D.2 Biological Resources

Section D.2.1 provides a summary of the environmental setting/affected environment for biological resources in the project study area. Applicable regulations, plans, and standards are listed in Section D.2.2. Potential impacts/environmental effects and mitigation measures for the Proposed PROJECT are presented in Section D.2.3, and project alternatives are described in Sections D.2.4 through D.2.7. Mitigation monitoring, compliance, and reporting are discussed in Section D.2.8. Section D.2.9 addresses residual effects of the project and references cited in the preparation of this section are listed in Section D.2.10.

D.2.1 Environmental Setting/Affected Environment

Methodology and Assumptions

This section summarizes the existing biological resources within the East County (ECO) Substation, Tule Wind, and Energia Sierra Juarez U.S. Generator-Tie (ESJ Gen-Tie), as well as the Campo, Manzanita, and Jordan wind energy project areas. The Campo, Manzanita, and Jordan wind energy projects are being analyzed at a program level in this EIR/EIS as no site-specific survey data is available. Due to the close proximity of these wind energy projects to the ECO Substation, Tule Wind, and ESJ Gen-Tie projects, a similar biological resources setting is assumed.

Biological resources include living organisms and the physical environment in which they occur. Biological resources are categorized in this report into vegetation communities, jurisdictional wetlands and waters, and special-status plant and wildlife species within the ECO Substation, Tule Wind, and ESJ Gen-Tie project areas. A discussion of special-status plant and wildlife species with the potential to occur in the region is provided in Section D.2.1.1. Additionally, wildlife movement and special management areas are described Section D.2.1.1.

This section considers information presented in the San Diego Gas and Electric (SDG&E) East County 500/230/138 kV Substation Project Proponent's Environmental Assessment (PEA) (SDG&E 2009), the Burrowing Owl Resource Summary Report for the ECO Substation Project (Insignia Environmental 2010b), the Energia Sierra Juarez Gen-Tie Line Project Biological Resources Report (EDAW 2009), the Quino Checkerspot Butterfly Focused Survey for the Tule Wind Project (Dudek 2009), the 2005–2006 and 2007–2008 Avian Survey for the Tule Wind Resource Area (Tetra Tech EC, Inc. 2008, 2009), Pacific Wind Development's Environmental Document for the Tule Wind Project (Iberdrola Renewables, Inc. 2010), the Interim Draft Biological Technical Report for the Tule Wind Project (HDR 2010a), the Draft Jurisdictional Delineation for the Tule Wind Project (HDR 2010b), the Biological Assessment for the Tule Wind Project (HDR 2010c), and the golden eagle survey results (WRI 2010).

The following sources were also reviewed: the California Department of Fish and Game (CDFG) California Natural Diversity Database (CNDDB) (CDFG 2009a); 7.5-minute U.S. Geological Survey (USGS) topographic quadrangles for Tierra del Sol, Live Oak Springs, Jacumba, In-Ko-Pah Gorge, Mount Laguna, Cameron Corners, Campo, Sombrero Peak, Sweeny Pass, and Carrizo Mountain; CDFG publications on special-status species (CDFG 2009b, 2010); the California Native Plant Society's (CNPS) Electronic Inventory (CNPS 2010); applicable U.S. Fish and Wildlife Service (USFWS) recovery plans; the San Diego County Bird Atlas (Unitt 2004); the County of San Diego Draft General Plan Update – Mountain Empire Subregional Plan (County of San Diego 2010a); the County of San Diego Draft General Plan Update (County of San Diego 2010b); the Multiple Species Conservation Program (MSCP) Draft East County Plan (County of San Diego 2010c); SDG&E Sunrise Powerlink Final Environmental Impact Report (EIR)/Environmental Impact Statement (EIS) (CPUC and BLM 2008a); Recirculated Draft EIR/Supplemental Draft EIS for the Sunrise Powerlink Project (CPUC and BLM 2008b); and existing public environmental documents for other projects in the vicinity.

Sources used for biological nomenclature, life history, and ranges of species and communities include the following:

- **Wildlife:** *The Mammals of North America* (Hall 1981); A Guide to the Reptiles and Amphibians of California (Nafis 2010); Scientific and Standard English Names of Amphibians and Reptiles of North America North of Mexico, with Comments Regarding Confidence in our Understanding (Crother 2008); San Diego County Bird Atlas (Unitt 2004); Check-List of North American Birds: List of the 2,070 Bird Species Known From the AOU Check-List Area (AOU 2008); Checklist of North American Butterflies Occurring North of Mexico (NABA 2001); and Life History Accounts and Range Maps - California Wildlife Habitat Relationships System (Zeiner et al. 1990a, 1990b);
- **Plants and vegetation communities:** CNPS (2001, 2010), *The Jepson Manual: Higher Plants of Californi*a (Hickman 1996), *Preliminary Descriptions of the Terrestrial Natural Communities of California* (Holland 1986), and Draft Vegetation Communities of San Diego County (Oberbauer et al. 2008).

General biological surveys were conducted for the ECO Substation Project area for all project components by Insignia Environmental in 2008, including the ECO Substation site, the Southwest Powerlink (SWPL) Loop-In site, the existing and proposed Boulevard Substation site, a 400-foot-wide corridor for the proposed transmission line, existing/proposed access roads, and other proposed staging/work areas. During the general biological surveys, vegetation communities and other land covers were mapped and classified generally according to the *Preliminary Descriptions of the Terrestrial Natural Communities of California* (Holland 1986). Focused rare plant surveys were conducted by Insignia Environmental in 2008 and Rocks

Biological Consulting (RBC 2009a) for the ECO Substation site, the SWPL Loop-In site, and the existing Boulevard Substation in 2008. In April 2010, the 377-acre area that encompasses the ECO Substation and the SWPL Loop-In structure sites, a 300-foot-wide corridor centered on the 138-kilovolt (kV) transmission line, the Boulevard Substation Rebuild site, and the immediate area around the existing Boulevard Substation were surveyed (Insignia Environmental 2010a). In addition, all existing and proposed access roads, pull sites, fly yards, temporary work areas, and staging yards were surveyed. Focused, protocol-level surveys for the federally endangered Quino checkerspot butterfly (*Euphydryas editha quino*) were conducted in 2008, 2009, and 2010 (RBC 2009b, 2010) for the ECO Substation site, the SWPL Loop-In site, the 138 kV transmission line corridor, existing Boulevard Substation, proposed new access roads, fly yards, pull sites, temporary work areas, staging yards, retention ponds, and areas where existing roads would be widened or re-graded. A burrowing owl habitat assessment and survey was conducted within the entire project area by Insignia Environmental (2010b). During biological surveys, Insignia Environmental conducted an assessment of potential jurisdictional wetlands and waters of the U.S. for all project components. A formal jurisdictional delineation is currently being prepared. Preliminary non-wetland waters of the U.S. were identified during the general biological surveys (SDG&E 2009). All potentially jurisdictional features were considered to be U.S. Army Corps of Engineers (ACOE) jurisdictional under the preliminary jurisdictional determination process.

General biological surveys were conducted for the Tule Wind Project area by HDR (2010a) for the entire project area, except private parcels in the Boulevard area and the Manzanita and Campo Native American lands where limited improvements to existing roads are proposed. HDR conducted vegetation mapping, jurisdictional delineation, rare plant surveys, and focused, protocol-level surveys for the federally endangered Quino checkerspot butterfly (HDR 2010a, 2010b). All potentially jurisdictional features were considered to be ACOE jurisdictional under the preliminary jurisdictional determination process. Rare plant surveys are ongoing and will be completed in September 2010 (HDR 2010a). A biological assessment for the Quino checkerspot butterfly was prepared by HDR (2010c). During the biological surveys, vegetation communities and other land covers were mapped and classified generally according to the *Preliminary Descriptions of the Terrestrial Natural Communities of California* (Holland 1986), as modified by Oberbauer (1996; Oberbauer et al. 2008). Avian surveys were conducted by Tetra Tech EC, Inc. from March 2005 to March 2006 and September 2007 to September 2008 (Tetra Tech EC, Inc. 2008, 2009) at point count stations throughout the project site. Bat surveys were conducted by Western EcoSystems Technology, Inc. (WEST) at two existing meteorological towers from September 2008 to August 2009 and at nine abandoned mine openings from March to April 2010 (WEST 2009, 2010a). Additional acoustic studies are being conducted as of June 2010 at the northern mines. Three new towers have been fitted with paired detectors and are currently monitoring. Two detectors were also placed on the west side of the ridge. A report is pending with the results from the additional studies (HDR 2010a). Nesting golden eagle surveys were

conducted by Wildlife Research Institute (WRI) in April 2010 (WRI 2010) to determine the status of nesting golden eagles within a 10-mile radius of the Tule Wind Project site. A site-specific evaluation and analysis of the results of this survey are provided by WEST (2010b). A habitat assessment for the barefoot banded gecko was conducted in June 2010 in the survey corridor (HDR 2010a, Appendix N).

