grasses (*Bromus* spp.), and Mexican rush (*Juncus mexicanus*).

Passerine and raptor species along with a few mammal species were commonly found wildlife found in the Forbland/Grassland habitat type, which includes habitat in much of the San Timoteo Badlands (Segments 2 and 3) and land west of the City of Beaumont (Segments 1 through 4). Frequently detected species during 2011–2013 surveys in this low-growing habitat included foraging red-tailed hawk (*Buteo jamaicensis*), American kestrel (*Falco sparverius*), western meadowlark (*Sturnella neglecta*), lark sparrow (*Chondestes grammacus*), California ground squirrel (*Spermophilus beecheyi*), Audubon's cottontail (*Sylvilagus audubonii*), deer mouse (*Peromyscus maniculatus*), and coyote (*Canis latrans*).

4.1.2 Chaparral

The Chaparral habitat group within the Project Study Area is dominated by dense evergreen shrubs with sclerophyllous (small and leathery) leaves that can form impassable thickets measuring 4 to 8 feet in height (Rundel and Gustafson 2005). It is most common in Segments 2, 3, and 4 and occurs mainly on north-facing slopes and hilltops. Fire and invasive species

affect portions of this community. Dominant plant species found within the Chaparral habitat include chamise (*Adenostoma fasciculatum*), California sagebrush (*Artemisia californica*), cupped leaf ceanothus (*Ceanothus greggii* var. *perplexans*), California buckwheat (*Eriogonum fasciculatum*), and black sage (*Salvia mellifera*).

Avian species were common in the Chaparral habitat types, which include portions of the San Timoteo Badlands (Segments 2 and 3) and the hills north of the Cities of Beaumont and Banning (Segments 1 through 5). Frequently detected species during 2011–2013 surveys in chaparral included western toad (*Anaxyrus boreas*), California quail (*Callipepla californica*), Anna's hummingbird (*Calypte anna*), western scrub-jay (*Aphelocoma californica*), wrentit (*Chamaea fasciata*), spotted towhee (*Pipilo maculatus*), big-eared woodrat (*Neotoma macrotis*), striped skunk (*Mephitis mephitis*), and mule deer (*Odocoileus hemionus*).

4.1.3 Desert Scrub

The Desert Scrub habitat group consists of a mosaic of several habitat types, characterized by openly spaced, low-growing shrubs adapted to very arid conditions. Specifically, the habitat types identified in the Project Study Area are Catclaw Scrub, Creosote Bush Scrub, Desert Brittlebush Scrub, Mojave Yucca Scrub, and White Bursage Scrub habitats. These habitats have similar species composition within them, but are differentiated from each other based on the dominant plant species found within each.

Some of the dominant plant species found within the Desert Scrub habitat group in the Project Study Area include white bursage (*Ambrosia dumosa*), brittlebush (*Encelia farinosa*), catclaw (*Acacia greggii*), Mormon tea (*Ephedra* spp.), Mojave rabbitbrush (*Ericameria paniculata*), creosote bush (*Larrea tridentata*), narrow-leaved stillingia (*Stillingia linearifolia*), turpentine broom (*Thamnosma montana*), and Mojave yucca (*Yucca schidigera*).

Wildlife species were numerous in the Desert Scrub, which includes most of the vegetation east of the City of Banning (Segment 5) including the San Gorgonio River area (Segment 5) and Whitewater River area (Segment 6). Frequently detected species during 2011–2013 surveys in desert scrub included common side-blotched lizard (*Uta stansburiana*), common raven (*Corvus corax*), cactus wren (*Campylorynchus brunneicapillus*), long-tailed pocket mouse (*Chaetodipus formosus*), and desert woodrat (*Neotoma lepida*).

4.1.4 Coastal Sage Scrub

Coastal sage scrub is generally a patchy vegetation community that forms mosaics that increase habitat diversity. It is dominated by a suite of shrub species with low moisture content. Shrub cover is dense and often continuous, while other areas are sparse due to rocky outcrops, preventing dense growth. Steep, xeric slopes and quickly draining soils characterize the Coastal Sage Scrub community. Annual herbs, including weedy grasses and forbs and native wildflowers, are common in openings and disturbed areas. Coastal sage scrub

communities are generally of conservation concern, and one alliance (*Keckiella antirrhinoides* Shrubland Alliance) of the scrub community in the Project Study Area is of conservation concern and is rated G3/S3 by the CDFW, denoting that it is considered vulnerable and at moderate risk of extinction.

Coastal Sage Scrub is a broad category that refers to several different kinds of scrub communities that are dominated by drought-deciduous shrubs. Many of these communities share similar plant species with slight variations due to climatic influences (e.g., the direction the slope is facing). Dominant plant species found within Coastal Sage Scrub include California sagebrush, black sage, ceanothus (*Ceanothus* sp.), brittlebush, California buckwheat, Palmer's goldenbush (*Ericameria palmeri*), snapdragon penstemon (*Keckiella breviflora*), scalebroom (*Lepidospartum squamatum*), redberry (*Rhamnus crocea*), sugar bush (*Rhus ovata*), fragrant sumac (*Rhus aromatica*), and poison oak (*Toxicodendron diversilobum*).

Wildlife species were common in the Coastal Sage Scrub habitat types, which include portions of the San Timoteo Badlands, especially in the westernmost section (Segments 2 and 3) and the hills west of the City of Beaumont (Segments 2 through 4). Frequently detected species during 2011–2013 surveys in Coastal Sage Scrub included western fence lizard (*Sceloporus occidentalis*), common side-blotched lizard, Anna's hummingbird, western scrub-jay (*Aphelocoma californica*), California towhee (*Melozone crissalis*), white-crowned sparrow (*Zonotrichia leucophrys*), big-eared woodrat, Audubon's cottontail, coyote, and mule deer.

4.1.5 Coast Live Oak Woodland

The Coast Live Oak Woodland vegetation community is dominated by coast live oaks (*Quercus agrifolia*). It is rare in the Project Study Area, occurring predominantly in or adjacent to drainages and slopes. The understory consists predominantly of grasses and forbs similar to those vegetation communities.

Wildlife species were particularly concentrated in the Riparian Woodland dominated by willows or Oak Woodland habitat types. San Timoteo Creek and tributaries (Segment 4), the unnamed canyon north of Theodore Street in the City of Banning (Segment 4), and the San Gorgonio River (Segment 5) are vegetated with one or both of these habitat types. Frequently detected species during 2011–2013 surveys in woodland areas included Cooper's hawk (*Accipiter cooperii*), acorn woodpecker (*Melanerpes formicivorus*), oak titmouse (*Baeolophus inornatus*), black phoebe (*Sayornis nigricans*), common yellowthroat (*Geothlypis trichas*), song sparrow (*Melospiza melodia*), and big-eared woodrat.

4.1.6 Riparian Woodland

Riparian woodlands present within the Project Study Area include woodlands dominated by desert willow (*Chilopsis linearis*), Fremont cottonwood (*Populus fremontii*), or red willow

(*Salix laevigata*). Riparian woodlands can be found along drainage channels where surface or subsurface water remains throughout the year.

Common wildlife species found in the Riparian Woodland vegetation community were similar to those found in the Oak Woodland community. Frequently detected species during 2011–2013 surveys in woodland areas included Cooper's hawk, black phoebe, common yellowthroat, song sparrow, and big-eared woodrat.

4.1.7 Alluvial Scrub

The Alluvial Scrub vegetation community consists of a mosaic of several habitat types, characterized by openly spaced, low-growing shrubs adapted to intermittent or rarely flooded areas along washes, streams, and fans. In the Project Study Area, the dominant plant species found include mule fat (*Baccharis salicifolia*), scalebroom, cheesebush (*Ambrosia salsola*), and non-native grasses and forbs.

Common wildlife species found in the Alluvial Scrub vegetation community included many species found in the Desert Scrub and Coastal Sage Scrub communities.

4.1.8 Agricultural Land

Agricultural Land is primarily composed of active or recently active crop fields and groves/ orchards. These areas contain both purposely planted species and undesired "volunteer" species and are almost always nonnative species. Commonly present are nonnative annual plants known to be promoted by mechanical disturbances to the soil, but also possible are special-status plant and animal species that are tolerant of nonnative habitats. Although Agricultural Land is dominated by nonnative species, it provides suitable habitat for some native special-status plant and animal species. Therefore, it is included in this discussion as a "natural" community.

Passerine and raptor species were the most commonly detected wildlife species found in the agricultural land type, which includes habitat in San Bernardino County (Segment 1) and land west of the City of Beaumont (Segment 4). Frequently detected species during 2011–2013 surveys associated with orchard (e.g., oranges) and other cultivated areas (e.g., rangeland) and ornamental vegetation included red-tailed hawk, American kestrel, house finch (*Haemorhous mexicanus*), California ground squirrel, deer mouse, and coyote.

4.1.9 Developed/Disturbed

This land cover consists of developed areas such as paved roads, ornamental vegetation, and commercial and residential properties. It has limited value, but some areas provide habitat for urban-adapted species, such as Cooper's hawk, black phoebe, house finch, and Audubon's cottontail.

4.1.10 Open Water

Open water bodies are located at four locations within the Project Study Area and vicinity.

- In Segment 3, a detention basin is found just north of the San Timoteo Landfill and south of San Timoteo Canyon Road along Refuse Road. The basin is surrounded by riparian woodland vegetation and may occasionally lack surface water.
- In Segment 3, the El Casco Lakes (approximately 12 acres) are located on the south side of San Timoteo Canyon Road. These two adjacent Riverside Land Conservancy-maintained lakes are used for recreational fishing and are currently planned to be emptied or allowed to return to a natural state due to costly maintenance. This change may have implications for foraging wildlife (see Section 4.4, Native Special-Status Wildlife Species).
- In Segment 3, approximately 0.6 mile to the east of El Casco Lakes along San Timoteo Canyon Road are three adjacent lakes (approximately 24 acres total) that are part of Fisherman's Retreat, a Halo Resort campground and stocked fishing area.
- In Segment 5, water from the Robertson's Ready-Mix Plant 66 (rock and sand mine) is discharged into an inactive portion of the mine. The water level is variable and may occasionally lack surface water, but can include emergent riparian vegetation. The surface water area can vary from approximately 1 to 6 acres.

4.2 Invasive Plant Species

Approximately 71 percent of the plant species found in the Project Study Area are native while 29 percent are nonnative (BRC 2013). Forty of the nonnative species found in the Project Study Area are considered invasive (Ibid.), meaning that they are nonnative species that can spread into wildlands and displace native species, hybridize with native species, alter biological communities, or alter ecosystem processes (Cal-IPC 2013).

The invasive species found within the Project Study Area are most notably within Segments 2, 3, and 4 where overgrazing and other disturbances have resulted in considerable displacement of natural constituents with nonnative elements.. The vegetation communities in these segments are generally dominated by nonnative annuals, predominantly species from the grass family (*Bromus*) and the mustard family (*Brassica*). Although natural vegetation in other portions of the Project Study Area is generally less disturbed and has a greater proportion of native vegetative cover, invasive species are common throughout the Project Study Area. The Project Study Area does not have any wildland areas that are largely free from invasive species.

The California Invasive Plant Council (Cal-IPC) Invasive Plant Inventory identifies nonnative plants that are serious problems in wildlands, and categorizes them as High, Moderate, or Limited invasive based on the species' negative ecological impact in California.

Plants categorized as High have severe ecological impacts. Plants categorized as Moderate have substantial and apparent, but not severe, ecological impacts. Plants categorized as Limited are invasive, but their ecological impacts are minor on a statewide level. Of the 40 invasive plant species observed within the Project Study Area, 8 species are categorized as High, 18 are categorized as Moderate, and 14 are categorized as Limited. Species observed within the Project Study Area that are categorized as High are giant reed (*Arundo donax*), Sahara mustard (*Brassica tournefortii*), red brome (*Bromus madritensis* ssp. *rubens*), cheat grass (*Bromus tectorum*), sweet fennel (*Foeniculum vulgare*), Himalayan blackberry (*Rubus armeniacus*), Spanish broom (*Spartium junceum*), and Mediterranean tamarisk (*Tamarix ramosissima*). Of these, red brome, cheat grass, and Sahara mustard were observed in grassland and scrub areas throughout the Project Study Area. The remaining species were only observed in isolated patches.

These species have naturalized and are now found throughout the region; therefore, new invasive plants are unlikely to be introduced as a result of the Proposed Project activities. Invasive species may spread locally, however, in response to Proposed Project-related disturbance. Of note, the CV-MSHCP (Section 4.5) and the WR-MSHCP (Section 6.1.4) both list invasive plants that should be avoided in plantings near conserved habitat.

4.3 Native Special-Status Plant Species

The 2012 and 2013 plant surveys identified 393 species, subspecies, or varieties of plants. Table 4-2, Special-Status Plant Species Potentially Occurring or Known to Occur, includes the status and habitat descriptions of special-status plant species known from or potentially occurring in the project vicinity. For species not observed during surveys, the potential for their occurrence was determined by biologists knowledgeable about each species based on the species' habitat requirements, range (including elevation), and previously recorded observations within the region.

Appendix P, Special-Status Species Observations Figure, shows where listed and state designated species of special concern were observed during surveys conducted between 2011 and 2013.

The following list describes the expected occurrence of special-status plant species:

- **Observed:** Species documented during biological surveys either conducted previously for SCE within the immediate vicinity of the Project Study Area or from surveys conducted for the Proposed Project in late 2011 through mid-2013.
- **High Potential:** Species identified in the literature search or known to occur in the region and suitable habitat is present within the Project Study Area. These species are generally common and/or widespread in the Project Study Area and vicinity.
- **Moderate Potential:** Species identified in the literature search or known to occur in the region, suitable habitat is present within the Project Study Area. These species are

generally less common and/or widespread than those considered with a High Potential in the Project Study Area and vicinity.

- **Low Potential:** Species identified in the literature search or known to occur in the region, but the Project Study Area is outside of the species known range or elevation or habitat is generally unsuitable.
- **Not Expected:** Species identified in the literature search or known to occur in the region, but which are absent from the Project Study Area because the Project Study Area is outside of their known range or elevation, suitable habitat is lacking in the Project Study Area, or the species was not observed during focused surveys and would have been conspicuous (e.g., perennial plant species).

4.3.1 Federally Listed Plant Species

Eleven of the special-status plant species described in Table 4-2, Special-Status Plant Species Potentially Occurring or Known to Occur, are federally listed as endangered, threatened, or are a candidate species under FESA. None of these species is expected to occur within the Project Study Area; however, the Project Study Area does pass through federally designated critical habitat for Coachella Valley milk-vetch.

4.3.1.1 Munz's Onion

Munz's onion is a federally listed endangered species, a State listed threatened species, a BLM Sensitive Species, and is a covered species under the WR-MSHCP. Munz's onion is a perennial bulbiferous herb that occurs in chaparral, coastal scrub, cismontane woodland, pinyon-juniper woodland, and valley and foothill grassland. It is usually found in heavy clay soils at an elevation range of 900 to 3,210 feet amsl. In western Riverside County, it is known only from the Temescal Canyon, Gavilan Plateau, and Skunk Hollow areas. Munz's onion was not observed during surveys conducted in 2012 and 2013, and the Project Study Area is outside of the known range of the species. Therefore, Munz's onion is not expected to occur.

4.3.1.2 San Diego Ambrosia

San Diego ambrosia is a federally listed endangered species, a BLM Sensitive Species, and is a covered species under the WR-MSHCP. San Diego ambrosia is a perennial rhizomatous herb that occurs in chaparral, coastal scrub, valley and foothill grassland, and vernal pools. It is usually found in sandy loam or clay soils in disturbed areas at an elevation range of 60 to 1,245 feet amsl. It is known from western Riverside and western San Diego Counties. San Diego ambrosia was not observed during surveys conducted in 2012 and 2013 and being a perennial herb, this species would have been conspicuous had it been present. Additionally, the Project Study Area is outside known range of the species. Therefore, San Diego ambrosia is not expected to occur.

Table 4-2: Special-Status Plant Species Potentially Occurring or Known to Occur

Species	Status	Habitat and Distribution	Blooms	Occurrence Probability
Abronia villosa var. *aurita* **Chaparral sand-verbena**	US: – CA: 1B BLM: S MSHCP: –	Sandy areas in chaparral and coastal sage scrub and improbably in desert dunes or other sandy areas, below 5,300 feet elevation. In California, reported from Riverside, San Diego, Imperial, Los Angeles, and Ventura Counties. Believed extirpated from Orange County. Also reported from Arizona and Mexico (Baja California). Plants reported from desert communities are likely misidentified.	Blooms mostly March through August (annual or perennial herb)	**Observed.** Observed during surveys in 2012 and 2013 (BRC 2013).
Acmispon (Lotus) haydonii **Pygmy lotus**	US: – CA: 1B BLM: S MSHCP: –	Found in rocky sites in Pinyon-Juniper Woodland and Sonoran Desert Scrub; 1,700 to 4,000 feet elevation.	January-June (perennial herb)	**Not Expected.** Outside known range of species and not observed during focused surveys. Nearest documented occurrences were in 1930 (CNDDB #15) in "Palm Springs" and in 1995 (CNDDB #95) west of Palm Desert, about 25 miles southeast of the Project Study Area.
Allium marvinii **Yucaipa onion**	US: – CA: 1B BLM: S MSHCP: WRS	Openings in clay soils in chaparral. Known only from the Yucaipa and Beaumont areas of the San Bernardino Mountains; 2,500 to 3,500 feet elevation.	Blooms April through May (perennial herb)	**Observed.** Observed during surveys in 2012 and 2013 (BRC 2013).
Allium munzii **Munz's onion**	US: FE CA: ST BLM: S MSHCP: WRS	On clay soils (generally) in openings within coastal sage scrub, pinyon juniper woodland, and grassland; 1,000 to 3,500 feet elevation. In western Riverside County known only in Temescal Canyon, Gavilan Plateau, and Skunk Hollow areas.	Blooms April through May (Perennial bulb)	**Not Expected.** Not observed during focused surveys. Outside known range of species. The nearest documented occurrence was in 1991(CNDDB #10) in the Domenigoni Hills, about 14 miles south of the Project Study Area.
Ambrosia monogyra **Singlewhorl burrobush**	US: – CA: 2 BLM: – MSHCP: –	Sandy soils in washes and ravines in chaparral and desert scrub below 1,640 feet elevation. In California, known from Riverside, San Bernardino, and San Diego Counties. Also occurs in Arizona, New Mexico, Texas, and Mexico.	Blooms August through November (perennial shrub)	**Not Expected.** Not observed during focused surveys. Perennial shrub would have been conspicuous. Likely extirpated from the project vicinity. Nearest documented occurrences were in 1919 (CNDDB #16) at "Palm Springs" and in 1926 in a now concrete-lined channel in Rialto, about 7 miles northwest of the Project Study Area.

Table 4-2: Special-Status Plant Species Potentially Occurring or Known to Occur

Species	Status	Habitat and Distribution	Blooms	Occurrence Probability
Ambrosia pumila **San Diego ambrosia**	US: FE CA: 1B BLM: S MSHCP: WRS	Occurs in open habitats, usually near drainages or vernal pools, usually in sandy loam or on clay (including upland clay slopes) from 70 to 1,600 feet elevation. Known from western Riverside and western San Diego Counties. Also occurs in Mexico.	Generally non-flowering (perennial herb)	**Not Expected.** Not observed during focused surveys. Perennial herb would have been conspicuous. Outside known range of species. Nearest documented occurrence was in 1940 (CNDDB occurrence #50) in "Riverside," mapped about 10 miles southwest of the Project Study Area.
Arenaria paludicola **Marsh sandwort**	US: FE CA: SE BLM: S MSHCP: –	Sandy soils in marshes from 10 to 560 feet elevation, where it grows up through mats of *Typha*, *Juncus*, *Scirpus*, etc. Known to presently occur only in San Luis Obispo County. Believed extirpated from Los Angeles, San Francisco, Santa Cruz, Riverside, and San Bernardino Counties, and from the State of Washington. The last known record of this species in Riverside, San Bernardino, or Los Angeles Counties is from 1900.	Blooms May through August (perennial herb)	**Not Expected.** Not observed during focused surveys. Believed extirpated from Riverside and San Bernardino Counties.
Astragalus hornii var. hornii **Horn's milk-vetch**	US: – CA: 1B BLM: S MSHCP: –	Alkaline playas and lake margins from 200 to 2,800 feet elevation. In California, known only from Inyo and Kern Counties. Believed extirpated from San Bernardino County. Also occurs in Nevada.	Blooms May through October	**Not Expected.** Not observed during focused surveys. Believed extirpated from project vicinity.
Astragalus lentiginosus var. *coachellae* **Coachella Valley milk-vetch**	US: FE CA: 1B BLM: S MSHCP: CVC	Sandy areas, typically in coarse sands in active sand fields, adjacent to dunes, along roadsides in dune areas, or along the margins of sandy washes, in Sonoran Desert scrub at 200 to 2,150 feet elevation. Known only from Riverside County in the Coachella Valley between Cabazon and Indio, and in the Chuckwalla Valley northeast of Desert Center.	Blooms February through May (annual or perennial herb)	**Not Expected.** Not observed during focused surveys. Nearest documented occurrences were in 1904 (CNDDB #54) at "Banning" and in recent years (CNDDB occurrences #15, #49, and #50) along Highway 111 and the adjacent foothills about 1 mile south of the Project Study Area. Not known from portions of the Whitewater River or other washes within or upstream of the Project Study Area.

Table 4-2: Special-Status Plant Species Potentially Occurring or Known to Occur

Species	Status	Habitat and Distribution	Blooms	Occurrence Probability
Astragalus pachypus var. *jaegeri* **Jaeger's milk-vetch**	US: – CA: 1B BLM: S MSHCP: WRC	Sandy or rocky sites in chaparral, coastal sage scrub, grassland, and oak; known from northern San Diego and western Riverside Counties, from 1,200 to 3,000 feet elevation.	Blooms December through June (perennial shrub)	**Not Expected.** Not observed during focused surveys. Nearest documented occurrences were in 1897 (CNDDB #15) at "Beaumont," in 1904 (CNDDB #15) at "Banning," and in 1989 (CNDDB #3), in a canyon west of Portrero Creek about 1.6 miles south of the Project Study Area.
Astragalus tricarinatus **Triple-ribbed milk-vetch**	US: FE CA: 1B BLM: S MSHCP: CVC	Metamorphic rock outcrops weathering into gravelly soil in semi-desert chaparral, or (probably as waifs) at the edges of boulder-strewn desert washes and adjacent slopes in rocky incised canyons in Joshua tree woodland and Sonoran Desert scrub; known from west edge of desert at 1,500 to 3,900 feet elevation in Riverside and extreme southern San Bernardino Counties.	February through May (perennial herb)	**Not Expected.** Not observed during focused surveys. Nearest documented occurrences were in 2009 and 1995. In 2009 (CNDDB #18) a single immature plant was documented on a ridge east of the Whitewater River, about 1 mile north of the Project Study Area. In 1995 (CNDDB #3) individuals were documented in the Whitewater River wash, possibly within the Project Study Area. These plants were likely waifs washed down from more typical habitat in the foothills of the San Bernardino Mountains.
Atriplex coronata var. *notatior* **San Jacinto Valley crownscale**	US: FE CA: 1B BLM: S MSHCP: WRS	Playas, chenopod scrub, valley and foothill grasslands, vernal pools. Endemic to Riverside County and found in dry alkaline flats in the San Jacinto River Valley; elevations 1,200 to 1,700 feet.	Blooms April through May (annual herb)	**Not Expected.** Not observed during focused surveys. Project is outside known range of the species, which reaches its northern limit in the San Jacinto Valley. The nearest documented occurrence was in 1992 (CNDDB #13) along the northeast edge of the San Jacinto Valley, about 4 miles south of the Project Study Area.
Ayenia compacta **California ayenia**	US: – CA: 2 BLM: – MSHCP: –	Rocky canyons and sandy and gravelly washes from 500 to 3,600 feet elevation in desert scrub. In California, occurs in Providence Mountains, Eagle Mountains, and west edge of Sonoran Desert.	March through April (subshrub)	**Not Expected.** Not observed during focused surveys. Project is outside known range of species. Nearest documented occurrence was in 1922 (CNDDB #40) in the San Jacinto Mountains about 9 miles south of the Project Study Area.

Table 4-2: Special-Status Plant Species Potentially Occurring or Known to Occur

Species	Status	Habitat and Distribution	Blooms	Occurrence Probability
Berberis nevinii (Mahonia nevinii) **Nevin's barberry**	US: FE CA: SE BLM: S MSHCP: WRS	Gravelly wash margins in alluvial scrub, or coarse soils and rocky slopes in chaparral; typically 900 to 2,700 feet elevation; Los Angeles, San Bernardino, Riverside, and San Diego Counties.	Blooms March through June (evergreen shrub, survey year-round)	**Not Expected.** Not observed during focused surveys. This evergreen shrub would have been conspicuous. Formerly known to occur in the project area but appears to have been extirpated (BRC 2013).
Brodiaea filifolia **Thread-leaved brodiaea**	US: FT CA: SE BLM: S MSHCP: WRS	Usually on clay or associated with vernal pools or alkaline flats; occasionally in vernally moist sites in fine soils (clay loam, silt loam, fine sandy loam, loam, loamy fine sand). Typically associated with needlegrass or alkali grassland or vernal pools. Occurs from 80 to 4,000 feet elevation. Known only from Los Angeles, Orange, Riverside, San Bernardino, San Diego, and San Luis Obispo Counties, California.	Blooms March through June (perennial herb)	**Not Expected.** Not observed during focused surveys. Habitat poor (no vernal pools or mapped clay soils) in Project Study Area. Not known from project vicinity. Nearest recorded occurrence was in 2004 (CNDDB #43) in the San Jacinto Valley near Lakeview, about 7 miles south of the Project Study Area.
California macrophylla (*Erodium macrophyllum*) **Round-leaved filaree**	US: – CA: 1B BLM: S MSHCP: WRS	Clay soils in woodland, scrub, and grassland communities from 50 to 4,000 feet elevation. Known from central and south coastal areas and the Central Valley in California. Also occurs in Oregon and Mexico.	Blooms March through May (annual herb)	**Not Expected.** Not observed during focused surveys. Habitat poor (no mapped clay soils). Project is outside range of species, which reaches its northeast limit around Lake Perris. Nearest recorded occurrence was in 1976 (CNDDB #150) near Lake Perris, about 7 miles south of the Project Study Area.
Calochortus plummerae **Plummer's mariposa-lily**	US: – CA: 4 BLM: S MSHCP: WRP	Sandy or rocky sites of (usually) granitic or alluvial material in valley and foothill grassland, coastal scrub, chaparral, cismontane woodland, and lower montane coniferous forest at 300 to 5,600 feet elevation. Known from the Santa Monica Mountains to San Jacinto Mountains in Riverside, San Bernardino, Orange, Los Angeles, and Ventura Counties, California. In the western Riverside County area, this species is known from the foothills of the San Bernardino Mountains, northeastern Santa Ana Mountains, Box Springs Mountains, and from the Lake Skinner area (*The Vascular Plants of Western Riverside County*, California. F.M. Roberts et al., 2004).	Blooms May through July (perennial herb)	**Observed.** Found in clay deposits near El Casco (SCE 2007). *Calochortus* observed during surveys may have been this species (BRC 2013).

Table 4-2: Special-Status Plant Species Potentially Occurring or Known to Occur

Species	Status	Habitat and Distribution	Blooms	Occurrence Probability
Carex comosa **Bristly sedge**	US: – CA: 2 BLM: – MSHCP: –	Bogs and fens, freshwater marshes and swamps, and lake margins below 1,400 feet. Known from Lake, Santa Cruz, San Francisco, Shasta, San Joaquin, and Sonoma Counties; and Idaho, Oregon, and Washington. Believed extirpated from San Bernardino County (last known occurrence was in 1882).	May through September	**Not Expected.** Not observed during focused surveys. Not known from Riverside County and believed extirpated from San Bernardino County (last seen in 1882).
Caulanthus simulans **Payson's jewel-flower**	US: – CA: 4 BLM: – MSHCP: WRC	Recently burned areas or disturbed sites such as streambeds in chaparral, coastal sage scrub, riparian areas, and grassland; western Riverside and San Diego Counties; elevations of 200 to 7,200 feet.	March through June	**Not Expected.** Not observed during focused surveys. Project is just outside known range of the species, which reaches its northern limit in the San Jacinto Mountains. Nearest recorded occurrence was in 1968 (CNDDB #35) near Highway 243, about 0.4 to 1.2 miles southeast of the Project Study Area.
Centromadia pungens ssp. *laevis* **Smooth tarplant**	US: – CA: 1B BLM: S MSHCP: WRS	Alkaline areas in chenopod scrub, meadows, playas, riparian woodland, valley and foothill grassland below 1,600 feet elevation. Known from Riverside and San Bernardino Counties, extirpated from San Diego County.	Blooms April through November (annual herb)	**Observed.** Found along San Timoteo Creek near El Casco Substation within the Project Study Area (Aspen 2007).
Chamaesyce arizonica **Arizona spurge**	US: – CA: 2 BLM: – MSHCP: –	Sandy soils 200 to 1,000 feet in Sonoran Desert scrub in Riverside and San Diego (and Imperial?) Counties. Also occurs in Arizona and Mexico.	March through April (perennial herb)	**Not Expected.** Not observed during focused surveys. Project is outside range of the species, which reaches its northern limit in the San Jacinto Mountains. Nearest recorded occurrence was in 1922 (CNDDB #4) in Andreas Canyon, about 11 miles south of the Project Study Area near Palm Springs.
Chamaesyce platysperma **Flat-seeded spurge**	US: – CA: 1B BLM: S MSHCP: –	Dunes or similar sandy places in desert scrub from 200 to 330 feet elevation. In California, occurs in San Diego, Imperial, and Riverside Counties, and possibly also in San Bernardino County. Also known from Arizona and Mexico (Sonora).	February through September (annual herb)	**Not Expected.** Not observed during focused surveys. Project is outside known range of the species. Nearest recorded occurrence was in 1926 (CNDDB #2) near Edom, about 13 miles southeast of the Project Study Area near Thousand Palms.

Table 4-2: Special-Status Plant Species Potentially Occurring or Known to Occur

Species	Status	Habitat and Distribution	Blooms	Occurrence Probability
Chorizanthe parryi var. *parryi* **Parry's spineflower**	US: – CA: 1B BLM: S MSHCP: WRP	Sandy or rocky soils in chaparral, coastal scrub, or woodlands at 100 to 5,600 feet elevation. Known only from Los Angeles, Riverside, and San Bernardino Counties.	April through June (annual herb)	**Observed.** Found within the Reservation (BRC 2003; LSA 2010) and other desert portions of the Project Study Area (GANDA 2011).
Chorizanthe polygonoides var. *longispina* **Long-spined spineflower**	US: – CA: 1B BLM: S MSHCP: WRC	Generally clay soils in chaparral, coastal sage scrub, and grassland at 100 to 5,000 feet elevation. In California, known only from Orange, Riverside, Santa Barbara, and San Diego Counties. Also occurs in Mexico.	April through July (annual herb)	**Not Expected.** Not observed during focused surveys. Project is outside known range of the species. Nearest recorded occurrence was in 1980 (CNDDB #18) near Perris, about 13 miles south of the Project Study Area.
Chorizanthe xanti var. *leucotheca* **White-bracted spineflower**	US: – CA: 1B BLM: S MSHCP: –	Sandy to gravelly places, generally in Mojave desert scrub and pinyon and juniper woodland at 900 to 4,000 feet elevation. Reported from Los Angeles, Riverside, and San Bernardino Counties (*The Vascular Plants of Western Riverside County, California*. F.M. Roberts et al., 2004). Mostly localized in the eastern San Bernardino Mountains of San Bernardino County and on the eastern slopes of the San Jacinto Mountains in Riverside County.	April through June (annual herb)	**Observed.** Near Cabazon and Whitewater River (BRC 2003), within the Reservation (LSA 2010), between Banning and Whitewater (GANDA 2011), and (BRC 2013).
Cuscuta obtusiflora var. *glandulosa* **Peruvian dodder**	US: – CA: 2 BLM: – MSHCP: –	May be extirpated in California. Formerly found sporadically in freshwater marsh on herbs including *Alternanthera*, *Dalea, Lythrum, Polygonum,* and *Xanthium* below about 1,600 feet. Reported in California from Los Angeles, San Bernardino, Sonoma, Sutter, Butte, Sacramento, and Merced Counties. Also known from eastern and southern US, West Indies, and Mexico.	July through October (annual parasitic vine)	**Not Expected.** Not observed during focused surveys. Occurs sporadically in California. Nearest recorded occurrence was in 1890 (CNDDB #1) near Warm Creek, about 3 miles northwest of the Project Study Area.
Deinandra mohavensis **Mojave tarplant**	US: – CA: SE/1B BLM: S MSHCP: WRP	Low sandbars in riverbeds, mostly in riparian areas or in ephemeral grassy areas, in riparian scrub and mesic chaparral at 2,800 to 5,200 feet elevation. Known from the San Jacinto Mountains in Riverside County, and from San Diego and Kern Counties. Believed extirpated from San Bernardino County.	Blooms July through October (annual herb)	**Not Expected.** Not observed during focused surveys. In southern California this species is mostly limited to the San Jacinto Mountains and northern San Diego County. Nearest recorded occurrence was in 1924 (CNDDB #2) along Highway 243, about 0.7 mile south of the Project Study Area.

Table 4-2: Special-Status Plant Species Potentially Occurring or Known to Occur

Species	Status	Habitat and Distribution	Blooms	Occurrence Probability
Dodecahema leptoceras **Slender-horned spineflower**	US: FE CA: SE/1B BLM: S MSHCP: WRS	In the Vail Lake area, occurs in gravel soils of Temecula arkose deposits in openings in chamise chaparral. In other areas, occurs in sandy cobbly riverbed alluvium in alluvial fan sage scrub (usually late seral stage), on floodplain terraces and benches that receive infrequent overbank deposits from generally large washes or rivers, where it is most often found in shallow silty depressions dominated by leather spineflower (*Lastarriaea coriacea*) and other native annual species, and is often associated with cryptogamic soil crusts composed of bryophytes, algae and/or lichens. Occurs at 600 to 2,500 feet elevation. Known only from Los Angeles, Riverside, and San Bernardino Counties, California.	Blooms April through June (annual herb)	**Not Expected.** Not observed during focused surveys. Typical habitat (late seral stage alluvial fan sage scrub) not present within the Project Study Area. Nearest documented occurrences (CNDDB #2, #4, #22) are along the Santa Ana River north and west of the Project Study Area.
Eriastrum densifolium ssp. *sanctorum* **Santa Ana River woollystar**	US: FE CA: SE BLM: S MSHCP: WRC	Riversidean alluvial fan sage scrub and chaparral in sandy or gravelly soils of floodplains and terraced fluvial deposits of the Santa Ana River and larger tributaries (Lytle and Cajon Creeks, lower portions of City and Mill Creeks) at 300 to 2,100 feet elevation in San Bernardino and Riverside Counties.	Blooms May through September	**Not Expected.** Not observed during focused surveys. Habitat (Santa Ana River and larger tributaries) not found within the Project Study Area. Nearest documented occurrences (CNDDB #23, #25, #29, and #30) are along the Santa Ana River north and west of the Project Study Area.
Eriogonum evanidum **Vanishing wild buckwheat**	US: – CA: 1B BLM: S MSHCP: –	Sandy sites in chaparral, pinyon and juniper woodland, and lower montane coniferous forest at 3,600 to 7,300 feet elevation. In California, known from Riverside, San Bernardino, and San Diego Counties. Also occurs in Mexico.	Blooms July through October (annual herb)	**Not Expected.** Not observed during focused surveys. Project is outside elevational range of the species.
Euphorbia misera **Cliff spurge**	US: – CA: 2 BLM: – MSHCP: –	Rocky sites within coastal bluff scrub, coastal sage scrub, and Mojavean desert scrub at 30 to 1,600 feet elevation. In California, known only from the Channel Islands, coastal Orange and San Diego Counties, and Riverside County deserts. Also occurs in Mexico.	December through August (perennial herb)	**Not Expected.** Not observed during focused surveys. Most records of this species are coastal, but 20 plants were observed in 1982 (CNDDB #16) east of the Whitewater River wash within ½ mile of the project. The population was reduced to a single plant in 1993. The only other recorded occurrence in Riverside or San Bernardino Counties was in 1921 (CNDDB #26) "near Palm Springs."

Table 4-2: Special-Status Plant Species Potentially Occurring or Known to Occur

Species	Status	Habitat and Distribution	Blooms	Occurrence Probability
Galium californicum ssp. *primum* **Alvin meadow bedstraw**	US: – CA: 1B BLM: S MSHCP: WRP	Granitic soils in chaparral and lower montane coniferous forest; 4,400 to 5,600 feet. Known from Riverside and San Bernardino Counties.	Blooms May through July	**Not Expected.** Not observed during focused surveys. Likely extirpated from project vicinity. Nearest documented occurrence was in 1891 (CNDDB #2) in Reche Canyon, near the west end of the Project Study Area. The only other known locations are around Alvin Meadows (CNDDB #1, #3, and #4) in the San Jacinto Mountains about 12 miles south of the Project Study Area.
Helianthus nuttallii ssp. *parishii* **Los Angeles sunflower**	US: – CA: 1A BLM: S MSHCP: –	Marshes and swamps (coastal salt and freshwater) at 30 to 1,600 feet elevation. This species is historically known from Los Angeles, Orange and San Bernardino Counties, California. Last seen in 1937. Presumed extinct. Plants found in 2002 at Castaic Spring along the Santa Clara River in Los Angeles County were initially reported as possibly this taxon, but instead appear to be hybrids or evolutionary intermediates between *H. nuttallii* and *H. californicus*, based on chromosome counts and pollen morphology (*A Quantitative Analysis of Pollen Variation in Two Southern California Perennial* Helianthus *(Heliantheae: Asteraceae)*, J.M. Porter and N. Fraga, 2004).	Blooms August through October (perennial herb)	**Not Expected.** Not observed during focused surveys. Likely extirpated from project vicinity, presumed extinct. Nearest documented occurrence was in 1917 (CNDDB #5) in the Santa Ana River west of the Project Study Area.
Horkelia cuneata var. *puberula* **Mesa horkelia**	US: – CA: 1B BLM: S MSHCP: –	Sandy or gravelly soils in chaparral, or rarely in cismontane woodland or coastal scrub at 200 to 2,700 feet elevation. Known only from San Luis Obispo, Santa Barbara, Ventura, Los Angeles, Orange, and San Bernardino Counties, California. Believed extirpated from Riverside and San Diego Counties.	February through July (sometimes to September) (perennial herb)	**Not Expected.** Not observed during focused surveys. Likely extirpated from project vicinity. Nearest documented occurrence was in 1921 (CNDDB #1) "near Banning."
Imperata brevifolia **California satintail**	US: – CA: 2 BLM: – MSHCP: –	Desert seeps, springs, moist canyons, canals, irrigation ditches, alkaline sinks, and wet areas at 0 to 1,600 feet elevation. Widespread in California and the western U.S. Also occurs in Mexico.	Blooms September through May (perennial grass)	**Not Expected.** Not observed during focused surveys. Potentially suitable habitat is sparse in Project Study Area. Nearest documented occurrence was in 1949 (CNDDB #4) near "Whitewater Station."

Table 4-2: Special-Status Plant Species Potentially Occurring or Known to Occur

Species	Status	Habitat and Distribution	Blooms	Occurrence Probability
Juglans californica var. *californica* **Southern California black walnut**	US: – CA: 4 BLM: – MSHCP: WRC	Found in alluvial soils, in chaparral, cismontane woodland, and coastal scrub from 160 to 3,000 feet elevation. Threatened by urbanization and grazing, non-native plants, and possibly by lack of natural reproduction.	Blooms March through August (perennial deciduous tree)	**Moderate.** Species is fairly common in project vicinity though no individuals were identified during focused surveys.
Lepidium virginicum var. *robinsonii* **Robinson's pepper-grass**	US: – CA: 4 BLM: S MSHCP: –	Dry soils in coastal sage scrub and chaparral below 2,900 feet elevation. In California, known only from Los Angeles, Orange, Riverside, Santa Barbara, San Bernardino and San Diego Counties, and Santa Cruz Island. Also occurs in Mexico.	January through July (annual herb)	**Not Expected.** Not observed during focused surveys. Project Study Area is near the edge of range of the species. Nearest documented occurrence was in 1952 (CNDDB #52) in Reche Canyon, about a mile or more south of the Project Study Area.
Linanthus maculatus (Gilia maculata) **Little San Bernardino Mountains linanthus**	US: – CA: 1B BLM: S MSHCP: CVC	Loose, well-aerated sand on wash-margin benches with few or no competing species and void of large shrubs or trees, in areas of desert dune, desert scrub, and Joshua tree woodland at 600 to 6,800 feet elevation. Loosely associated shrubs include creosote bush (*Larrea tridentata*), brittle bush (*Encelia farinosa*), white bursage (*Ambrosia dumosa*), cheesebush (*Hymenoclea salsola*) and desert catalpa (*Chilopsis linearis*). Not found in loose sands away from washes, or in dense stands of weedy annuals. Known only from Riverside and San Bernardino Counties. Known only from edges of washes associated with the San Bernardino Mountains (north and east sides), the Little San Bernardino Mountains, and the northern part of the Coachella Valley.	Blooms March through May (annual herb)	**Moderate.** Although not observed during focused surveys, about 200 individuals of this small plant were observed in 1998 (CNDDB #3) at the east edge of the Whitewater River just north of I-10, which may be within the Project Study Area. Even if individuals are not present, a seed bank likely persists in or near the Project Study Area.
Linanthus orcuttii **Orcutt's linanthus**	US: – CA: 1B BLM: S MSHCP: –	Openings (often gravelly) in chaparral, pinyon and juniper woodland, and coniferous forest at 3,000 to 7,000 feet elevation. In California, known only from Los Angeles (believed extirpated), Riverside, San Bernardino, and San Diego Counties. Also occurs in Mexico.	Blooms May through June (annual herb)	**Not Expected.** Not observed during focused surveys. Project Study Area is near the limits of this species' elevational range and is not likely to provide suitable habitat. Nearest documented occurrence was in 2006 (CNDDB #32) in the Little San Bernardino Mountains, about 6 miles north of the Project Study Area.

Table 4-2: Special-Status Plant Species Potentially Occurring or Known to Occur

Species	Status	Habitat and Distribution	Blooms	Occurrence Probability
Lycium parishii **Parish's desert-thorn**	US: – CA: 2 BLM: – MSHCP: –	Coastal scrub and Sonoran desert scrub at 1,000 to 3,300 feet elevation. In California, known from Imperial and San Diego Counties. Report from Riverside County is based on a misidentification. Known only historically from San Bernardino County (benches and/or foothills north of San Bernardino).	Blooms March through April (deciduous shrub)	**Not Expected.** Not observed during focused surveys. Not known from Riverside County. Last seen in San Bernardino County in 1885 (CNDDB #4, about 9 miles north of the Project Study Area, north of San Bernardino) and is likely extirpated.
Mentzelia tricuspis **Spiny-hair blazing star**	US: – CA: 2 BLM: – MSHCP: –	Inhabits sandy, gravelly slopes and washes, and around Mojavean desert scrub, from 500 to 4,200 feet. Known from fewer than twenty extant occurrences. Occurrences from Riverside County need quads and verification. Possibly threatened by renewable energy development.	Blooms March through May (annual herb)	**Observed.** This species was observed in the Project Study Area during surveys conducted in 2013 (BRC 2013).
Monardella macrantha ssp. *hallii* **Hall's monardella**	US: – CA: 1B BLM: S MSHCP: WRC	Dry slopes and ridges in openings in chaparral, woodland, and forest at 2,280 to 7,200 feet elevation. Known only from Los Angeles, San Diego, Orange, Riverside, and San Bernardino Counties, California. In the western Riverside County area, known only from higher elevations in the Santa Ana and Aqua Tibia Mountains (*The Vascular Plants of Western Riverside County, California*. F.M. Roberts et al., 2004).	June through August (sometimes to October) (perennial herb)	**Not Expected.** Not observed during focused surveys. Project Study Area is below typical elevational range for this species in the region. Nearest documented occurrence (CNDDB #51, undated) was near San Jacinto Peak, about 7 miles south of the Project Study Area.
Monardella pringlei **Pringle's monardella**	US: – CA: 1A BLM: S MSHCP: –	Sandy hills in coastal sage scrub at 980 to 1,300 feet elevation. Known only from two occurrences west of Colton. Last seen in 1941. Habitat lost to urbanization. Presumed extinct.	May through June	**Not Expected.** Not observed during focused surveys. Presumed extinct. Nearest documented occurrence was in 1941 (CNDDB #2) west of Colton, about 3 miles west of the Project Study Area.
Nama stenocarpum **Mud nama**	US: – CA: 2 BLM: – MSHCP: WRS	Lake shores, riverbanks, and similar intermittently wet areas at 20 to 1,600 feet elevation. Known in California from San Diego, Orange, and Riverside Counties and from San Clemente Island. Believed extirpated from Los Angeles and Imperial Counties. Known also from Baja California and Arizona.	Blooms January through July (annual or perennial herb)	**Not Expected.** Not observed during focused surveys. Suitable habitat sparse or absent in Project Study Area, which is outside the known range of the species. Nearest documented occurrence was in 2010 (CNDDB #11) at Mystic Lake, about 6 miles south of the Project Study Area.

Table 4-2: Special-Status Plant Species Potentially Occurring or Known to Occur

Species	Status	Habitat and Distribution	Blooms	Occurrence Probability
Nasturtium gambelii **Gambel's water cress**	US: FE CA: ST BLM: S MSHCP: –	Marshes and swamps from 20 to 1,100 feet elevation. Currently believed to occur in California only in Santa Barbara and San Luis Obispo Counties. There are historical records from Los Angeles, Orange, San Diego, and San Bernardino Counties, although the San Diego County records may be based on misidentification of another species. Also occurs in Baja California.	Blooms April through September	**Not Expected.** Not observed during focused surveys. Believed extirpated from project vicinity. Suitable habitat sparse or absent in Project Study Area. Nearest documented occurrence was in 1935 (CNDDB #4) from a marsh that previously existed in San Bernardino, about 3 miles north of the Project Study Area.
Nemacaulis denudata var. *gracilis* **Slender cottonheads**	US: – CA: 2 BLM: – MSHCP: –	Coastal or desert dunes, sandy mesquite hummocks, or similar sandy sites at -160 to 1,300 (1,800) feet elevation. Known from Imperial, Riverside, San Bernardino, and San Diego Counties in California, and from Arizona and Mexico.	Blooms mostly late March to mid-May (annual herb)	**Not Expected.** Not observed during focused surveys. Project Study Area is near the western limit of species' range. Suitable habitat sparse or absent. Nearest documented occurrence was in 1948 (CNDDB #9) from "east of Whitewater wash."
Penstemon pseudospectabilis ssp. *pseudospectabilis* **Desert beardtongue**	US: – CA: 2 BLM: – MSHCP: –	Sandy washes or less commonly on rocky slopes in Mojavean and Sonoran desert scrub at 260 to 6,350 feet elevation. In California, known only from Imperial, Riverside, and San Bernardino Counties. Also occurs in Arizona.	January through May (perennial herb)	**Not Expected.** Not observed during focused surveys. Species is sparsely distributed through desert with little suitable habitat in project area. The nearest documented occurrence was in 2006 (CNDDB #8) from the foothills of the San Jacinto Mountains about 2.4 miles south of the Project Study Area.
Quercus engelmannii **Engelmann oak**	US: – CA: 4 BLM: – MSHCP: WRC	Chaparral, woodland, and grassland, from 400 to 4,300 feet elevation. Known from Los Angeles, Orange, Riverside, and San Diego Counties and from northern Baja California.	Year-round	**Observed.** Observed during survey in 2012 (BRC 2013).
Ribes divericatum var. *parishii* **Parish's gooseberry**	US: – CA: 1A BLM: S MSHCP: –	Deciduous shrub of willow swales in riparian habitats at 200 to 1,000 feet elevation. Believed to be extinct. Historical collections from Los Angeles and San Bernardino Counties.	Blooms February through April	**Not Expected.** Not observed during focused surveys. Presumed extinct. Suitable habitat sparse or absent in Project Study Area.

Table 4-2: Special-Status Plant Species Potentially Occurring or Known to Occur

Species	Status	Habitat and Distribution	Blooms	Occurrence Probability
Saltugilia latimeri **Latimer's woodland-gilia**	US: – CA: 1B BLM: S MSHCP: –	Dry desert slopes of coarse sandy to rocky soils in chaparral and Mojavean desert scrub at 1,300 to 6,200 feet elevation.	Blooms April through June	**Not Expected.** Not observed during focused surveys. Project Study Area is near edge of species' range and contains little or no suitable habitat. The nearest documented occurrence was in 1920 (CNDDB #14) from an area of Palm Springs about 6 miles southeast of the Project Study Area.
Selaginella eremophila **Desert spike-moss**	US: – CA: 2 BLM: – MSHCP: –	Shaded sites in gravelly soils and among rocks or in crevices from 700 to 3,000 (8,000?) feet elevation in Sonoran desert scrub.	Reproductive mostly in June (perennial herb)	**Observed.** Observed during survey in 2012 (BRC 2013)
Sidalcea hickmanii ssp. *parishii* **Parish's checkerbloom**	US: – CA: SR BLM: S MSHCP: –	Burned or cleared areas on rocky slopes, and along roads in chaparral, cismontane woodland, and lower montane coniferous forest at 3,300 to 7,000 feet elevation. Known only from in Santa Barbara, San Bernardino and San Luis Obispo Counties, California.	May through June (perennial herb)	**Not Expected.** Not observed during focused surveys. Project Study Area is outside the elevational range of the species. The nearest documented occurrence was in 1909 (CNDDB #11) from Yucaipa Ridge, about 9 miles north of the Project Study Area.
Sidalcea neomexicana **Salt spring checkerbloom**	US: – CA: 2 BLM: – MSHCP: –	Alkaline springs and brackish marshes below 5,000 feet elevation. In California, known only from Kern, Orange, Riverside, San Bernardino, San Diego, and Ventura Counties. Believed extirpated from Los Angeles County. Also known from Arizona, New Mexico, Nevada, Utah, and Mexico.	Blooms March through June (perennial herb)	**Not Expected.** Not observed during focused surveys. No suitable habitat in the Project Study Area.
Sphenopholis obtusata **Prairie wedge grass**	US: – CA: 2 BLM: – MSHCP: –	Wet meadows, streambanks, and ponds at 1,000 to 6,600 feet elevation. Widely distributed. In Southern California, known only from San Bernardino, Riverside (Santa Ana River), and perhaps San Diego Counties.	April through July (perennial herb)	**Not Expected.** Not observed during focused surveys. Project Study Area is near edge of species' range and contains little or no suitable habitat. The nearest documented occurrence was in 1917 (CNDDB #11) from the Santa Ana River west of the Project Study Area.

Table 4-2: Special-Status Plant Species Potentially Occurring or Known to Occur

Species	Status	Habitat and Distribution	Blooms	Occurrence Probability
Stemodia durantifolia **Purple stemodia**	US: – CA: 2 BLM: – MSHCP: –	Wet sand or rocks, drying riverbeds from 600 to 1,000 feet elevation in Sonoran desert scrub of Riverside and San Diego Counties.	January through December (perennial herb)	**Not Expected.** Not observed during focused surveys. Project Study Area is outside species' range and contains little or no suitable habitat. The nearest documented occurrence was in 1948 (CNDDB #14) from Eagle Canyon, about 11 miles southeast of the Project Study Area.
Streptanthus bernardinus **Laguna Mountains jewel-flower**	US: – CA: 4 BLM: – MSHCP: –	Chaparral and lower montane coniferous forest; 4,700 (2,200?) to 8,200 feet elevation; Transverse and Peninsular ranges of Southern California; possibly in Baja California.	May through June	**Not Expected.** Not observed during focused surveys. Project Study Area is below expected elevational range of the species and contains little or no suitable habitat. The nearest documented occurrence was on the south slope of San Gorgonio Mountain (CNDDB #17, undated), mapped about 6 miles north of the Project Study Area.
Streptanthus campestris **Southern jewel-flower**	US: – CA: 1B BLM: S MSHCP: –	Open rocky areas in chaparral, lower montane coniferous forest and pinyon-juniper woodland at 2,000 to 7,500 (9,200?) feet elevation. In California, known from Riverside, San Bernardino, and San Diego Counties.	Blooms May through July (perennial herb)	**Not Expected.** Not observed during focused surveys. Project Study Area contains little or no suitable habitat. The nearest documented occurrence was in 1929 (CNDDB #13) in the San Jacinto Mountains, mapped about 8 miles south of the Project Study Area.
Symphyotrichum defoliatum (Aster defoliatus) **San Bernardino aster**	US: – CA: 1B BLM: S MSHCP: –	Vernally wet sites (such as ditches, streams, and springs) in many plant communities below 6,700 feet elevation. In California, known from Ventura, Kern, San Bernardino, Los Angeles, Orange, Riverside, and San Diego Counties. May also occur in San Luis Obispo County. In the western Riverside County area, this species is scarce, and documented only from Temescal and San Timoteo Canyons (*The Vascular Plants of Western Riverside County, California*. F.M. Roberts et al., 2004).	Blooms July through November (perennial herb)	**Low.** Not observed during focused surveys, but documented from "El Casco, San Timoteo Canyon" in 1951 (CNDDB #24).

Table 4-2: Special-Status Plant Species Potentially Occurring or Known to Occur

Species	Status	Habitat and Distribution	Blooms	Occurrence Probability
Thelypteris puberula var. *sonorensis* **Sonoran maiden fern**	US: – CA: 2 BLM: – MSHCP: –	Seeps and along streams in meadows at 170 to 2,000 feet elevation. Known from western Riverside, southwest San Bernardino, Santa Barbara, and Los Angeles Counties.	January through September (perennial herb)	**Not Expected.** Not observed during focused surveys. The nearest documented occurrence was in 2009 (CNDDB #13) in Little Sand Canyon in the San Bernardino Mountains, about 6 miles north of the Project Study Area.
Trichocoronis wrightii var. *wrightii* **Wright's trichocoronis**	US: – CA: 2 BLM: – MSHCP: WRS	Alkali soils in meadows, riverbeds, vernal pools, and lakes at 20 to 1,430 feet elevation. In California, known from the Central Valley and Riverside County. Also occurs in Texas and Baja California.	Blooms May through September (annual or perennial herb)	**Not Expected.** Not observed during focused surveys. Not known from project vicinity. Nearest documented occurrence was in 1937 (CNDDB #4) north of Lakeview, about 5 miles south of the Project Study Area.
Xylorhiza cognata **Mecca aster**	US: – CA: 1B BLM: S MSHCP: CVC	Steep slopes of arid canyons in sandstone and clay in Sonoran desert scrub at 70 to 1,300 feet elevation. Known only from Riverside, San Diego, and Imperial Counties, California, principally in the Indio and Mecca hills of Riverside County.	January through June (perennial herb)	**Not Expected.** Not observed during focused surveys. Project Study Area is outside known species' range and contains little or no suitable habitat. The nearest documented occurrence was in 1927 (CNDDB #34) from "Palm Springs," mapped about 6 miles southeast of the Project Study Area.

US: Federal Classifications
FE: Listed as Endangered.
FT: Listed as Threatened.
CA: State Classifications
SE: State-listed as Endangered.
ST: State-listed as Threatened.
SR: State-listed as Rare.
1A: California Rare Plant Rank** 1A – presumed extinct in California.
1B: California Rare Plant Rank** 1B – rare, threatened or endangered in California and elsewhere.
2: California Rare Plant Rank** 2 – rare, threatened or endangered in California, but more common elsewhere.
3: California Rare Plant Rank** 3 – a review list of plants about which more information is needed.
4: California Rare Plant Rank** 4 – a watch list of plants of limited distribution.
**California Rare Plant Ranks are assigned by a committee of government and non-governmental experts and are not official State designations of rarity status.
BLM: BLM Classification for California
S: BLM Sensitive Species
MSHCP: Multiple Species Habitat Conservation Plan
WRC: Western Riverside County MSHCP Species: covered under the MSHCP
WRS: Western Riverside County MSHCP Species: surveys are required within indicated habitats and/or survey areas; covered under the MSHCP
WRP: Western Riverside County MSHCP Species: will be adequately conserved when specified requirements are met; covered under the MSHCP
CVC: Coachella Valley MSHCP Species: covered under the MSHCP

4.3.1.3 Marsh Sandwort

Marsh sandwort is a federally listed endangered species, a State listed endangered species, and is a BLM Sensitive Species. Marsh sandwort is a perennial herb that grows in sandy soils through mats of Typha, Juncus, Scirpus, etc. within marshes at an elevation range of 10 to 560 feet amsl. Known to presently occur only in San Luis Obispo County, it is believed extirpated from Los Angeles, San Francisco, Santa Cruz, Riverside, and San Bernardino Counties, and from the State of Washington. The last known record of this species in Riverside, San Bernardino, or Los Angeles Counties is from 1900. Marsh sandwort was not observed during surveys conducted in 2012 and 2013. Therefore, marsh sandwort is not expected to occur.

4.3.1.4 Coachella Valley Milk-Vetch

Coachella Valley milk-vetch is a federally listed endangered species, a BLM Sensitive Species, and is a covered species under the CV-MSHCP. It is an 8 to 12-inch tall winter annual or short-lived perennial. It occurs in windblown or alluvial sand dunes at an elevation range of 196 to 2,148 feet amsl. It is known only from the Coachella Valley between Cabazon and Indio in Riverside County.

Coachella Valley milk-vetch was not observed during surveys conducted in 2012 and 2013. The nearest documented occurrences were in 1904 (CNDDB No. 54) at "Banning" and in recent years (CNDDB occurrence Nos. 15, 49, and 50) along Highway 111 and the adjacent foothills about 1 mile south of the Project Study Area. It is not known from portions of the Whitewater River or other washes within or upstream of the Project Study Area. Although the Project Study Area intersects designated critical habitat for this species, the portion within the Project Study Area does not contain wind-blown sands or dunes, and therefore does not contain suitable habitat; thus, Coachella Valley milk-vetch is not expected to occur although it is impossible to completely rule out the possibility that this species could appear in the area in the future. See Appendix B, Land Management and Critical Habitat Areas Figure, for the locations of designated Critical Habitats.

Table 4-3, Coachella Valley Milk-Vetch Critical Habitat within the Project Study Area by Vegetation Community, shows the amount of designated critical habitat in the Project Study Area by vegetation community.

Table 4-3: Coachella Valley Milk-Vetch Critical Habitat within the Project Study Area by Vegetation Community

Vegetation Community	Acreage within the Project Study Area
Desert Scrub	38.6
Alluvial Scrub	47.3
Developed/Disturbed	23.9
Total Critical Habitat	**109.8**

4.3.1.5 Triple-Ribbed Milk-Vetch

Triple-ribbed milk-vetch is a federally listed endangered species, a BLM Sensitive Species, and is a covered species under the CV-MSHCP. It occurs on weathering metamorphic rock outcrops in semi-desert chaparral and at the edges of boulder-strewn desert washes at an elevation range of 1,476 to 3,937 feet amsl in Riverside County and southern San Bernardino County. In 1995 (CNDDB #3) individuals were documented in the Whitewater River wash, possibly within the Project Study Area. However, these individuals were likely waifs washed down from more commonly used habitat in the foothills of the San Bernardino Mountains and not likely an established population. Triple-ribbed milk-vetch was not observed during surveys conducted in 2012 and 2013 and typical habitat is not present within the Project Study Area. Therefore, the triple-ribbed milk-vetch is not expected to occur.

4.3.1.6 San Jacinto Valley Crownscale

San Jacinto Valley crownscale is a federally listed endangered species, a BLM Sensitive Species, and is a covered species under the WR-MSHCP. San Jacinto Valley crownscale is an annual herb that grows in playas, chenopod scrub, valley and foothill grasslands, and vernal pools at an elevation range of 1,200 to 1,700 feet amsl. It is endemic to Riverside County and found in dry alkaline flats in the San Jacinto River Valley. San Jacinto Valley Crownscale was not observed during surveys conducted in 2012 and 2013. Additionally, the Project Study Area is outside known range of the species. Therefore, San Jacinto Valley crownscale is not expected to occur.

4.3.1.7 Nevin's Barberry

Nevin's barberry is a federally listed endangered species, a State listed endangered species, a BLM Sensitive Species, and is a covered species under the WR-MSHCP. Nevin's barberry is a perennial evergreen shrub that inhabits gravelly wash margins in alluvial scrub or coarse soils and rocky slopes in chaparral. It typically ranges in elevation from 902 to 2,706 feet amsl. It is known to occur in Los Angeles, San Bernardino, Riverside, and San Diego Counties. Nevin's barberry was not observed during surveys conducted in 2012 and 2013. Nevin's barberry is a conspicuous evergreen shrub, which should have been observed had it been present. Therefore, Nevin's barberry is not expected to occur.

4.3.1.8 Thread-Leaved Brodiaea

Thread-leaved brodiaea is a federally listed threatened species, a State listed endangered species, a BLM Sensitive Species, and is a covered species under the Western Riverside MSHCP. Thread-leaved brodiaea is a perennial, bulbiferous herb, which occurs in chaparral openings, California sage scrub, valley and foothill grassland, cismontane woodland, and vernal pools, and typically on clay soils, all from an elevation range of 80 to 2,850 feet amsl. Populations of thread-leaved brodiaea are typically found on flat or gently sloping grassland areas surrounded by shrubland. It is known only from Los Angeles, Orange, Riverside, San

Bernardino, San Diego, and San Luis Obispo Counties, California. Thread-leaved brodiaea was not observed during surveys conducted in 2012 and 2013. Additionally, habitat within the Project Study Area is poor for this species. Therefore, thread-leaved brodiaea is not expected to occur.

4.3.1.9 Slender-Horned Spineflower

Slender-horned spineflower is a federally listed endangered species, a State listed endangered species, a BLM Sensitive Species, and is a covered species under the WR-MSHCP. Slender-horned spineflower is an annual herb that grows in a variety of habitats. In the Vail Lake area, it occurs in gravel soils of Temecula arkose deposits in openings in chamise chaparral. In other areas, it occurs in sandy cobbly riverbed alluvium in alluvial fan sage scrub (usually late seral stage), on floodplain terraces and benches that receive infrequent overbank deposits from generally large washes or rivers, where it is most often found in shallow silty depressions dominated by leather spineflower (*Lastarriaea coriacea*) and other native annual species, and is frequently associated with cryptogamic soil crusts composed of bryophytes, algae and/or lichens. It is found from an elevation range of 600 to 2,500 feet amsl. The species is known only from Los Angeles, Riverside, and San Bernardino Counties, California. Slender-horned spineflower was not observed during surveys conducted in 2012 and 2013. Additionally, typical habitat is not present within the Project Study Area. Therefore, slender-horned spineflower is not expected to occur.

4.3.1.10 Santa Ana River Woollystar

Santa Ana River woollystar is a federally listed endangered species, a State listed endangered species, a BLM Sensitive Species, and is a covered species under the WR-MSHCP. Santa Ana River woollystar is a perennial herb that grows in Riversidean alluvial fan sage scrub and chaparral in sandy or gravelly soils of floodplains and terraced fluvial deposits of the Santa Ana River and larger tributaries (Lytle and Cajon Creeks, lower portions of City and Mill Creeks), all from an elevation range of 300 to 2,100 feet amsl. It is known from San Bernardino and Riverside Counties. Santa Ana River woollystar was not observed during surveys conducted in 2012 and 2013, and suitable habitat is not present within the Project Study Area. Therefore Santa Ana River woollystar is not expected to occur.

4.3.1.11 Gambel's Water Cress

Gambel's water cress is a federally listed endangered species, a State listed threatened species, and a BLM Sensitive Species. Gambel's water cress is a perennial rhizomatous herb that grows in marshes and swamps from an elevation range of 20 to 1,100 feet amsl. In California, it is currently believed to occur only in Santa Barbara and San Luis Obispo Counties. There are historical records from Los Angeles, Orange, San Diego, and San Bernardino Counties, although the San Diego County records may be based on misidentification of another species. The species also occurs in Baja California. Gambel's water cress was not observed during surveys conducted in 2012 and 2013. Additionally, this

species is believed extirpated from the WOD project vicinity. Therefore, Gambel's water cress is not expected to occur.

4.3.2 State Listed Plant Species

In addition to the federally listed species described above that are also State listed, one special-status plant species described in Table 4-2, Special-Status Plant Species Potentially Occurring or Known to Occur, is State listed as endangered. This species is not expected to occur within the Project Study Area.

4.3.2.1 Mojave Tarplant

Mojave tarplant is a State listed endangered species, a BLM Sensitive Species, and a covered species under the WR-MSHCP. Mojave tarplant is an annual herb that grows in low sandbars in riverbeds, riparian areas, or in ephemeral grassy areas, in riparian scrub and mesic chaparral from an elevation range of 2,800 to 5,200 feet amsl. It is known from the San Jacinto Mountains in Riverside County and from San Diego and Kern Counties. It is believed extirpated from San Bernardino County. Some suitable habitat is present within the Project Study Area, though the Project Study Area is below the elevation range for the species. Mojave tarplant was not observed during surveys conducted in 2012 and 2013. Therefore, Mojave tarplant is not expected to occur.

4.3.3 Non-Listed Plant Species of Interest

Focused surveys for special-status plant species were conducted in 2012 and 2013. As indicated in Table 4-2, Special-Status Plant Species Potentially Occurring or Known to Occur, the following special-status plant species were observed during biological surveys either conducted previously for SCE within the immediate vicinity of the Project Study Area or from focused surveys conducted for the Proposed Project, most recently in 2012 and 2013:[8]

- Chaparral sand-verbena (CA: 1B; BLM: S) (LSA 2010; BRC 2013) (Segment 6);
- Yucaipa onion (CA: 1B; BLM: S; MSHCP: WRS) (BRC 2013) (Segment 4);
- Plummer's mariposa lily (CA: 4; BLM: S; WRP) (BRC 2013; SCE 2007) (Segment 4);
- Smooth tarplant (CA: 1B; BLM: S; MSHCP: WRS) (Aspen 2007) (Segment 3);
- Parry's spineflower (CA: 1B; BLM: S; MSHCP: WRP) (BRC 2003, 2013; LSA 2010; GANDA 2011c) (Segment 5);
- White-bracted spineflower (CA: 1B; BLM: S) (BRC 2003, 2013; LSA 2010; GANDA 2011c) (Segments 5 and 6);

[8] A description of conservation statuses can be found in Table 4-2: Special-Status Plant Species Potentially Occurring or Known to Occur.

- Spiny-hair blazing star (CA: 2) (BRC 2013) (Segment 6);
- Engelmann oak (CA: 4; MSHCP: WRC) (BRC 2013) (Segment 4); and
- Desert spike-moss (CA: 2) (BRC 2013) (Segment 6).

Some of these special-status species occurrences appeared to be within the burn area boundary of the recent Summit Fire in Banning (Segment 4) (described in Section 4.1. Recent Fires). These included the Plummer's mariposa lily, Yucaipa onion, and Engelmann oak (see Appendix P, Special-Status Species Observations Figure, sheet 7).

For additional details about these plant species, see Table 4-2, Special-Status Plant Species Potentially Occurring or Known to Occur, above. Appendix P, Special-Status Species Observations Figure, shows the locations of special-status plant species observed in the Project Study Area. A copy of the Botanical Resources of the West of Devers Project report is included as Appendix D, Botanical Resources Assessment Reports.

4.3.4 Plant Species Considered Absent

The following species were identified in the literature search but the Project Study Area occurs substantially outside the range of the species. Therefore, these following species do not warrant further consideration in this document and are considered absent:

- Adder's-mouth (*Malaxis monophyllos* ssp. *brachypoda*);
- Big Bear Valley sandwort (*Eremogone ursine*);
- Borrego milk-vetch (*Astragalus lentiginosus* var. *borreganus*);
- Broad-nerved hump moss (*Meesia uliginosa*);
- California dandelion (*Taraxacum californicum*);
- California ditaxis (*Ditaxis serrata* var. *californica*);
- California sawgrass (*Cladium californicum*);
- Catalina mariposa lily (*Calochortus catalinae*);
- Chaparral ragwort (*Senecio aphanactis*);
- Cliff cinquefoil (*Potentilla rimicola*);
- Coulter's goldfields (*Lasthenia glabrata* ssp. *coulteri*);
- Hidden Lake bluecurls (*Trichostema austromontanum* ssp. *compactum*);
- Johnston's rock cress (*Boechera johnstonii*);
- Lemon lily (*Lilium parryi*);
- Lincoln rock cress (*Boechera lincolnensis* [*Arabis pulchra* var. *munciensis*]);

- Little mousetail (*Myosurus minimus* ssp. *apus*);
- Many-stemmed dudleya (*Dudleya multicaulis*);
- Mission Canyon bluecup (*Githopsis diffusa* ssp. *filicaulis*);
- Moss gentian (*Gentiana fremontii*);
- Mountain oxytrope (*Oxytropis oreophila* var. *oreophila*);
- Munz's mariposa lily (*Calochortus palmeri* var. *munzii*);
- Palmer's mariposa lily (*Calochortus palmeri* var. *palmeri*);
- Parish's alumroot (*Heuchera parishii*);
- Parish's brittlescale (*Atriplex parishii*);
- Parish's bush mallow (*Malacothanmus parishii*);
- Parish's chaenactis (*Chaenactis parishii*);
- Parish's rock cress (*Boechera parishii*);
- Peirson's pincushion (*Chaenactis carphoclinia* var. *peirsonii*);
- Pointed dodder (*Cuscuta californica* var. *apiculata*);
- Purple monkeyflower (*Mimulus purpureus*);
- Pygmy hulsea (*Hulsea vestita* ssp. *pygmaea*);
- Robinson's monardella (*Monardella robisonii*);
- Rock draba (*Draba saxosa*);
- Rock sandwort (*Arenaria lanuginosa* ssp. *saxosa*);
- Saltmarsh bird's-beak (*Chloropyron maritimum* ssp. *maritimum*);
- San Bernardino gilia (*Gilia leptantha* ssp. *leptantha*);
- San Bernardino grass-of-parnassus (*Parnassia cirrata* var. *cirrata*);
- San Bernardino Mountains owl's-clover (*Castilleja lasiorhyncha*);
- San Bernardino rock cress (*Boechera peirsonii*);
- San Felipe monardella (*Monardella nana* ssp. *leptosiphon*);
- San Jacinto Mountains bedstraw (*Galium angustifolium* ssp. *jacinticum*);
- San Jacinto prickly phlox (*Linanthus jaegeri*);
- Santa Rosa basalt brodiaea (*Brodiaea santarosae*);
- Scalloped moonwort (*Botrychium crenulatum*);
- Shaggy-haired alumroot (*Heuchera hirsutissima*);

- South Coast saltscale (*Atriplex pacifica*);
- Southern alpine buckwheat (*Eriogonum kennedyi* var. *alpigenum*);
- Spreading navarretia (*Navarretia fossalis*);
- Tahquitz ivesia (*Ivesia callida*);
- Vernal barley (*Hordeum intercedens*);
- Western sedge (*Carex occidentalis*);
- White-margined everlasting (*Antennaria marginata*);
- White-margined oxytheca (*Sidotheca emarginata*);
- Wiggins' cholla (*Opuntia wigginsii*); and
- Woolly mountain-parsley (*Oreonana vestita*).