General biological surveys were conducted for the ESJ Gen-Tie Project area by EDAW (2010). In 2008, Ecology & Environment and Rocks Biological Consulting conducted special-status plant and wildlife surveys, a wetland assessment, and habitat assessments of the site. In 2009, EDAW also conducted a jurisdictional waters investigation of the ESJ Gen-Tie Project area, as well as vegetation mapping, botanical surveys, and wildlife surveys. During biological surveys, EDAW conducted a planning-level delineation of potential jurisdictional wetlands and waters of the U.S. for the project, but concluded that a formal jurisdictional delineation was not warranted based on the lack of indicators of waters of the U.S. Vegetation communities mapped on site were classified generally according to the *Preliminary Descriptions of the Terrestrial Natural Communities of California* (Holland 1986), as modified by Oberbauer (1996; Oberbauer et al. 2008). Focused, protocol-level surveys for the federally endangered Quino checkerspot butterfly were conducted in 2008 and 2009 by Rocks Biological Consulting (RBC 2008, 2009b).

D.2.1.1 Regional Overview

The Proposed PROJECT is located in the McCain Valley, Boulevard, and Jacumba areas of southeastern San Diego County, California. The ECO Substation Project is situated on or traverses land in the vicinity of the unincorporated communities of Jacumba and Boulevard. The elevation ranges across the ECO Substation Project study area from approximately 2,800 to 3,900 feet above mean sea level (amsl). The Tule Wind Project occurs in and around the McCain Valley area. The terrain in the area ranges from valley bottoms to boulder-covered ridge lines. The project area is largely undeveloped and is bordered by the Laguna Mountains to the west and the In-Ko-Pah Mountains to the east; elevation ranges from 3,600 to 6,400 feet amsl (HDR 2010a). Rural residential homes and ranches are scattered throughout the region. Additionally, grazing and agricultural land uses occur in the Tule Wind Project area. Land ownership in the McCain Valley area consists of a mixture of private, state, Bureau of Land Management (BLM), and Native American lands. The ESJ Gen-Tie Project is located south of the proposed ECO Substation site and would traverse undeveloped land between the U.S.–Mexico international border and the ECO Substation. The ESJ Gen-Tie Project site occurs at an elevation between 3,300 and 3,400 feet amsl.

Native Vegetation Communities and Associated Wildlife Habitats

This section addresses the vegetation communities and associated wildlife habitat that occur in the Proposed PROJECT area. Table D.2-1 summarizes the existing acreages of native vegetation

communities within the Proposed PROJECT area. Vegetation communities that are considered sensitive include all wetland and riparian communities and the sensitive communities identified in the List of Terrestrial Natural Communities Recognized by the CNDDB (CDFG 2003). Vegetation communities are shown on Figures D.2-1 through D.2-3 for the ECO Substation Project, Figure D.2-4 for the ESJ Gen-Tie Project, and Figures D.2-5 through D.2-8 for the Tule Wind Project.

Table D.2-1
Existing Native Vegetation Communities within the Proposed PROJECT Area

Native Vegetation Community	Study Area Acreage			
	ECO[1]	TULE[2]	ESJ Gen-Tie[3]	Proposed PROJECT
Big sagebrush scrub	—	151.3	—	*151.3*
Chamise chaparral	—	178.5	—	*178.5*
Chamise chaparral/redshank chaparral	303.0	—	—	*303.0*
Closed coast live oak woodland	—	12.8	—	*12.8*
Emergent wetland	5.0	—	—	*5.0*
Montane buckwheat scrub	—	171.0	—	*171.0*
Mulefat scrub	—	0.3	—	*0.3*
Non-native grassland	—	65.1	—	*65.1*
Non-vegetated channel	—	3.4	—	*3.4*
Northern mixed chaparral	—	477.4	—	*477.4*
Open coast live oak woodland	6.5	50.3	—	*56.8*
Peninsular juniper woodland and scrub	98.0	—	14.9	*112.9*
Redshank chaparral	—	118.1	—	*118.1*
Scrub oak chaparral	—	550.8	—	*550.8*
Semi-desert chaparral	—	1,689.8	—	*1,689.8*
Shadscale scrub	16.5	—	—	*16.5*
Sonoran mixed woody succulent scrub	287.5	—	46.4	*333.9*
Southern north slope chaparral	—	56.7	—	*56.7*
Southern riparian woodland	—	1.2	—	*1.2*
Southern willow scrub	—	1.8	—	*1.8*
Southern willow scrub/mulefat scrub	7.0	—	—	*7.0*
Unsurveyed area[4]	—	374.4	—	*374.4*
Upper Sonoran manzanita chaparral	—	220.8	—	*220.8*
Upper Sonoran subshrub scrub	—	610.4	—	*610.4*
Total	**723.5**	**4,734.1**	**61.3**	***5,518.8***

Sources: SDG&E 2009; HDR 2010a; EDAW 2010.
Notes:
[1]Includes a study area encompassing all project components, including the ECO Substation, SWPL Loop-In, 138 kV transmission line corridor, and the Boulevard Substation Rebuild.
[2]Includes a study area encompassing all Tule Project components, including the turbines and meteorological towers, collector system, proposed and alternate transmission lines, access roads, substation, and operation and maintenance areas.
[3]Includes a study area encompassing the ESJ Gen-Tie two alternate transmission line alignments and the two public access routes.
[4]Unsurveyed area refers to portions of the project that were not accessible due to private land restrictions.

Big Sagebrush Scrub

Big sagebrush scrub is a moderately open soft-woody shrub community dominated by big sagebrush (*Artemisia tridentata*). Other species occurring within this community include flat-topped buckwheat (*Eriogonum fasciculatum* var. *polifolium*) and non-native grasses (*Avena* spp., *Bromus* spp.). This community often occurs in or adjacent to floodplains and valley bottoms in the sandy transition to chaparral. This community type is based on the County of San Diego's Big Sagebrush Scrub (Element Code 35210) (Oberbauer et al. 2008) and is considered a sensitive natural community by the CDFG.

Big sagebrush scrub provides habitat for a variety of wildlife species, including western whiptail (*Aspidoscelis tigris*), sage sparrow (*Amphispiza belli*), house finch (*Carpodacus mexicanus*), Say's phoebe (*Sayornis saya*), and black-tailed jackrabbit (*Lepus californicus*).

Chamise Chaparral

Chamise chaparral is a dense, drought- and fire-adapted community of woody shrubs, 1.0 to 4.0 meters tall (3.0 to 13.0 feet). It develops primarily on mesic slopes and in canyons. This community is strongly dominated by chamise (*Adenostoma fasciculatum*) with little to no herbaceous understory. This community type is based on the County of San Diego's Chamise Chaparral (Element Code 37200) (Oberbauer et al. 2008). Some areas of the Proposed PROJECT are mapped as chamise chaparral/redshank chaparral where an equal mix of these dominant species characterizes the community.

This chaparral community provides habitat for a wide range of reptile, bird, and mammal species. Wildlife species utilizing this community include gopher snake (*Pituophis catenifer*), granite spiny lizard (*Sceloporus orcutti*), California towhee (*Pipilo crissalis*), western scrub-jay (*Aphelocoma californica*), red-tailed hawk (*Buteo jamaicensis*), turkey vulture (*Cathartes aura*), black-tailed jackrabbit, and mule deer (*Odocoileus hemionus*).

Coast Live Oak Woodland

Coast live oak woodland is an open- to closed-canopy woodland community composed of interior live oak (*Quercus agrifolia oxyadenia*). This community type is based on the County of San Diego's Coast Live Oak Woodland (Element Code 71160) (Oberbauer et al. 2008). Canopy height ranges from 10 to 25 m. The shrub layer is poorly developed, but may include toyon (*Heteromeles arbutifolia*), gooseberry (*Ribes* spp.), laurel sumac (*Malosma laurina*), or Mexican elderberry (*Sambucus mexicana*). The herbaceous understory is continuous and dominated by a variety of introduced grasses and forbs.

Sunrise Powerlink

Southwest Powerlink (SWPL)

Carrizo Creek

OLD HIGHWAY 80

UNITED STATES
MEXICO

Figure D.2-3

Figure D.2-2

Figure D.2-1

0 900 1,800 Feet

ECO Transmission Lines
Project Components
Proposed 138 kV Tower
Proposed 138 kV Line Milepost

Energia Sierra Juarez Gen-Tie (ESJ Gen-Tie)
ESJ Gen-Tie 230 kV Line
ESJ Gen-Tie 500 kV Line

CNDDB Plant Occurrence Data
Jacumba milk-vetch
Mount Laguna aster
Mountain Springs bush lupine
Parry's tetracoccus
Tecate tarplant
desert beauty
pygmy lotus
rayless ragwort
slender-leaved ipomopsis
sticky geraea
Jacumba Monkey Flower
Oceanblue Larkspur
Palmer's Grapplinghook
Scarlet Gilia

CNDDB Animal Occurrence Data
Coast (California) horned lizard
Cooper's hawk
quino checkerspot butterfly
southern grasshopper mouse
tricolored blackbird

ECO Species Survey Data*
Burrow
Burrow/Burrowing Owl Sighting

CNDDB Animal Occurrence Data
quino checkerspot butterfly

Vegetation Communities
Agriculture
Chamise Chaparral / Redshank Chaparral
Emergent Wetlands
Coast Live Oak Woodland
Developed
Peninsular Juniper Woodland and Scrub
Shadscale Scrub
Sonoran Mixed Woody Succulent Scrub
Southern Willow Scrub / Mulefat Scrub
Drainages

SOURCE: SDGE 2009; *Insignia 2010b; CDFG 2010; DigitalGlobe 2008; SANGIS 2009

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FIGURE D.2-1

ECO Substation Project Biological Resources Map 1 of 3

East County Substation/Tule Wind/Energia Sierra Juarez Gen-Tie Projects - EIR/EIS

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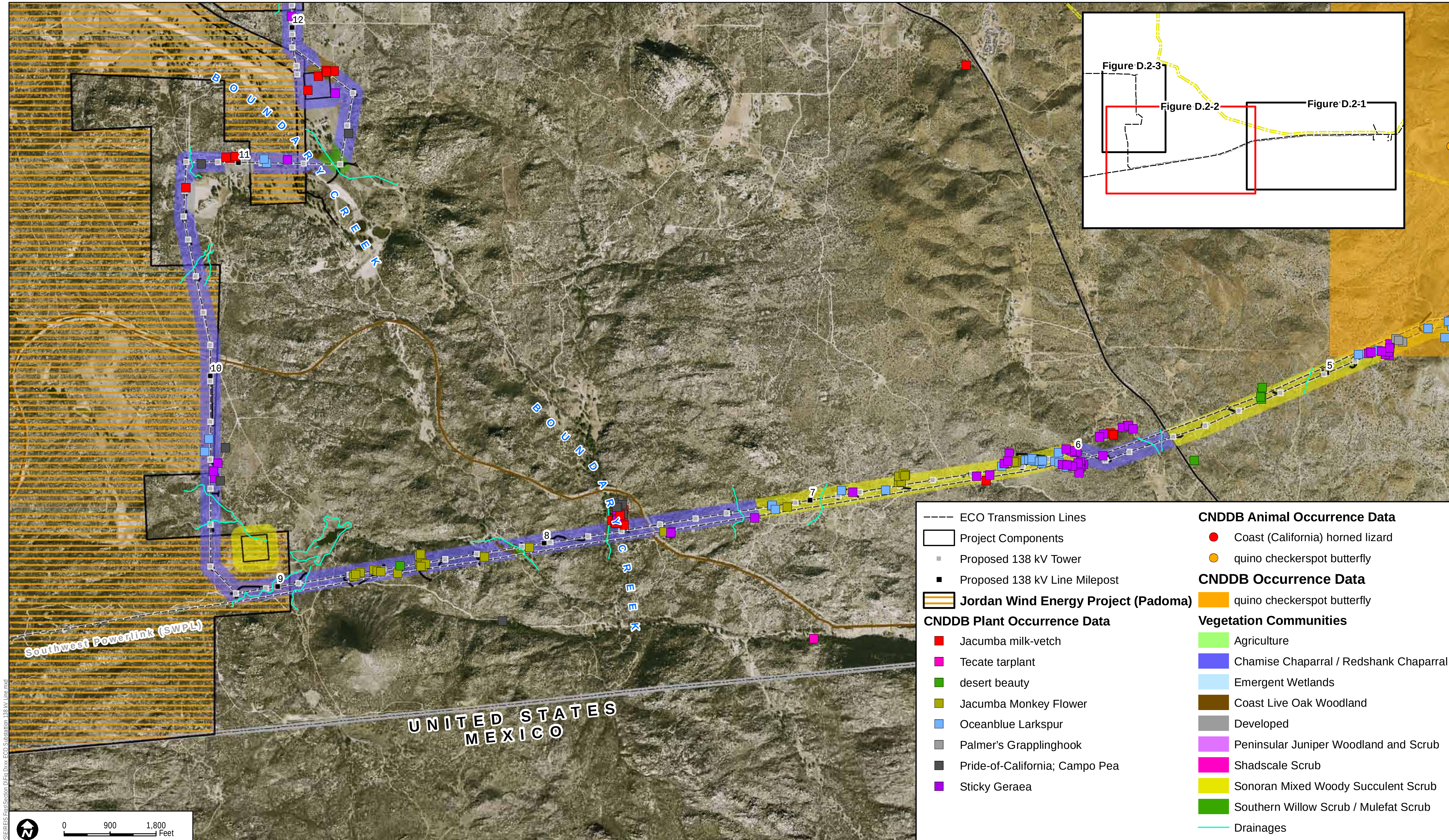

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SOURCE: SDGE 2009; CDFG 2010; DigitalGlobe 2008; SANGIS 2009

FIGURE D.2-2

ECO Substation Project Biological Resources Map 2 of 3

East County Substation/Tule Wind/Energia Sierra Juarez Gen-Tie Projects - EIR/EIS

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Figure D.2-3
Figure D.2-2
Figure D.2-1

ECO Transmission Lines
Project Components
Proposed 138 kV Tower
Proposed 138 kV Line Milepost
Jordan Wind Energy Project (Padoma)

CNDDB Plant Occurrence Data
- desert beauty
- southern jewel-flower
- sticky geraea

Vegetation Communities
- Agriculture
- Chamise Chaparral / Redshank Chaparral
- Emergent Wetlands
- Coast Live Oak Woodland
- Developed
- Peninsular Juniper Woodland and Scrub
- Shadscale Scrub
- Sonoran Mixed Woody Succulent Scrub
- Southern Willow Scrub / Mulefat Scrub
- Drainages

OLD HIGHWAY 80
TULE JIM LANE
JEWEL VALLEY ROAD
13
12
11
0 375 750 Feet

DUDEK

SOURCE: SDGE 2009; CDFG 2010;
DigitalGlobe 2008; SANGIS 2009

FIGURE D.2-3
ECO Substation Project Biological Resources Map 3 of 3

6168-01

East County Substation/Tule Wind/Energia Sierra Juarez Gen-Tie Projects - EIR/EIS

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Energia Sierra Juarez Gen-Tie (ESJ Gen-Tie)
- ESJ U.S. 500 kV Route (Route A1)
- ESJ U.S. 230 kV Route (Route A2)

Energia Sierra Juarez Wind (ESJ Wind Phase I)
- ESJ Wind Phase I Gen-Tie Line
- ESJ Wind Phase I Jacume Substation

CNDDB Plant Occurrence Data
- Jacumba milk-vetch
- Mount Laguna aster
- Mountain Springs bush lupine
- desert beauty
- slender-leaved ipomopsis
- sticky geraea