4.4 Native Special-Status Wildlife Species

Moderately to highly disturbed habitats characterize most of the Project Study Area, although there are some relatively undisturbed expanses of native vegetation as shown in Appendix O, Land Cover Figure. Therefore, most wildlife species occurring within the Project Study Area are common and consistent with those expected within the various habitat types. Direct observation or other evidence (e.g., scat, calls) of many commonly occurring species were recorded with regularity. All animal species observed or otherwise detected in the Project Study Area are listed in Appendix Q, Wildlife Species Detected List.

During the 2011 through 2013 surveys, 14 conspicuous invertebrate species, 1 fish species, 5 amphibian species, 20 reptile species, 124 bird species, and 38 mammal species were recorded during focused surveys within the Project Study Area. Some species have special status, but most have no formal status primarily because of their regional abundance. Table 4-4, Special-Status Wildlife Species Potentially Occurring or Known to Occur, describes all of the special-status wildlife species that may occur in the Project Study Area and vicinity and includes the status, characteristics, habitat descriptions, and probability of occurrence of special-status animal species for the Project Study Area and immediate vicinity. For species not observed during surveys, the potential for their occurrence was determined by biologists knowledgeable about each species.

Appendix P, Special-Status Species Observations Figure, shows where listed and state designated species of special concern were observed during surveys conducted between 2011 and 2013.

The following list describes the expected occurrence of special-status wildlife species.

- **Observed:** Species documented during biological surveys either conducted previously for SCE within the immediate vicinity of the Project Study Area or from surveys conducted for the Proposed Project in late 2011 through mid-2013.
- **High Potential:** Species identified in the literature search or known to occur in the region, suitable habitat is present within the Project Study Area. These species are generally common and/or widespread in the Project Study Area and vicinity.
- **Moderate Potential:** Species identified in the literature search or known to occur in the region, suitable habitat is present within the Project Study Area. These species are generally less common and/or widespread than those considered with a High Potential in the Project Study Area and vicinity.
- **Low:** Species identified in the literature search or known to occur in the region, but the Project Study Area is outside of the species' known range or elevation, or habitat is generally unsuitable.
- **Not Expected:** Species identified in the literature search or are known to occur in the region, but are absent from the Project Study Area because the Project Study Area is outside of their known range and/or suitable habitat is lacking in the Project Study Area.

4.4.1 Federally Listed Wildlife Species

Nine of the special-status wildlife species described in Table 4-4, Special-Status Wildlife Species Potentially Occurring or Known to Occur, are federally-listed as endangered, threatened, or are a candidate species under FESA. The results of surveys for these listed species are discussed below.

4.4.1.1 Vernal Pool Fairy Shrimp

The vernal pool fairy shrimp is federally listed as threatened and is covered under the WR-MSHCP. Vernal pool fairy shrimp is a small freshwater crustacean (0.5 to 1.5 inches long) belonging to the *Anostraca* order of branchiopods that inhabit seasonal wetlands and pools.

The 2012 dry season focused survey for vernal pool fairy shrimp and Riverside fairy shrimp was conducted in 22 dry ephemeral pools consisting of 21 depressions in dirt roads and one detention basin. Dry season survey results found no eggs in the soil samples. Three of these pools warranted wet season surveys and were therefore surveyed during the 2011–2012 and 2012–2013 wet seasons. Neither the vernal pool fairy shrimp nor the Riverside fairy shrimp were detected during the wet season surveys. No other special-status fairy shrimp species were found; however, one relatively common species, versatile fairy shrimp (*Branchinecta lindahli*), was observed during the surveys. Because the Project Study Area is outside of its known range and none was observed during focused surveys, the vernal pool fairy shrimp is considered absent from the Project Study Area. The Fairy Shrimp Focused Survey reports are provided in Appendix E, Fairy Shrimp Survey Reports.

Table 4-4: Special-Status Wildlife Species Potentially Occurring or Known to Occur

Species	Status	Habitat and Distribution	Activity Period	Occurrence Probability*
Invertebrates				
Branchinecta lynchi **Vernal pool fairy shrimp**	US: FT CA: – BLM: – MSHCP: WRS	Inhabits ephemeral freshwater habitats, such as vernal pools and swales. Feeds on microscopic organisms such as bacteria and protozoa. Dried eggs will survive in the soil through the dry seasons until pools are formed by rainwater. Native to southern Oregon, and parts of California. Believed extirpated from many locations (USFWS 2009).	Diurnal and nocturnal. January through March.	**Not Expected.** Project Study Area is adjacent to, but outside of known range. None was detected during focused wet and dry season surveys conducted in 2012 and 2013.
Streptocephalus woottoni **Riverside fairy shrimp**	US: FE CA: – BLM: – MSHCP: WRS	Inhabits vernal pools or other seasonal pools at least 30 centimeters in depth. Feeds on microscopic organisms such as bacteria and protozoa. Dried eggs will survive in the soil through the dry seasons until pools are formed by rainwater. Native to southern California and Baja California. Believed extirpated from many locations (USFWS 2008).	Diurnal and nocturnal. January through March.	**Not Expected.** Project Study Area is adjacent to but outside of known range. None was detected during focused wet and dry season surveys conducted in 2012 and 2013.
Halictus harmonius **Haromonius halictid bee**	US: – CA: SA BLM: – MSHCP: –	Habitat is not well understood. Known only from the foothills of the San Bernardino and (with less certainty) the San Jacinto Mountains in Southern California.	Diurnal. Spring and Summer.	**Low.** Species is little known and sparsely distributed.
Macrobaenetes valgum **Coachella giant sand treader cricket**	US: – CA: SA BLM: – MSHCP: CVC	Wind-swept sand dune ridges, spring-dampened sandy areas. Restricted to Coachella Valley.	Nocturnal. Juveniles active late fall through early winter. Adults active early to mid-spring.	**Low**. Habitat poor. Outside known range. Focused searches for the species distinctive delta-shaped burrow tailings failed to detect the species within the floodplain, on the east side of the Whitewater River (AMEC 2012c).
Stenopelmatus cahuilaensis **Coachella Valley Jerusalem cricket**	US: – CA: SA BLM: – MSHCP: –	According to AMEC (2012c), this species is associated with wind-deposited sand dunes, drift sands, and water-deposited gravelly/sandy soils in the western Coachella Valley and eastern San Gorgonio Pass area. This species is vulnerable to desiccation, despite occurring in one of the nation's most arid regions. To prevent drying out, Jerusalem crickets migrate up and down with the moisture regime in local soils. Jerusalem crickets can be found foraging, courting and taking cover beneath surface objects such as decomposing wood, rocks, duff and other debris.	Winter and early spring.	**Moderate.** Not detected along during focused surveys, but potentially suitable habitat occurs at two primary locations: (1) within the floodplain, on the east side of the Whitewater River, and (2) within the Whitewater Hills between Whitewater Canyon and State Route 62 (AMEC 2012c).

Table 4-4: Special-Status Wildlife Species Potentially Occurring or Known to Occur

Species	Status	Habitat and Distribution	Activity Period	Occurrence Probability*
Amphibians				
Spea hammondii **Western spadefoot**	US: – CA: SSC BLM: S MSHCP: WRC	Grasslands and occasionally hardwood woodlands; largely terrestrial but requires rain pools or other ponded water persisting at least three weeks for breeding; burrows in loose soils during dry season. Occurs in the Central Valley and adjacent foothills, the non-desert areas of southern California, and Baja California.	Primarily nocturnal. October through April (following onset of winter rains).	**Observed.** Tadpoles found within the vernal pool in the spillway near Palomares Road in the City of Redlands (LSA 2012).
Anaxyrus californicus **Arroyo toad**	US: FE CA: SSC BLM: – MSHCP: WRS/CVC	Washes and arroyos with open water; sand or gravel beds; for breeding, pools with sparse overstory vegetation. Coastal and a few desert streams from Santa Barbara County to Baja California.	Primarily nocturnal. March through July.	**Not Expected.** Suitable habitat is lacking from the Project Study Area.
Reptiles				
Coleonyx variegatus abbotti **San Diego banded gecko**	US: – CA: SA BLM: – MSHCP: WRC	Often associated with rocks. Coastal sage scrub and chaparral, most often on granite or rocky outcrops in these habitats. Interior Ventura County south to northern Baja California Sur.	Nocturnal. April through October.	**High.** Habitat appears to be suitable.
Sauromalus ater **Chuckwalla**	US: – CA: SA BLM: – MSHCP: –	Sandy areas with rock outcrops or boulders in a variety of desert plant communities. Occurs in the Mojave and Sonoran Deserts of the southwestern United States and northwestern Mexico. Sea level to around 6,000 feet.	Diurnal. May through September.	**Low.** Habitat unsuitable. Not seen during 2012 surveys (LSA 2012).
Phrynosoma blainvillii **Coast horned lizard**	US: – CA: SSC BLM: S MSHCP: WRC	Primarily in sandy soil in open areas, especially washes and floodplains, in many plant communities. Requires open areas for sunning, bushes for cover, patches of loose soil for burial, and an abundant supply of ants or other insects. Occurs from Baja California west of the deserts north to Shasta County below 8,000 feet elevation.	Diurnal. April through July with reduced activity August through October.	**Observed.** Near El Casco Substation (Aspen 2007).
Aspidoscelis tigris stejnegeri **Coastal western whiptail**	US: – CA: SA BLM: – MSHCP: WRC	Wide variety of habitats including coastal sage scrub, sparse grassland, and riparian woodland; coastal and inland valleys and foothills; Ventura County to Baja California.	Diurnal. April through August.	**Observed.** Throughout the Project Study Area, especially along Cottonwood Canyon near the City of Whitewater (LSA 2012, 2013).

Table 4-4: Special-Status Wildlife Species Potentially Occurring or Known to Occur

Species	Status	Habitat and Distribution	Activity Period	Occurrence Probability*
Aspidoscelis hyperythra **Orange-throated whiptail**	US: – CA: SSC BLM: – MSHCP: WRC	Prefers washes and other sandy areas with patches of brush and rocks, in chaparral, coastal sage scrub, juniper woodland, and oak woodland from sea level to 3,000 feet elevation. Perennial plants required. Occurs in Riverside, Orange, San Diego Counties west of the crest of the Peninsular Ranges, in extreme southern San Bernardino County near Colton, and in Baja California.	Diurnal. March through July with reduced activity August through October.	**Low.** Apparently outside the species' current range.
Anniella pulchra pulchra **Silvery legless lizard**	US: – CA: SSC BLM: – MSHCP: –	Inhabits sandy or loose loamy soils with high moisture content under sparse vegetation from central California to northern Baja California.	Diurnal and nocturnal. Nearly year round, at least in southern areas.	**Moderate.** Conditions may be suitable for the species.
Charina trivirgata **Rosy boa**	US: – CA: SA BLM: – MSHCP: –	In rocky areas in chaparral or scrub habitats or adjacent oak woodland; also in rocky riparian areas. Found in Los Angeles County, southwestern San Bernardino County, south through western Riverside County, and San Diego County into Baja California.	Nocturnal. Rarely diurnal. Active between April and September.	**Observed.** Two individuals found along Stubble Canyon near the City of Whitewater (LSA 2012).
Diadophis punctatus modestus **San Bernardino ringneck snake**	US: – CA: SA BLM: – MSHCP: –	Under surface objects along drainage courses, preferring mesic chaparral and oak and walnut woodland communities. Moist habitats of southwestern California from about Ventura to Orange Counties.	Diurnal. Crepuscular and nocturnal during warmer periods.	**High.** Conditions appear to be suitable for the species.
Salvadora hexalepis virgultea **Coast patch-nosed snake**	US: – CA: SSC BLM: – MSHCP: –	Coastal chaparral, washes, sandy flats, and rocky areas from San Luis Obispo County to northwestern Baja California.	Diurnal. Mostly year-round.	**High.** Suitable habitat occurs on site.
Thamnophis hammondii **Two-striped garter snake**	US: – CA: SSC BLM: S MSHCP: –	Highly aquatic. Only in or near permanent sources of water. Streams with rocky beds supporting willows or other riparian vegetation. From Monterey County to northwest Baja California.	Diurnal. Year-round.	**Moderate.** Observed within Whitewater River 4 miles north of the Project Study Area (AMEC 2012d). No known observations in the San Timoteo Canyon area.
Crotalus ruber **Red-diamond rattlesnake**	US: – CA: SSC BLM: – MSHCP: WRC	Desert scrub, thornscrub, open chaparral and woodland; occasional in grassland and cultivated areas. Prefers rocky areas and dense vegetation. Morongo Valley in San Bernardino and Riverside Counties to the west and south into Mexico.	Primarily nocturnal. Mid-spring through mid-fall.	**Observed.** Between Devers Substation and Beaumont (AMEC 2012d). Several in the San Timoteo Badlands just south of the City of Loma Linda (LSA 2012).

Table 4-4: Special-Status Wildlife Species Potentially Occurring or Known to Occur

Species	Status	Habitat and Distribution	Activity Period	Occurrence Probability*
Gopherus agassizii **Desert tortoise**	US: FT CA: ST BLM: – MSHCP: CVC	Historically found throughout most of the Mojave and Sonoran Deserts into Arizona, Nevada, and Utah. Believed to have been extirpated from the western and southern portions of the Antelope Valley. Found in creosote bush scrub, saltbush scrub, thornscrub (in Mexico), and Joshua tree woodland. Found in the open desert as well as in oases, riverbanks, washes, dunes, and occasionally rocky slopes.	Diurnal. Spring, and early fall in areas of summer rains, with brief periods of activity at other times.	**Observed.** Near Lion Canyon (LSA 2010). Near Deep Creek Road on the Reservation (GANDA 2010). Scat and burrows detected between Devers Substation and the Reservation (AMEC 2012b). Two live individuals incidentally found within the eastern edge of the Reservation (LSA 2012).
Birds				
Phalacrocorax auritus (nesting colony) **Double-crested cormorant**	US: – CA: SA BLM: – MSHCP: WRC	Occurs in various habitats with sufficient open water. Nests on the ground, cliffs, trees, and artificial structures. Found throughout much of North America, from Alaska to the Caribbean.	Diurnal. Year-round.	**Not Expected.** No suitable nesting habitat present but occasional visitors expected.
Ardea herodias (nesting colony) **Great blue heron**	US: – CA: SA BLM: – MSHCP: WRC	Usually nests in trees, but also on large bushes, poles, reed beds, and even on the ground. Frequents a wide range of wetland habitats at other times of year. Widespread in North America; winters to northern South America.	Primarily diurnal. February to July at nesting sites; year round elsewhere.	**Not Expected.** No suitable nesting habitat present, but foraging birds observed (LSA 2012).
Ardea alba (nesting colony) **Great egret**	US: – CA: SA BLM: – MSHCP: –	Occurs in a wide range of wetland habitats in much of the temperate and tropical zones worldwide. Nests primarily in trees.	Diurnal. Year-round.	**Not Expected.** No suitable nesting habitat present, but foraging birds observed (LSA 2012).
Egretta thula (nesting colony) **Snowy egret**	US: – CA: SA BLM: – MSHCP: –	Occurs in a wide range of wetland habitats throughout much of the Americas. Nests primarily in trees.	Primarily diurnal. Year-round.	**Not Expected.** No suitable nesting habitat present but foraging birds observed (LSA 2012).
Nycticorax nycticorax (nesting colony) **Black-crowned night-heron**	US: – CA: SA BLM: – MSHCP: WRC	Occurs in a wide range of wetland habitats in much of the temperate and tropical zones worldwide. Nests primarily in trees, sometimes in urban habitats.	Primarily nocturnal. Year-round.	**Not Expected.** No suitable nesting habitat present but foraging birds observed (LSA 2012).
Plegadis chihi (nesting colony) **White-faced ibis**	US: – CA: SA BLM: – MSHCP: WRC	Freshwater wetlands in temperate and tropical North and South America. Usually nests in emergent vegetation or low trees and shrubs over shallow water.	Diurnal. Year-round.	**Not Expected.** No suitable nesting habitat present but occasional visitors expected.

Table 4-4: Special-Status Wildlife Species Potentially Occurring or Known to Occur

Species	Status	Habitat and Distribution	Activity Period	Occurrence Probability*
Pandion haliaetus (nesting) **Osprey**	US: – CA: SA BLM: – MSHCP: WRC	Estuaries, rivers, lakes, and marshes in much of the temperate and tropical world. Nests primarily on trees and other structures. In California, winters in many areas but breeds primarily in the northern part of the state.	Diurnal. Most numerous in winter.	**Not Expected.** No suitable nesting habitat present but the species was observed within the Project Study Area (LSA 2012, 2013).
Elanus leucurus (nesting) **White-tailed kite**	US: – CA: CFP BLM: S MSHCP: WRC	Typically nests in riparian trees such as oaks, willows, and cottonwoods at low elevations. Forages in open country. Found in South America and in southern areas and along the western coast of North America.	Diurnal. Year-round.	**Observed.** Foraging near El Casco (Aspen 2007) and in riparian habitat within the Project Study Area (LSA 2012). Suitable nesting habitat is present within the Project Study Area.
Haliaeetus leucocephalus (nesting & wintering) **Bald eagle**	US: – CA: SE/CFP BLM: S MSHCP: WRC	Winters locally at deep lakes and reservoirs feeding on fish and waterfowl. Locally rare throughout North America.	Diurnal. Primarily November through February, but nests locally.	**Low.** Occasional winter visitors have been observed in the area.
Circus cyaneus (nesting) **Northern harrier**	US: – CA: SSC BLM: – MSHCP: WRC	Marshy habitats, grassland and other open country; uncommon in open desert and brushlands. Nests on the ground in open (treeless) wetland and upland areas, including cultivated cropland and dry grassland. Nests usually constructed in tall, dense clumps of vegetation. Found in the Temperate Zone worldwide.	Diurnal. Year-round, but more widespread in winter.	**Low.** Suitable nesting habitat probably absent. Foraging birds observed in open grassland near El Casco (Aspen 2007), within the Reservation (LSA 2010), in various loci in Project Study Area (LSA 2012, 2013).
Accipiter cooperii (nesting) **Cooper's hawk**	US: – CA: SA BLM: – MSHCP: WRC	Forages in a wide range of habitats, but primarily in forests and woodlands. Usually nests in tall trees (20 to 60 feet). Found throughout North America.	Diurnal. Year-round.	**Observed.** Found foraging over El Casco Substation (Aspen 2007). Throughout the Project Study Area (LSA 2012, 2013).
Buteo swainsoni (nesting) **Swainson's hawk**	US: – CA: ST BLM: S MSHCP: WRC	Open desert, grassland, or cropland containing scattered, large trees or small groves. Breeds in stands with few trees in juniper-sage flats, riparian areas, and in oak savannah in the Central Valley. Forages in adjacent grasslands or suitable grain or alfalfa fields, or livestock pastures. Breeds and nests in western North America; winters in South America. In Southern California, now mostly occurs as a spring and fall transient.	Diurnal. Spring and fall (in migration).	**Not Expected.** Nesting not expected. Nesting individuals not observed and Project Study Area is outside the species known breeding range. Some suitable nesting habitat is present and migrants observed, especially in 2013 when over 200 migrants were observed on hills just east of the San Timoteo Landfill near Palomares Road and San Timoteo Creek Road (LSA 2012, 2013).

Table 4-4: Special-Status Wildlife Species Potentially Occurring or Known to Occur

Species	Status	Habitat and Distribution	Activity Period	Occurrence Probability*
Buteo regalis (wintering) **Ferruginous hawk**	US: – CA: SA BLM: – MSHCP: WRC	Open country in western North America; north to Canada in summer and south to Mexico in winter.	Diurnal. Mid-September through mid-April.	**Observed.** Within Project Study Area in northeast corner of the City of Beaumont (LSA 2012).
Aquila chrysaetos (nesting & wintering) **Golden eagle**	US: – CA: CFP BLM: S MSHCP: WRC	Generally open country of the Temperate Zone worldwide. Nesting primarily in rugged mountainous country. Uncommon resident in Southern California.	Diurnal. Year-round.	**Observed.** Foraging near El Casco Substation (Aspen 2007). Within the Reservation (LSA 2010). Two individuals flying over transmission towers located in the Whitewater River area and on the Reservation (LSA 2012). Nest detected 1.5 miles from the WOD Corridor during 2013 focus surveys (WRI 2013).
Coccyzus americanus occidentalis (nesting) **Western yellow-billed cuckoo**	US: FC CA: SE BLM: S MSHCP: WRS	Breeds and nests in extensive stands of dense cottonwood/willow riparian forest along broad, lower flood bottoms of larger river systems at scattered locales in western North America; winters in South America.	Diurnal. May through September.	**Low.** Habitat may be unsuitable for nesting but individuals have been observed in riparian habitat associated with San Timoteo Creek south of El Casco Substation (outside of the Study Area) (Aspen 2007).
Athene cunicularia (burrow sites) **Burrowing owl**	US: – CA: SSC BLM: S MSHCP: WRS/CVC	Open country in much of North and South America. Usually occupies ground squirrel burrows in open, dry grasslands, agricultural and range lands, railroad rights-of-way, and margins of highways, golf courses, and airports. Often utilizes man-made structures, such as earthen berms, cement culverts, cement, asphalt, rock, or wood debris piles. Avoids thick, tall vegetation, brush, and trees, but may occur in areas where brush or tree cover is less than 30 percent.	Crepuscular. Year-round.	**Observed.** On the Reservation (LSA 2010; GANDA 2010). Between Devers Substation and Whitewater River (GANDA 2011). On Whitewater Hill (AMEC 2012b). Within the eastern portion of the Project Study Area (LSA 2012, 2013).
Asio otus (nesting) **Long-eared owl**	US: – CA: SSC BLM: – MSHCP: –	Scarce and local in forests and woodlands throughout much of the Northern Hemisphere. Rare resident in coastal southern California. Nests and roosts in dense willow-riparian woodland and oak woodland, but forages over wider areas. Breeds from valley foothill hardwood up to ponderosa pine habitat.	Nocturnal. Year-round.	**Low.** Suitable nesting habitat may be absent.

Table 4-4: Special-Status Wildlife Species Potentially Occurring or Known to Occur

Species	Status	Habitat and Distribution	Activity Period	Occurrence Probability*
Cypseloides niger (nesting) **Black swift**	US: – CA: SSC BLM: – MSHCP: WRC	Most frequently seen in the air feeding on tiny airborne insects. Usually seen near cliffs in mountainous regions; occasionally coastal. Nests at widely scattered locations from western North America to Middle America and the Caribbean; probably winters in South America. In California, breeds very locally in the Sierra Nevada and Cascade Range, the San Gabriel, San Bernardino, and San Jacinto Mountains, and in coastal bluffs and mountains from San Mateo County south possibly to San Luis Obispo County.	Diurnal. May through September, most widespread during migration.	**Not Expected.** No nesting habitat available, but foraging birds and migrants may occasionally visit the site.
Calypte costae (nesting) **Costa's hummingbird**	US: – CA: SA BLM: – MSHCP: –	Primarily deserts, arid brushy foothills, and chaparral in the southwestern United States and northwestern Mexico.	Diurnal. February through September, rare in winter.	**Observed.** Found within the Reservation (LSA 2010) and just east of the San Bernardino Junction (LSA 2012).
Selasphorus sasin (nesting) **Allen's hummingbird**	US: – CA: SA BLM: – MSHCP: –	Nests in residential areas, chaparral, open oak woodland, and riparian woodland in coastal areas the length of California; winters from Southern California to southern Mexico. In California, generally restricted to exotic vegetation in urban areas in winter.	Diurnal. Year-round in coastal Southern California.	**Not Expected.** Outside known breeding range but individuals may occur during migration.
Picoides nuttallii (nesting) **Nuttall's woodpecker**	US: – CA: SA BLM: – MSHCP: –	Oak, pine-oak, and riparian woodland in California and northwestern Baja California.	Diurnal. Year-round.	**Observed.** Nesting presumed. Pairs observed in the breeding season near San Timoteo Creek and in the canyon just north of Theodore Street in the City of Banning (LSA 2012).
Falco columbarius (wintering) **Merlin**	US: – CA: SA BLM: – MSHCP: WRC	Open country; breeds in the Holarctic Region and winters south to the tropics. Rare fall migrant and winter visitor to southwestern California.	Diurnal. September through April.	**Observed.** Near El Casco (Aspen 2007). Near Refuse Road, south of San Timoteo Creek Road (LSA 2013)
Falco peregrinus anatum (nesting) **American peregrine falcon**	US: – CA: CFP BLM: – MSHCP: WRC	Widespread, but scarce and local throughout North America. Forages over a wide range of habitats, especially wetlands. Normally nests on cliffs; some nest in urban settings on tall buildings and bridges.	Diurnal. Year-round.	**Not Expected.** Suitable nesting habitat appears absent though foraging individuals have been observed over San Timoteo Creek near El Casco (Aspen 2007) and within the Project Study Area (LSA 2012, 2013).
Falco mexicanus (nesting) **Prairie falcon**	US: – CA: SA BLM: – MSHCP: WRC	Open country in much of North America. Nests in cliffs or rocky outcrops; forages in open arid valleys and agricultural fields. Rare in southwestern California.	Diurnal. Year-round.	**Not Expected.** Suitable nesting habitat appears absent though foraging individuals have been observed near El Casco (Aspen 2007), in scrub habitats on the Reservation (LSA 2010), within the Project Study Area (AMEC 2012b; LSA 2012).

Table 4-4: Special-Status Wildlife Species Potentially Occurring or Known to Occur

Species	Status	Habitat and Distribution	Activity Period	Occurrence Probability*
Contopus cooperi (nesting) **Olive-sided flycatcher**	US: – CA: SSC BLM: – MSHCP: –	Breeds along forest edge and in opening in montane and coniferous forests. Breeding range includes all of California and upward through North America; winters in South America.	Diurnal. April through September, most widespread during migration.	**Not Expected.** No suitable nesting habitat present, although migrants observed (LSA 2012).
Empidonax traillii brewsteri (nesting) **Little willow flycatcher**	US: – CA: SE BLM: – MSHCP: –	Breeds in riparian woodland and open second growth from southwestern British Columbia to central California. Winters in Middle and South America.	Diurnal. May through September in nesting areas. More widespread during migration.	**Not Expected.** Outside breeding range, but migrants known to occur.
Empidonax traillii extimus **Southwestern willow flycatcher**	US: FE CA: SE BLM: – MSHCP: WRS/CVC	Rare and local breeder in riparian areas, willows, usually with standing water, in the southwestern U.S. and formerly northwestern Mexico. Winters in Middle and South America.	Diurnal. May through September.	**Low.** Some riparian areas on site may be marginally suitable for nesting. Migrant willow flycatcher observed in 2007 probably represents *E. t. brewsteri* (Aspen 2007).
Pyrocephalus rubinus (nesting) **Vermilion flycatcher**	US: – CA: SSC BLM: – MSHCP: –	Occurs in a wide range of open country habitats, often near water. Ranges from the southwestern United States to central South America. Rare and local in southwestern California.	Diurnal. Fall or winter visitor or rare and local breeder.	**Low.** Probably no suitable nesting habitat.
Lanius ludovicianus (nesting) **Loggerhead shrike**	US: – CA: SSC BLM: – MSHCP: WRC	Prefers open habitats with scattered shrubs, trees, posts, fences, utility lines, or other perches. Inhabits open country with short vegetation, pastures, old orchards, cemeteries, golf courses, riparian areas, and open woodlands. Occurs only rarely in heavily urbanized areas, but often found in open cropland. Found in open country in much of North America.	Diurnal. Year-round.	**Observed.** Near El Casco Substation (Aspen 2007), within the Reservation (LSA 2010), and near San Gorgonio River and Whitewater Canyon (LSA 2012, 2013). Suitable nesting habitat is present.
Vireo bellii pusillus **Least Bell's vireo**	US: FE CA: SE BLM: – MSHCP: WRS/CVC	Formerly occurred in well-developed riparian areas from north-central California to Baja California. Now absent from northern portions of its range, but populations in southern California are growing in response to intense management efforts. Winters primarily in western Mexico.	Diurnal. April through September.	**Observed.** Territories in riparian habitat associated with San Timoteo Creek near El Casco Substation (Aspen 2007), in riparian habitat associated with San Timoteo Creek (LSA 2012), in riparian habitat along Highland Spring Road just south Beaumont (LSA 2013).

Table 4-4: Special-Status Wildlife Species Potentially Occurring or Known to Occur

Species	Status	Habitat and Distribution	Activity Period	Occurrence Probability*
Eremophila alpestris actia **California horned lark**	US: – CA: SA BLM: – MSHCP: WRC	Open grasslands and fields, agricultural area, open montane grasslands. This subspecies is resident from northern Baja California northward throughout non-desert areas to Humboldt County. During the breeding season, this is the only subspecies of horned lark in non-desert southern California; however, from September through April or early May, other subspecies visit the area.	Diurnal. Year-round.	**Observed.** Near El Casco Substation and in agricultural fields (Aspen 2007). Within the Reservation (LSA 2010). Within the Project Study Area (LSA 2012).
Progne subis (nesting) **Purple martin**	US: – CA: SSC BLM: – MSHCP: WRC	Open agricultural areas, towns, and marsh edges. Nesting habitat consists of old sycamores and pines, often within oak woodland or open coniferous forest. Breeds throughout much of North America, but rare and local in southern California. Winters in South America.	Diurnal. April through September.	**Low.** Probably no suitable nesting habitat.
Baeolophus inornatus (nesting) **Oak titmouse**	US: – CA: SA BLM: – MSHCP: –	Primarily oak woodland from southern Oregon to southern Baja California Sur. Common resident in much of Southern California.	Diurnal. Year-round.	**Observed.** Near San Timoteo Creek (LSA 2012).
Polioptila californica californica **Coastal California gnatcatcher**	US: FT CA: SSC BLM: – MSHCP: WRC	Inhabits coastal sage scrub in low-lying foothills and valleys up to about 1,640 feet elevation in cismontane southwestern California and Baja California.	Diurnal. Year-round.	**Moderate.** Recorded 2 miles south of Segment 2 near Reche Canyon in 1997 (3 pair) and 2000 (male) (CNDDB Occurrence Number 542), but not found during protocol surveys in 2012 and 2013 (LSA 2012, 2013).
Polioptila melanura **Black-tailed gnatcatcher**	US: – CA: SA BLM: – MSHCP: –	Nests in wooded desert wash habitat containing mesquite, palo verde, ironwood, and acacia. May also occur in areas with salt cedar, especially when adjacent to native wooded desert wash habitat. Also occurs in desert scrub habitat in winter.	Diurnal. Year-round.	**Observed.** East of the San Gorgonio River (LSA 2012).
Toxostoma bendirei **Bendire's thrasher**	US: – CA: SSC BLM: S MSHCP: –	Inhabits deserts, often in the vicinity of Joshua trees, yucca, junipers, or plentiful cholla. Generally uncommon and local. Resident in southern Arizona and Sonora, extending as far as southeastern California, southern Utah, and western New Mexico during the breeding season. Recorded at Whitewater in May 1897.	Diurnal. Primarily April through July.	**Not Expected.** Suitable nesting habitat appears to be lacking.

Table 4-4: Special-Status Wildlife Species Potentially Occurring or Known to Occur

Species	Status	Habitat and Distribution	Activity Period	Occurrence Probability*
Toxostoma lecontei **Le Conte's thrasher**	US: – CA: SA BLM: – MSHCP: –	Inhabits sparsely vegetated desert flats, dunes, alluvial fans, or gently rolling hills having a high proportion of saltbush (*Atriplex* spp.) or cholla (*Cylindropuntia* spp.), often occurring along small washes or sand dunes. Prefers dense thorny shrubs (most often saltbush or cholla) for nesting. Uncommon and local resident in low desert scrub throughout most of the Mojave Desert, extending up into the southwestern corner of the San Joaquin Valley. Breeding range in California extends from these areas into eastern Mojave, north into the Owens Valley and south into the lower Colorado Desert and eastern Mojave. Only the San Joaquin Valley population of this species is considered a BLM Sensitive species or California Species of Concern. Also ranges into southern Nevada, western Arizona, and northwestern Mexico.	Diurnal. Year-round.	**Observed.** Within the Reservation (LSA 2010, 2012).
Setophaga petechia (nesting) **Yellow warbler**	US: – CA: SSC BLM: – MSHCP: WRC/CVC	Riparian woodland while nesting in the western U.S. and northwestern Baja California; more widespread in brushy areas and woodlands during migration. Occurs from western Mexico to northern South America in winter. Migrants are widespread and common.	Diurnal. April through September in nesting areas. More widespread during migration, rare in winter.	**Observed.** Nesting presumed. Pairs observed during the breeding season in riparian habitat associated with San Timoteo Creek near El Casco Substation (Aspen 2007; LSA 2012).
Icteria virens (nesting) **Yellow-breasted chat**	US: – CA: SSC BLM: – MSHCP: WRC/CVC	Riparian thickets of willow, brushy tangles near watercourses. Nests in riparian woodland throughout much of western North America. Winters in Central America.	Diurnal. April through September.	**Observed.** In riparian habitat associated with San Timoteo Creek near El Casco Substation (Aspen 2007). Just east of San Timoteo Creek (LSA 2012).
Aimophila ruficeps canescens **Southern California rufous-crowned sparrow**	US: – CA: SA BLM: – MSHCP: WRC	Steep, rocky coastal sage scrub and open chaparral habitats, particularly scrubby areas mixed with grasslands. From Santa Barbara County to northwestern Baja California.	Diurnal. Year-round.	**Observed.** In Riversidean sage scrub/chaparral habitat within the Reservation (LSA 2010). In chaparral just south of the City of Redlands, and in scrubland west of the Reservation; common throughout western coastal sage scrub habitat within the Project Study Area (LSA 2012, 2013).
Spizella breweri (nesting) **Brewer's sparrow**	US: – CA: SSC BLM: – MSHCP: –	Inhabits brushland, primarily sagebrush flats. Breeds in the western United States and Canada and winters in the southwestern United States and western Mexico.	Diurnal. Primarily September through April in our area.	**Low.** Regular during migration and winter, but nesting is not expected.