CNDDB Animal Occurrence Data
- pallid San Diego pocket mouse
- southern grasshopper mouse

ESJ Species Survey Data
- San Diego Blck-tailed Jackrabbit
- California Horned Lark

ECO Species Survey Data*
- Burrow
- Burrow/Burrowing Owl Sighting

Vegetation Cover
- Disturbed
- Peninsular Juniper Woodland and Scrub (72320)
- Sonoran Mixed Woody Scrub (33210)

ECO Substation Project Components:
- Proposed SWPL Loop-In
- Proposed 138 kV Transmission Line
- Proposed 12 kV Temporary Distribution Tap
- Existing Transmission Line
- Proposed 138 kV Line Milepost
- Proposed ECO Substation
- Drainages

0 1,250 2,500 Feet

Old Highway 80

UNITED STATES
MEXICO

San Diego County
Imperial County

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SOURCE: SDGE 2010; *Insignia 2010b; EDAW 2008-2009; DigitalGlobe 2008; SANGIS 2009

FIGURE D.2-4

ESJ Gen-Tie Project - Biological Resources Map

East County Substation/Tule Wind/Energia Sierra Juarez Gen-Tie Projects - EIR/EIS

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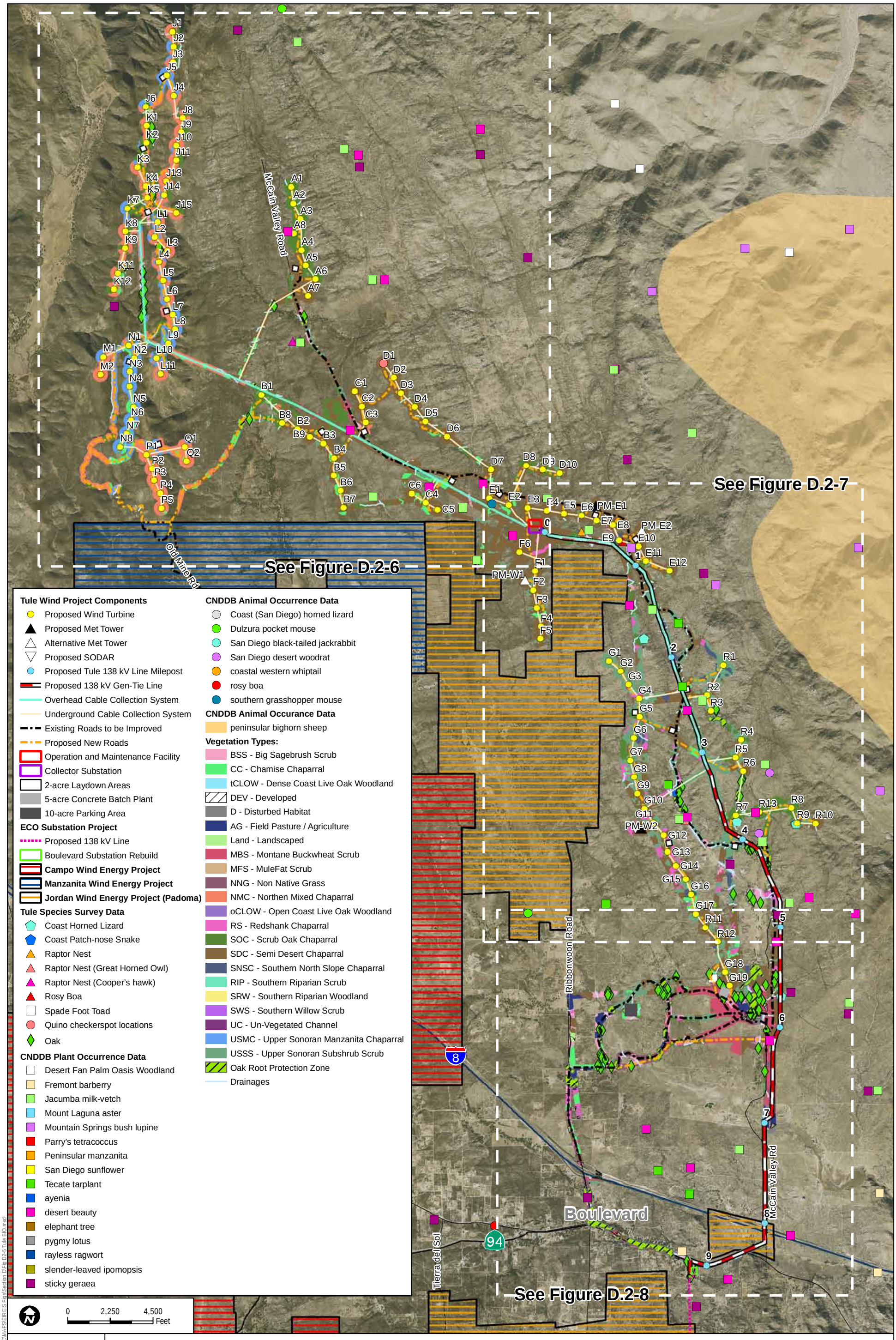

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SOURCE: HDR, 2010; DigitalGlobe, 2008, SDG&E, 2009; SANGIS, 2009

FIGURE D.2-5

Tule Wind Project Biological Index

East County Substation/Tule Wind/Energia Sierra Juarez Gen-Tie Projects - EIR/EIS

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Tule Wind Project Components
- Proposed Wind Turbine
- Proposed Met Tower
- Alternative Met Tower
- Proposed SODAR
- Proposed 138 kV Transmission Line
- Overhead Cable Collection System
- Underground Cable Collection System
- Existing Roads to be Improved
- Proposed New Roads
- Operation and Maintenance Facility
- Collector Substation
- 2-acre Laydown Areas
- **Manzanita Wind Energy Project**
- **Jordan Wind Energy Project (Padoma)**

Tule Species Survey Data
- Coast Horned Lizard
- Coast Patch-nose Snake
- Raptor Nest
- Raptor Nest (Great Horned Owl)
- Raptor Nest (Cooper's hawk)
- Rosy Boa
- Spade Foot Toad

CNDDB Plant Occurrence Data
- Jacumba milk-vetch
- Mount Laguna aster
- Peninsular manzanita
- San Diego sunflower
- desert beauty
- sticky geraea

CNDDB Animal Occurrence Data
- Dulzura pocket mouse
- southern grasshopper mouse
- Quino checkerspot locations

Vegetation Types:
- BSS - Big Sagebrush Scrub
- CC - Chamise Chaparral
- tCLOW - Dense Coast Live Oak Woodland
- DEV - Developed
- D - Disturbed Habitat
- AG - Field Pasture / Agriculture
- Land - Landscaped
- MBS - Montane Buckwheat Scrub
- MFS - MuleFat Scrub
- NNG - Non Native Grass
- NMC - Northen Mixed Chaparral
- oCLOW - Open Coast Live Oak Woodland
- RS - Redshank Chaparral
- SOC - Scrub Oak Chaparral
- SDC - Semi Desert Chaparral
- SNSC - Southern North Slope Chaparral
- RIP - Southern Riparian Scrub
- SRW - Southern Riparian Woodland
- SWS - Southern Willow Scrub
- UC - Un-Vegetated Channel
- USMC - Upper Sonoran Manzanita Chaparral
- USSS - Upper Sonoran Subshrub Scrub
- Oak Root Protection Zone
- Drainages

Figure D.2-6
Figure D.2-7
Figure D.2-8

McCain Valley Road
Old Mine Rd

0 1,250 2,500 Feet

SOURCE: HDR 2010; SDG&E, 2009; DigitalGlobe, 2008, SANGIS, 2009

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FIGURE D.2-6

Tule Wind Project Existing Biological Resources

East County Substation/Tule Wind/Energia Sierra Juarez Gen-Tie Projects - EIR/EIS

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Tule Wind Project Components
- Proposed Wind Turbine
- Proposed Met Tower
- Alternative Met Tower
- Proposed SODAR
- Tule 138 kV Line Milepost
- Proposed 138 kV Gen-Tie Line
- Overhead Cable Collection System
- Underground Cable Collection System
- Existing Roads to be Improved
- Proposed New Roads
- Operation and Maintenance Facility
- Collector Substation
- 2-acre Laydown Areas
- Rough Arcres Ranch
- **Jordan Wind Energy Project (Padoma)**

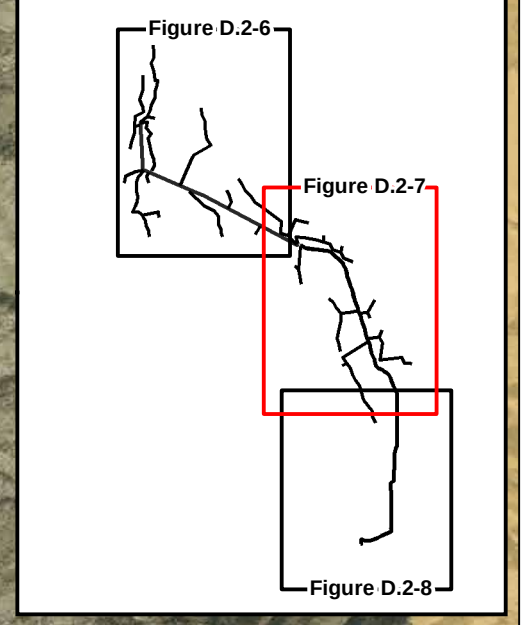
Tule Species Survey Data
- Coast Horned Lizard
- Coast Patch-nose Snake
- Raptor Nest
- Raptor Nest (Great Horned Owl)
- Raptor Nest (Cooper's hawk)
- Rosy Boa
- Spade Foot Toad

CNDDB Plant Occurrence Data
- Jacumba milk-vetch
- Mountain Springs bush lupine
- Tecate tarplant
- desert beauty
- sticky geraea

CNDDB Animal Occurrence Data
- Dulzura pocket mouse
- San Diego desert woodrat
- southern grasshopper mouse
- Quino checkerspot locations

CNDDB Animal Occurance Data
- peninsular bighorn sheep

Vegetation Types:
- BSS - Big Sagebrush Scrub
- CC - Chamise Chaparral
- tCLOW - Dense Coast Live Oak Woodland
- DEV - Developed
- D - Disturbed Habitat
- AG - Field Pasture / Agriculture
- Land - Landscaped
- MBS - Montane Buckwheat Scrub
- MFS - MuleFat Scrub
- NNG - Non Native Grass
- NMC - Northen Mixed Chaparral
- oCLOW - Open Coast Live Oak Woodland
- RS - Redshank Chaparral
- SOC - Scrub Oak Chaparral
- SDC - Semi Desert Chaparral
- SNSC - Southern North Slope Chaparral
- RIP - Southern Riparian Scrub
- SRW - Southern Riparian Woodland
- SWS - Southern Willow Scrub
- UC - Un-Vegetated Channel
- USMC - Upper Sonoran Manzanita Chaparral
- USSS - Upper Sonoran Subshrub Scrub
- Oak Root Protection Zone
- Drainages



Ribbonwood Rd
McCain Valley Road
TULE CREEK
Tule Creek
PM-W1
PM-W2
PM-E1
PM-E2
0 1,250 2,500 Feet

DUDEK

SOURCE: HDR 2010; SDG&E. 2009; DigitalGlobe, 2008, SANGIS, 2009

FIGURE D.2-7

Tule Wind Project Biological Resource Map 2 of 3

6168-01

East County Substation/Tule Wind/Energia Sierra Juarez Gen-Tie Projects - EIR/EIS

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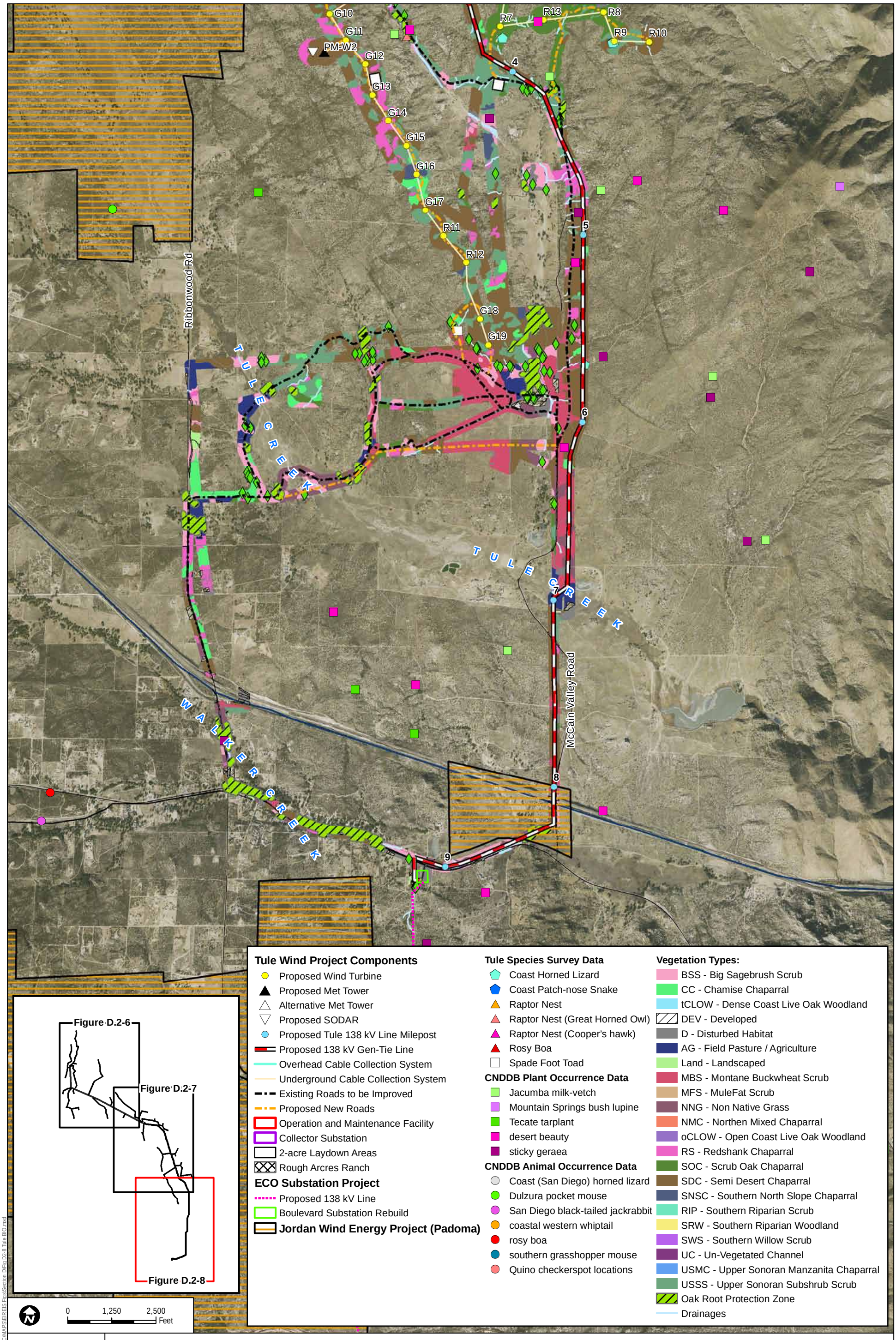

Tule Wind Project Components

- Proposed Wind Turbine
- Proposed Met Tower
- Alternative Met Tower
- Proposed SODAR
- Proposed Tule 138 kV Line Milepost
- Proposed 138 kV Gen-Tie Line
- Overhead Cable Collection System
- Underground Cable Collection System
- Existing Roads to be Improved
- Proposed New Roads
- Operation and Maintenance Facility
- Collector Substation
- 2-acre Laydown Areas
- Rough Arcres Ranch

ECO Substation Project

- Proposed 138 kV Line
- Boulevard Substation Rebuild

Jordan Wind Energy Project (Padoma)

Tule Species Survey Data

- Coast Horned Lizard
- Coast Patch-nose Snake
- Raptor Nest
- Raptor Nest (Great Horned Owl)
- Raptor Nest (Cooper's hawk)
- Rosy Boa
- Spade Foot Toad

CNDDB Plant Occurrence Data

- Jacumba milk-vetch
- Mountain Springs bush lupine
- Tecate tarplant
- desert beauty
- sticky geraea