Table 4-4: Special-Status Wildlife Species Potentially Occurring or Known to Occur

Species	Status	Habitat and Distribution	Activity Period	Occurrence Probability*
Pooecetes gramineus affinis **Oregon vesper sparrow**	US: – CA: SSC BLM: – MSHCP: –	A grassland obligate, breeding in western Washington, Oregon, and extreme northwestern California and wintering primarily in southwestern California.	Diurnal. September to April.	**Moderate.** Vesper sparrows were observed during 2012 surveys but subspecies identification is difficult and the subspecies *P. g. confinis* is believed to be the more numerous subspecies here (LSA 2012).
Chondestes grammacus (nesting) **Lark sparrow**	US: – CA: SA BLM: – MSHCP: –	Open situations with scattered bushes or trees. Breeds throughout much of western North America and winters from the southern United States to southern Mexico.	Diurnal. Year-round.	**Observed.** In the canyon just north of Theodore Street in the City of Banning, and just east of the San Timoteo Landfill within the study area in the San Bernardino County (LSA 2012).
Artemisiospiza belli belli **Bell's sage sparrow**	US: – CA: SA BLM: – MSHCP: WRC	Occupies chaparral and coastal sage scrub from west central California to northwestern Baja California.	Diurnal. Year-round.	**Observed.** On the Reservation (LSA 2010).
Ammodramus savannarum (nesting) **Grasshopper sparrow**	US: – CA: SSC BLM: – MSHCP: WRP	Grasslands of North America and northern South America.	Diurnal. Primarily March through August.	**Observed.** Within the Study Area just west of the Reservation (LSA 2012).
Agelaius tricolor (nesting colony) **Tricolored blackbird**	US: – CA: SSC BLM: S MSHCP: WRC	Open country in western Oregon, California, and northwestern Baja California. Breeds near fresh water, preferably in emergent wetland with tall, dense cattails or tules, but also in thickets of willow, blackberry, wild rose, tall herbs and forages in grassland and cropland habitats. Seeks cover for roosting in emergent wetland vegetation, especially cattails and tules, and also in trees and shrubs.	Diurnal. Year-round.	**Low.** No suitable nesting habitat present but foraging birds were observed (LSA 2012).
Spinus lawrencei (nesting) **Lawrence's goldfinch**	US: – CA: SA BLM: – MSHCP: –	Oak woodland chaparral, riparian woodland and other habitats in arid regions, but usually near water; from northern California to northern Baja California, but periodically wandering throughout much of western North America.	Diurnal. Fairly common April through August; otherwise uncommon.	**Observed.** Observed in the canyon just north of Theodore Street in the City of Banning, as well as at the end of Pilgrim Road south of Redlands. (LSA 2012).
Mammals				
Xerospermophilus tereticaudus chlorus **Palm Springs round-tailed ground squirrel**	US: – CA: SSC BLM: S MSHCP: –	Desert succulent scrub, desert wash, desert scrub, alkali scrub; will burrow in man-made levees; prefers open, flat, grassy areas in fine textured, sandy soil. Restricted to Coachella Valley.	Diurnal. February through August (hibernates September through January).	**Low.** May be outside species' current known range. Not observed during 2012 and 2013 surveys (LSA 2012, 2013).

Table 4-4: Special-Status Wildlife Species Potentially Occurring or Known to Occur

Species	Status	Habitat and Distribution	Activity Period	Occurrence Probability*
Dipodomys merriami parvus **San Bernardino kangaroo rat**	US: FE CA: SSC BLM: – MSHCP: WRS	Gravelly and sandy soils of alluvial fans, braided river channels, active channels and terraces; San Bernardino Valley (San Bernardino County) and San Jacinto Valley (Riverside County).	Nocturnal. Year-round.	**Not Expected.** No suitable habitat present.
Dipodomys stephensi **Stephens' kangaroo rat**	US: FE CA: ST BLM: – MSHCP: WRC	Found in plant communities transitional between grassland and coastal sage scrub, with perennial vegetation cover of less than 50%. Most commonly associated with *Artemesia tridentata, Eriogonum fasciculatum,* and *Erodium.* Requires well-drained soils with compaction characteristics suitable for burrow construction. Not found in soils that are highly rocky, less than 20 inches deep, or heavily alkaline or clay, or in areas exceeding 25% slope. Occurs only in western Riverside County, northern San Diego County, and extreme southern San Bernardino County, below 3,000 feet elevation. In northwestern Riverside County, known only from east of Interstate 15. Reaches its northwest limit in south Norco, southeast Riverside, and in the Reche Canyon area of Riverside and extreme southern San Bernardino Counties.	Nocturnal. Year-round.	**Observed.** One specimen found outside of the 100-foot study buffer area at the end of Pilgrim Road south of Redlands. (LSA 2012).
Perognathus longimembris bangsii **Palm Springs pocket mouse**	US: – CA: SSC BLM: MSHCP: CVC	Primary habitat in the Coachella Valley is dunes and mesquite hummocks associated with honey mesquite (*Prosopis glandulosa* var. *torreyana*) and, to a lesser extent, dunes and hummocks associated with creosote (*Larrea tridentata*) or other vegetation. Its range in the Coachella Valley extends from Joshua Tree National Park southward, west to San Gorgonio Pass, and south to Borrego Springs and the east side of San Felipe Narrows, in Riverside, San Diego, and Imperial Counties.	Nocturnal. Primarily active spring through fall.	**Observed.** Between Whitewater Canyon and the eastern terminus of the Project Study Area (LSA 2012).
Perognathus longimembris brevinasus **Los Angeles pocket mouse**	US: – CA: SSC BLM: – MSHCP: WRS	Prefers sandy soil for burrowing, but has been found on gravel washes and stony soils. Found in coastal sage scrub in Los Angeles (formerly), western Riverside, and southwestern San Bernardino Counties.	Nocturnal. Primarily active spring through fall.	**Observed.** Near Smith Creek and Montgomery Creek near El Casco Substation (Aspen 2007). Between Beaumont and Cherry Valley, north of Banning and north and northeast of Cabazon (LSA 2012, 2013).
Chaetodipus fallax fallax **Northwestern San Diego pocket mouse**	US: – CA: SSC BLM: – MSHCP: WRC	Found in sandy herbaceous areas, usually associated with rocks or coarse gravel in coastal scrub, chaparral, grasslands, and sagebrush, from Los Angeles County through southwestern San Bernardino, western Riverside, and San Diego Counties to northern Baja California.	Nocturnal. Year-round.	**Observed.** Along Smith Creek near El Casco Substation (Aspen 2007). Also observed in the Badlands generally southeast of Loma Linda and south of Redlands, between Beaumont and Cherry Valley, and north of Banning (LSA 2012, 2013).

Table 4-4: Special-Status Wildlife Species Potentially Occurring or Known to Occur

Species	Status	Habitat and Distribution	Activity Period	Occurrence Probability*
Chaetodipus fallax pallidus **Pallid San Diego pocket mouse**	US: – CA: SSC BLM: – MSHCP: –	Found in sandy herbaceous areas, usually associated with rocks or coarse gravel in desert wash, desert scrub, desert succulent scrub, and pinyon-juniper woodland. Restricted to southwestern California from southwestern San Bernardino County to eastern San Diego and western Imperial Counties.	Nocturnal. Year-round.	**Observed.** From Cabazon eastward within the Project Study Area (LSA 2012).
Neotoma lepida intermedia **San Diego desert woodrat**	US: – CA: SSC BLM: – MSHCP: WRC	Frequents poorly vegetated arid lands and is especially associated with cactus patches. Occurs along the Pacific slope from about San Luis Obispo County to northwest. Baja California. Three subspecies of desert woodrat have traditionally been recognized in the area, and the boundary of the coastal subspecies' range is unclear (probably at about Banning). However, the most recent taxonomic work on these animals suggested a species level split within the Project Study Area, with *N. lepida* to the east (desert) and *N. bryanti* to the west (coastal) (Patton et al. 2008).	Nocturnal, occasionally crepuscular and diurnal. Year-round.	**Observed.** In the Badlands, generally located southeast of Loma Linda and south of Redlands, and north of Banning in the central portion of the Project Study Area (LSA 2012). Desert woodrats east of Banning are not likely to be this subspecies.
Onychomys torridus ramona **Southern grasshopper mouse**	US: – CA: SSC BLM: – MSHCP: –	Believed to inhabit sandy or gravelly valley floor habitats with friable soils in open and semi-open scrub, including coastal sage scrub, mixed chaparral, low sagebrush, riparian scrub, and annual grassland with scattered shrubs, preferring low to moderate shrub cover. More susceptible to small- and large-scale habitat loss and fragmentation than most other rodents, due to its low fecundity, low population density, and large home range size. Arid portions of cismontane southwestern California and northwestern Baja California.	Nocturnal. Year-round.	**Low.** Not captured during 2012 and 2013 surveys. Grasshopper mice captured at the eastern end of the Project Study Area are belong to the subspecies *O. t. pulcher* (LSA 2012).
Lepus californicus bennettii **San Diego black-tailed jackrabbit**	US: – CA: SSC BLM: – MSHCP: WRC	Variety of habitats including herbaceous and desert scrub areas, early stages of open forest and chaparral. Most common in relatively open habitats. Restricted to the cismontane areas of Southern California, extending from the coast to the Santa Monica, San Gabriel, San Bernardino, and Santa Rosa Mountain Ranges.	Primarily nocturnal. Year-round.	**Observed.** In several locations near El Casco (Aspen 2007). (Specimens from Cabazon and Whitewater have been identified as *deserticola*, not *bennnettii*).

Table 4-4: Special-Status Wildlife Species Potentially Occurring or Known to Occur

Species	Status	Habitat and Distribution	Activity Period	Occurrence Probability*
Macrotus californicus **California leaf-nosed bat**	US: – CA: SSC BLM: S MSHCP: –	Occurs from northern Nevada, Southern California, and western Arizona south to southern Baja California and Sonora. In California, these bats primarily occupy low-lying desert areas, where they roost in caves, mines, and old buildings. Historic records extend west to near Chatsworth, Los Angeles County, but most populations from the California coastal basins are believed to be extirpated (Williams 1986).	Nocturnal. Year-round.	**Not Expected.** Specific roosting and foraging habitat not present and Study Area outside of likely range
Eumops perotis **Western mastiff bat**	US: – CA: SSC BLM: S MSHCP: –	Ranged historically throughout much of the southwestern United States and northwestern Mexico. In California, most records are from rocky areas at low elevations. Occurs in many open, semi-arid to arid habitats, including conifer and deciduous woodlands, coastal scrub, grasslands, chaparral, etc.; roosts in crevices in vertical cliff faces, high buildings, trees, and tunnels throughout southwestern California. May roost in tall bridges.	Nocturnal. Year-round.	**Observed.** No suitable cliffs or rock outcrops for day roosting present but forages in the Study Area. Audibly detected near the City of Grand Terrace and southwest of El Casco Lakes within the Project Study Area (LSA 2012).
Nyctinomops femorosaccus **Pocketed free-tailed bat**	US: – CA: SSC BLM: – MSHCP: –	Varied habitats, but usually associated with high cliffs or rocky areas. Spotty distribution, ranging from southern California and southwestern Arizona through central Mexico. Roosts primarily in cliffs/rock crevices; may use buildings for roosting. Rarely roosts in bridges.	Nocturnal. Year-round.	**Low.** Suitable cliffs and rock outcrops not present for day roosting. May forage in Project Study Area.
Nyctinomops macrotis **Big free-tailed bat**	US: – CA: SSC BLM: – MSHCP: –	Mainly inhabits rugged, rocky habitats in arid southwestern North America. Feeds principally on large moths. Roosts primarily in cliffs/rock crevices, and rarely in buildings, caves, and tree cavities. Not known to use bridges for roosting.	Nocturnal. Year-round.	**Low.** Suitable cliffs and rock outcrops not present for day roosting. May forage in Project Study Area.
Lasiurus blossevillii **Western red bat**	US: FSS CA: SSC BLM: – MSHCP: –	Ranges from southwestern Canada through the western United States and Middle America to South America. Forages over a wide range of habitats, but often associated with intact riparian habitat, and particularly with willows, cottonwoods, and sycamores. Typically solitary, roosting in the foliage of trees or shrubs. Day roosts are commonly in edge habitats adjacent to streams or open fields, in orchards, and sometimes in urban areas.	Nocturnal. Year-round.	**High.** Suitable large trees present for day roosting in riparian areas and citrus groves. Likely forages in Project Study Area.
Lasiurus cinereus **Hoary bat**	US: CA: SA BLM: – MSHCP: –	Forages over a wide range of habitats, but prefers open habitats with access to trees, for roosting, and water. Ranges throughout much of North and South America.	Nocturnal. Most common in winter and during migratory periods in our area.	**High.** Suitable large oak trees present for day roosting. Likely forages in Project Study Area.

Table 4-4: Special-Status Wildlife Species Potentially Occurring or Known to Occur

Species	Status	Habitat and Distribution	Activity Period	Occurrence Probability*
Lasiurus xanthinus **Western yellow bat**	US: – CA: SSC BLM: – MSHCP: –	Varied habitats from the southwestern United States to southern Mexico; often associated with palms and desert riparian habitats. In southern California occurs in palm oases and in residential areas with untrimmed palm trees. Roosts primarily in trees, especially the dead fronds of palm trees, though they have also been documented to roost under the leaves of deciduous trees such as cottonwoods.	Nocturnal. Year-round.	**High.** Suitable palm trees for day roosting present in project vicinity; may also roost in large-leaved deciduous trees within or adjacent to Project Study Area. Likely forages in Project Study Area.
Corynorhinus townsendii **Townsend's big-eared bat**	US: FSS CA: SC BLM: S MSHCP: –	Ranges from southwestern Canada through the western United States to southern Mexico. Requires caves, mines, tunnels, buildings or other similar structures for roosting. Occasionally roosts in hollow spaces of bridges or buildings. Will occasionally roost in hollow trees. Highly sensitive to disturbance.	Nocturnal. Year-round.	**Low.** No suitable day roosting habitat in or adjacent to Project Study Area. May forage in Project Study Area.
Euderma maculatum **Spotted bat**	US: – CA: SSC BLM: S MSHCP: –	Found in various communities including desert-scrub, pinyon-juniper woodland, ponderosa pine, mixed conifer forest, canyons, cliffs, riparian areas, fields, and open pasture at scattered localities in western North America from southern British Columbia to north-central Mexico. Roosts in cracks, crevices, and caves, usually on exposed cliff faces. Poorly known. Wanders widely and through varied habitats when foraging.	Nocturnal. Year-round.	**Low.** No suitable day roosting habitat in or adjacent to Project Study Area. May forage in Project Study Area.
Antrozous pallidus **Pallid bat**	US: FSS CA: SSC BLM: S MSHCP: –	Varied habitats in western North America, including grasslands, shrublands, woodlands, deserts, and forest. Primarily day roosts in bridges, hollows or crevices of trees, or buildings. Occasionally roosts in mines, caves, and cliff/ rock crevices. Night roosts may be more open sites, such as porches, open buildings, and bridges.	Nocturnal. Year-round.	**High.** Suitable trees and structures for day roosting present. Likely forages in Study Area.
Lasionycteris noctivagans **Silver-haired bat**	US: – CA: SA BLM: – MSHCP: –	Roosts in hollow trees, beneath exfoliating bark, abandoned woodpecker holes and rarely under rocks. Needs drinking water. Primarily a coastal and montane forest dweller feeding over streams, ponds and open brushy areas. Much of North America north of Mexico.	Nocturnal. Year-round.	**Moderate.** Occurs widely during migration.
Myotis ciliolabrum **Western small-footed myotis**	US: – CA: SA BLM: S MSHCP: –	Found across much of North America, primarily in relatively arid wooded and brushy uplands near water. Individuals are known to roost singly or in small groups in cliff and rock crevices, buildings, concrete overpasses, caves, and mines.	Nocturnal. Primarily the warmer months.	**Moderate.** Marginally suitable habitat present for day roosting. May forage in Project Study Area.

Table 4-4: Special-Status Wildlife Species Potentially Occurring or Known to Occur

Species	Status	Habitat and Distribution	Activity Period	Occurrence Probability*
Myotis evotis **Long-eared myotis**	US: – CA: SA BLM: S MSHCP: –	Found throughout much of North America, in semiarid shrublands, chaparral, and agricultural areas, but is usually associated with coniferous forests. Roosts under exfoliating tree bark and in hollow trees, caves, mines, and crevices in cliffs/rocks. Sometimes roosts in buildings and bridges.	Nocturnal. Primarily the warmer months.	**Moderate.** Marginally suitable trees present for day roosting; may forage in Project Study Area.
Myotis thysanodes **Fringed myotis**	US: – CA: SA BLM: S MSHCP: –	Range is patchy in western North America from sea-level to 9,350 feet; most common at middle elevations. Appears to be most common in drier woodlands but is found in a wide variety of habitats including desert scrub, mesic coniferous forest, grassland, and sage-grass steppe. Roosts primarily in large trees and snags, as well as in caves and mines. Also roosts in buildings, rock crevices, cliff faces, and bridges.	Nocturnal. Primarily the warmer months.	**Low.** Generally rare and local in the area. Suitable roosting habitat not found within the Study Area; however, foraging individuals may occur.
Myotis volans **Long-legged myotis**	US: – CA: SA BLM: – MSHCP: –	Widespread in western North America, primarily in coniferous forests, but also occurs seasonally in riparian and desert habitats. Utilizes abandoned buildings, cracks in the ground, cliff crevices, exfoliating tree bark, and hollows within snags as summer day roosts; caves and mine tunnels are used as hibernacula. Commonly forages in and around the forest canopy.	Nocturnal. Primarily the warmer months.	**Low.** Marginally suitable trees present for day roosting; may forage in Project Study Area.
Myotis yumanensis **Yuma myotis**	US: – CA: SA BLM: S MSHCP: –	Occurs in a variety of habitats in western North America, including riparian, arid scrublands and deserts, and forests. Optimal habitats are open forests and woodlands with sources of water over which to feed. Roosts in buildings, mines, caves or crevices; and under bridges. May occasionally roost in swallow nests.	Nocturnal. Primarily the warmer months.	**High.** Suitable day-roosting habitat present in trees and structures. Likely forages in Project Study Area.
Taxidea taxus **American badger**	US: – CA: SSC BLM: – MSHCP: –	Primary habitat requirements seem to be sufficient food and friable soils in relatively open uncultivated ground in grasslands, woodlands, and desert. Widely distributed in North America.	Primarily nocturnal. Year-round.	**Moderate.** Widely distributed and known to occur in the area.
Bassariscus astutus **Ringtail**	US: – CA: CFP BLM: – MSHCP: –	Woody and rocky areas of the southwestern United States and most of Mexico.	Nocturnal. Year-round.	**Moderate.** Most likely in rocky areas.

Table 4-4: Special-Status Wildlife Species Potentially Occurring or Known to Occur

Species	Status	Habitat and Distribution	Activity Period	Occurrence Probability*
Ovis canadensis nelsoni **Nelson's bighorn sheep** (non-peninsular population)	US: – CA: SA BLM: S MSHCP: –	Occurs in open, rocky, steep areas with available water and herbaceous forage. Non-peninsular population ranges from San Gorgonio Pass north to central California, central Nevada, and northwestern Arizona.	Diurnal. Year-round.	**Low.** Not observed during surveys conducted from 2011 through 2013. May be just outside of the species' current range**.**

* LSA 2012 and LSA 2013 species observations were made by either LSA staff or their subconsultants during 2012 and 2013 general and/or focused surveys conducted for the Proposed Project.

US: Federal Classifications
FE: Listed as Endangered.
FT: Listed as Threatened.
FC: Candidate for listing as Threatened or Endangered.
FSS: Forest Service Sensitive Species. Not listed under the Federal Endangered Species Act, but receive special management within the National Forest.
CA: State Classifications
SE: State-listed as Endangered.
ST: State-listed as Threatened.
SC: Candidate for listing as Threatened or Endangered.
SSC: Species of Special Concern. Refers to animals with vulnerable or seriously declining populations.
CFP: California Fully Protected. Refers to animals protected from take under Fish and Game Code sections 3511, 4700, 5050, and 5515.
SA: Special Animal. Refers to any other animal monitored by the Natural Diversity Data Base, regardless of its legal or rarity status.
BLM: BLM Classification for California
S: BLM Sensitive Species
MSHCP: Multiple Species Habitat Conservation Plan
WRC: Western Riverside County MSHCP Species: covered under the MSHCP
WRS: Western Riverside County MSHCP Species: surveys are required within indicated habitats and/or survey areas; covered under the MSHCP
WRP: Western Riverside County MSHCP Species: will be adequately conserved when specified requirements are met; covered under the MSHCP
CVC: Coachella Valley MSHCP Species: covered under the MSHCP

4.4.1.2 Riverside Fairy Shrimp

Riverside fairy shrimp is federally listed as endangered and is also covered under the WR-MSHCP. Similar to the vernal pool fairy shrimp described above, the Riverside fairy shrimp is a small freshwater crustacean (0.5 to 1.5 inches long) belonging to the *Anostraca* order of branchiopods that inhabit seasonal wetlands and pools. As described above for the vernal pool fairy shrimp, no Riverside fairy shrimp were detected during focused surveys conducted in 2011 through 2013. Because the Project Study Area is outside of its known range and none was observed during focused surveys, this species is considered absent from the Project Study Area. The Fairy Shrimp Focused Survey reports are provided in Appendix E, Fairy Shrimp Survey Reports.

4.4.1.3 Desert Tortoise

Desert tortoise is federally and State-listed as threatened and is also a covered species under the CV-MSHCP. In general, desert tortoise is found in a variety of desert habitats, including those scrub communities found on and around the eastern part of the Project Study Area (Segments 5 and 6).

In 2012, protocol desert tortoise surveys were conducted east of the Reservation in Segment 6. No tortoises or tortoise sign were observed in the SCE ROW or in the buffer transects during the 2012 surveys, but sign was noted during the fall surveys in 2011 (AMEC 2012b). A desert tortoise carcass was noted near the SCE ROW, just west of Devers Substation. In addition, there have been previous sightings of desert tortoises and/or their sign within and east of the Reservation. Survey results indicate multiple observations of desert tortoise sign (i.e., scat, burrows).

In 2013, protocol desert tortoise surveys were conducted within the boundary of the Reservation in Segment 5 in the Proposed Project area and Alternative Project. Tortoise sign and burrows were found in the Proposed Project area during the transect surveys. Survey results indicate multiple observations of desert tortoise sign (i.e., scat, burrows) primarily in the eastern half of Segment 5 (east of Deep Creek Road).

In addition to the surveys conducted for the Proposed Project, there have been additional sightings of desert tortoise within and around the Project Study Area. In 2009, one adult desert tortoise was incidentally observed on the Reservation at the base of Lion Canyon. In the fall 2011, desert tortoise sign (burrows and scat) was documented during focused surveys along the SCE corridor in the eastern portion of the Reservation and continuing just east of the Reservation boundary (AMEC 2012b in Appendix F, Desert Tortoise Survey Reports).

Appendix P, Special-Status Species Observations Figure, shows the locations where desert tortoise and/or their sign were observed. Desert Tortoise Survey Reports from 2012 and 2013 focused surveys are provided in Appendix F, Desert Tortoise Survey Reports.

4.4.1.4 Western Yellow-Billed Cuckoo

The western yellow-billed cuckoo is a Federal candidate for listing under the FESA and is State-listed as endangered. It is also a covered species under the WR-MSHCP. The western yellow-billed cuckoo is a slender, medium-sized bird that feeds on large insects, frogs, and even other insectivorous birds. The western yellow-billed cuckoo breeds and nests primarily in extensive stands of riparian forest along large river systems. Although scattered cuckoos continue to be seen in southwestern California each summer, nesting birds have become extremely rare. They no longer nest in their last local stronghold in the vast riparian forests of the Prado Basin.

A specific survey protocol for western yellow-billed cuckoo has not been adopted by the CDFW or USFWS, although several have been proposed. The proposed protocols generally call for 3 or 4 visits between June 15 and August 15 and the broadcasting of recorded cuckoo calls. Because the cuckoo's habitat requirements are similar to those of the southwestern willow flycatcher and least Bell's vireo, focused surveys for those species provide ample opportunity for the detection of cuckoos. No western yellow-billed cuckoos were observed during surveys conducted in 2012. This species has a low potential to occur occasionally since it was observed in 2007 in San Timoteo Creek southeast of El Casco Substation; however, breeding is not expected in this area. The Protocol Least Bells' Vireo and Southwestern Willow Flycatcher Survey Results letter report is included as Appendix I, Least Bells' Vireo and Southwestern Willow Flycatcher Survey Report.

4.4.1.5 Southwestern Willow Flycatcher

The southwestern willow flycatcher is a Federal and State-listed endangered species and is covered under both the WR-MSHCP and the CV-MSHCP. Southwestern willow flycatchers and least Bell's vireo's habitat requirements are very similar; however, southwestern willow flycatchers generally require standing water. Because of this similarity of habitat, protocol surveys for both species were done concurrently.

The southwestern willow flycatcher is a rare and local breeder in extensive riparian areas containing dense willows or (rarely) tamarisk or riparian oak woodland, usually with standing or flowing water. It is found breeding below 6,000 feet amsl in the southwestern United States and formerly northwestern Mexico, and overwintering in Central and South America. This species is most affected by loss of riparian habitat and brood parasitism by the brown-headed cowbird (*Molothrus ater*). The southwestern willow flycatcher can be detected in Southern California between May and September (USGS 2010).

Focused protocol surveys for the southwestern willow flycatcher were conducted in 2012. The Protocol Least Bells' Vireo and Southwestern Willow Flycatcher Survey Results letter report is included as Appendix I, Least Bells' Vireo and Southwestern Willow Flycatcher Survey Report. In 2012, a total of five survey locations of moderate- to high-quality willow riparian scrub and woodland vegetation communities were surveyed for breeding least Bell's

vireo and/or southwestern willow flycatcher. The habitat in the surveyed areas varied from linear and extensive (San Timoteo Creek, an unnamed canyon north of Theodore Street in the City of Banning, and the San Gorgonio River) to isolated and pond-like (San Timoteo Landfill). Southwestern willow flycatcher was not detected during these focused surveys. While southwestern willow flycatchers were not observed in the Project Study Area during protocol surveys, and habitat within the Project Study Area is of marginal nesting quality, some higher quality nesting habitat is available nearby. Therefore, there is potential for southwestern willow flycatchers to occur in the Project Study Area in the future, although the probability is low due to the rarity of the subspecies in the vicinity.

In addition to focused surveys conducted for the Proposed Project, there have been previous reports of southwestern willow flycatchers. In May and June of 2006, a willow flycatcher individual was detected in riparian habitat associated with San Timoteo Creek south El Casco Substation (outside of the Study Area), this individual was not confirmed to be a southwestern willow flycatcher and was more likely a transient member of a different subspecies (*E.t. brewsteri*) as it was not detected during subsequent surveys (Aspen 2007). In 2010, it was determined that suitable habitat was lacking from the San Gorgonio River to Cottonwood Canyon within the survey conducted within the Reservation (GANDA 2010a).

4.4.1.6 Least Bell's Vireo

Least Bell's vireo is a Federal and State-listed endangered species and is a covered species under both the WR-MSHCP and the CV-MSHCP. The least Bell's vireo typically breeds in riparian woodland and scrub. A critical structural component of its habitat is a dense shrub layer 2 to 10 feet aboveground that is used for nesting. The breeding range spans from central California to northern Baja California Sur, while overwintering occurs primarily in southern Baja California Sur. The likelihood of detection within the Project Study Area is highest from April through early September. Loss of habitat and brood parasitism by the brown-headed cowbird were the main causes of population decline (Kus 2002). However, the least Bell's vireo population has experienced a substantial increase since its Federal listing, due to habitat conservation and management efforts (USFWS 2006). The most successful management efforts involve the brown-headed cowbird control programs.

Focused protocol surveys for least Bell's vireos were conducted in 2012. Southwestern willow flycatchers and least Bell's vireo's habitat requirements are very similar; therefore, protocol surveys for both species were done concurrently. The Protocol Least Bells' Vireo and Southwestern Willow Flycatcher Survey Results letter report is included as Appendix I, Least Bells' Vireo and Southwestern Willow Flycatcher Survey Report. In 2012, five survey locations of moderate- to high-quality willow riparian scrub and woodland vegetation communities were surveyed for breeding least Bell's vireo and/or southwestern willow flycatcher. Habitat in the surveyed areas varied from linear and extensive (San Timoteo Creek, an unnamed canyon north of Theodore Street in the City of Banning, and San Gorgonio River) to isolated and pond-like (San Timoteo Landfill).

In 2012, least Bell's vireo males were detected during focused surveys at nine locations from San Timoteo Creek and adjacent riparian habitat. In addition, three fledgling least Bell's vireos were detected on the east side of San Timoteo Canyon Road (two from adjacent territories on May 15 and one on July 2012). More recently, a singing male least Bell's vireo was detected on May 26 through 31, 2013, in quality riparian habitat just east of Highland Springs Avenue, south of Breckenridge Avenue and I-10 in Beaumont (incidental observation by LSA). Appendix P, Special-Status Species Observations Figure, shows the location where least Bell's vireos were observed. These observations are discussed further in the Least Bell's Vireo and Southwestern Willow Flycatcher Survey Results letter report included as Appendix I, Least Bells' Vireo and Southwestern Willow Flycatcher Survey report.

In addition to the surveys conducted for the WOD Project, there have been additional sightings of least Bell's vireo within and around the Project Study Area. In 2007, at least four presumed territories were detected within riparian habitat associated with San Timoteo Creek about 1 mile south of Palmer Avenue, and an even greater number of individuals were detected 2 miles north of Palmer Avenue (Aspen 2007; SCE 2007).

4.4.1.7 Coastal California Gnatcatcher

The coastal California gnatcatcher is a federally listed threatened species and a State Species of Special Concern. The coastal California gnatcatcher occurs in coastal Southern California and is typically found in coastal sage scrub in low-lying foothills and valleys at elevations below 2,000 feet amsl (Atwood and Bolsinger 1992). It is primarily a scrub-foraging insectivore, whose non-migratory behavior permits individuals to be detected year-round.

Table 4-5, Coastal California Gnatcatcher Critical Habitat within the Project Study Area by Vegetation Community, shows the amount of coastal California gnatcatcher designated critical habitat by vegetation community is in the Project Study Area. See Appendix B, Land Management and Critical Habitat Areas Figure, for the locations of designated Critical Habitats.

Table 4-5: Coastal California Gnatcatcher Critical Habitat within the Project Study Area by Vegetation Community

Vegetation Community	Acreage within the Project Study Area
Coastal Sage Scrub	220.4
Grassland/Forbland	312.1
Riparian	9.6
Developed/Disturbed	81.1
Total Critical Habitat	**623.2**

The 2012 habitat assessment found several areas of low- to moderate-quality scrub that would be potentially suitable for coastal California gnatcatcher (see Coastal Sage Scrub

vegetation community locations in previously referenced Appendix O, Land Cover Figure). Most scrub areas were fragmented and isolated. No coastal California gnatcatchers were detected during protocol surveys conducted in 2012 and 2013. The Protocol Coastal California Gnatcatcher Survey Results letter reports are included in Appendix H, Coastal California Gnatcatcher Survey Reports.

In addition to focused surveys conducted for the Proposed Project, there have been previous sightings of a coastal California gnatcatcher in the Project Study Area. There was a 2002 record of one gnatcatcher reported within the Project Study Area in designated critical habitat, just west of Reche Canyon Road (CNDDB 2012).

4.4.1.8 Stephens' Kangaroo Rat

Stephens' kangaroo rat is a federally listed endangered species and a State listed threatened species. Stephens' kangaroo rat is primarily associated with grasslands, but can be found in some transitional coastal sage scrub communities as well. Stephens' kangaroo rat requires well-drained soils with compaction characteristics suitable for burrow construction and is not found in soils that are highly rocky, less than 20 inches deep, heavily alkaline or clay, or in areas exceeding 25 percent slope. Kangaroo rats are nocturnal and active year-round. They eat seeds primarily (particularly those of filaree), but also some green vegetation.

The species is known to occur only below 3,000 feet elevation amsl in western Riverside County, northwestern San Diego County, and extreme southwestern San Bernardino County. In the Project Study Area, it is known only from east of Interstate 15 (I-15), reaching its northwest limits in south Norco, southeast Riverside, and in southernmost San Bernardino County.

During the 2012 focused trapping surveys, one Stephens' kangaroo rat was captured at the western end of Segment 3, near a historic location for this species (O'Farrell and Uptain 1989). Appendix P, Special-Status Species Observations Figure, shows the location where the Stephens' kangaroo rat was observed. The 2012 and 2013 Summary Report for special status rodent trapping within the Project Study is included in Appendix L, Special-Status Rodent Trapping Survey Report.

4.4.1.9 Nelson's Bighorn Sheep

There are multiple populations for this species. The peninsular population is a distinct population segment of Nelson's bighorn sheep that occupies the Peninsular Ranges of Southern California and it is this distinct population segment that is federally listed as endangered and State listed as threatened. The range of this population segment does not extend north of I-10 and is approximately 0.8 mile (4,200 feet) south of the Project Study Area and vicinity.

The non-listed population segment is a State Special Animal. The Project Study Area is generally located outside of the listed population segment's current range, but the non-listed population is known from the Whitewater Canyon/River area about 3.5 miles upstream from Segment 6. Therefore, there is a low potential for Nelson's bighorn sheep (non-listed population) to occur in lowland habitat in or near the Project Study Area during foraging and dispersal activities; therefore, this species cannot be definitively considered absent from the Project Study Area. No bighorn sheep were observed during surveys conducted from 2011 to 2013.

4.4.2 State Listed and State Fully Protected Wildlife Species

In addition to the federally-listed species described above there are also 6 wildlife species, described in Table 4-4, Special-Status Wildlife Species Potentially Occurring or Known to Occur, that are State-listed as endangered, threatened, or are candidate species under CESA. In addition, species classified as fully protected species by the State of California are also included here. The State designation for "Fully Protected" species was introduced in an initial effort to identify and protect wildlife that were rare or faced possible extinction in California. While most fully protected species were later listed by the State under CESA, there are some exceptions. The results of surveys for these species are discussed below.

4.4.2.1 Golden Eagle

The golden eagle is a fully protected species by the State of California (nesting and wintering sites only) and a covered species under the WR-MSHCP. Golden eagles inhabit or forage over open and semi-open habitats such as grasslands, scrublands, oak savannas, riparian woodlands, and deserts within mountainous and canyon terrain. The species generally does not migrate, although individuals may make seasonal elevation movements in order to exploit available resources (Kochert et al. 2002; Wheeler and Clark 2003).

Focused golden eagle surveys documented one active nest (2 chicks) within the 4-mile survey buffer. This nest was within 1.5 miles of the eastern telecommunication line that is proposed to be installed south of the cities of Beaumont and Banning and I-10. Overall, the study documented a total of 12 golden eagles (including adults, eggs, and chicks) and 14 golden eagle nests were documented in seven territories. Of the six territories with nests outside the 4-mile buffer, 5 were within 3.5 miles from the buffer and one was 17.5 miles away. Five territories were determined to be active and two were inactive.

A copy of the focused golden eagle report is included as Appendix K, Golden Eagle Survey Report.

In addition, a focused survey for general raptor species was conducted during the breeding season in 2012. During this survey, golden eagles were detected within the Project Study Area in the Whitewater River area and within and just west of the Reservation; however, no nests were located. Appendix P, Special-Status Species Observations Figure, shows the

location where golden eagles and/or their nests were observed. Individuals were recorded flying over and perched on transmission towers in the SCE right-of-way. The West of Devers Swainson's Hawk & General Raptor Nesting Report for the 2012 Breeding Season is available as Appendix J, Swainson's Hawk and General Raptor Survey Report.