CNDDB Animal Occurrence Data

- Coast (San Diego) horned lizard
- Dulzura pocket mouse
- San Diego black-tailed jackrabbit
- coastal western whiptail
- rosy boa
- southern grasshopper mouse
- Quino checkerspot locations

Vegetation Types:

- BSS - Big Sagebrush Scrub
- CC - Chamise Chaparral
- tCLOW - Dense Coast Live Oak Woodland
- DEV - Developed
- D - Disturbed Habitat
- AG - Field Pasture / Agriculture
- Land - Landscaped
- MBS - Montane Buckwheat Scrub
- MFS - MuleFat Scrub
- NNG - Non Native Grass
- NMC - Northen Mixed Chaparral
- oCLOW - Open Coast Live Oak Woodland
- RS - Redshank Chaparral
- SOC - Scrub Oak Chaparral
- SDC - Semi Desert Chaparral
- SNSC - Southern North Slope Chaparral
- RIP - Southern Riparian Scrub
- SRW - Southern Riparian Woodland
- SWS - Southern Willow Scrub
- UC - Un-Vegetated Channel
- USMC - Upper Sonoran Manzanita Chaparral
- USSS - Upper Sonoran Subshrub Scrub
- Oak Root Protection Zone
- Drainages

Z:\Project\S\6168\01\MAPDOC\MAPS\EIR\EIS Figs\Section D\Fig D2-8 Tule BIO.mxd

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SOURCE: HDR 2010; Tetra Tech EC, Inc., 2007, 2008; DigitalGlobe, 2008, SANGIS, 2009

FIGURE D.2-8

Tule Wind Project Biological Resource Map 3 of 3

East County Substation/Tule Wind/Energia Sierra Juarez Gen-Tie Projects - EIR/EIS

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This woodland community provides habitat for a diverse assemblage of bird species, including Cooper's hawk (*Accipiter cooperii*), northern flicker (*Colaptes auratus*), Nuttall's woodpecker (*Picoides nuttallii*), western kingbird (*Tyrannus verticalis*), and California quail (*Callipepla californica*).

Emergent Wetland

Emergent wetland is a wetland community dominated by rooted, emergent perennial species typically found in saturated or periodically flooded channels, seeps, floodplains, or margins of streams, rivers, ponds, and lakes. This community type is based on the County of San Diego's Emergent Wetland (Element Code 52440) (Oberbauer et al. 2008). Characteristic species include salt grass (*Distichlis spicata*), rush (*Juncus* sp.), and spikerush (*Eleocharis* sp.). This community is considered a sensitive natural community by the ACOE, CDFG, and County of San Diego.

This wetland community provides habitat for a variety of amphibian, bird, and mammal species. Wildlife species occurring within this community include Pacific treefrog (*Pseudacris regilla*), red-winged blackbird (*Agelaius phoeniceus*), and raccoon (*Procyon lotor*).

Montane Buckwheat Scrub

Montane buckwheat scrub is a vegetation community strongly dominated by flat-topped buckwheat and Wright's buckwheat (*Eriogonum wrightii* var. *membraceum*) with minimal presence of other species. In low-lying areas of the Proposed PROJECT, montane buckwheat scrub communities are characterized by dominance of flat-topped buckwheat, with increasing percentages of Wright's buckwheat as elevation increases. In the vicinity of the Proposed PROJECT, montane buckwheat scrub occurs in areas that are subject to periodic disturbance, such as along roadsides and grazed areas. This community type is based on the County of San Diego's Montane Buckwheat Scrub (Element Code 37K00) (Oberbauer et al. 2008).

Montane buckwheat scrub provides habitat for a variety of wildlife species, including side-blotched lizard (*Uta stansburiana*), mourning dove (*Zenaida macroura*), California towhee (*Pipilo crissalis*), wrentit (*Chamaea fasciata*), coyote (*Canis latrans*), brush rabbit (*Sylvilagus bachmani*), and California ground squirrel (*Spermophilus beecheyi*).

Mulefat Scrub

Mulefat scrub is a dense community typically found along intermittent stream channels with coarse, sandy substrates. Frequent flooding and/or scouring often maintain this community in an early successional state. Mulefat (*Baccharis salicifolia*) dominate the small tree layer with little to no herbaceous layer present. This community type is based on the County of San Diego's Mulefat Scrub (Element Code 63310) (Oberbauer et al. 2008). Some areas of the Proposed PROJECT are mapped as southern willow scrub–mulefat scrub where an equal mix of these

dominant species characterized the community. This is considered a sensitive natural community by the ACOE, CDFG, and County of San Diego.

Wildlife species occurring within the mulefat scrub community include Pacific treefrog, black phoebe (*Sayornis nigricans*), raccoon, and coyote.

Non-Native Grassland

Non-native grassland is an herbaceous community characterized by a dense to sparse cover of annual grasses and associated with numerous native and non-native herbaceous species. In the vicinity of the Proposed PROJECT, the presence of *Avena*, *Bromus*, *Erodium*, and *Brassica* are common indicators (Oberbauer et al. 2008). Common species include foxtail brome (*Bromus madritensis*), cheat grass (*Bromus tectorum*), oat (*Avena barbata* and *A. fatua*), stork's bill (*Erodium* spp.), mustards (*Hirschfeldia incana* and *Sisymbrium altissimum*), and suncup (*Camissonia* spp.). This vegetation community occurs in association with disturbed areas, private properties, pastures, and fields and is based on the County of San Diego's Non-Native Grassland (Element Code 42200) (Oberbauer et al. 2008).

Wildlife species occurring within non-native grassland include side-blotched lizard, mourning dove, southern pacific rattlesnake (*Crotalus viridis helleri*), and red-tailed hawk.

Non-Vegetated Channel

Non-vegetated channel is a sandy, gravelly, or rocky channel that is largely devoid of vegetation. The lack of vegetation is a result of periodic water flow through the channel and the deposition of materials within the channel. This community type is based on the County of San Diego's Non-Vegetated Channel (Element Code 64200) (Oberbauer et al. 2008). Non-vegetated channels may be regulated pursuant to the jurisdiction of the ACOE, CDFG, and County of San Diego.

Non-vegetated channels are typically narrow features within other vegetation communities, and the wildlife assemblage within non-vegetated channels would reflect the surrounding vegetation community.

Northern Mixed Chaparral

Northern mixed chaparral is composed of relatively tall, dense vegetation dominated by scrub oaks (*Quercus* spp.), chamise (*Adenostoma fasciculatum*), manzanitas (*Arctostaphylos* spp.), and ceanothus (*Ceanothus* spp.). Northern mixed chaparral in the Proposed PROJECT area is dominated by a composition of chamise, scrub oak (*Quercus berberifolia*), desert scrub oak (*Quercus cornelius-mulleri*), manzanita, cupleaf ceanothus (*Ceanothus greggii* var. *perplexans*), and mountain mahogany (*Cercocarpus betuloides* var. *betuloides*), with Mojave yucca (*Yucca schidigera*), chaparral candle (*Hesperoyucca whipplei*), and sugar bush (*Rhus ovata*). This

community type is based on the County of San Diego's Northern Mixed Chaparral (Element Code 37130) (Oberbauer et al. 2008).

Wildlife species occurring within northern mixed chaparral include California towhee, wrentit, spotted towhee (*Pipilo maculatus*), western scrub-jay, coyote, bobcat (*Lynx rufus*), mountain lion (*Felis concolor*), and mule deer.

Peninsular Juniper Woodland and Scrub

Peninsular juniper woodland and scrub is an open community dominated by California juniper (*Juniperus californica*) with a shrub-like growth form. Associated species include desert agave (*Agave deserti*), cholla (*Cylindropuntia* spp.), and California ephedra (*Ephedra californica*). The herbaceous layer in this community is variable and includes California goldfields (*Lasthenia californica*), curve-nut combseed (*Pectocarya recurvata*), red-stemmed filaree (*Erodium cicutarium*), and common Mediterranean grass (*Schismus barbatus*). This community type is based on the County of San Diego's Peninsular Juniper Woodland and Scrub (Element Code 72320) (Oberbauer et al. 2008).

Peninsular juniper woodland and scrub supports a range of wildlife species, including side-blotched lizard, western scrub-jay, black-tailed jackrabbit, and woodrat species (*Neotoma* sp.).

Redshank Chaparral

Redshank chaparral is a fire-adapted community of woody shrubs, 1.0 to 4.0 meters (3.0 to 13.0 feet) tall, frequently forming monotypic stands of redshank (*Adenostoma sparsifolium*) with little to no herbaceous understory. This community develops primarily on mesic slopes and in canyons. This community type is based on the County of San Diego's Redshank Chaparral (Element Code 37300) (Oberbauer et al. 2008). Some areas of the Proposed PROJECT are mapped as chamise chaparral/redshank chaparral where an equal mix of these dominant species characterizes the community. This community is considered a sensitive natural community by CDFG.

This chaparral community provides habitat for a wide range of reptile, bird, and mammal species, including gopher snake, granite spiny lizard, California towhee, western scrub-jay, red-tailed hawk, turkey vulture, black-tailed jackrabbit, and mule deer.

Scrub Oak Chaparral

Scrub oak chaparral is dominated by scrub oak species, often with considerable mountain mahogany. In the vicinity of the Proposed PROJECT, scrub oak is often the dominant plant species (over 50% cover) and usually occurs in small patches within a variety of other vegetation communities. This community is distinguished from other chaparral communities by the lack of

other large shrub species. This community type is based on the County of San Diego's Scrub Oak Chaparral (Element Code 37900) (Oberbauer et al. 2008).

Wildlife species occurring within scrub oak chaparral include spotted towhee, western scrub-jay, northern mockingbird (*Mimus polyglotto*s), coyote, bobcat, and mule deer.

Semi-Desert Chaparral

Semi-desert chaparral is an open to dense assemblage of chamise, scrub oak species, ceanothus, and mountain mahogany. Common associates include point-leaf manzanita (*Arctostaphylos pungens*), big-berry manzanita (*Arctostaphylos glauca*), sugar bush, and holly-leaf cherry (*Prunus ilicifolia*). Additionally, this community supports flat-topped buckwheat with California ephedra and cane cholla (*Cylindropuntia californica*), and an herbaceous understory of brome grasses, goldfields, red-stemmed filaree, golden yarrow (*Eriophyllum confertiflorum*), thread-leaved eriastrum (*Eriastrum filifolium*), chia (*Salvia columbariae*), San Diego gilia (*Gilia diegensis*), and popcorn flower (*Cryptantha* spp., *Plagybothrys* spp.). This community type is based on the County of San Diego's Semi-Desert Chaparral (Element Code 37400) (Oberbauer et al. 2008).

Wildlife species occurring within semi-desert chaparral include side-blotched lizard, California towhee, western scrub-jay, red-tailed hawk, California ground squirrel, black-tailed jackrabbit, coyote, bobcat, mountain lion, and mule deer.

Shadscale Scrub

Shadscale scrub is characterized by a high-cover, monotypic stand of low-growing desert saltbush (*Atriplex polycarpa*). This community typically occurs in depressions or poorly draining areas with heavy, alkaline soils. This community type is based on the County of San Diego's Shadscale Scrub (Element Code 36140) (Oberbauer et al. 2008).

Wildlife species occurring within the shadscale scrub community include mourning dove, black-tailed jackrabbit, and mule deer.

Sonoran Mixed Woody Succulent Scrub

Sonoran mixed woody succulent scrub is characterized by a mixture of three or more woody species. Characteristic species include creosote bush (*Larrea tridentata*), burro weed (*Ambrosia dumosa*), and brittlebush (*Encelia farinosa*). The community typically occurs on rocky, well-drained slopes and alluvial fans, often at the base of mountains. This community type is based on the County of San Diego's Sonoran Mixed Woody and Succulent Scrub (Element Code 33220) (Oberbauer et al. 2008). This vegetation community is considered sensitive by CDFG and the County of San Diego. Sonoran mixed woody succulent scrub in the Proposed PROJECT area is

characterized by 15% to 75% shrub cover, the low end applying to washes, which are essentially devoid of vegetation. The common shrub species observed include creosote bush, ephedra (*Ephedra* spp.), jojoba (*Simmondsia chinensis*), Gander's cholla (*Cylindropuntia ganderi*), yucca (*Yucca schidigera*), and lotebush (*Ziziphus parryi*), with an herbaceous layer of forbs that include wild heliotrope (*Phacelia distans*), common goldfields (*Lasthenia gracilis*), fiddlenecks (*Amsinckia* sp.), red-stemmed filaree, and hydra stick-leaf (*Mentzelia affinis*). This community type is based on the County of San Diego's Sonoran Mixed Woody and Succulent Scrub (Element Code 33220) (Oberbauer et al. 2008) and is considered sensitive by CDFG and the County of San Diego.

Sonoran mixed woody succulent scrub supports a wide variety of wildlife species, including side-blotched lizard, Say's phoebe, black-tailed jackrabbit, woodrat species, red-tailed hawk, California thrasher (*Toxostoma redivivum*), common raven (*Corvus corax*), and antelope ground squirrel (*Ammospermophilus leucurus*).

Southern North Slope Chaparral

Southern north slope chaparral is a mixed chaparral with no clear dominant species and typically found on relatively mesic exposures. Shrub species common in this community include scrub oak, manzanita, desert apricot (*Prunus fremontii*), chamise, sugar bush, and mountain mahogany. In the Proposed PROJECT area, southern north slope chaparral occurs in areas of exposed rocks where increased moisture is available in rock openings and along edges. This community type is based on the Holland's Southern North Slope Chaparral (Element Code 37E00) (Holland 1986).

Wildlife species occurring within southern north slope chaparral include wrentit, spotted towhee, western scrub-jay, coyote, bobcat, mountain lion, and mule deer.

Southern Riparian Woodland

Southern riparian woodland is a moderately dense riparian woodland with small trees or shrubs and scattered taller riparian trees. Within the Proposed PROJECT area, this community is characterized by narrow stands dominated by Goodding's black willow (*Salix gooddingii*) with arroyo willow (*Salix lasiolepis*) and blue elderberry (*Sambucus mexicana*). This community type is based on the County of San Diego's Southern Riparian Woodland (Element Code 62500) (Oberbauer et al. 2008). This community is considered a sensitive natural community by the ACOE, CDFG, and County of San Diego.

Wildlife species occurring within southern riparian woodland include yellow-rumped warbler (*Dendroica coronata*), ash-throated flycatcher (*Myiarchus cinerascens*), black phoebe, yellow warbler (*Dendroica petechia*), side-blotched lizard, coyote, and raccoon.

Southern Willow Scrub

Southern willow scrub is a dense community typically found along intermittent stream channels with coarse, sandy substrates. Frequent flooding and/or scouring often maintain this community in an early successional state. Arroyo willow (*Salix lasiolepis*) dominates the small tree layer with little to no herbaceous layer present. This community type is based on the County of San Diego's Southern Willow Scrub (Element Code 63320) (Oberbauer et al. 2008). Some areas of the Proposed PROJECT are mapped as southern willow scrub/mulefat scrub where an equal mix of these dominant species characterize the community. This community is considered a sensitive natural community by the ACOE, CDFG, and County of San Diego.

Wildlife species occurring within the southern willow scrub community include Pacific treefrog, black phoebe, raccoon, and coyote.

Upper Sonoran Manzanita Chaparral

Upper Sonoran manzanita chaparral is a dense community dominated by chamise and various species of manzanita with a sparse herbaceous layer. Within the Proposed PROJECT area, this community occurs on dry rocky slopes and ridge tops with little soil. This community type is based on the County of San Diego's Upper Sonoran Manzanita Chaparral (Element Code 37B00) (Oberbauer et al. 2008).

Wildlife species occurring within upper Sonoran manzanita chaparral include spotted towhee, western scrub-jay, and mule deer.

Upper Sonoran Subshrub Scrub

Upper Sonoran subshrub scrub is a low, penetrable scrub of soft-wooded, drought-tolerant shrubs and annual grasses. Within the Proposed PROJECT area, this vegetation community is dominated by flat-topped buckwheat with goldenbush (*Ericameria brachylepis, E. cuneata* var. *spathulata*), cholla, or California ephedra. In the Proposed PROJECT area, upper Sonoran subshrub scrub is found on low hills with dry exposures. This community type is based on the County of San Diego's Upper Sonoran Subshrub Scrub (Element Code 39000) (Oberbauer et al. 2008).