In addition to the surveys conducted for the Proposed Project, there have been previous sightings of golden eagles. Golden eagles were reported in 2007 foraging above San Timoteo Canyon Road near El Casco Substation (Aspen 2007) and in January 2010 between the San Gorgonio River and Cottonwood Canyon during surveys conducted within the Reservation (LSA 2010).

4.4.2.2 Swainson's Hawk

Swainson's hawk is State-listed as threatened. Swainson's hawk is a large, wide-ranging raptor that breeds in lowland open habitats, including sparsely vegetated expanses of valleys, plateaus, floodplains, and desert. Its preferred foraging habitat includes dry land, pastures, fallow or low-growing agricultural fields (alfalfa), open shrublands, desert scrub communities, and grasslands. Preferred nesting trees are typically in remnant riparian forests, planted windbreaks, residential shade trees, and solitary upland oaks (Kidd 2012b). Swainson's hawks can be found in the nesting season throughout much of western North America extending from southern Canada to northern Mexico and from California to the Great Plains, with small numbers in Alaska and northwestern Canada.

During spring studies conducted in 2012 and 2013, Swainson's hawk were observed migrating north over the Project Study Area. On March 26, 2013, LSA biologists Ingri Quon and Stan Spencer observed approximately 200 individuals perched in and adjacent to the Project Study Area, just east of San Timoteo Landfill. In addition, the Mojave Desert is the southernmost portion of the currently known breeding range in California. Therefore, because Swainson's hawks were not detected nesting or exhibiting breeding behavior in potentially suitable habitat, and the Proposed Project is not within the currently known breeding range in California, nesting Swainson's hawks are not expected to occur within the Project Study Area. The West of Devers Swainson's Hawk & General Raptor Nesting Report for the 2012 Breeding Season is included as Appendix J, Swainson's Hawk and General Raptor Survey Report.

4.4.2.3 White-Tailed Kite

The white-tailed kite is a fully protected species by the State of California (nesting sites only) and a covered species under the WR-MSHCP. The white-tailed kite is a medium-sized hawk with a gray back and wings, a white face and underside, and long, narrow, pointed wings. Kites prefer open grasslands and savannahs, where they hover while hunting small mammals. White-tailed kites typically nest in trees near marshes or riparian areas.

Focused surveys for raptor species were conducted during the breeding season in 2012. White-tailed kites were observed during surveys conducted in 2012 for the Proposed Project, but no nesting sites were detected. In addition to the surveys conducted for the Proposed Project, there have been previous sightings of white-tailed kites in the Project Study Area. Appendix P, Special-Status Species Observations Figure, shows the location where white-tailed kites were observed. The West of Devers Swainson's Hawk & General Raptor Nesting Report for the 2012 Breeding Season is available as Appendix J, Swainson's Hawk and General Raptor Survey Report.

4.4.2.4 Bald Eagle

The bald eagle is listed as endangered by the State. It was federally delisted on July 9, 2007. The bald eagle nests in large trees and on platforms. Nests are commonly within 1 mile of water. This species roosts communally in winter.

Focused surveys for raptor species were conducted during the breeding season in 2012 and 2013. Suitable nesting habitat is absent from the Project Study Area. However, foraging and wintering visitors have been previously observed. While suitably sized breeding habitat is absent from the Project Study Area, there is a low probability that bald eagles may currently occur during winter (e.g., at El Casco Lakes and vicinity) within the Project Study Area. This probability is expected to decrease; however, as water supply to El Casco Lakes is to be discontinued. Without El Casco Lakes, the closest location for open water would be the nearby lakes at Fisherman's Retreat (which is outside of the Project Study Area). Therefore, wintering bald eagles may be absent from the Project Study Area in the near future, and probably before Project implementation due to the reduced foraging potential. The West of Devers Swainson's Hawk & General Raptor Nesting Report for the 2012 Breeding Season is presented in Appendix J, Swainson's Hawk and General Raptor Survey Report.

4.4.2.5 Townsend's Big-Eared Bat

Townsend's big-eared bat is a State candidate (endangered) for listing under the CESA, a Forest Service Sensitive Species, and a BLM Sensitive Species. Townsend's big-eared bat was not documented during any survey conducted for the Proposed Project.

Since the CDFW is currently working on protocols for Townsend's big-eared bat focused surveys, no protocol surveys for this species were conducted for the Proposed Project. General bat habitat assessment surveys were conducted and included an assessment of suitable habitat for Townsend's big-eared bat. For a description of general bat habitat assessment survey results see Section 4.4.3.7, Bat Species.

Townsend's big-eared bat is known to use mines, caves, and cave-like areas for roosting. There are some reports of this species utilizing buildings, bridges, rock crevices, and hollow trees as roost sites though these are not their preferred habitat (Piaggio 2005).No suitable day

roosting habitat in or adjacent to the Project Study Area was identified during habitat assessments.

Potential foraging habitat is present within the Project Study Area; therefore, foraging individuals could be present. However, due to the lack of nearby known suitable roosting habitat, there is only a low probability Townsend's big-eared bat will occur.

4.4.2.6 Ringtail

The ringtail is a State fully protected species. Ringtails are small, nocturnal members of the raccoon family that reside in woody and rocky areas of the southwestern United States and most of Mexico.

Although this species was not observed during general and focused wildlife surveys conducted for the Proposed Project, suitable habitat for this species does occur within the Project Study Area. Therefore, there is a moderate potential for this species to occur in rocky areas within the Project Study Area.

4.4.3 Non-Listed Wildlife Species of Interest

Many species present within the Project Study Area are not listed by State or Federal agencies as rare, threatened, endangered, or protected species but are still considered special-status. Observed species of this category, along with species where required focused surveys were conducted, are identified in the following sections.

4.4.3.1 Coachella Valley Jerusalem Cricket and Coachella Giant Sand Treader Cricket Habitat Assessment and Protocol Surveys

Coachella Valley Jerusalem cricket is a California Special Animal. Habitat assessment and focused surveys for this species were conducted concurrently with surveys for the Coachella giant sand treader cricket. During these surveys, potentially suitable habitat for the Coachella Valley Jerusalem cricket was identified; however, no individuals were observed (AMEC 2012c).

Habitat within the Project Study Area identified as suitable for the Coachella Valley Jerusalem cricket occurred within the floodplain along the east side of Whitewater River, and within the Whitewater Hills between Whitewater Canyon and SR-62.

There are six previously documented records of the Coachella Valley Jerusalem cricket in CNDDB that are from the vicinity of the Proposed Project, though none has been documented within the Project Study Area. All six of these past records were from a very small area east of Whitewater Canyon on Whitewater Hill, approximately 0.42 mile south of the Project Study Area.

Coachella giant sand-treader cricket is a California Special Animal and covered under the CV-MSHCP. During surveys conducted for both this species and the Coachella Valley Jerusalem cricket, potentially suitable habitat for the Coachella giant sand-treader cricket was identified; however, no individuals were observed.

Habitat within the Project Study Area identified as suitable for the Coachella giant sand treader cricket also occurred within 2 acres on the floodplain along the east side of Whitewater River.

There is only one previously documented record of the Coachella giant sand treader cricket in CNDDB that is from the vicinity of the Project Study Area. This occurrence was from the "Palm Springs Depot," approximately 1.5 miles south of the Project Study Area and was recorded in 1950.

4.4.3.2 Amphibian and Reptile Species

The following non-listed special-status amphibian and reptile species were incidentally observed during biological surveys conducted previously for SCE within the immediate vicinity of the Project Study Area, or during focused surveys conducted for the Proposed Project:[9]

- Western spadefoot (CA: SSC; BLM: S; MSHCP: WRC) (LSA 2012);
- Coast horned lizard (CA: SA; BLM: S; MSHCP: WRC) (Aspen 2007);
- Coastal western whiptail (CA: SA; MSHCP: WRC) (LSA 2012, 2013);
- Red-diamond rattlesnake (CA: SSC; MSHCP: WRC) (AMECd 2012; LSA 2012); and
- Rosy boa (CA: SA) (AMEC 2012d; LSA 2012).

4.4.3.3 Burrowing Owl

Burrowing owl is protected under the MBTA and by California Fish and Game Code Sections 3503, 3503.5, and 3800, and is a State Species of Special Concern, In addition, the burrowing owl is covered under both the WR-MSHCP and CV-MSHCP. The California Fish and Game Commission rejected a proposal for State listing because of relatively high population levels in some parts of the State. However, because the species has declined in other parts of California, and it is particularly vulnerable to incidental take during ground-disturbing activities due to its unique utilization of burrows as opposed to aboveground nests, the burrowing owl has been the focus of specific CDFW management recommendations since the 1990s.

[9] LSA 2012 and LSA 2013 species observations were made by either LSA staff or their subconsultants during 2012 and 2013 general and/or focused surveys conducted for the Proposed Project.

Burrowing owls inhabit open country in North and South America. These owls are known to occupy and modify former ground squirrel burrows in grasslands, agricultural fields, rangelands, and other open habitat types including those in railroad rights-of-ways, margins of highways, golf courses, and airports. They often utilize structures such as earthen berms, concrete culverts, pipes, and concrete, asphalt, rock, or wood debris piles. Burrowing owls are active year-round and forage both diurnally and nocturnally for insects, scorpions, amphibians, reptiles, birds, and small mammals (Poulin et al. 2011).

The West of Devers Burrowing Owl Nesting Report is included in Appendix G, Burrowing Owl Survey Report. Appendix P, Special-Status Species Observations Figure, shows the locations where this species and sign (burrows with pellets, feathers, tracks) was observed.

During the 2012 burrow and focused breeding season surveys, sign was found at 89 burrow locations and 17 nesting pairs of burrowing owls were recorded within the Project Study Area. Although no large nesting colonies were found, hundreds of suitable burrows were identified throughout the Project Study Area. All of the confirmed occupied burrows and nesting pairs were limited to the eastern portion of the Project Study Area, within a 22-mile section extending from the City of Beaumont east to Devers Substation. In Segment 3, only one burrow with sign near San Timoteo Landfill and one presumably migrant burrowing owl was found west of State Route 79 (SR-79) and I-10. This individual was detected only once east of El Casco Substation.

During the 2013 burrow surveys, an additional 21 potentially suitable or suitable burrows were identified within the Project Study Area. Results included 10 potential burrows without sign and 9 potential burrows with sign, including 5 burrows with sign in Segment 3; in addition, one occupied burrow with at least one adult burrowing owl was observed on March 8 east of the Reservation and the community of Cabazon near Rushmore Avenue and Tamarack Road, and another owl was observed in proximity to several burrows with owl sign about 0.7 mile west of Whitewater River.

During the 2013 focused breeding season surveys conducted along the proposed telecommunication routes where lines would be placed underground; suitable burrow habitat was determined to be lacking and no active burrows or owls were detected.

In addition to the surveys conducted for the Proposed Project, there have been previous sightings of burrowing owls and/or their sign in the Project Study Area and vicinity. In 2010, owls were detected east of Millard Canyon, and found to be especially common along the concrete channel near Bonita Avenue on the Reservation and along the San Gorgonio River near the wind farms. In 2011, an inactive burrow was reported near the Junction of SR-243 and Old Idyllwild Road, and burrowing owls were reported between Devers Substation and Whitewater River and along the west bank of Super Creek on Whitewater Hill.

4.4.3.4 Other Raptor Species

The following non-listed special-status raptor species were incidentally observed during biological surveys conducted previously for SCE within the immediate vicinity of the Project Study Area or during focused surveys conducted for the Proposed Project:[10]

- Cooper's hawk (CA: SA; MSHCP: WRC) (Aspen 2007; LSA 2012);
- Ferruginous hawk (CA: SA; MSHCP: WRC) (LSA 2012);
- Merlin (CA: SA; MSHCP: WRC) (Aspen 2007);
- Northern harrier (CA: SSC; MSHCP: WRC) (Aspen 2007; LSA 2010, 2012);
- Osprey (CA: SA; MSHCP: WRC) (LSA 2012); and
- Prairie falcon (CA: SA; MSHCP: WRC) (Aspen 2007; AMEC 2012b; LSA 2012).

4.4.3.5 Other Bird Species

The following non-listed special-status non-raptor bird species were incidentally observed during biological surveys conducted previously for SCE within the immediate vicinity of the Project Study Area or during focused surveys conducted for the Proposed Project: [11], [12]

- Allen's hummingbird (CA: SA) (LSA 2010);
- Bell's sage sparrow (CA: SA; MSHCP: WRC) (LSA 2010);
- Black-tailed gnatcatcher (CA: SA) (LSA 2012);
- Black-crowned night-heron (CA: SA; MSHCP: WRC) (LSA 2012);
- California horned lark (CA: SA; MSHCP: WRC) (Aspen 2007; LSA 2010, 2012);
- Costa's hummingbird (CA: SA) (LSA 2010, 2012);
- Grasshopper sparrow (CA: SSC; MSHCP: WRP) (LSA 2012);
- Great blue heron (CA: SA; MSHCP: WRC) (LSA 2012);
- Great egret (CA: SA) (LSA 2012);
- Lark sparrow (CA: SA) (LSA 2012);
- Lawrence's goldfinch (CA: SA) (LSA 2012);
- Loggerhead shrike (CA: SSC; MSHCP: WRC) (Aspen 2007; LSA 2010, 2012);

[10] LSA 2012 and LSA 2013 species observations were made by either LSA staff or subconsultants during 2012 and 2013 general and/or focused surveys conducted for the Proposed Project.

[11] LSA 2012 and LSA 2013 species observations were made by either LSA staff or subconsultants during 2012 and 2013 general and/or focused surveys conducted for the Proposed Project.

[12] A description of conservation statuses can be found in Table 4-4: Special-Status Wildlife Species Potentially Occurring or Known to Occur.

- Le Conte's thrasher (CA: SA) (LSA 2010, 2012);
- Nuttall's woodpecker (CA: SA) (LSA 2012);
- Oak titmouse (CA: SA) (LSA 2012);
- Olive-sided flycatcher (CA: SA) (LSA 2012);
- Southern California rufous-crowned sparrow (CA: SA; MSHCP: WRC) (LSA 2010, 2012, 2013);
- Snowy egret (CA: SA) (LSA 2012);
- Yellow-breasted chat (CA: SSC; MSHCP: WRC/CVC) (Aspen 2007; LSA 2012); and
- Yellow warbler (CA: SSC; MSHCP: WRC/CVC) (Aspen 2007).

4.4.3.6 Mammal Species

The following non-listed special-status mammal species were incidentally observed during biological surveys conducted previously for SCE within the immediate vicinity of the Project Study Area or during focused surveys conducted for the Proposed Project:[13]

- Los Angeles pocket mouse (CA: SSC; MSHCP: WRS) (Aspen 2007; LSA 2012, 2013);
- Northwestern San Diego pocket mouse (CA: SSC; MSHCP: WRC) (Aspen 2007; LSA 2012, 2013);
- Pallid San Diego pocket mouse (CA: SSC) (LSA 2012);
- Palm Springs pocket mouse (CA: SSC; MSHCP: CVC) (LSA 2012);
- San Diego desert woodrat (CA: SSC; MSHCP: WRC) (LSA 2012, 2013); and
- San Diego black-tailed jackrabbit (CA: SSC) (Aspen 2007).

4.4.3.7 Bat Species

A reconnaissance-level bat habitat suitability assessment for the Project Study Area was conducted in 2012. The Bat Habitat Suitability Assessment for the West of Devers Upgrade Project letter report is included as Appendix M, Bat Habitat Assessment Report. Suitable bat roosting habitat was observed in the Project Study Area and is shown in Appendix P, Special-Status Species Observations Figure. These included at least eight structures such as culverts, bridges, structures, and an abandoned house. Additionally, there were many various mature oak and cottonwood trees containing loose bark, cavities, and crevices that are suitable for bats. Foliage-roosting species may also roost in the leaves of the citrus trees, palm trees, and cottonwood trees found throughout the Project Study Area.

[13] LSA 2012 and LSA 2013 species observations were made by either LSA staff or subconsultants during 2012 and 2013 general and/or focused surveys conducted for the Proposed Project.

Although no bats were observed during the bat habitat assessment, bat guano indicating some degree of bat roosting activity was observed at three of the visited potential roosting locations. In addition, the varied topography and relative diversity of plant communities within the Project Area, and their associated insect fauna, may provide foraging habitat for a variety of bat species. Several ponds and drainages containing riparian or wetland vegetation are distributed throughout the western portion of the WOD corridor and vicinity, including San Timoteo Creek and the area surrounding El Casco Lakes; these areas provide particularly high quality foraging habitat for bats. All special-status bat species considered to have some potential to occur within the Project Area or in its immediate vicinity are identified in Table 4-4, Special-Status Wildlife Species Potentially Occurring or Known to Occur, along with descriptions of each species' specific roosting habitat requirements.

In 2012, foraging western mastiff bat individuals were incidentally and audibly detected by LSA biologists conducting surveys within the Project Study Area in early June (City of Grand Terrace) and on September 8 and 12 (southwest of El Casco Lakes).

In 2013, additional areas containing potential roosting habitat were observed, but no bats were detected.

4.4.3.8 MSHCP Covered Species

In addition to the MSHCP covered species that also have State or Federal designated special-status, the following species identified in Table 4-6, Non-Special-Status Western Riverside County MSHCP Covered Wildlife Species Potentially Occurring or Known to Occur, are wildlife species who are solely identified for coverage by the WR-MSHCP. This coverage is given by the WR-MSHCP because of regional consideration, association with limited habitats within the WR-MSHCP area, or because they are key species in maintaining species richness in smaller habitat fragments. Covered species that may entail species-specific regulations as set forth by the WR-MSHCP are designated with a conservation status of WRP.

There are no species that occur or have the potential to occur within the Project Study Area that are covered by the CV-MSHCP and are not also State or Federal special-status species. Therefore, any species covered by the CV-MSHCP relevant to the Project Study Area is addressed in the above sections.

The following list describes the expected occurrence of WR-MSHCP covered wildlife species.

- **Observed:** Species documented during biological surveys either conducted previously for SCE within the immediate vicinity of the Project Study Area or from surveys conducted for the Proposed Project in late 2011 through mid-2013.
- **High Potential:** Species identified in the literature search or known to occur in the region, suitable habitat is present within the Project Study Area. These species are generally common and/or widespread in the Project Study Area and vicinity.

- **Moderate Potential:** Species identified in the literature search or known to occur in the region, suitable habitat is present within the Project Study Area. These species are generally less common and/or widespread than those considered with a High Potential in the Project Study Area and vicinity.
- **Low:** Species identified in the literature search or known to occur in the region, but the Project Study Area is outside of the species' known range or elevation, or habitat is generally unsuitable.
- **Not Expected:** Species identified in the literature search or are known to occur in the region, but are absent from the Project Study Area because the Project Study Area is outside of their known range and/or suitable habitat is lacking in the Project Study Area.

4.4.4 Migratory Birds

Native bird species and their parts (including eggs, nests, and feathers) are afforded regulatory protection under the MBTA, except as authorized under valid permit.[14] Many nesting birds were observed throughout the Project Study Area and there is a high probability that native birds protected under the MBTA will be migrating and/or nesting in the Project Study Area in future years.

Specifically, the importance of San Gorgonio Pass for migrating birds has been well known for at least 100 years (c.f., Grinnell and Swarth 1913). The low pass serves as a connection between coastal lowlands and Colorado Desert lowlands. This is true for many species of landbirds that normally travel at night, as well many species of waterbirds that travel by day or night. Seasonally, springtime in the Project Study Area is the most critical time for migrating birds, as the Coachella Valley and surrounding ranges serve to funnel northbound animals to the northwest and west through the pass, and therefore nesting bird counts will be at their highest during this time period.

[14] For a complete list of native birds protected by the MBTA go to: http://www.fws.gov/migratorybirds/RegulationsPolicies/mbta/mbtandx.html#alpha1.

Table 4-6: Non-Special-Status Western Riverside County MSHCP Covered Wildlife Species Potentially Occurring or Known to Occur

Species	WR-MSHCP Status	Habitat and Distribution	Activity Period	Occurrence Probability*
Birds				
Cathartes aura (breeding) **Turkey vulture**	WRC	Occurs in a wide range of habitats in most of North and South America. Usually nests in dark recesses away from human disturbance.	Diurnal. Year-round.	**Moderate.** Suitable nesting habitat may be absent but foraging birds have been observed within WR-MSHCP land, and throughout Project Study Area (GANDA 2011; LSA 2012).
Picoides pubescens **Downy woodpecker**	WRC	Woodlands and forests throughout most of North America north of Mexico.	Diurnal. Year-round.	**Observed.** Near San Timoteo Creek (LSA 2012).
Tachycineta bicolor **Tree swallow**	WRC	Occurs in a wide range of open habitats, usually in the vicinity of water. May forage over any habitat. Breeds across most of North American north of Mexico and winters from the southern United States to northern South America.	Diurnal. Primarily winter and during migratory periods.	**Observed.** Throughout the Project Study Area (LSA 2013).
Oreothlypis ruficapilla **Nashville warbler**	WRC	Occurs in a variety of woodland and scrub habitats. Breeds across southern Canada and the northern United States and winters primarily in Middle America.	Diurnal. Migratory periods.	**High.** Expected during migration.
Cardellina pusilla **Wilson's warbler**	WRC	Breeds in moist thickets and woodlands across much of northern North America. Winters in a variety of shrubby and woodland habitats, primarily in Middle America.	Diurnal. Migratory periods.	**Observed.** Outside known breeding range but migrants are common throughout the Project study Area (LSA 2012)
Melospiza lincolnii (nesting) **Lincoln's sparrow**	WRP	Breeds across northern North America and winters south to Central America. Migratory and wintering individuals occur in California. Habitat includes brushy areas, thickets, clearings, and scrubby areas. While overwintering they are primarily ground foragers of small seeds and insects.	Diurnal. September through April locally.	**Not Expected.** No suitable nesting habitat present, although migrants and wintering birds observed (LSA 2012).

Table 4-6: Non-Special-Status Western Riverside County MSHCP Covered Wildlife Species Potentially Occurring or Known to Occur

Species	WR-MSHCP Status	Habitat and Distribution	Activity Period	Occurrence Probability*
Mammals				
Dipodomys simulans **Dulzura kangaroo rat**	WRC	Primarily found in open grassy habitats with friable soils, from the southwestern California to Baja California Sur.	Nocturnal. Year-round.	**Observed.** In Badlands, generally located southeast of Loma Linda and south of Redlands; between Beaumont and Cherry Valley in the western central portion of the Project Study Area; and north of Banning in the central portion of the Project Study Area [found east nearly to Whitewater] (LSA 2012, 2013).
Sylvilagus bachmani **Brush rabbit**	WRC	Brushy areas from western Oregon through California to Baja California Sur.	Nocturnal and somewhat crepuscular. Year-round.	**High.** Suitable habitat present within the Study Area.
Lynx rufus **Bobcat**	WRC	Highly adaptable. Prefers woodlands, both deciduous and coniferous, but can inhabit a variety of regions such as rocky scrubland. Throughout most of the United States and Mexico.	Primarily nocturnal. Year-round.	**Observed** in Riparian habitat associated with San Timoteo Creek near El Casco Substation (Aspen 2007). Scat was found throughout the Project Study Area (GANDA 2011). Tracks found near Barton Road in the City of Loma Linda and near the mine in the City of Banning (LSA 2012). Tracks found just south of Mountain View Road in Loma Linda (LSA 2013).
Puma concolor **Mountain lion**	WRC	Occurs in a wide range of habitats from western Canada and the western United States to southern South America. Also found in southern Florida but extirpated from many parts of eastern Canada and the United States.	Primary nocturnal and crepuscular. Year-round.	**Observed.** Tracks found in Beaumont just outside of a huge box culvert along a busy highway (LSA 2012). Tracks found near San Gorgonio River, in the hills north of North 18th Street in banning (LSA 2013).
Canis latrans **Coyote**	WRC	Found in a wide range of habitats, but prefers-more open country. Occurs throughout most of North America from Panama to the Arctic.	Primarily nocturnal and crepuscular. Year-round.	**Observed.** Throughout the Project Study Area (LSA 212; LSA 2013).
Mustela frenata **Long-tailed weasel**	WRC	Found in open areas, thickets, and woodlands. Requires a source of water. Southern Canada to Central South America.	Diurnal and nocturnal. Year-round.	**Observed.** Near San Timoteo Creek (LSA 2012).

* LSA 2012 and LSA 2013 species observations were made by either LSA staff or subconsultants during 2012 and 2013 general and/or focused surveys conducted for the Proposed Project.

WR-MSHCP: Western Riverside County Multiple Species Habitat Conservation Plan
WRC: WR-MSHCP Species: covered under the MSHCP
WRP: WR-MSHCP Species: will be adequately conserved when specified requirements are met; covered under the MSHCP

4.4.5 Wildlife Species Considered Absent

The following species were identified in the literature search, but the Project Study Area occurs outside the known range or elevation or lacks suitable habitat. Therefore, the following species do not warrant further consideration in this document, as they are not expected to occur:

- Casey's June beetle (*Dinacoma caseyi*);
- Santa Ana sucker (*Catostomus santaanae*);
- Arroyo toad (*Anaxyrus [Bufo] californicus*);
- California tiger salamander (*Ambystoma californiense*);
- Large-blotched salamander (*Ensatina klauberi*);
- Sierra Madre yellow-legged frog (*Rana muscosa*);
- California mountain kingsnake (San Bernardino population) (*Lampropeltis zonata* [*parvirubra*]);
- Coachella Valley fringe-toed lizard (*Uma inornata*);
- Flat-tailed horned lizard (*Phrynosoma mcalli*);
- Southern rubber boa (*Charina umbratica*);
- Abert's towhee (*Melozone aberti*);
- American bittern (*Botaurus lentiginosus*);
- Black-chinned sparrow (*Spizella atrogularis*);
- California gull (nesting colony) (*Larus californicus*);
- Chipping sparrow (*Spizella passerina*);
- Clark's marsh wren (*Cistothorus palustris clarkae*);
- Large-billed Savannah sparrow (*Passerculus sandwichensis rostratus*);
- Least bittern (nesting) (*Ixobrychus exilis*);
- Macgillivray's warbler (nesting) (*Oporornis tolmiei*);
- San Diego cactus wren (*Campylorhynchus brunneicapillus sandiegensis*);
- Sharp-shinned hawk (nesting) (*Accipiter striatus*);
- Short-eared owl (nesting) (*Asio flammeus*);
- Yellow-headed blackbird (nesting) (*Xanthocephalus xanthocephalus*);
- Dulzura pocket mouse (*Chaetodipus californicus femoralis*);
- Lesser long-nosed bat (*Leptonycteris yerbabuenae*);

- Lodgepole chipmunk (*Neotamias speciosus speciosus*);
- San Bernardino flying squirrel (*Glaucomys sabrinus californicus*);
- San Bernardino kangaroo rat (*Dipodomys merriami parvus*); and
- Sierra Nevada bighorn sheep (*Ovis canadensis sierrae* [formerly *californiana*]).

4.5 Western Riverside County MSHCP

As discussed above, the Project Study Area includes approximately 18.4 linear miles within the WR-MSHCP Plan Area. Portions of Segments 3, 4, and 5 of the Project Study Area are located within the WR-MSHCP Area. Appendix B, Land Management and Critical Habitat Areas Figure, shows where the Project Study Area is located within the WR-MSHCP Plan Area.

The WR-MSHCP requires focused surveys for certain plant and animal species for project sites located within designated plant and animal survey areas when potential suitable habitat is present. Designated survey areas have been developed for some species, which includes the Narrow Endemic Plant Species Survey Area (NEPSSA) and Criteria Area Species Survey Area (CASSA) plant species, burrowing owls, and mammals, where the indicated focused surveys must be conducted. For these species, surveys outside of designated survey areas are not required. For other species, focused surveys are necessary throughout the entire plan area, when suitable habitat is present.

Because SCE is not currently a Participating Special Entity of the WR-MSHCP, focused surveys must be conducted within the entire plan area regardless of being in or out of the designated survey areas. Therefore, focused surveys were conducted based on suitable habitat for each species throughout the entire WR-MSHCP Area. All suitable habitats within the WR-MSHCP portion of the Project Study Area were surveyed for or noted per the WR-MSHCP guidelines, which includes (but is not limited to) the NEPSSA and CASSA plant species, burrowing owls, and mammals. Additional details for focused and general surveys conducted for special status plant and animal species can be found in Sections 4.3, Native Special-Status Plant Species, and 4.4, Native Special-Status Wildlife Species, respectively.

Additional information about the Western Riverside County Riparian and Riverine Natural Communities is discussed below in Section 4.7, Wetlands and Other Waters.

4.6 Coachella Valley MSHCP

The Project Study Area passes through approximately 22 linear miles of the CV-MSHCP area. Portions of Segments 5 and 6 of the Project Study Area are located within the CV-MSHCP (see Appendix B, Land Management and Critical Habitat Areas Figure).

The CV-MSHCP requires focused surveys for certain plant and animal species for project sites located within Conservation Areas. For projects located outside of these Conservation Areas,

there are few specific survey requirements for covered species. The Project Study Area passes through the following Conservation Areas (from west to east); Cabazon, Stubbe and Cottonwood Canyons, Whitewater Canyon, and Upper Mission Creek/Big Morongo Canyon.

Because SCE is not a signatory to the CV-MSHCP, focused surveys must be conducted within the entire plan area regardless of being in or out of the Conservation Areas. Therefore, focused surveys were conducted based on suitable habitat for each species throughout the entire plan area. All suitable habitats within the CV-MSHCP portion of the Project Study Area were surveyed for or noted per the CV-MSHCP guidelines. Additional details for focused and general surveys conducted for special status species are described in the species accounts above.

Additional information about the Coachella Valley Desert Wetland Communities is discussed below in Section 4.7, Wetlands and Other Waters.

4.7 Wetlands and Other Waters

A drainage assessment was conducted for the Proposed Project to identify the locations and general configurations of potential drainage features The Preliminary Jurisdictional Drainage Assessment is included as Appendix N, Drainage Assessment Report.

Table 4-7, Drainage Counts Identified During 2012 and 2013 Assessment Surveys, illustrates both the number of drainages identified within the entire Project Study Area as well as the number of drainages identified within each segment. These drainage counts are based on the number of drainages that were given specific identification numbers (as described in Appendix N, Drainage Assessment Report).

Table 4-7: Drainage Counts Identified During 2012 and 2013 Assessment Surveys

Per Each Segment	Year	Potentially Jurisdictional Wetland Drainage, CDFW/USACE/RWQCB	Potentially Jurisdictional Nonwetland Drainage, CDFW/USACE/RWQCB	Potentially Jurisdictional Nonwetland Drainage, CDFW/RWQCB
1	2012	0	15	1
	2013	2	13	12
	Total	**2**	**28**	**13**
2	2012	5	37	35
	2013	0	11	11
	Total	**5**	**48**	**46**
3	2012	1	20	33
	2013	5	49	41
	Total	**6**	**69**	**74**
4	2012	10	33	9
	2013	2	18	18
	Total	**12**	**51**	**27**

Table 4-7: Drainage Counts Identified During 2012 and 2013 Assessment Surveys

Per Each Segment	Year	Potentially Jurisdictional Wetland Drainage, CDFW/USACE/RWQCB	Potentially Jurisdictional Nonwetland Drainage, CDFW/USACE/RWQCB	Potentially Jurisdictional Nonwetland Drainage, CDFW/RWQCB
5 *	2012	0	36	12
	2013	0	8	1
	Total	**0**	**44**	**13**
6	2012	1	28	22
	2013	0	7	1
	Total	**1**	**35**	**23**
Per the Entire Study Area	2012	17	169	112
	2013	8	105	84
	Total	**26**	**275**	**196**

* One depressional feature potentially subject only to the RWQCB is in Segment 5 (Drainage number 182B from 2012).
CDFW = California Department of Fish and Wildlife
RWQCB = Regional Water Quality Control Board
USACE = United States Army Corps of Engineers

4.7.1 United States Army Corps of Engineers Jurisdiction

4.7.1.1 Nonwetland Waters

Up to 275 nonwetland drainages that meet the USACE nexus criteria were identified within the Project Study Area (Appendix N, Drainage Assessment Report). Drainages within the western half of the Project Study Area (Segments 1 through 4) generally flow north or southwest into Reche Canyon, Mission Channel, San Timoteo Canyon, or San Timoteo Creek and eventually reach the Santa Ana River, which is tributary to the Pacific Ocean (a TNW). The remaining drainages, found in the eastern part of the Proposed Project Area (Segments 4 through 6) and located in the City of Banning, on the Reservation, or situated farther east up to Devers Substation, generally flow south or southeast into either the San Gorgonio River, the Whitewater River, Super Creek, or Garnet Wash, each of which then flows into the Salton Sea (a TNW). Because the Pacific Ocean and the Salton Sea are TNWs, several of the drainages in the Project Study Area, or tributaries thereof, are potentially subject to USACE jurisdiction pursuant to Section 404 of the CWA. Preparation of a jurisdictional delineation, with a Preliminary or Approved Jurisdictional Determination by the USACE would determine jurisdictional status.

For a full description of individual drainage features and their representative characteristics, such as average width or associated vegetation, see Appendix N, Drainage Assessment Report.

4.7.1.2 Wetland Waters

There are up to 26 drainages within the Project Study Area that were identified with the potential to satisfy the three criteria necessary to meet the USACE definition of a wetland (i.e., presence of dominant hydrophytic vegetation, hydric soils, and wetland hydrology) (Appendix N, Drainage Assessment Report).

For most areas inspected, soil pits were not dug to definitively characterize hydric soils and thus confirm wetland status; therefore, mapped potential wetland areas should be considered areas that may or may not meet the three wetland criteria, and represent an estimation of the maximum extent of potential wetland areas until a routine jurisdictional delineation of these drainages is conducted.

4.7.2 California Department of Fish and Wildlife Jurisdiction

All of the potential USACE jurisdictional areas would also be considered CDFW jurisdictional. In addition, 196 drainages that did not meet the USACE nexus criteria but showed evidence of a bed and bank (e.g., not categorized as swales) were also identified and are potentially subject to CDFW jurisdiction (Appendix N, Drainage Assessment Report). In addition, riparian vegetation associated with these drainages was also mapped as potentially under CDFW jurisdiction. Additional details can be found in the Preliminary Jurisdictional Drainage Assessment in Appendix N, Drainage Assessment Report.

4.7.3 Regional Water Quality Control Board Jurisdiction

Areas of potential RWQCB jurisdiction coincide with the identified limits of potential USACE jurisdiction, per the September 2004 Workplan (SWRCB 2004). These areas may be subject to RWQCB jurisdiction through provisions in the CWA. In addition, areas that are potentially subject to CDFW jurisdiction, but do not qualify as USACE jurisdiction (i.e., isolated areas with a bed and bank that do not connect to a TNW and isolated wetlands), may also be subject to RWQCB jurisdiction through Porter-Cologne. The drainages in the western half of the Project Study Area (Segments 1–4), which flow into the Santa Ana River, will be subject to jurisdiction by Region 8 (Santa Ana RWQCB) of the SWRCB. The drainages in the eastern part of the Project Study Area (Segments 4–6), which flow into the Salton Sea, are regulated by Region 7 (Colorado River RWQCB) of the SWRCB. This includes the depressional feature (Drainage 182B from 2012) on the Reservation (Segment 5).The regional boundary within the Project Study Area is approximately the border (generally Highland Springs Avenue) between the cities of Beaumont and Banning in Riverside County.

4.7.4 Western Riverside County MSHCP Riparian/Riverine/Vernal Pool Areas

4.7.4.1 Riparian/Riverine Areas

No specific assessment of riparian/riverine areas subject to the provisions of the WR-MSHCP portion of the Project Study Area was made, because SCE is not currently a Participating Special Entity (PSE). All of the existing riparian communities within the WR-MSHCP that occur within the Project Study Area likely fall under the regulatory jurisdiction of the USACE pursuant to Section 404 of the CWA and/or the CDFW pursuant to Section 1600 of the California Fish and Game Code. Therefore, all drainage features subject to conditions of the WR-MSHCP Riparian/Riverine guidelines were identified as potentially jurisdictional by the USACE and the CDFW. There are a total of 59 riverine or riparian areas identified within the boundaries of the WR-MSHCP planning area, which is in Segments 2, 3, and 4 (Appendix N, Drainage Assessment Report).

4.7.4.2 Vernal Pool Areas

None of the seasonally ponded depressions found during the vernal pool assessment survey conducted between November 2011 through March (May for water level site checks) 2013 met the WR-MSHCP criteria for vernal pools (see Section 2.5.15, Regional Conservation Plans, for a description of vernal pool criteria). Locations and a full description of surveyed ponded depressions can be found in Appendix E, Fairy Shrimp Survey Reports.

4.7.5 Coachella Valley MSHCP Desert Wetland Communities

The CV-MSHCP only protects jurisdictional drainages as they relate to the Natural Communities Conservation Goals within the Conservation Areas. No communities identified as wetland communities in the CV-MSHCP are present within the Project Study Area. However, Desert Willow and Alluvial Scrub communities may still be regulated under other agency authorities. See Appendix N, Drainage Assessment Report, for all major drainage features identified by the CV-MSHCP planning area.

5.0 IMPACTS

Direct and indirect effects of the Proposed Project, both temporary and permanent, have been quantified by correlating the results from the biological assessment to the identified disturbance areas. Exact disturbance areas for the Proposed Project are not yet known and have only been grossly estimated. Therefore, all potential effect analyses discussed in this report are based on this preliminary engineering data and represent only a conservative (overstated) impact footprint.

The following discussion of impacts addresses all Proposed Project components, including (1) modifications to substations; (2) 220 kV transmission lines (including the Alternative Project); (3) 66 kV subtransmission lines; (4) 12 kV distribution lines, as well as the establishment of temporary and permanent elements that support these lines (e.g., guard poles, crane pads, and turn around areas); (5) telecommunications facilities; and (6) the establishment of staging yards.

This section describes the overall effects of the Proposed Project on various biological resources. The Proposed Project may result in both direct and indirect effects, which could be temporary or permanent. Direct effects are those that damage, degrade, or remove a resource or disturb activity patterns, occur as a direct result of project activities, and occur at the same time and place of the activities. These effects may include habitat loss or modification (e.g., during grading), displacement of wildlife, and direct mortality of wildlife during construction. Indirect effects are defined as those caused by project activities that occur at a different time or place from direct impacts. Indirect effects include changes such as long-term alterations to land use patterns, plant or animal population dynamics, and nutrient and water flow, as well as impacts caused by proximity to project elements, such as changes to noise levels, disturbance from increased or ongoing human activities, and changes to air and water quality.

Effects that are reversible through mitigation or are short-term are considered to be temporary. Temporary effects can include direct effects such as habitat loss where the habitat will be restored following construction; they also can include indirect effects such as increased noise during construction that will cease when construction is complete. Short-term effects associated with periodic maintenance, such as reestablishing access roads, may also be considered temporary; although the initial construction of new access roads would be considered permanent.

Permanent effects are those direct and indirect effects that cannot be reversed or that are associated with project elements that are anticipated to remain in place for a long period of time (e.g., many years). Permanent direct effects include loss or modification of habitat to accommodate project elements (e.g., structures and access roads); permanent indirect effects include alterations to land use patterns as a result of permanent project elements, noise

associated with project facilities, and adjacency effects associated with other project elements (e.g., changes to species abundance through the addition or removal of suitable nesting locations).

In evaluating effects, the following points relative to the Proposed Project and its context are considered:

- For the most part, the Proposed Project consists of upgrade and/or replacement of existing facilities, i.e., the existing condition is a substantial utility corridor.
- The effects assessment is based on preliminary engineering, which does not yet include all potential avoidance of mapped resources (e.g., drainages). The identified permanent impact polygons for individual facilities such as roads and lattice steel towers (LSTs) are generally larger than the area that may actually be affected.
- As with the permanent effects, the temporary effect "envelope" encompasses much more land than would actually be affected, but a more precise delineation of temporary effect areas cannot be made until final engineering plans for the Proposed Project are complete.
- While the amount of calculated effects might be considered substantial in some settings, such as a concentrated residential or commercial development where all effects occur in the same time and space, the effects of the Proposed Project would be distributed in both time and space over a very large area, lessening the importance of quantity alone in determining the significance of effects. To illustrate this concept, the total permanent effects to native or naturalized land cover is estimated as occurring to up to approximately 303.4 acres, which is 3.6 percent of the approximately 8376.4 total acres of natural land cover types that currently exists throughout the Project Study Area (Table 5-1, Maximum Potential Permanent Effects to Land Cover). Similarly calculated, the total temporary effects of the Proposed Project on natural land cover are estimated to occur to up to 2,404.70 acres, which is 28.7 percent of currently existing natural land cover (Table 5-2, Maximum Potential Temporary Effects to Land Cover). These values show that temporary effects are expected to be considerably larger than permanent effects. Temporary effects, however, are generally of a low intensity and relatively short term, and will be incurred over substantial spans of time and distance. Specifically, the effects at any particular point, such as the LSTs along the 220 kV transmission lines, are expected to be relatively small.
- Operational effects, which might otherwise be considered as part of the long-term indirect effects, are essentially the same as the existing facility. Therefore, operational effects are not considered except in cases of new facilities or alignments where there may be operational effects that affect biological resources that are different from those along the existing alignment.

Table 5-1: Maximum Potential Permanent Effects to Land Cover

Segment	Natural								Human Influenced		Total
	Alluvial Scrub	Chaparral	Coast Live Oak Woodland	Coastal Sage Scrub	Desert Scrub	Grassland/ Forbland	Open Water	Riparian Woodland	Agriculture	Developed/ Disturbed	
1	—	0.3	—	1.2	—	4.8	—	—	4.9	21.1	32.3
2	0.1	—	—	12.3	—	18.2	—	—	0.2	5.9	36.7
3	0.8	13.0	—	59.1	—	50.6	—	—	1.7	6.4	131.7
4	—	21.5	1.6	2.5	—	22.9	—	2.5	2.7	12.4	66.1
5	5.2	—	—	4.1	26.4	2.6	—	—	—	9.3	47.7
6	2.0	—	—	—	51.7	—	—	—	—	4.2	57.9
Subtotal	**8.1**	**34.8**	**1.6**	**79.3**	**78.1**	**99.0**	**0.0**	**2.5**	**9.6**	**59.3**	
Total	**303.4**								**68.9**		**372.5**
Percentage of Each Land Cover Type to be Affected	**2.1**	**6.0**	**3.3**	**5.8**	**2.3**	**4.0**	**0.0**	**1.7**	**2.2**	**1.7**	
Total Percentage of Natural or Human Influenced Land Cover to be Affected	**3.6**								**1.8**		**3.0**

Table 5-2: Maximum Potential Temporary Effects to Land Cover

Segment	Natural								Human Influenced		Total
	Alluvial Scrub	Chaparral	Coast Live Oak Woodland	Coastal Sage Scrub	Desert Scrub	Grassland/ Forbland	Open Water	Riparian Woodland	Agriculture	Developed/ Disturbed	
1	—	1.1	—	5.1	—	26.8	—	0.6	32.7	168.4	**234.6**
2	2.3	—	—	92.7	—	130.3	—	0.8	4.2	52.2	**282.4**
3	1.3	49.4	—	291.9	—	259	0.2	2.6	41.8	78.7	**724.9**
4	1.9	158.9	13.1	27.3	6.6	265.2	—	16.6	30.0	222.4	**741.9**
5	62.3	—	—	36.6	401.1	34.0	—	1.7	—	85.7	**621.5**
6	17.2	—	—	—	498.2	—		—	—	59.4	**574.9**
Subtotal	**85.0**	**209.5**	**13.1**	**453.5**	**905.9**	**715.3**	**0.2**	**22.2**	**108.7**	**666.9**	
Total	**2,404.70**								**775.6**		**3,180.3**
Percentage of Each Land Cover Type to be Affected	**22.0**	**36.3**	**26.7**	**33.0**	**27.1**	**28.7**	**1.9**	**15.3**	**24.6**	**19.4**	
Total Percentage of Natural or Human Influenced Land Cover to be Affected	**28.7**								**20.0**		**26.0**

5.1 Vegetation Communities

The proposed project would result in direct permanent and temporary effects to natural vegetation communities through disturbance and/or removal of existing vegetation. Permanent effects may include complete removal of vegetation and/or heavy encroachment that may have substantial detrimental effects to the long-term viability of the community. Areas of temporary effects will only be affected during construction to allow for construction activities and equipment staging. Temporary effects will be limited to incidental encroachment and/or the removal of quick growing vegetation (to be subsequently replaced); otherwise, effects are considered permanent.

Table 5-1, Maximum Potential Permanent Effects to Land Cover, and Table 5-2, Maximum Potential Temporary Effects to Land Cover, shows the acreage amount the Proposed Project may affect in each vegetation community and the project segments where they occur.

5.2 Tree Preservation Policy or Ordinance

The Proposed Project traverses the following cities that have a tree protection and/or preservation policy or ordinance: Banning, Beaumont, Calimesa, Colton, Grand Terrace, Loma Linda, and Redlands. With the exception of oak tree protection in the City of Calimesa, these ordinances apply to street trees and require replacement of trees removed. If any street trees are removed as result of implementation of the Proposed Project, these trees would be replaced by SCE in accordance with the applicable ordinance.

The City of Calimesa has adopted an Oak Tree Preservation Ordinance *(Chapter 18.80 Tree Preservation)* that is designed to ensure that no oak trees are removed unless:

> A reasonable and conforming use of property justifies the removal, cutting, pruning, and/or encroachment into the protected zone of an oak tree, heritage oak tree, or protected stand of oak trees;
>
> Adequate mitigation, including the planting of replacement trees or acorns or the payment of replacement costs to the city for each tree removed; and
>
> Segment 4 construction activities conducted in the City of Calimesa near San Timoteo Canyon would require trimming and/or removal of oak trees to develop a new access road and crane pad/turnaround area, and structures.
>
> An oak tree pruning permit (18.80.060) and/or an oak tree removal permit (18.80.070) issued by the director of community development must be obtained before oak tree pruning or removal is undertaken.

Segment 4 construction activities conducted in the City of Calimesa near San Timoteo Canyon may require trimming and/or removal of oak trees to develop a new access road and

crane pad/turnaround area, and structures. SCE would avoid unnecessary damage to native oak trees and, thus, would not conflict with this ordinance. Through the avoidance of adverse effects to individual trees and tree species populations and compliance with the City of Calimesa's Tree Preservation Ordinance, the Proposed Project would not conflict with local policies or ordinances protecting biological resources, including tree preservation policies or ordinances.

Maintenance activities may require trimming of trees to ensure safe operation of the subtransmission lines and to ensure access for routine and emergency maintenance. This trimming would be conducted consistent with CPUC G.O. 95, Rule 35 and California PRC Sections 4292 and 4293, and as presented above, would not conflict with the locally-adopted tree ordinances and local policies listed in Table 2-2, Local Land Use Documents Applicable to Biological Resources. Operation of the Proposed Project would essentially be the same as under existing conditions and would not conflict with local policies or ordinances protecting biological resources.

5.3 Invasive Plant Species

Due to the nature of invasive species and the cost of removal once established, all introductions of invasive plants due to the Proposed Project would be considered permanent effects, this may include both direct and indirect effect types. However, due to the highly disturbed nature of much of the Project Study Area, effects from invasive species are not expected to be a substantial change from existing conditions. In order to reduce potential effects to relatively undisturbed areas within the Project Study Area, including some designated critical habitat areas, the development of measures is recommended.

5.4 Native Plant Species

5.4.1 Federally Listed Plant Species

5.4.1.1 Munz's Onion

Munz's onion is not expected to occur within the Project Study Area. The species was not observed during surveys conducted in 2012 and 2013. The Project Study Area is outside of the known range of this species, and the nearest documented occurrence was observed more than 20 years ago and was outside of the Project Study Area. Therefore, the Proposed Project is not expected to result in temporary or permanent effects to Munz's onion.

5.4.1.2 San Diego Ambrosia

San Diego ambrosia is not expected to occur within the Project Study Area. The species was not observed during surveys conducted in 2012 and 2013. The Project Study Area is outside of the known range of this species, and the nearest documented occurrence was observed

more than 70 years ago and was outside of the Project Study Area. Therefore, the Proposed Project is not expected to result in temporary or permanent effects to San Diego ambrosia.

5.4.1.3 Marsh Sandwort

Marsh sandwort is not expected to occur within the Project Study Area. The species was not observed during surveys conducted in 2012 and 2013. The species is believed to be extirpated from Riverside and San Bernardino Counties, as it has not been documented there for more than 100 years. Therefore, the Proposed Project is not expected to result in temporary or permanent effects to marsh sandwort.

5.4.1.4 Coachella Valley Milk-Vetch

Coachella Valley milk-vetch is not expected to occur within the Project Study Area. The species was not observed during surveys conducted in 2012 and 2013. This species is not known from the portions of Whitewater, or similar washes, within or upstream of the Project Study Area, and nearest documented occurrences of this species were observed south of the Project Study Area. Therefore, the Proposed Project is not expected to result in direct effects to Coachella Valley milk-vetch.

However, designated Coachella Valley Milk-Vetch Critical Habitat does occur within the Project Study Area. The Proposed Project may result in temporary effects within up to 3.3 acres of this Critical Habitat (Table 5-3, Maximum Potential Effects to Coachella Valley Milk-Vetch Critical Habitat).

Table 5-3: Maximum Potential Effects to Coachella Valley Milk-Vetch Critical Habitat

Vegetation Community	Acreage within the Project Study Area	Permanent Effects (Acres)	Temporary Effects (Acres)
Desert Scrub	38.6	0.0	1.5
Alluvial Scrub	47.3	0.0	0.0
Developed/Disturbed	23.9	0.0	1.8
Total Critical Habitat	**109.8**	**0.0**	**3.3**

Temporary effects caused by the Proposed Project are due to the construction of guard structures. These structures are temporary safety structures used to capture falling transmission lines during line placement.

Approximately 1.8 acres of the potentially affected Critical Habitat is already developed or highly disturbed. These areas do not currently provide suitable habitat for the species and therefore possible temporary effects to Coachella Valley milk-vetch in these areas are not expected.

Approximately 1.5 acres of the potentially affected Critical Habitat is desert scrub. This vegetation provides only marginal habitat for the species and therefore possible temporary effects to Coachella Valley milk-vetch in these areas are unlikely.

Currently available engineering plans do not anticipate any permanent effects to designated Critical Habitat. However, if the construction of permanent structures within designated Critical Habitat is included in final engineering plans, then the development of mitigation measures to reduce potential effects would be required. Additionally, due to the sensitive status of this species, along with the presence of designated Critical Habitat within the Project Study Area, it is recommended that precautionary measures to reduce possible effects on this species be developed, regardless of the construction of permanent structures.

5.4.1.5 Triple-Ribbed Milk-Vetch

Triple-ribbed milk-vetch is not expected to occur within the Project Study Area. The species was not observed during surveys conducted in 2012 and 2013. Individuals have been documented in the Whitewater River wash, possibly within the Project Study Area. However, these individuals were likely waifs washed down from more typical habitat, and are likely extirpated as this occurrence was more than 15 years ago. Therefore, the Proposed Project is not expected to result in temporary or permanent effects to triple-ribbed milk-vetch.

5.4.1.6 San Jacinto Valley Crownscale

San Jacinto Valley crownscale is not expected to occur within the Project Study Area. The species was not observed during surveys conducted in 2012 and 2013. The Project Study Area is outside of the known range of this species, and the nearest documented occurrence was observed more than 20 years ago and was outside of the Project Study Area. Therefore, the Proposed Project is not expected to result in any temporary or permanent effects to San Jacinto Valley crownscale.

5.4.1.7 Nevin's Barberry

Nevin's barberry is not expected to occur within the Project Study Area. The species was not observed during surveys conducted in 2012 and 2013, and due to the conspicuous nature of this species, it would likely have been observed had it been present. Though this species was formerly known to occur within the Project Study Area, it now appears to have been extirpated. Therefore, the Proposed Project is not expected to result in temporary or permanent effects to Nevin's barberry.

5.4.1.8 Thread-Leaved Brodiaea

Thread-leaved brodiaea is not expected to occur within the Project Study Area. The species was not observed during surveys conducted in 2012 and 2013. The Project Study Area contains only poorly suitable habitat, and the nearest documented occurrence was almost ten

years ago and outside of the Project Study Area. Therefore, the Proposed Project is not expected to result in temporary or permanent effects to thread-leaved brodiaea.

5.4.1.9 Slender-Horned Spineflower

Slender-horned spineflower is not expected to occur within the Project Study Area. The species was not observed during surveys conducted in 2012 and 2013. The Project Study Area does not contain suitable habitat for this species, and the nearest documented occurrences were observed outside of the Project Study Area. Therefore, the Proposed Project is not expected to result in temporary or permanent effects to slender-horned spineflower.

5.4.1.10 Santa Ana River Woollystar

Santa Ana River woollystar is not expected to occur within the Project Study Area. The species was not observed during surveys conducted in 2012 and 2013. The Project Study Area does not contain suitable habitat for this species, and the nearest documented occurrences were outside of the Project Study Area. Therefore, the Proposed Project is not expected to result in temporary or permanent effects to Santa Ana River woollystar.

5.4.1.11 Gambel's Water Cress

Gambel's water cress is not expected to occur within the Project Study Area. The species was not observed during surveys conducted in 2012 and 2013. The Project Study Area is at the western limit of this species' range and only contains sparse or absent suitable habitat. The nearest documented occurrence of this species was observed more than 70 years ago and was outside of the Project Study Area. Therefore, the Proposed Project is not expected to result in temporary or permanent effects to Gambel's water cress.

5.4.2 State Listed Plant Species

5.4.2.1 Mojave Tarplant

Mojave tarplant is not expected to occur within the Project Study Area. The species was not observed during surveys conducted in 2012 and 2013. The Project Study Area is outside of this species' likely range, and the nearest documented occurrence was observed more than 90 years ago and was outside of the Project Study Area. Therefore, the Proposed Project is not expected to result in temporary or permanent effects to Mojave tarplant.

5.4.3 Non-Listed Plant Species of Interest

The following non-listed plant species of special-status were observed during surveys either conducted previously for SCE within the immediate vicinity of the Project Study Area or during focused surveys conducted for the Proposed Project.[15]

- Chaparral sand-verbena (CA: 1B; BLM: S) (LSA 2010; BRC 2013) (Segment 6);
- Yucaipa onion (CA: 1B; BLM: S; MSHCP: WRS) (BRC 2013) (Segment 4);
- Plummer's mariposa lily (CA: 4; BLM: S; WRP) (BRC 2013; SCE 2007) (Segment 4);
- Smooth tarplant (CA: 1B; BLM: S; MSHCP: WRS) (Aspen 2007) (Segment 3);
- Parry's spineflower (CA: 1B; BLM: S; MSHCP: WRP) (BRC 2003, 2013; LSA 2010; GANDA 2011c) (Segment 5);
- White-bracted spineflower (CA: 1B; BLM: S) (BRC 2003, 2013; LSA 2010; GANDA 2011c) (Segments 5 and 6);
- Spiny-hair blazing star (CA: 2) (BRC 2013) (Segment 6);
- Engelmann oak (CA: 4; MSHCP: WRC) (BRC 2013) (Segment 4); and
- Desert spike-moss (CA: 2) (BRC 2013) (Segment 6).

Based on currently available engineering data, one location of a RPR 1B species, Yucaipa onion, may be affected by an access road near the eastern end of Segment 4.

Direct permanent effects to this species may include direct habitat loss, or mortality of individuals due to crushing or uprooting caused by grading, vehicles, machinery, and/or foot traffic.

Indirect permanent effects to this species, such as alteration of adjacent habitat, changes in plant solar exposure, or alteration of hydrological regime, are also possible, but very unlikely.

This potential conflict may be abated when engineering plans have been finalized. Measures to avoid effects to most of the potentially affected population, or to relocate the population(s) if effects cannot be substantially avoided, are recommended.

Two other species in the same area, Plummer's mariposa lily and Engelmann oak will also likely be affected based on the current engineering. However, these effects are not considered significant due to the more common occurrence of these RPR 4 species.

[15] A description of conservation statuses can be found in Table 4-2: Special-Status Plant Species Potentially Occurring or Known to Occur.

Substantial direct or indirect effects to other species on the above list are not likely, unless engineering plans are revised to include areas that are not in the current effect envelope. If this occurs, a reevaluation is recommended, to consider the nature of new effects, the quantities of plants affected, and the status of the species. For example, effects to RPR 4 species would not require mitigation, and mitigation for effects to RPR 1B species would be dependent on the actual rarity of the species and degree to which a population is affected.

5.5 Native Wildlife Species

5.5.1 Federally Listed Wildlife Species

5.5.1.1 Vernal Pool and Riverside Fairy Shrimp

Vernal pool and Riverside fairy shrimp are considered absent from the Project Study Area. These species were not observed during surveys conducted in 2011 through 2013. The Project Study Area is adjacent to, but outside of these species known range and typical habitat is lacking, though potentially suitable habitat (e.g., road ruts or detention basins) does occur. Modifications or effects to this potentially suitable habitat are anticipated during road grading, widening, or use, but, given the species' absence from the Project Study Area, the Proposed Project is not expected to result in temporary or permanent effects to either vernal pool or Riverside fairy shrimp.

5.5.1.2 Desert Tortoise

Desert tortoise individuals, sign, and burrows were observed within and adjacent to the existing WOD corridor, as well as existing and proposed access roads. Potentially suitable habitat for desert tortoise was found to be extensive throughout the Project Study Area; however, the distribution of observed individuals and sign was uneven, and indicates that the species may be more abundant in some areas and scarce or absent in others. Based on the overlap of tortoise distribution and proposed disturbance areas, the Proposed Project has the potential to affect desert tortoise. Some of these overlapped areas are within the CV-MSHCP, and any effects to desert tortoise within the CV-MSHCP would be considered covered, and therefore not significant, if SCE becomes a PSE and implements the requirements of that management plan. However, for areas outside of the CV-MSHCP, the Proposed Project may still have the potential to significantly affect desert tortoise, regardless of SCE's participation in the CV-MSHCP.

Direct permanent effects to individual desert tortoises are possible, and any take of a desert tortoise would be considered potentially significant. Mortality caused by the Proposed Project may result from either collisions with, or crushing from, vehicles or equipment, or from crushing during the destruction of an occupied burrow.

Indirect effects to individual desert tortoises caused by construction could have either temporary or permanent implications for desert tortoise and therefore could also be

considered potentially significant. Construction may increase desert tortoise exposure to noise, vibration, dust, and human presence. These factors could adversely affect desert tortoises in the immediate vicinity of construction activities by increasing predator abundance, changing species behavior, or limiting auditory or visual detection of predators, all of which may increase predation or injury to tortoise individuals.

Indirect effects to desert tortoise through habitat modification or loss, is also possible, and could have either temporary or permanent implications for desert tortoise. Temporary effects could include the loss of foraging habitat during the Proposed Project. This temporary effect could be significant in the short term based on currently available engineering data, as the affected areas (all within Segments 5 and 6) would potentially involve the temporary disturbance of up to 26.7 percent of the existing 3,666 acres of potentially suitable habitat within Segments 5 and 6 of the Project Study Area.[16] Alterations or disturbances to this habitat could adversely affect the foraging or reproductive abilities of tortoise individuals within the vicinity. Additionally, permanent effects to desert tortoise habitat could include the loss of up to 2.3 percent of all suitable habitat at the footing locations of new towers and any new access roads. Permanent effects, however, are also not expected to be significant, as any loss of potentially suitable habitat due to the Proposed Project would be offset by the restoration and recovery of habitat where existing facilities are removed (e.g., tower removal sites, abandoned access roads).

In conclusion, potentially permanent effects to desert tortoise habitat are not expected to be significant, but potential temporary effects to desert tortoise habitat could be significant. Additionally, potentially permanent effects to desert tortoise individuals could also be significant. As engineering plans are finalized, the inclusion of measures to reduce potential effects to desert tortoise habitat is recommended. However, the development of precautionary measures to reduce potential effects to desert tortoise individuals during construction will be required regardless of final engineering plans.

5.5.1.3 Western Yellow-billed Cuckoo

Western yellow-billed cuckoo has a low probability to occur within the Project Study Area. This species was not observed during surveys conducted for the Proposed Project. Habitat appears unsuitable for nesting within the Project Study Area; however, suitable foraging habitat does occur within riparian vegetation in Segments 3 and 4. Additionally, individuals have been previously observed in riparian habitat associated with San Timoteo Creek south of the Project Study Area.

Direct permanent effects to western yellow-billed cuckoo are possible, but unlikely. Foraging individuals may occur within the Project Study Area, but these individuals are expected to

[16] See Table 5-1, Maximum Potential Permanent Effects to Land Cover, and Table 5-2, Maximum Potential Temporary Effects to Land Cover, for a breakdown of potential effects to desert scrub and alluvial scrub vegetation within each segment.

move out of the area during construction; therefore, take of foraging cuckoos is not expected. While nesting individuals are unlikely within the Project Study Area, they cannot be definitively deemed absent; therefore, direct permanent effects of construction to nesting cuckoos (e.g., mortality of adults or loss of eggs) are possible and could be potentially significant.

Indirect temporary effects to nearby western yellow-billed cuckoos due to construction activities (e.g., noise, dust, or lighting) are possible, but are not expected to be significant, as any nesting individuals would likely be outside of the Project Study Area.

Indirect temporary and permanent effects through the loss or modification of foraging habitat are also possible. However, because nesting individuals are not expected, foraging individuals are likely nesting outside of the Project Study Area and would therefore have a foraging range that includes habitat outside of proposed disturbance areas. Therefore, temporary loss of foraging habitat is not expected to significantly affect the foraging resources of cuckoos. Additionally, permanent effects to foraging habitat will only occur to up to 1.7 percent of potentially suitable habitat, and therefore are not expected to be significant. [17]

In conclusion, only direct permanent effects to nesting western yellow-billed cuckoos, though unlikely, would be considered significant if they occurred, and therefore, the development of precautionary measures to reduce these effects is recommended. If SCE becomes a PSE in the WR-MSHCP, the requirements for preservation or compensation of riparian habitat for this covered species would ensure that effects would be mitigated to a less than significant level.

5.5.1.4 Southwestern Willow Flycatcher

Southwestern willow flycatcher has a low probability to occur within the Project Study Area. This species was not observed during surveys conducted for the Proposed Project, and only marginally suitable nesting habitat is located within the Project Study Area. One migrant willow flycatcher was previously observed just outside the Project Study Area in San Timoteo Creek, but this individual was most likely the *E. t. brewsteri* subspecies.

Direct permanent effects to southwestern willow flycatcher are possible, but unlikely. Foraging individuals may occur within the Project Study Area, but these individuals are expected to move out of the area during construction; therefore, take of foraging flycatchers is not expected. However, though nesting individuals are unlikely within the Project Study Area, they cannot be definitively deemed absent. Therefore, direct permanent effects of construction to nesting flycatchers (e.g., mortality of adults or loss of eggs) are possible and could be potentially significant.

[17] See Table 5-1, Maximum Potential Permanent Effects to Land Cover, and Table 5-2, Maximum Potential Temporary Effects to Land Cover, for a breakdown of potential effects to riparian vegetation within each segment.

Indirect temporary effects to southwestern willow flycatchers due to construction activities (e.g., noise, dust, or lighting) are possible, but are not expected to be significant, as construction activities typically span riparian habitat and would be away from any flycatcher activity.

Indirect temporary and permanent effects through the loss or modification of foraging habitat are also possible. However, temporary loss of foraging habitat is not expected to significantly affect the foraging resources of flycatchers, as these individuals likely have a foraging range that includes habitat outside of proposed disturbance areas. Additionally, permanent effects to foraging habitat will only occur to up to 1.7 percent of potentially suitable habitat, and therefore are not expected to be significant.[18]

Designated critical habitat for southwestern willow flycatcher is located within 1 mile of the Project Study Area (with a slight overlap into the Project Study Area, but outside of where riparian bird surveys were conducted). Specifically, this habitat is located in San Timoteo Creek adjacent to a proposed telecommunications line installation along San Timoteo Canyon Road. Due to this distance, the Proposed Project is not expected to directly affect any southwestern willow flycatcher critical habitat. Additionally, the Proposed Project is also not expected to result in indirect permanent effects to critical habitat, due to the brief period of construction activity and the minimally invasive nature of the activity (parking utility vehicle to string wire on existing poles) to be conducted along the existing San Timoteo Canyon Road. The Proposed Project could, however, result in indirect temporary effects during construction activities (e.g., noise and increased human activity in the area), but due to the distance, these are not expected to be significant.

In conclusion, only direct permanent effects to nesting southwestern willow flycatchers, though unlikely, would be considered significant if they occurred, and therefore, the development of precautionary measures to reduce these effects is recommended. If SCE becomes a PSE in the WR-MSHCP, the requirements for preservation or compensation of riparian habitat for this covered species would ensure that effects would be mitigated to a less than significant level.

5.5.1.5 Least Bell's Vireo

Least Bell's vireo was detected within the Project Study Area during 2012 focused surveys. This species had breeding territories within the Project Study Area in riparian/riverine habitat specifically associated with San Timoteo Creek in Segments 3 and 4, and may breed within similar habitat around a drainage identified in 2013 south of the City of Beaumont in Segment 4 since a singing male was detected here in 2013. Direct or substantial indirect

[18] See Table 5-1, Maximum Potential Permanent Effects to Land Cover, and Table 5-2, Maximum Potential Temporary Effects to Land Cover, for a breakdown of potential effects to riparian vegetation within each segment.

effects to least Bell's vireo caused by the Proposed Project could be considered take under the FESA, which would be significant in the absence of compensatory mitigation.

Direct permanent effects to least Bell's vireo are possible in both Segments 3 and 4. These effects could include mortality of individuals caused by collisions with vehicles or equipment, or crushing during the destruction of vegetation with an occupied nest (which could also result in the loss of eggs). SCE intends to minimize the amount and duration of construction activities within riparian vegetation to the greatest extent possible; however, any mortality of least Bell's vireo caused by the Proposed Project could still be considered significant.

Indirect temporary effects to least Bell's vireo individuals includes increased exposure to noise, vibration, dust, and human presence during construction activities. These factors could potentially adversely affect least Bell's vireo in the immediate vicinity of construction by increasing predator abundance, changing species behavior, or limiting species communication or predator avoidance, all of which may increase predation or injury to individuals, and therefore could be considered potentially significant.

Direct temporary and permanent effects through the loss suitable nesting habitat are possible. Based on currently available engineering data, the Proposed Project could temporarily affect up to 22.2 acres of potentially suitable nesting habitat during construction activities, which is 15.33 percent of all riparian vegetation within the Project Study Area. [19] If this habitat contains occupied least Bell's vireo territories, then construction activities could displace these nesting pairs, which could be considered potentially significant. Additionally, the Proposed Project could permanently affect up to 2.5 acres (1.7%) of potentially suitable nesting habitat. If this habitat is occupied, then removing this habitat could also be considered potentially significant.

Indirect permanent effects caused by the loss of up to 2.5 acres of potentially suitable future nesting habitat are not expected to be significant; however, as this loss of potentially suitable habitat due to the Proposed Project would be offset by the restoration and recovery of habitat where existing facilities are removed (e.g., tower removal sites and abandoned access roads).

Other, less likely, indirect permanent effects due to the Proposed Project could result in vegetation composition changes, including the introduction of nonnative plant species to the area, and predator perch site changes. Predator sites, however, are not expected to be substantially different from existing conditions since the Proposed Project involves the removal and replacement of existing transmission lines within an existing ROW.

[19] See Table 5-1, Maximum Potential Permanent Effects to Land Cover, and Table 5-2, Maximum Potential Temporary Effects to Land Cover, for a breakdown of potential effects to riparian vegetation within each segment.

In conclusion, the Proposed Project could result in direct and indirect effects to the least Bell's vireo through both effects on individuals as well as habitat. Some of these effects could also be considered potentially significant by the FESA, though without more advanced engineering plans, more precise estimates of significance cannot be made. It is therefore recommended that precautionary measures to reduce effects to least Bell's vireo be incorporated into final engineering and construction minimization measures. If SCE becomes a PSE in the WR-MSHCP, the requirements for preservation or compensation of riparian habitat for this covered species would ensure that effects would be mitigated to a less than significant level.

5.5.1.6 Coastal California Gnatcatcher

There is a moderate probability of coastal California gnatcatcher occurrence within the Project Study Area. This species was not observed during surveys conducted for the Proposed Project; however, it has been previously observed in 1997 and 2000 from approximately two miles south of Segment 2 in Reche Canyon. Low to moderately suitable habitat is present within Segments 2 and 3 of the Project Study Area. Direct or indirect effects to coastal California gnatcatcher caused by the Proposed Project could be considered take under the FESA, which would be significant in the absence of compensatory mitigation.

Direct permanent effects to coastal California gnatcatcher individuals are possible. Foraging individuals may occur within the Project Study Area, but these individuals are expected to move out of the area during construction; therefore, take of foraging gnatcatchers is not expected. However, there is a low probability of nesting within the Project Study Area and, therefore, direct permanent effects to nesting individuals are possible. These effects could include mortality of individuals caused by collisions with vehicles or equipment, or crushing during the destruction of vegetation with an occupied nest (which could also result in the loss of eggs). Direct permanent effects to gnatcatchers could be potentially significant.

Indirect temporary effects to coastal California gnatcatcher individuals due to construction activities are possible but unlikely. If individuals are within the Project Study Area, however, increased exposure to noise, vibration, dust, and human presence during construction could potentially adversely affect coastal California gnatcatchers in the immediate vicinity of construction by increasing predator abundance, changing species behavior, or limiting species auditory or visual detection of predator, all of which may increase predation or injury to individuals, and therefore could be considered potentially significant.

Temporary effects to coastal California gnatcatcher designated critical habitat is expected to occur through the temporary loss or modification of up to 187.0 acres (30.0 percent) of potentially suitable critical habitat within the Project Study Area (Table 5-4, Maximum Potential Effects to Coastal California Gnatcatcher Critical Habitat). This temporary loss is not expected to be significant, as this habitat is low quality and patchy in nature and therefore is unlikely to provide substantial foraging or nesting resources for coastal California gnatcatcher.

Table 5-4: Maximum Potential Effects to Coastal California Gnatcatcher Critical Habitat

Vegetation Community	Acreage within the Project Study Area	Permanent Effects (Acres)	Temporary Effects (Acres)
Coastal Sage Scrub	220.4	11.1	72.8
Grassland/Forbland	312.0	13.8	88.6
Riparian	9.6	0.1	3.0
Developed/Disturbed	81.1	3.3	22.7
Total Critical Habitat	**623.2**	**28.3**	**187.0**

Permanent effects to designated critical habitat are expected to occur through the permanent loss of up to 28.3 acres (4.5 percent) of potentially suitable critical habitat within the Project Study Area. This permanent loss is also not expected to be significant; however, as any loss of potentially suitable habitat due to the Proposed Project would be offset by the restoration and recovery of habitat where existing facilities are removed (e.g., tower removal sites and abandoned access roads).

In conclusion, both direct and indirect effects to coastal California gnatcatcher individuals are possible, and could be considered potentially significant. Additionally, based on currently available engineering plans, temporary and permanent effects to designated critical habitat are expected; however, these effect s are not expected to be significant. Therefore, the development of measures to reduce possible effects on coastal California gnatcatcher individuals and critical habitat will be required.

5.5.1.7 Stephens' Kangaroo Rat

Stephens' kangaroo rat was captured once in 2012 within the vicinity of an access road in Segment 3, though this occurrence was outside of the Project Study Area. In 2013, this area was resurveyed with negative survey results. Potential habitat for this species occurs within grassland and grassland/scrub ecotone in Segments 1 (the southern portion near the San Bernardino Junction), 2, 3, and 4. Potential habitat in Segments 1 and 2 is outside of any WR-MSHCP fee areas and therefore the Proposed Project cannot apply for a Stephens' kangaroo rat take allowance. Direct or indirect effects to Stephens' kangaroo rat caused by the Proposed Project could be considered take under the FESA, which would be significant in the absence of compensatory mitigation.

Direct effects to Stephens' kangaroo rat individuals are possible. Mortality due to construction activities could result from crushing by vehicles or equipment, road grading, or any other ground-disturbing activity that may crush an individual or an occupied burrow. These effects could be considered potentially significant.

Indirect effects to Stephens' kangaroo rat individuals are also possible. Increased human activity could cause an increase of predator species in the area. However, since Stephens'

kangaroo rat is a nocturnal species, only an increase in nocturnal predators such as owls, coyotes, or bobcats would have a potentially adverse effect on Stephens' kangaroo rat. Since nocturnal predator counts are not expected to increase substantially, this possible indirect effect is not expected to be significant. Additionally, predator perch sites are not anticipated to change substantially from existing conditions, as the Proposed Project involves the removal and replacement of existing transmission lines within an existing transmission line ROW. Therefore, this possible indirect effect is also not expected to be significant.

Indirect temporary effects to Stephens' kangaroo rat habitat are expected. Temporary loss or modification of potentially suitable habitat could occur to up to 187.9 acres (35.5 percent) of habitat within the Project Study Area (Table 5-5, Maximum Potential Effects to Stephens' Kangaroo Rat Habitat). Disturbed areas compose a substantial portion of potentially suitable habitat, and therefore if this habitat is occupied, then displacement of individuals could have adverse effects on Stephens' kangaroo rat, including increased predation or a loss of available resources. These temporary effects could be significant.

Table 5-5: Maximum Potential Effects to Stephens' Kangaroo Rat Habitat

Vegetation Community	Acreage within the Project Study Area	Permanent Effects (Acres)	Temporary Effects (Acres)
Coastal Sage Scrub[1]	134.6	6.7	52.9
Grassland/Forbland	393.6	23.0	135.0
Total Potential Habitat	**528.2**	**29.7**	**187.9**

[1] Excluding black sage scrub

Indirect permanent effects to Stephens' kangaroo rat habitat are also expected to occur to up to 29.7 acres (5.6 percent) of potentially suitable habitat. These permanent effects, however, are not expected to be significant, as this loss of potentially suitable habitat due to the Proposed Project would be offset by the restoration and recovery of habitat where existing facilities are removed (e.g., tower removal sites and abandoned access roads).

In conclusion, direct and indirect effects to Stephens' kangaroo rat individuals are possible and could be potentially significant. Additionally, effects to Stephens' kangaroo rat habitat are expected, and temporary effects could be potentially significant. Therefore, the development of measures to reduce these effects is recommended.

5.5.1.8 Nelson's Bighorn Sheep

The federally and State listed peninsular population of the Nelson's bighorn sheep is not expected to occur within the Project Study Area. Individuals of this population were not observed during surveys conducted for the Proposed Project, and the Project Study Area is generally outside of the known range of this population. The non-listed non-peninsular population of this species is known to occur about 3.5 miles north of Segment 6; therefore, the listed population cannot definitively be considered absent. However, due to the high unlikelihood of the listed population occurring within the Project Study Area, the Proposed

Project is not expected to affect the listed peninsular population of the Nelson's bighorn sheep.

5.5.2 State Listed Wildlife Species

5.5.2.1 Golden Eagle

Golden eagle was observed during 2012 and 2013 wildlife surveys within the Project Study Area. Additionally, nests were detected in 2013 during focused golden eagle surveys within the 4-mile survey buffer of the WOD corridor. The species is known to forage in the Project Study Area, predominantly in open habitat near the communities of Banning and Cabazon (Segments 4 and 5). However, nesting habitat is lacking within the Project Study Area.

Direct permanent effects to golden eagle are possible, but unlikely. Foraging individuals may occur within the Project Study Area, but these individuals are expected to be transitory, easily avoiding construction areas; therefore take of foraging golden eagles is not expected. Additionally, although mortality from power line collisions is possible, the probability of this occurrence would not be substantially different from current conditions, as the Proposed Project involves the removal and replacement of existing transmission lines within an existing transmission line ROW. Therefore, this possible effect is not expected to be significant. Lastly, direct permanent effects to nesting golden eagle individuals are not expected, as nesting habitat is lacking within the Project Study Area.

Indirect temporary effects to golden eagle individuals due to construction activities are possible but also unlikely. Foraging individuals may be exposed to increased noise, vibration, dust, and human presence during construction, but these are not expected to have a significant effect on golden eagle, as foraging individuals are expected to be transitory, easily avoiding construction areas.

Indirect temporary effects to golden eagle habitat are possible. The temporary loss or modification of foraging habitat during construction, along with the loss of perch sites during tower removal, could affect foraging individuals and reduce hunting success. However, temporary loss of foraging habitat is not expected to significantly affect the foraging resources of golden eagle, as these individuals have a foraging range that includes extensive habitat miles away from proposed disturbance areas. Therefore, these temporary effects are not expected to significantly reduce the foraging resources of golden eagle.

Indirect permanent effects to golden eagle habitat are also possible. However, these permanent effects are not expected to be significant as loss of potentially suitable foraging habitat due to the Proposed Project would be offset by the restoration and recovery of habitat where existing facilities are removed (e.g., tower removal sites and abandoned access roads).

In conclusion, although direct and indirect effects to golden eagle individuals or habitat due to the Proposed Project are possible, they are expected to be limited and not significant.

5.5.2.2 Swainson's Hawk

Swainson's hawk migrants were observed during 2012 and 2013 surveys. Foraging and nesting habitat is present within the Project Study Area, particularly in Segments 3 and 4; however, no individuals were detected nesting or exhibiting breeding behavior, and the Project Study Area is outside the species known breeding range. Therefore, nesting Swainson's hawks are considered unlikely to occur within the Project Study Area.

Direct permanent effects to Swainson's hawk are possible, but unlikely. Foraging individuals may occur within the Project Study Area, but these individuals are expected to be transitory, easily avoiding construction areas; therefore, take of foraging Swainson's hawk is not expected. Additionally, although mortality from power line collisions is possible, the probability of this occurrence would not be substantially different from current conditions, as the Proposed Project involves the removal and replacement of existing transmission lines within an existing transmission line ROW. Therefore, this possible effect is not expected to be significant. Lastly, direct permanent effects to nesting Swainson's hawk individuals are not expected, as nesting is unlikely within the Project Study Area.

Indirect temporary effects to Swainson's hawk individuals due to construction activities are possible but also unlikely. Foraging individuals may be exposed to increased noise, vibration, dust, and human presence during construction, but these are not expected to have a significant effect on Swainson's hawk, as foraging individuals are expected to be transitory, easily avoiding construction areas.

Indirect temporary effects to Swainson's hawk habitat are possible. The temporary loss or modification of foraging habitat during construction, along with the loss of perch sites, could affect foraging individuals and reduce hunting success. However, breeding individuals are unlikely, and foraging individuals are likely only migrating through the Project Study Area and would therefore have a foraging range that includes habitat outside of proposed disturbance areas as foraging habitat is contiguous within the vicinity. Therefore, these temporary effects are not expected to significantly reduce the foraging resources of Swainson's hawk.

Indirect permanent effects to Swainson's hawk habitat are also possible. However, these permanent effects are not expected to be significant as loss of potentially suitable foraging or nesting habitat due to the Proposed Project would be offset by the restoration and recovery of habitat where existing facilities are removed (e.g., tower removal sites and abandoned access roads).

In conclusion, although direct and indirect effects to Swainson's hawk individuals or their habitat due to the Proposed Project are possible, they are not expected to be significant.

5.5.2.3 White-Tailed Kite

White-tailed kite was observed foraging in riparian habitat associated with San Timoteo Creek during 2012 surveys. Suitable foraging and nesting habitat is present in within the Project Study Area, particularly in Segments 2 through 4. Even though no nesting individuals were observed in recent years, nesting populations are cyclical and determined by prey abundance; therefore, nesting could occur within the Project Study Area in the future.

Direct permanent effects to foraging white-tailed kites are possible, but unlikely. Foraging individuals are expected to be transitory, easily avoiding construction areas; therefore, take of foraging white-tailed kites is not expected. Additionally, although mortality from power line collisions is possible, the probability of this occurrence would not be substantially different from current conditions, as the Proposed Project involves the removal and replacement of existing transmission lines within an existing transmission line ROW. Therefore, this possible effect is not expected to be significant.

Direct permanent effects to nesting white-tailed kites are possible since future nesting individuals cannot be definitively deemed absent. Direct permanent effects to nesting white-tailed kites (e.g., mortality of adults or loss of eggs) through construction activities such as the removal of occupied nesting trees or the disturbance of occupied nesting trees by dropping transmission lines, are possible and could be potentially significant.

Indirect temporary effects to white-tailed kite individuals due to construction activities are also possible. Individuals may be exposed to increased noise, vibration, dust, and human presence during construction. These factors are not expected to have a significant effect on foraging white-tailed kites, as these individuals are expected to be transitory, easily avoiding construction areas. However, nesting individuals could incur adverse indirect effects to either themselves or their young if nests are in close proximity to construction activities, and these effects could be potentially significant.

Indirect temporary effects to white-tailed kite habitat are possible. The temporary loss or modification of foraging and nesting habitat during construction, along with the loss of perch sites during tower removal, could affect foraging individuals and reduce hunting success. Kites would have a foraging range that includes habitat outside of proposed disturbance areas. Nesting individuals, if nesting nearby, may also be adversely affected by this temporary reduction of foraging resources. However, given the extensive foraging habitat within the area, these temporary effects are not expected to be significant to either foraging or nesting individuals.

Indirect permanent effects to white-tailed kite habitat are also possible. However, these permanent effects are not expected to be significant as loss of potentially suitable foraging or nesting habitat due to the Proposed Project would be offset by the restoration and recovery of habitat where existing facilities are removed (e.g., tower removal sites and abandoned access roads) and by compensatory riparian habitat mitigation.

In conclusion, direct and indirect effects to migrating white-tailed kite individuals or their foraging habitat are possible, but are not expected to be significant. Direct and indirect effects to nesting white-tailed kites are also possible, and these could be potentially significant. Therefore, the development of measures to reduce effects to nesting white-tailed kites is recommended.

5.5.2.4 Little Willow Flycatcher

Nesting little willow flycatcher is not expected within the Project Study Area. This species was not observed during surveys conducted for the Proposed Project and the Project Study Area is outside the species known breeding range. Foraging habitat, however, is present within the Project Study Area, particularly in Segments 2 through 5, and migrants have been known to occur.

Direct permanent effects to little willow flycatcher are possible, but unlikely. Foraging individuals may occur within the Project Study Area, but these individuals are expected to be transitory, easily avoiding construction areas; therefore, take of foraging flycatchers is not expected. Additionally, since nesting individuals are absent, direct effects to nesting little willow flycatchers are not expected.

Indirect temporary effects to nearby little willow flycatchers due to construction activities (e.g., noise, dust, or lighting) are possible, but are not expected to be significant, as migrants could easily move out of disturbed areas.

Indirect temporary and permanent effects through the loss or modification of foraging habitat are also possible. However, temporary loss of foraging habitat is not expected to significantly affect the foraging resources of little willow flycatcher, as migrating individuals have a foraging range that includes habitat outside of proposed disturbance areas. Therefore, temporary loss of foraging habitat is not expected to significantly affect the foraging resources of flycatchers. Additionally, permanent effects to foraging habitat will only occur within up to 1.7 percent of potentially suitable habitat, and therefore are not expected to be significant. [20]

In conclusion, direct and indirect effects to little willow flycatcher due to the Proposed Project are possible, but are not expected to be significant.

5.5.2.5 Bald Eagle

Bald eagle has a low probability of occurring within the Project Study Area. This species was not observed during surveys conducted for the Proposed Project. Additionally, suitable

[20] See Table 5-1, Maximum Potential Permanent Effects to Land Cover, and Table 5-2, Maximum Potential Temporary Effects to Land Cover, for a breakdown of potential effects to riparian vegetation within each segment.

nesting habitat is absent, though winter migrants have been previously observed in the area, and some suitable foraging habitat (e.g., El Casco Lakes) occurs within the Project Study Area. However, this potentially available habitat is expected to decrease in the future, as water supply to El Casco Lakes is likely to be discontinued.

Direct permanent effects to bald eagle are possible, but unlikely. Foraging individuals may occur within the Project Study Area during their wintering season (November through February), but these individuals are expected to be transitory, easily avoiding construction areas; therefore, take of foraging bald eagles is not expected. Additionally, although mortality from power line collisions is possible, the probability of this occurrence would not be substantially different from current conditions, as the Proposed Project involves the removal and replacement of existing transmission lines within an existing transmission line ROW. Therefore, this possible effect is not expected to be significant.

Indirect temporary effects to bald eagle individuals due to construction activities are possible but also unlikely. Foraging individuals may be exposed to increased noise, vibration, dust, and human presence during construction, but these are not expected to have a significant effect on bald eagles, as foraging individuals could easily move out of disturbance areas.

Indirect temporary effects to bald eagle habitat are possible. However, because nesting individuals are not expected, foraging individuals are likely migrating through the Project Study Area and would therefore have a foraging range that includes habitat outside of proposed disturbance areas. Therefore, these temporary effects are not expected to significantly reduce the foraging resources of bald eagle.

Indirect permanent effects to bald eagle habitat are also not expected.

In conclusion, although direct and indirect effects to bald eagle individuals or their habitat due to the Proposed Project are possible, they are not expected to be significant.

5.5.2.6 Townsend's Big-Eared Bat

Townsend's big-eared bat has a low probability to occur within the Project Study Area. This species usually roosts in fairly specific habitat types, and no known roosting habitat occurs within or adjacent to the Project Study Area. Foraging individuals may occur, though due to the lack of nearby roosting habitat this probability is low. This species was not observed during surveys conducted for the Proposed Project.

Direct temporary or permanent effects to Townsend's big-eared bat are not expected. Only foraging individuals have a probability of occurring and it is unlikely that these individuals would be adversely affected by construction activities.

Indirect temporary or permanent effects to Townsend's big-eared bat are possible through the loss of potential foraging habitat due to grading and/or vegetation removal, but are not

expected to be significant. Temporary loss of foraging habitat is unlikely to adversely affect the foraging abilities of this species as Townsend's big-eared bats have a large foraging range that would include areas outside of proposed disturbance areas. Additionally, potential permanent effects are not expected to be significant as loss of foraging habitat due to the Proposed Project would be offset by the restoration and recovery of habitat where existing facilities are removed (e.g., tower removal sites and abandoned access roads).

In conclusion, the Proposed Project is not expected to directly or indirectly significantly affect Townsend's big-eared bat. Since this species is a State-candidate species, however, recommended mitigation measures and survey methods may be developed by the CDFW. Therefore, it is recommended that the most current CDFW recommendations be reviewed prior to Proposed Project construction.

5.5.2.7 Ringtail

Although rarely observed, ringtail has a moderate probability to occur within the Project Study Area. This species was not observed during surveys conducted for the Proposed Project; however, suitable habitat does occur within the riparian/riverine and chaparral vegetation in Segments 2 through 5.

Direct permanent effects to ringtail are possible. Mortality from construction activities could occur through collisions with vehicles or equipment, or by inadvertent destruction of an occupied den. These effects could be considered potentially significant.

Indirect effects to ringtail individuals are also possible. Increased human activity could cause an increase of predator species in the area. However, since ringtail is a nocturnal species, only an increase in nocturnal predators such as owls, coyotes, or bobcats would have a potentially adverse effect on ringtail. Since nocturnal predator counts are not expected to increase substantially, this possible indirect effect is not expected to be significant. Additionally, predator perch sites are not anticipated to change substantially from existing conditions, as the Proposed Project involves the removal and replacement of existing transmission lines within an existing transmission line ROW. Therefore, this possible indirect effect is also not expected to be significant.

Indirect temporary effects to ringtail habitat are expected. Temporary loss or modification of potentially suitable habitat could occur to up to 231.7 acres of riparian and chaparral vegetation during construction activities, which is 32.1 percent of all riparian and chaparral vegetation within the Project Study Area. [21] If this habitat is occupied, then removing this habitat could have adverse effects on foraging and denning resources for ringtail, and could be potentially significant.

[21] See Table 5-1, Maximum Potential Permanent Effects to Land Cover, and Table 5-2, Maximum Potential Temporary Effects to Land Cover, for a breakdown of potential effects to vegetation within each segment.

Indirect permanent effects to ringtail habitat are also expected. The Proposed Project could permanently affect up to 5.2 acres (1.7 percent) of potentially suitable habitat; however, these effects are not expected to be significant.

In conclusion, both direct and indirect effects to ringtail are possible, and out of these, direct permanent and indirect temporary effects could be potentially significant. Therefore, the development of measures to avoid effects and compensate for losses of riparian habitat are recommended.

5.5.3 Non-Listed Wildlife Species of Interest

Many non-listed wildlife species of interest occur within the Project Study Area. These include:

- Raptor species including the burrowing owl;
- Riparian bird species; and
- Mammal species such as rodents, American badgers, coyotes, and bats.

Direct permanent effects to these species of interest are possible. Mortality could be caused by collisions with power lines, vehicles, or equipment, or by crushing due vehicles, equipment, destruction of occupied vegetation, or road grading or other ground-disturbing activities. These effects could be considered potentially significant in some cases, such as for certain special-status burrowing and denning species, including burrowing owl, American badger, Los Angeles pocket mouse, or for concentrations of bats in maternity roosts or hibernacula. Although the project is of considerable length, the intensity of development at any particular area is relatively low, so that such direct effects to relatively common species are not considered significant in most cases. In addition, many of these species are covered under the MSHCPs.

Indirect temporary effects to these species of interest are also possible. Increased exposure to noise, vibration, dust, and human presence during construction activities could increase predator abundance, change species behavior, or limit species communication or predator avoidance, all of which may increase predation or injury to individuals, but, as with direct effects, these are not considered significant on a regional basis for most species. Some construction-related activities may in fact enhance foraging opportunities for raptor species by displacing rodents or other food items from burrows or create new perch locations.

Indirect temporary effects to species habitat are also possible. Displacement of individuals, reduction in available foraging resources, and loss of nesting territories are all effects that could adversely affect these species of interest, and could be potentially significant in some cases, such as for the burrowing owl, but not for most species.

Indirect permanent effects to species habitat are also possible; however, these are not expected to be significant, as loss of potentially suitable foraging habitat due to the Proposed Project would be offset by the restoration and recovery of habitat following construction where existing facilities are removed (e.g., tower removal sites and abandoned access roads).

In conclusion, both direct and indirect effects on non-listed species of interest could occur as a result of the Proposed Project. These effects could be considered potentially significant depending on the species being affected and the extent of this effect. Therefore, the development of measures to reduce these effects is recommended. For some species, such as such as State Species of Special Concern (like the burrowing owl and Los Angeles pocket mouse), measures to reduce these effects are required.

5.5.3.1 Coachella Valley Jerusalem Cricket and Coachella Giant Sand Treader Cricket

Neither the Coachella Valley Jerusalem cricket nor the Coachella giant sand treader cricket are expected to occur within the Project Study Area. These species were not observed during focused surveys conducted for the Proposed Project. The Project Study Area contains some potentially suitable habitat for both species; however, these areas are isolated from similar habitat and limited in size. Much of the preferred finer wind-blown or active aeolian soils needed to support these species was sparse or absent from the Project Study Area. Additionally, the nearest documented occurrences of both species were outside of the Project Study Area. Therefore, the Proposed Project is not expected to result in temporary or permanent effects to either the Coachella Valley Jerusalem cricket or the Coachella giant sand treader cricket.

5.6 Migrating Birds

The Project Study Area is within a flyway for migratory bird species, which are protected by the MBTA. The use of the San Gorgonio Pass by migrating birds has been documented for 100 years (Grinnell and Swarth 1913). The low pass serves as a connection between coastal lowlands and Colorado Desert lowlands for many species of land birds that normally travel at night, as well many species of water birds that travel by day or night. The Coachella Valley and surrounding ranges serve to funnel northbound animals to the northwest and west through the San Gorgonio Pass and the Project Study Area.

Temporary indirect effects due to construction activities may result in localized hindrance of movement or loss of available resources by migratory bird species due to temporary noise, lighting, dust, and human activity in a work area. Helicopter work would generally be short-term and localized, and naturally avoided by birds. In most cases, resident birds are expected to use alternate similar habitat in the vicinity and migrant birds moving through areas can choose less disturbed surrounding areas with similar resources. In general, these temporary effects are not expected to be significant, but mitigation measures are recommended for specific special-status species (see Sections 5.5.1.3 through 5.5.1.6).

Indirect and direct (both permanent and temporary) effects to nesting birds are expected to occur as a result of the Proposed Project. The Proposed Project contains suitable habitat for native nesting birds and raptors, which are also protected under the MBTA. Hawk and corvid nests were regularly observed on existing towers within the ROW and on towers proposed for removal. Nesting birds may be affected by the Proposed Project activities during the breeding season (generally February 1 through August 31) by habitat removal or disturbance, grading, or increases in noise and/or vibration. Construction disturbance during the breeding season (generally February 1 through August 31, and starting as early as January 1 for some raptors) that results in the incidental loss of fertile eggs or nestlings, or otherwise leads to nest abandonment may be considered take by USFWS under the MBTA, as well as by CDFW under FGC Sections 3503, 3503.5, and 3513. Therefore, implementation of appropriate avoidance measures would ensure that nesting bird are identified prior to construction and that sufficient construction avoidance buffers are established around active nests so that construction activities would not impair nest viability.

Permanent direct effects due to construction of new structures are not expected to be significant for migratory birds since the Proposed Project involves the upgrade and replacement of existing facilities (e.g., towers, access roads, existing substation modifications, and staging yards); therefore, bird use for the Proposed Project Area would be similar to existing conditions. The Proposed Project will replace an existing series of transmission lines that migrating birds have coexisted with for many years. Therefore, it is not expected that the relocation of the transmission lines in the same general alignment would have a substantial long-term effect on birds. Existing transmission lines, wind turbines, and other structures currently exist throughout the San Gorgonio Pass. The east-west alignment of the Proposed Project results in somewhat lower effect because it is parallel to the typical flight pattern through the San Gorgonio Pass. Therefore, new structures are not expected to have a significant effect on migratory birds.

Overall, development of some mitigation measures to reduce construction effects is recommended, which will further reduce the Proposed Project's effects on migrating and nesting birds during and following the Proposed Project construction. Avoidance and minimization measures would also be consistent with SCE policies regarding compliance with relevant State and Federal regulations administered by and under the purview of these resource agencies (CDFW, USFWS) with respect to those avian species that are not candidate, sensitive, or special-status for which potential effects are not considered significant under CEQA.

Specifically, all transmission facilities would be designed to be avian-safe, following the intent of the Suggested Practices for Avian Protection on Power Lines: the State of the Art in 2006 (Avian Power Line Interaction Committee 2006). All transmission facilities would be evaluated for potential collision risk and, where determined to be high risk, lines would be marked with collision reduction devices in accordance with *Reducing Avian Collisions with Power Lines: The State of the Art in 2012* (Avian Power Line Interaction Committee 2012).

5.7 Western Riverside County MSHCP

Project effects to the WR-MSHCP are expected to be the same as those described in Section 5.1, Vegetation Communities. Table 5-6, Maximum Potential Effects within the Western Riverside County MSHCP Plan Area by Vegetation Community, shows the direct permanent and temporary effects the Proposed Project may have to each vegetation community within the WR-MSHCP Plan Area.

Table 5-6: Maximum Potential Effects within the Western Riverside County MSHCP Plan Area by Land Cover

Land Cover*	Permanent Effects (acres)	Temporary Effects (acres)
Forbland/Grassland	67.3	465.9
Chaparral	34.6	207.9
Desert Scrub	9.9	163.9
Coastal Sage Scrub	36.7	194.5
Coast Live Oak Woodland	1.6	13.1
Riparian Woodland	2.5	19.3
Riparian/Alluvial Scrubland	4.5	45.0
Agriculture	4.5	71.0
Developed/Disturbed	22.9	318.6
Total Impacts	**184.6**	**1,499.2**

*Land cover not shown will not be affected by the Proposed Project within the Plan Area.

Riverside County adopted the WR-MSHCP in 2004, as discussed in Section 4.4.2.3, Regional Regulatory Setting. Approximately one half of the total Proposed Project length (Segments 3 and 4 and non-Reservation lands in the western portion of Segment 5) of the Proposed Project is located within the WR-MSHCP planning area, specifically within two Area Plans: the Pass Area, which encompasses the area east of San Timoteo Creek within the cities of Beaumont, Banning, and Calimesa; and the Reche Canyon/Badlands Area, which encompasses the area within Riverside County west of San Timoteo Creek and includes the steep badland slopes.

SCE is not a signatory to the WR-MSHCP; however, SCE intends to apply for PSE status for the Proposed Project. As a PSE, SCE would receive take authorization of listed species within the Plan Area. Take authorization is granted to a PSE provided it complies with the requirements set forth in Section 11.8 of the WR-MSHCP Implementing Agreement. These requirements include the following:

- Application containing a detailed description of the proposed activity;
- Map indicating location of proposed activity;

- Analysis of potential effects to Covered Species and their habitats and the WR-MSHCP Conservation Area;
- Results of species surveys and mapping, as required pursuant to Sections 6.1.2, 6.1.3, 6.1.4, and 6.3.2 of the WR-MSHCP;
- Fees or other actions agreed upon by the Western Riverside County Regional Conservation Authority (RCA) and the Wildlife Agencies (USFWS and CDFW) for permanent effects; and
- Fees or other appropriate measures as agreed upon by the RCA and the Wildlife Agencies for temporary effects.

The Proposed Project is located within WR-MSHCP Survey Areas for the following species:

- San Bernardino kangaroo rat;
- Los Angeles pocket mouse;
- Burrowing owl;
- Nevin's barberry;
- Smooth tarplant;
- Round-leaved filaree;
- Marvin's onion; and
- Many-stemmed dudleya.

The Proposed Project is not located within WR-MSHCP designated survey areas for amphibians, small mammals (including the Stephens' kangaroo rat), or plant species. Regardless, focused surveys were conducted within all suitable habitat for the above-listed species. As part of compliance as a PSE, appropriate mitigation for potential impacts to any focal species would be described in a report titled *Determination of Biologically Equivalent or Superior Preservation (DBESP)*, which would be approved by the RCA and Wildlife Agencies. The Proposed Project passes through existing and proposed WR-MSHCP Conservation Areas, including Public/Quasi-Public (PQP) lands and Criteria Cell Areas. These proposed core conservation areas and habitat linkages include land associated with the Badlands and San Timoteo Creek and are proposed to provide large blocks of conservation areas and connections to other core conservation areas. The Proposed Project would permanently affect up to 23.9 acres of PQP lands and temporarily affect up to 161.8 acres of PQP lands that are already designated for conservation. In addition, the Proposed Project may permanently affect up to 21.9 acres of ARLs and temporarily affect up to 143.6 acres of ARLs. The majority of these lands are within Segments 3 and 4(Appendix C, Western Riverside County and Coachella Valley MSHCP Areas). The Proposed Project would also be required to comply with Urban Wildland Interface Guidelines to minimize indirect effects to any adjacent conservation areas. Additionally, as it relates to each of the project components

and the potential effects to surface lands, the Project Description utilizes very conservative ground disturbance assumptions based on preliminary engineering to estimate surface area disturbance. The actual surface area disturbance is expected to be reduced following completion of final engineering plans.

Additional conservation lands are to be acquired from the "Criteria Area." The Proposed Project passes through 21 criteria cells. The Proposed Project would permanently affect up to 74.8 acres within 18 criteria cells and would temporarily affect up to 417.3 acres within 21 criteria cells. Along with the DBESP process mentioned above, the Proposed Project would be required to prepare a WR-MSHCP Consistency Analysis in order to demonstrate compliance with criteria cell requirements, survey species requirements, and to disclose how effects to PQP Lands and existing ARLs would be compensated by purchase and/or dedication of additional lands into the WR-MSHCP Conservation Area.

The WR-MSHCP provides a planning framework for future new or upgrade/replacement utility facility projects within the Criteria Area. This project designation category (Electric Utility Facilities) provides the WR-MSHCP the ability to offer or extend take coverage for utilities and other facilities within the Criteria Area, as long as these facilities are necessary to support planned development. The Proposed Project is not addressed specifically in the Future Facilities section of the WR-MSHCP; however, coverage for this electric utility project is provided under Section 7.3.9 of the Plan:

> "Future facilities are facilities that are necessary to support planned Development. Certain future facilities have been preliminarily identified by the agencies responsible for their construction, operation and maintenance, while others have not been or cannot be identified and/or located at present. Future facilities that are carried out by a Permittee, Participating Special Entities and/or Third Parties Granted Take Authorization would be considered Covered Activities. The process for mitigation and/or contribution to Reserve Assembly for future facilities is described in Section 6.1.6 of the Western Riverside County MSHCP.
>
> There are three general categories of future facilities that may need to be located within either Criteria Area, due to the fact that such facilities are linear, or involve engineering constraints that make avoidance of Criteria Areas not Feasible. Such constraints may also require location of these facilities within Public/Quasi-Public Lands. If such is the case, all of the conditions described in this section for coverage of future facilities apply, with the addition of a requirement that impacts to Habitats within existing Public/Quasi-Public Lands and ARLs shall be compensated by purchase and dedication into the MSHCP Conservation Area of land that is in addition to the Additional Reserve Lands."

While the WR-MSHCP provides coverage for most covered species in the plan, additional conservation of certain resources may be required. For example, unavoidable effects to Riparian/Riverine habitats must be compensated for as described above under Riparian

Effects and would be included in the mitigation, to the extent these resources are also subject USACE, CDFW, and RWQCB regulatory authority.

Similarly, for a property subject to WR-MSHCP review, 90 percent of the habitat that is of long-term conservation value for the Los Angeles pocket mouse, within the Proposed Project limits, should be conserved. Alternatively, demonstration of equivalent conservation elsewhere in the Project Study Area can satisfy this requirement. Because it has been determined that the WR-MSHCP does not yet provide adequate coverage for this species, i.e., without additional conservation that has not yet been accomplished, the Proposed Project may be in conflict with the WR-MSHCP if it would preclude conservation of Los Angeles pocket mouse habitat that is consistent with the goals of the WR-MSHCP. The actual implementing measures for this requirement would be developed through discussions with the WR-MSHCP implementing agencies.

In summary, with implementation of avoidance and minimization measures the Proposed Project is not expected to conflict with the WR-MSHCP, which was designed to achieve the identified habitat conservation goals through a flexible system of land purchase and dedication in conjunction with existing PQP Lands. Most of the Proposed Project is within a ROW that was in existence at the time the WR-MSHCP was developed, and the WR-MSHCP recognizes the need for infrastructure projects such as the Proposed Project. There is no requirement for SCE to comply with the conditions of the WR-MSHCP unless it becomes a PSE. Nevertheless, the survey requirements of the WR-MSHCP have been satisfied or exceeded by the surveys for the Proposed Project. SCE intends to seek PSE status. It should be noted that regardless of WR-MSHCP participation, Section 7 Consultation would be required, and incidental take authorization outside of the WR-MSHCP areas may be required.

5.8 Coachella Valley MSHCP

Project effects to the CV-MSHCP are expected to be the same as those described in Section 5.1, Vegetation Communities. Table 5-7, Maximum Potential Effects within the Coachella Valley MSHCP Plan Area by Vegetation Community, shows the direct permanent and temporary effects the Proposed Project is expected to have to each vegetation community within the CV-MSHCP Plan Area.

Table 5-7: Maximum Potential Effects within the Coachella Valley MSHCP Plan Area by Land Cover

Land Cover*	Permanent Effects (acres)	Temporary Effects (acres)
Grassland	1.4	6.5
Desert Scrub	68.3	742.7
Riparian/Alluvial Scrubland	2.7	36.5
Developed/Disturbed	6.5	97.2
Total Effects	**78.9**	**882.9**

*Land cover/Vegetation communities not shown will not be affected by the Proposed Project within the Plan Area.

The CV-MSHCP is a comprehensive, multi-jurisdictional habitat conservation plan focusing on conservation of species and their associated habitats in the Coachella Valley region of Riverside County. The overall goal of the CV-MSHCP is to maintain and enhance biological diversity and ecosystem processes within the region while allowing for future economic growth. The CV-MSHCP covers 27 special-status plant and wildlife species ("covered species"), as well as 27 land cover types. Covered species include both listed and non-listed species that are adequately conserved by the CV-MSHCP. The overall provisions for the plan are subdivided according to specific resource conservation goals that have been organized according to geographic areas defined as Conservation Areas. These areas are identified as Core, Essential, or Other Conserved Habitat for special-status plant, invertebrate, amphibian, reptile, bird, and mammal species, Essential Ecological Process Areas, and Biological Corridors and Linkages. Each Conservation Area has specific Conservation Objectives that must be satisfied.

The CV-MSHCP received final approval in 2007. Approximately 22 linear miles (approximately 40%) of the Proposed Project occurs within the CV-MSHCP area. SCE is not a signatory to the CV-MSHCP and, therefore, SCE is not required to comply with conditions of the MSHCP, unless SCE is accepted as a PSE.

SCE intends to apply for PSE status in the CV-MSHCP in order to receive take authorization of threatened or endangered species within the Plan Area for otherwise lawful actions, such as development, that may result in take. Take authorization is granted to the PSE provided that they comply with the requirements set forth in the CV-MSHCP Implementation Agreement. These requirements include the following:

- Compliance with Conservation Area requirements set forth in Section 4.0 of the CV-MSHCP (comply with local acquisition obligations and survey requirements);
- Compliance with the applicable Land Use Adjacency Guidelines set forth in Section 4.5 of the CV-MSHCP;
- Compliance with the Avoidance, Minimization, and Mitigation Measures in Section 4.4 of the CV-MSHCP;
- Compliance with the Species Conservation Goals and Objectives in Section 9 of the CV-MSHCP;
- Fees or other actions agreed upon by the Coachella Valley Conservation Commission and the Wildlife Agencies for permanent effects; and
- Fees or other appropriate measures as agreed upon by the Coachella Valley Conservation Commission and the Wildlife Agencies for temporary effects (effects that generally last for less than 5 years) and disturbance, plus appropriate administrative fees to process the application.

The CV-MSHCP requires focused surveys for certain plant and animal species for project sites located within Conservation Areas. For projects located outside of these Conservation Areas, there are few specific survey requirements for covered species. The Project Study

Area passes through the following Conservation Areas (four areas from west to east within Segments 3, 4, and 5); Cabazon, Stubbe and Cottonwood Canyons, Whitewater Canyon, and Upper Mission Creek/Morongo Canyon. Table 5-8, Maximum Potential Effects to Coachella Valley MSHCP Conservation Areas, depicts the total acreage effects anticipated to occur to CV-MSHCP Conservation Areas due to the Proposed Project.

Table 5-8: Maximum Potential Effects within Coachella Valley MSHCP Conservation Areas

Conservation Areas	Permanent Effect (acres)	Temporary Effect (acres)
Cabazon	1.2	44.2
Stubbe and Cottonwood Canyons	23.2	174.3
Whitewater Canyon	1.8	25.2
Upper Mission Creek/Big Morongo Canyon	8.8	84.7
Total	**35.0**	**328.4**

In general, PSE status would reduce the need for focused surveys, especially outside Conservation Areas. However, surveys for habitat suitability followed by focused surveys according to CV-MSHCP guidelines (Section 4.4) within the four conservation areas are required for the following species:

- Coachella Valley Jerusalem cricket;
- Desert tortoise;
- Western burrowing owl;
- Least Bell's vireo;
- Le Conte's thrasher;
- Southwestern willow flycatcher;
- Summer tanager;
- Yellow-breasted chat;
- Yellow warbler; and
- Palm Springs pocket mouse.

For each conservation area, conservation objectives and required measures are described for conserving core habitat for covered species, essential ecological processes necessary to maintain habitat viability, biological corridors, and linkages as needed, and the less common conserved land cover types. A CV-MSHCP consistency report will be required that evaluates compliance with the CV-MSHCP.

If SCE becomes a PSE, the following actions would apply. Documentation that the Proposed Project is in compliance with the CV-MSHCP would be required, according to the

Implementation Agreement, as discussed above. Because the Proposed Project is within CV-MSHCP conservation areas, the Proposed Project would be subject to Joint Project Review process with the Coachella Valley Conservation Commission. The purpose of the Joint Project Review is to allow the Coachella Valley Conservation Commission to facilitate and monitor implementation of the CV-MSHCP.

In summary, the Proposed Project does not conflict with the CV-MSHCP. Most of the Proposed Project is within a ROW that was in existence at the time the CV-MSHCP was developed. There are approximately 3 miles of new transmission corridor proposed in Segment 5; however, the proposed ROW is located on the Reservation and is not subject to CV-MSHCP requirements. Furthermore, the CV-MSHCP recognizes the need for infrastructure projects such as the Proposed Project.

There is no requirement for SCE to comply with the conditions of the CV-MSHCP unless it becomes a PSE. Nevertheless, the survey requirements of the CV-MSHCP have essentially been satisfied or exceeded by the surveys already conducted for the Proposed Project. SCE intends to seek PSE status. It should be noted that regardless of MSHCP participation, Section 7 Consultation would be required, and incidental take authorization outside of the MSHCP areas may be required.

5.9 California Desert Conservation Area

Potential effects to lands within the CDCA would occur in Segments 5 and 6 of the Project Study Area due to the implementation of the Proposed Project. In Segment 5, temporary effects may occur to up to 0.1 acre of Unclassified Lands with no expected permanent effects,[22] while in Segment 6, permanent effects may occur to up to 57.9 acres of Unclassified Lands; temporary effects may occur to up to 575.0 acres of Unclassified Lands. Uses in Unclassified Land are evaluated by the BLM on a project-by-project basis. The utilization of existing utility corridors is specifically addressed in the California Desert Plan.

5.10 Wetlands and Other Waters

A routine jurisdictional delineation has not been completed for the Proposed Project; however, a drainage assessment was prepared by LSA for use primarily as a tool to minimize effects through design and to assess the potential need for permit authorizations from the USACE, the CDFW, and the RWQCB. Appendix N, Drainage Assessment Report, depicts the results of the drainage assessment. The drainage assessment concluded that effects are likely to occur to features that are under the jurisdiction of USACE and/or CDFW. As stated above in Section 4.0, Results, the potential wetland areas identified in the drainage assessment represent an estimation of the existence and extent of potential wetland areas and

[22] Scattered and isolated parcels of public land in the CDCA which have not been placed within multiple-use classes are Unclassified Land. These parcels would be managed on a case-by-case basis, as explained in the Land Tenure Adjustment Element.

drainage features until a routine jurisdictional delineation of these drainages is conducted. Permanent and Temporary effects to potentially jurisdictional drainages are presented in Table 5-9, Maximum Potential Permanent Effects to Jurisdictional Drainage Features, and Table 5-10, Maximum Potential Temporary Effects to Jurisdictional Drainage Features. The drainage assessment identified drainage features by location, but did not determine the width and drainage area (e.g., acreage) for linear features. Polygons were mapped only for substantial riparian habitat associated with the drainages.

5.10.1 United States Army Corps of Engineers Jurisdiction

As detailed in Section 4.0, Results, approximately 65 out of the approximately 498 total drainage areas identified were determined to have potential to satisfy the three criteria necessary to meet the USACE definition of a wetland (i.e., hydrophytic vegetation, hydric soils, and wetland hydrology).

Although several nonjurisdictional ponding features were identified within the Project Study Area, none of the seasonally ponded depressions found during the vernal pool assessment survey met the USACE wetland or the WR-MSHCP criteria for vernal pools.

Adverse effects may result from the placement of fill material in wetlands during tower removal or construction, access road construction or improvement activities, or the establishment of staging yards. However, a formal jurisdictional delineation would be performed within the boundaries of the Project Study Area once final engineering for the location of project-specific features is complete and prior to construction. The delineation will identify where the Proposed Project may not avoid effects to various jurisdictional drainage features and is required as part of the application for permits.

Potential effects to jurisdictional drainages would be minimized through compliance with the conditions set forth in the Federal or State permits (FGC Section 1602 Streambed Alteration Agreement, CWA Section 401 Water Quality Certification, and CWA Section 404 Nationwide or Individual Permit). The Lakes and Streambed Alteration Program gives CDFW oversight and approval of public or private projects that would divert, obstruct, or change the natural flow or bed, channel, or bank of any river, stream, or lake. CDFW regional offices generally coordinate with the RWQCBs and local agencies regarding water quality standards policy and permitting processes at the regional and local level. Federal Clean Water Act Section 401 requires an applicant applying for a Federal permit (including CWA Section 404 Nationwide or Individual Permit) or license, which may result in a discharge of pollutants into waters of the United States obtain a state water quality certification that the activity complies with all applicable water quality standards, limitations and restrictions established by the relevant RWQCB(s).

Table 5-9: Maximum Potential Permanent Effects to Jurisdictional Drainage Features

	Potentially Jurisdictional Drainage Features (Linear Feet)				Potentially Jurisdictional Riparian Vegetation (Acres)			
	CDFW/USACE/RWQCB		CDFW/RWQCB	Total Impacts	CDFW/USACE/RWQCB		CDFW/RWQCB	Total Impacts
Segment	Wetland Drainages	Nonwetland Drainages	Nonwetland Drainages	(Linear Feet)	Wetland Vegetation	Riparian Vegetation	Riparian Vegetation	(Acres)
1	0	960	0	960	0	0	0	0
2	114	1,054	2,000	3,168	0	0.03	0	0.03
3	0	1,354	1,636	2,990	0	0	0	0
4	0	1,762	122	1,884	0	1.04	0.2	1.24
5	0	1,400	0	1,400	0	2.28	0.04	2.32
6	0	1,115	408	1,523	0	0.16	0	0.16
Total [1]	**114**	**7,645**	**4,166**	**11,925**	**0**	**3.51**	**0.24**	**3.75**

[1] Totals do not include the area (i.e., acres) of the drainage features because only one dimensional (i.e., linear feet) data was collected. Therefore, totals do not fully quantify the extent of the effects of the Proposed Project to potentially jurisdictional drainages mapped within the Project Study Area. Additionally, many drainage features will be avoided in final engineering plans.

Table 5-10: Maximum Potential Temporary Effects to Jurisdictional Drainage Features

	Potentially Jurisdictional Drainage Features (Linear Feet)				Potentially Jurisdictional Riparian Vegetation (Acres)			
	CDFW/USACE/RWQCB		CDFW/RWQCB	Total Impacts	CDFW/USACE/RWQCB		CDFW/RWQCB	Total Impacts
Segment	Wetland Drainages	Nonwetland Drainages	Nonwetland Drainages[1]	(Linear Feet)	Wetland Vegetation	Riparian Vegetation	Riparian Vegetation	(Acres)
1	77	5,910	2,895	8,882	0	0.1	0.09	0.19
2	640	9,638	11,068	21,346	0	0.45	0.35	0.8
3	29	18,168	18,337	36,534	0	1.82	0	1.82
4	1,601	15,578	2,851	20,030	1.27	7.46	0.53	9.26
5	0	24,562	4,265	28,827	0.34	34.78	0.82	35.94
6	49	13,941	5,306	19,296	0	0.53	0	0.53
Total [2]	**2,396**	**87,797**	**44,722**	**134,915**	**1.61**	**45.14**	**1.79**	**48.54**

[1] This total does not include the 0.09 acres measured for catchment basins in developed areas of Segment 1. These basins were determined to be potentially jurisdictional the CDFW and the RWQCB.
[2] Totals do not include the area (i.e., acres) of the drainage features because only one dimensional (i.e., linear feet) data was collected. Therefore, totals do not fully quantify the extent of the effects of the Proposed Project to potentially jurisdictional drainages mapped within the Project Study Area. Additionally, many drainage features will be avoided in final engineering plans.

Normal operations and inspection activities are expected to have minimal to no effects on wetlands. Normal operation of the lines would be controlled remotely through SCE control systems, and manually in the field as required. SCE inspects the transmission, subtransmission, telecommunications and distribution overhead facilities in a manner consistent with CPUC GO 165, a minimum of once per year via ground and/or aerial observation. Most regular operations and maintenance activities of overhead facilities are performed from existing access roads with no surface disturbance. Repairs to existing facilities, such as repairing or replacing existing poles and towers, could occur in undisturbed areas but would be subject to future permitting requirements that are not part of the Proposed Project.

Long-term access and spur road maintenance may require the replacement of culverts or other infrastructure elements that could minimally affect federally protected wetlands. Any such work would be permitted by the appropriate regulatory agency(ies) (i.e., the USACE and/or RWQCB), as part of the permits for the construction. The adverse effects to federally protected wetlands during operations would be reduced through implementation of SCE's existing environmental compliance program for operations and maintenance (O&M) activities and compliance with conditions of applicable Federal and State permits covering activities in wetlands.

5.10.2 California Department of Fish and Wildlife Jurisdiction

The following discussion applies to all Proposed Project components, including substation modifications, 220 kV transmission lines, 66 kV subtransmission lines, 12 kV distribution lines, and telecommunication facilities, and the establishment of temporary staging yards. Acreages of potential effect to riparian and/or wetland vegetation are shown in Table 5-9, Maximum Potential Permanent Effects to Jurisdictional Drainage Features, and Table 5-10, Maximum Potential Temporary Effects to Jurisdictional Drainage Features.

Riparian habitat types, including alluvial scrub in the desert communities that may be subject to USFWS and/or CDFW jurisdiction, were identified within the Project Study Area, particularly in Segment 4 (San Timoteo Creek) and Segment 5 (San Gorgonio River) (see Appendix N, Drainage Assessment Report, Figure 2). Many of the temporary and permanent components of the Proposed Project cross through or are adjacent to drainage features; however, most of the Proposed Project is a transmission line suspended over drainage features. However, some of the construction activities have the potential to affect Federal and/or State waters, including associated wetlands and riparian vegetation. In addition, the riparian habitat associated with these drainage features may be affected by tree trimming or removal and modification to the streambeds or stream banks during construction of the Proposed Project. To minimized potential impacts, the drainage assessment is being used by the project engineers to avoid construction activities and structures within jurisdictional areas as practical.

Construction access effects would be temporary. Vegetation within riparian areas subject to temporary disturbance is expected to reestablish due to the fast-growing nature of many riparian plant species and their ability to recolonize disturbed areas. Modifications to soil (bed and bank) are less likely to recover and are subject to erosion and future disturbances. Erosion control measures will reduce effects associated with erosion.

Three sensitive land cover types were identified within the Project Study Area: alluvial scrub, coastal sage scrub, and riparian woodland. Locations for the following vegetation communities are shown on Appendix O, Land Cover Figure.

- Alluvial scrub, a sensitive plant community as defined by CDFW and USFWS, was found in patches within Segments 4 through 6. Coastal sage scrub, a sensitive plant community as defined by CDFW, was found in Segments 1 through 5.
- Coastal sage scrub within the Poultry Staging Yard and vicinity consists partly of the chaparral beardtongue (*Keckiella antirrhinoides*) alliance (rated G3/S3 by the CDFW, denoting that it is considered vulnerable and at moderate risk of extinction) (see Appendix D, Botanical Resources Assessment Report, Figure 4, Sheets 3 and 4).
- Riparian woodland, considered a sensitive plant community by CDFW, USFWS, and USACE, was found in limited patch areas and linear strips within Segments 3 and 4.

Construction work may occur in very limited areas within these vegetation communities, and individual plants or trees would be affected during tree trimming or removal along proposed or existing access roads or as part of the installation of the transmission lines, distribution lines, and telecommunication lines, construction of the temporary and permanent constituents that support these lines (e.g., guard poles, crane pads, and turnaround areas), and/or temporary staging yard preparations.

However, to the extent practicable, the Proposed Project is being designed to avoid or minimize effects to riparian habitat or other sensitive land cover types. Project design combined with compliance with applicable Federal and State permits (e.g., CWA Section 404, Fish and Game Code Section 1602) and implementation of BMPs would reduce effects to riparian habitat and other sensitive land cover types.

As is done for the current transmission line, normal operation of the lines would be controlled remotely through SCE control systems, and manually in the field as required. SCE inspects the transmission, subtransmission, telecommunications and distribution overhead facilities in a manner consistent with CPUC GO 165, a minimum of once per year via ground and/or aerial observation. Maintenance would occur as needed and could include activities such as repairing conductors, washing or replacing insulators, repairing or replacing other hardware components, replacing poles and towers, tree trimming, brush and weed control, and access road maintenance. Most regular O&M activities of overhead facilities are performed from existing access roads with no surface disturbance. Repairs to existing

facilities, such as repairing or replacing existing poles and towers, could occur in undisturbed areas. These O&M activities are a continuation of similar activities for the existing line.

Operations-related activities would involve periodic inspections of transmission lines, towers, substations, and ancillary facilities. Periodic maintenance may require shrub or tree trimming or removal to ensure safety along roads and around substations and transmission towers for routine and emergency maintenance. Maintenance would also involve routine grading or vegetation removal to enable safe vehicular road access or clearance from around structures. These activities would occur on already established access roads and would not result in substantial effects to riparian habitat or any other sensitive natural community. Routine grading of roadways may affect emergent riparian habitat adjacent to the road edge/ berm, but these effects are limited in size, regularly/routinely occurring, and habitat would likely recover rapidly. Normal inspection activities include use of light-duty vehicles (e.g., pickup trucks) for roadway inspections, which would typically not have any adverse effects on riparian habitat or other sensitive communities.

5.10.3 Regional Water Quality Control Board Jurisdiction

Water resources occurring within the Project Study Area that may require RWQCB regulation are also considered potentially jurisdictional by the USACE; therefore, effects to RWQCB water resources are assessed above in Section 5.10.1, United States Army Corps of Engineers Jurisdiction. In addition, areas that are potentially subject to CDFW jurisdiction, but do not qualify as USACE jurisdiction (i.e., isolated areas with a bed and bank that do not connect to a TNW and isolated wetlands), may also be subject to RWQCB jurisdiction through Porter-Cologne.

The drainages in the western half of the Project Study Area (Segments 1–4), which flow into the Santa Ana River, will be subject to jurisdiction by Region 8 (Santa Ana RWQCB) of the SWRCB. The drainages in the eastern part of the Project Study Area (Segments 4–6), which flow into the Salton Sea, are regulated by Region 7 (Colorado River RWQCB) of the SWRCB. This includes the depressional feature (Drainage 182B from 2012) on the Reservation (Segment 5).

5.10.4 Western Riverside County MSHCP Riverine/Riparian/Vernal Pool Areas

All of the existing riparian communities within the WR-MSHCP that occur within the Project Study Area likely fall under the regulatory jurisdiction of the USACE pursuant to Section 404 of the CWA and/or the CDFW pursuant to Section 1600 of the California Fish and Game Code. Therefore, all drainage features subject to conditions of the WR-MSHCP Riparian/ Riverine guidelines were identified as potentially jurisdictional by the USACE and the CDFW. Effects to WR-MSHCP water resources are assessed above in Section 5.10.1, United States Army Corps of Engineers Jurisdiction and Section 5.10.2, California Department of Fish and Wildlife Jurisdiction. There are approximately 60 riverine or riparian areas

identified within the boundaries of the WR-MSHCP planning area, which is in Segments 2, 3, and 4.

5.10.5 Coachella Valley MSHCP Desert Wetland Communities

No riparian habitats identified within the Project Study Area match the identified wetland communities in the CV-MSHCP; therefore, the Proposed Project will not affect any of these particular wetland communities.

6.0 REFERENCES

AMEC Environmental and Infrastructure, Inc. (AMEC) 2008. MSHCP Narrow Endemic and Criteria Area Plant Species Surveys for the Valley-to-Ivy Glen Transmission Line Project, Riverside County, California. Prepared for Southern California Edison.

———. 2012a. West of Devers Upgrade Project. Status Report for the Reptile and Invertebrate Surveys. Prepared for Prepared for Southern California Edison. January 18.

———. 2012b. Focused Survey for Desert Tortoise Devers Substation to Morongo Indian Reservation, Riverside County, California. Prepared for Southern California Edison, West of Devers Upgrade Project. January.

———. 2012c. West of Devers Upgrade Project. Draft Habitat Assessments and Focused Surveys for Special-status Invertebrates. Prepared for Southern California Edison. June 4.

———. 2012d. Focused Survey for Sensitive Herpetofauna Devers Substation to Beaumont, Riverside County, California. Prepared for Southern California Edison, West of Devers Upgrade Project. June.

American Ornithologists' Union. 1998. *The A.O.U. Checklist of North American Birds,* Seventh Edition. American Ornithologists' Union, Washington D.C.

Aspen Environmental, Inc. (Aspen). 2006a. Devers-Palo Verde 500 kV No. 2 Project. Draft Environmental Impact Report/Environmental Impact Statement. Prepared for the CPUC. May. http://www.cpuc.ca.gov/Environment/info/aspen/dpv2/toc-deir.htm.

———. 2006b. Devers-Palo Verde 500 kV No. 2 Project. Final Environmental Impact Report/Environmental Impact Statement. Prepared for the CPUC. October. http://www.cpuc.ca.gov/environment/info/aspen/dpv2/toc-feir.htm.

———. 2007. El Casco System Project. Draft Environmental Impact Report. Prepared for the CPUC. December. http://www.cpuc.ca.gov/Environment/info/aspen/elcasco/toc-deir.htm.

———. 2008a. El Casco System Project. Recirculated Draft Environmental Impact Report. Prepared for the CPUC. July. http://www.cpuc.ca.gov/Environment/info/aspen/elcasco/toc-recircdeir.htm.

———. 2008b. El Casco System Project. Recirculated Final Environmental Impact Report (Responses to Comments) for SCE's Application for a Permit to Construct. Prepared for the CPUC. October. http://www.cpuc.ca.gov/Environment/info/aspen/elcasco/toc-recircfeir.htm.

———. 2009. Devers-Palo Verde No. 2 Transmission Line Project. Addendum to Final Environmental Impact Report. Prepared for the CPUC. February.

———. 2011a. Devers-Palo Verde No. 2 Transmission Line Project. Final Supplemental Environmental Impact Report: Colorado River Substation Expansion. Prepared for the CPUC. April. http://www.cpuc.ca.gov/environment/info/aspen/dpv2/toc-sfeir.htm.

———. 2011b. El Casco System Project. Supplemental Draft Environmental Impact Report. Prepared for the CPUC. November. http://www.cpuc.ca.gov/Environment/info/aspen/elcasco/ElCasco-SDEIR_WEBSITE/toc-sdeir.htm.

———. 2012. El Casco System Project. Supplemental Final Environmental Impact Report. Prepared for the CPUC. February. http://www.cpuc.ca.gov/Environment/info/aspen/elcasco/ElCasco_SFEIR/toc-sfeir.htm.

Atwood, J. L. and J. S. Bolsinger. 1992. Elevational distribution of California gnatcatchers in the United States. Journal of Field Ornithology 63: 159-168.

Baldwin, B.G., D. H. Goldman, D.J. Keil, R. Patterson, T.J. Rosatti, and D.H. Wilken (eds.). 2012. The Jepson Manual: Vascular Plants of California. Second Edition. University of California Press, Berkeley.

BioResource Consultants, Inc. (BRC) 2003. West of Devers 230 kV Transmission Line Upgrade. Biological Resources Inventory Report. Prepared for SCE. October.

———. 2008. Devers to Valley Transmission Line 2008 Sensitive Plant Field Surveys Summary and Recommendations. Prepared for Southern California Edison. February 16.

———. 2012. *Botanical Resources of the West of Devers Project, Riverside and San Bernardino Counties, California.* Ojai, California. Prepared for LSA Associates, Inc., Irvine, California. Prepared for Southern California Edison.

Brylski, P.V. 1998. Terrestrial mammal species of special concern in California, Palm Springs Pocket Mouse (*Perognathus longimembri bangsi*). Bolster B.C., ED.

Calflora. 2009. Calflora: Information on California Plants for Education, Research and Conservation. Berkeley. http://www.calflora.org.

California Department of Fish and Wildlife (CDFW) (formerly the California Department of Fish and Game), California Natural Diversity Database (CNDDB). 2011 and 2012. RareFind (search conducted in November 2011 and June 2, 2012). The Resources Agency, Sacramento, California. (*Desert Hot Springs, White Water, Sunnymead, El Casco, Beaumont, Redlands, Cabazon, and San Bernardino South* 7.5-minute USGS Quadrangles).

California Energy Commission (CEC) and California Department of Fish and Game (CDFG). 2010. Swainson's hawk survey protocols, impact avoidance, and minimization measures for renewable energy projects in the Antelope Valley of Los Angeles and Kern Counties, California. State of California.

California Native Plant Society (CNPS). 2006. Inventory of Rare and Endangered Plants (online edition, v7-06c). California Native Plant Society. Sacramento, California. Accessed on August 29, 2006, http://www.cnps.org/inventory.

CH2M HILL. 2011. Coachella Valley Milk-vetch Avoidance and Protection Plan. Prepared for Southern California Edison. August.

Coachella Valley Multiple Species Habitat Conservation Plan (CV-MSHCP) 2007. Final Recirculated Coachella Valley MSHCP. http://www.cvmshcp.org/Plan%20Documents/10.%20CVAG%20MSHCP%20Plan%20Section%203.0.pdf. September.

Dudek. 2008a. Focused Presence-Absence California Gnatcatcher Survey Report for the Western Segment of the Devers Palo Verde No. 2 Project, Riverside County, California, Federal Permit Numbers TE840619, TE0512501-1, and TE051248-2. October 1.

———. 2008b. 2008 Focused Southwestern Willow Flycatcher and Least Bell's Vireo Survey Report for the Western Segment of the Devers Palo Verde No. 2 Project, Riverside County, California, Federal Permit Number TE-813545. Prepared for the United States Fish and Wildlife Service. October 3.

———. 2009a. Focused Presence/Absence Surveys for Small Mammals for Devers to Palo Verde No. 2 Project – Valley Substation to Colorado River Segments, Riverside County, California. Prepared for Southern California Edison. June 5.

———. 2009b. Aeolian and Wind-Blown Sand Dune Habitat Assessment, Devers-Palo Verde No. 2 500-kV Transmission Line Project, Segments 1 and 2, Riverside County, California. Prepared for Paul Yamazaki, SCE. December 30.

———. 2009c. Roosting Bat Survey, Devers-Palo Verde No. 2 500-kV Transmission Line Project, Segments 1 and 2, Riverside County, California. Prepared for Southern California Edison. December 30.

———. 2010. Vegetation Communities Mapping for the Devers to Palo Verde No. 2 Project. Prepared for Southern California Edison. April.

———. 2011. Focused Presence-Absence California Gnatcatcher Survey Report for the Western Segment of the Devers Palo Verde No. 2 500 kV Transmission Line Project, Riverside County, California, Federal Permit Numbers TE051248-2, TE051250-2, and TE139634-1. Prepared for the United States Fish and Wildlife Service . May 4.

Dunk, J.R. 1995. White-tailed Kite (*Elanus leucurus*), The Birds of North America Online (A. Poole, Ed.). Ithaca: Cornell Lab of Ornithology; Retrieved from the Birds of North America Online. http://bna.birds.cornell.edu/bna/species/178.

ECORP Consulting, Inc. (ECORP). 2006. 90-Day Report of Findings Regarding Federally-Listed Branchiopods for the DPV-2 Transmission Project, San Bernardino County, California. Prepared for Aspen Environmental. August 2.

Endangered Species Act. 1973. Sections 1531 through 1544 of Chapter 35 of Title 16 of the United States Code Annotated. United States Federal Government.

EPG, Inc. 2007. Draft Devers-Palo Verde No. 2 Transmission Line Project, Biological Assessment for Threatened and Endangered Species. Prepared for Southern California Edison. May.

Garcia and Associates, Inc. (GANDA). 2010a. Draft Sensitive Wildlife Investigations for the Morongo Relocation South of Interstate 10 Project. Prepared for Southern California Edison. September 13.

———. 2010b. Devers-Palo Verde No. 2 Transmission Line Project. Coastal California Gnatcatcher Habitat Assessment. Prepared for CH2M HILL. December.

———. 2011a. Devers-Palo Verde No. 2 Transmission Line Segment 1: Devers-Valley Biological Survey Report. Prepared for CH2M HILL, Inc. Santa Ana, CA. January.

———. 2011b. Focused Special-status Plant Survey for Coachella Valley Milk-vetch for the Devers-Palo Verde No. 2 Project, Riverside County, CA. Prepared for CH2M HILL, , Santa Ana, CA. April 29.

———. 2011c. West of Devers Project Habitat Assessment Report. Prepared for Southern California Edison. November 23.

Grinnell. J. and H.S. Swarth. 1913. An account of the birds and mammals of the San Jacinto area of southern California. University of California Publications in Zoology 10: 197-406.

Hall, E.R. 1981. The Mammals of North America, Volumes I and II. John Wiley and Sons: New York.

Holland, R. 1986. Preliminary list of terrestrial natural communities of California. Department of Fish and Game, Sacramento, CA.

Holland, V.L., and D.J. Keil. 1995. California Vegetation. Dubuque, IA. Kendall Hunt.

Alice E. Karl and Associates, Inc. (Karl). 2012. Desert Tortoise Results on the Southern California Edison West of Devers Project, Devers Substation to the Morongo Band of Mission Indians Reservation. Submitted to LSA Associates, Inc., attn: Ms. Ingri Quon, and forwarded to Southern California Edison, attn.: Scott Holbrook and Tonya Moore. LSA Job Number SCE1110. September 21.

Kidd Biological, Inc. (Kidd) 2012a. West of Devers Burrowing Owl Nesting Report for the 2012 Breeding Season. August 13.

———.2012b. West of Devers Swainson's Hawk & General Raptor Nesting Report for the 2012 Breeding Season. August 13.

Knecht, A.A. 1971. Soil Survey of Western Riverside Area, California. United States Department of Agriculture, Washington D.C.

Kochert, M.N., K. Steenhof, C.L. Mcintyre, and E.H. Craig. 2002. Golden Eagle (*Aquila chrysaetos*), The Birds of North America Online (A. Poole, Ed.). Ithaca: Cornell Lab of Ornithology; Retrieved from the Birds of North America Online at: http://bna.birds.cornell.edu/bna/species/684.

Kus, B. 2002. Least Bell's Vireo (*Vireo bellii pusillus*). *In* The Riparian Bird Conservation Plan: a strategy for reversing the decline of riparian-associated birds in California. California Partners in Flight. http://www.prbo.org/calpif/htmldocs/riparian_v-2.html.

LSA Associates, Inc. (LSA). 2010. Biological Assessment: Morongo Relocation South of Interstate 10 Alternatives Project, Riverside County, California. Prepared for Southern California Edison. January.

Mock, P. 2004. California Gnatcatcher (*Polioptila californica*). *In* The Coastal Scrub and Chaparral Bird Conservation Plan: a strategy for protecting and managing coastal scrub and chaparral habitats and associated birds in California. California Partners in Flight. http://www.prbo.org/calpif/htmldocs/scrub.htm.

Murdock. 2012. *Jepson eFlora*, *Abronia villosa* var. *aurita*. (v. 1.0.) Jepson Flora Project. http://ucjeps.berkeley.edu/IJM.html. Accessed February 2012.

Nowak, R.M. 1999. Walker's Mammals of the World. 6th Ed. The Johns Hopkins Univ. Press, Baltimore.

O'Farrell, M. and C. Uptain. 1989. Assessment of population and habitat status of the Stephens' kangaroo rat (*Dipodomys stephensi*).Unpublished report prepared for the California Department of Fish and Game, Sacramento.

Patton, J.L. 2008. The evolutionary history and a systematic revision of woodrats of the *Neotoma lepida* group. University of California Publications in Zoology No. 135.

Piaggio, A. 2005. Proceedings of the Western Bat Working Group workshop on ecology, conservation and management of western bat species – updated species account, Townsend's big-eared bat (*Corynorhinus townsendii*). March 31–April 2, 2005. Portland, Oregon. Original account by R. Sherwin, 1998.

Polite, C., and J. Pratt. 1999. California Wildlife Habitat Relationships System. California Department of Fish and Game, California Interagency Task Group.

Poulin, Ray, L. Danielle Todd, E.A. Haug, B.A. Millsap, and M.S. Martell. 2011. Burrowing Owl (*Athene cunicularia*), The Birds of North America Online (A. Poole, Ed.). Ithaca: Cornell Lab of Ornithology; Retrieved from the Birds of North America. http://bna.birds.cornell.edu/bna/species/061doi:10.2173/bna.61.

Reid, FA. 2006. A Field Guide to Mammals of North America. 4th Edition. Houghton Mifflin Co., New York, NY.

Rundel, W. Philip, and Robert Gustafson. 2005. Introduction to the Plant Life of Southern California, Coast to Foothills. University of California Press.

Sawyer, J.O., and T. Keeler-Wolf. 1995. A Manual of California Vegetation. California Native Plant Society. Sacramento, CA.

Sawyer, J.O., T. Keeler-Wolf, and J.M. Evens. 2009. A Manual of California Vegetation. Second Edition. California Native Plant Society, Sacramento, California.

Shuford, W.D., and T. Gardali (eds.). 2008. California Bird Species of Special Concern: A Ranked Assessment of Species, Subspecies, and Distinct Populations of Birds of Immediate Conservation Concern in California. Studies of Western Birds 1. Western Field Ornithologists, Camarillo, California, and California Department of Fish and Wildlife, Sacramento.

Sibley, D.A. 2003. The Sibley Field Guide to Birds of Western North America. Alfred A. Knopf, New York.

Sogge, M.K., D. Ahlers, and S.J. Sferra. 2010. A natural history summary and survey protocol for the southwestern willow flycatcher: U.S. Geological Survey Techniques and Methods 2A-10, 38 pp.

Southern California Edison (SCE). 2007. El Casco System Project. Proponent's Environmental Assessment. Prepared for the CPUC. February 16. http://www.cpuc.ca.gov/Environment/info/aspen/elcasco/toc-pea.htm.

State Water Resources Control Board (SWRCB). 2004. Workplan: Filling the Gaps in Wetland Protection. September

Swainson's Hawk Technical Advisory Committee (SHTAC). 2000. Recommended timing and methodology for Swainson's hawk nesting surveys in California's Central Valley. May 31.

The Pass Area Plan. 2002. Conservation Planning Process/Description and Area Plan Criteria of the MSHCP Conservation Area, Volume 1, Section 3. November.

United States Bureau of Land Management (BLM). 2009. Manual of Surveying Instructions.

———. 2010. California BLM special-status plants. United States Department of the Interior, BLM California State Office, Sacramento, California. http://www.blm.gov/pgdata/etc/medialib/blm/ca/pdf/pa/botany.Par.54746.File.dat/All%20CA%20SSPs%2012-13-2010-for-web.pdf.

United States Fish and Wildlife Service (USFWS). 1994. The desert tortoise (Mojave population) recovery plan. United States Fish and Wildlife Service, Region 1-Lead Region, Portland, OR.

———.1995. Endangered and Threatened Species: The Southwest Willow Flycatcher; Final Rule. The Federal Register, Volume 60, Number 38. February 27.

———.1997. Coastal California Gnatcatcher Presence/Absence Survey Protocol. Unpublished paper. Revised July 28.

———.2001. Least Bell's Vireo Survey Guidelines. Ecological Services Carlsbad Fish and Wildlife Office, California.

———.2007. Vernal Pool Fairy Shrimp (*Branchinecta lychi*) 5 year review: Summary and Review. Sacramento Fish and Wildlife Office, Sacramento, CA.

———.2010. Preparing for any action that may occur within the range of the Mojave desert tortoise (*Gopherus agassizii*). 2010 Field Season. http://www.fws.gov/ventura/speciesinfo/protocols_guidelines/. 18 pp.

———.2011. Revised recovery plan for the Mojave population of the desert tortoise (*Gopherus agassizii*). United States Fish and Wildlife Service Pacific Southwest Region, Sacramento, CA. 222 pp.

United States Geological Survey (USGS) 2010. A Natural History Summary and Survey Protocol for the Southwestern Willow Flycatcher. Chapter 10, Section A *Biological Science*, Book 2 *Collection of Environmental Data*.

Western Regional Climate Center, 2012. http://www.wrcc.dri.edu/.

Western Riverside Multiple Species Habitat Conservation Plan (Western Riverside MSHCP). 2003. Joint Environmental Impact Report and Environmental Impact Statement. http://www.rctlma.org/mshcp/volume4/index.html.

Wheeler, B.K., and W.S. Clark. 2003. A Photographic Guide to North American Raptors. Princeton, NJ: Princeton University Press.

Zeiner, D.C., W.F. Laudenslayer, Jr., K.E. Mayer, and M. White (eds.). 1990. California's Wildlife. Vol. III. Mammals. California Department of Fish and Wildlife, Sacramento.

This Page Intentionally Left Blank