Wildlife species occurring within upper Sonoran subshrub scrub include antelope ground squirrel, red-tailed hawk, side-blotched lizard, southern pacific rattlesnake, and black-tailed jackrabbit.

Other Land Cover

Other land cover in the Proposed PROJECT area includes agriculture, disturbed habitat, landscaped areas, and developed land. Agriculture includes areas actively cultivating crops and

areas affected by ongoing agricultural operations. Row crops and pastures characterize the agricultural areas within the Proposed PROJECT area. Species composition in the agricultural area can change from year to year or between seasons. Disturbed habitat is generally defined as any land on which the native vegetation has been significantly altered by agriculture, grazing, construction, or other land-clearing activities, resulting in site conditions that favor invasive species and result in reduced native species diversity. Such land is typically found in vacant lots, dirt roads, roadsides, construction staging areas, or abandoned fields and is dominated by bare ground and/or non-native annual species and perennial broad-leaved species. Landscaped areas include planted and maintained areas typically around other developed land. Developed land consists of buildings, structures, homes, parking lots, and paved roads. Other land cover areas generally do not support native vegetation or provide considerable wildlife habitat. In addition to these other land covers, a portion of the Proposed PROJECT area was not surveyed due to lack of access. The unsurveyed areas are assumed to support several of the native vegetation communities and other land covers described previously.

Jurisdictional Wetlands and Waters

Wetlands, open water features, and drainages in general are considered sensitive biological resources and may be under the jurisdiction of the ACOE as wetlands or waters of the United States; CDFG as riparian areas, lakes, or streambeds; the Regional Water Quality Control Board (RWQCB) as waters of the state; or the County of San Diego as a Resource Protection Ordinance (RPO) wetland. These regulatory agencies make the ultimate determinations of which features are subject to their respective jurisdiction. Boundary Creek, Bow Willow Creek, Canebrake Wash, Carrizo Creek, and Tule Creek are the major drainages in the Proposed PROJECT area, and these features support scattered wetlands communities (i.e., emergent wetlands, mulefat scrub, southern riparian woodland, and southern willow scrub as described previously) that would be considered jurisdictional. Aside from these major drainages and scattered wetland communities, jurisdictional features in the Proposed PROJECT area are predominantly narrow, sandy ephemeral washes that would be considered non-wetland waters of the U.S. and streambeds. Figures D.2-1 through D.2-8 show the preliminary jurisdictional drainages in the Proposed PROJECT area. The occurrence of potentially jurisdictional wetlands and waters are described for each Proposed PROJECT component in Sections D.2.1.2 through D.2.1.4.

Special-Status Plant and Animal Species

This section provides a description of special-status plant and wildlife species that occur or potentially occur within the vicinity of the Proposed PROJECT.

Special-status species are those species that have been given special recognition by federal, state, or local conservation agencies and organizations due to limited, declining, or threatened

population sizes. This includes those species listed by the state and federal government as threatened or endangered, those species proposed for state and/or federal listing or candidates for listing, species listed as sensitive by the BLM, those plant species found on Lists 1A, 1B, or 2 of the CNPS Inventory of Rare and Endangered Plants of California (2010) or CNPS online inventory (http://cnps.web.aplus.net/cgi-bin/inv/inventory.cgi), and other locally sensitive species.

Sources used for determining special-status biological resources are as follows:

- Wildlife: CDFG Special Animals List (CDFG 2009b), County of San Diego (2009), and Eastern San Diego County Resource Management Plan (BLM 2008a).
- Plants: CDFG Special Plants List (CDFG 2010), CNPS (2001, 2010) (including any revisions provided on http://www.cnps.org/inventory, accessed June 2009 and April 2010), County of San Diego (2009), and Eastern San Diego County Resource Management Plan (BLM 2008a).

Tables 1 and 2 in Appendix 1 Special-Status Species Detected or Potentially Occurring on the Project Site, include the special-status plant and wildlife species and their potential to occur in the Proposed PROJECT area and within each project area. Special-status plant and wildlife species that occur or have a moderate to high potential to occur within 1 mile of the Proposed PROJECT areas are described herein. A brief description of the life history, associated vegetation communities in the project area, and occurrence or potential occurrence are included for each species. Figures D.2-1 through D.2-8 show occurrence points for special-status species in the vicinity of the Proposed PROJECT. Figure D.2-9 provides occurrence and critical habitat information for several key wildlife species. Sections D.2.1.2 through D.2.1.4 identify which special-status species were identified within each component of the Proposed PROJECT.

Special-Status Plant Species

Jacumba Milk-Vetch

Jacumba milk-vetch (*Astragalus douglasii* var. *perstrictus*), a perennial herb, is a CNPS list 1B.2 and BLM sensitive species. It is found in San Diego County and Baja California, Mexico. It is associated with chaparral, cismontane woodland, pinyon and juniper woodland, southern willow scrub, mulefat scrub, and valley and foothill grassland, between 2,950 and 4,500 feet in elevation. Its blooming period is between April and June. Within the Proposed PROJECT area, suitable habitat includes big sagebrush scrub, chamise chaparral, mulefat scrub, northern mixed chaparral, northern mixed chaparral, Peninsular juniper woodland and scrub, redshank chaparral, semi-desert chaparral, southern north slope chaparral, and southern willow scrub.

California Ayenia

California ayenia (*Ayenia compacta*), a perennial herb, is a CNPS list 2.3 species. It is found in scattered populations in Riverside, San Bernardino, and San Diego counties in California; parts of Arizona; and Baja California and Sonora, Mexico. It is associated with Mojavean and Sonoran desert scrub between 450 and 3,300 feet in elevation. Its blooming period is between March and April. Within the Proposed PROJECT area, suitable habitat includes Sonoran mixed woody succulent scrub and upper Sonoran subshrub scrub.

Elephant Tree

Elephant tree (*Bursera microphylla)*, a deciduous tree, is a CNPS list 2.3 species. It is found in a few areas of San Diego, Imperial, and Riverside counties; Arizona; and Baja California, Mexico. It is associated with Sonoran desert scrub in rocky areas between 620 and 2,200 feet in elevation. Its blooming period is between June and July. Within the Proposed PROJECT area, suitable habitat includes Sonoran mixed woody succulent scrub and upper Sonoran subshrub scrub.

Payson's Jewel-Flower

Payson's jewel-flower (*Caulanthus simulans*), an annual herb, is a CNPS list 4.2 species. It is found in San Diego and Riverside counties. It is associated with chaparral and coastal sage scrub on sandy, granitic substrate between 280 and 7,040 feet in elevation. It typically blooms between March and May. Within the Proposed PROJECT area, suitable habitat includes big sagebrush scrub, chamise chaparral, redshank chaparral, northern mixed chaparral, semi-desert chaparral, and southern north slope chaparral.

Utah Vine Milkweed

Utah vine milkweed (*Cynanchum utahense*), a perennial herb, is a CNPS list 4.2 species. It is found in San Diego, Imperial, Riverside, and San Bernardino counties, as well as Arizona, Nevada, and Utah. It is associated with Mojavean and Sonoran desert scrub on sandy or gravelly substrate between 490 and 4,700 feet in elevation. It blooms between April and June. Within the Proposed PROJECT area, suitable habitat includes Sonoran mixed woody succulent scrub and upper Sonoran subshrub scrub.

Tecate Tarplant

Tecate tarplant (*Deinandra* [=*Hemizonia*] *floribunda*), an annual herb, is a CNPS list 1B.2 and BLM sensitive species. It is found in eastern San Diego County and Baja California, Mexico. It is associated with chaparral and coastal scrub between 230 and 4,000 feet in elevation. Its blooming period is between August and October. Within the Proposed PROJECT area, suitable habitat includes chamise chaparral, redshank chaparral, northern mixed chaparral, semi-desert chaparral, and southern north slope chaparral.

Colorado Desert Larkspur

Colorado Desert (oceanblue) larkspur (*Delphinium parishii* ssp. *subglobosum*), a perennial herb, is a CNPS list 4.3 species. It is found in San Diego, Imperial, and Riverside counties and Baja California, Mexico. It is associated with chaparral, cismontane woodland, pinyon and juniper woodland, and Sonoran Desert scrub between 1,900 and 5,900 feet in elevation. It blooms between March and June. Within the Proposed PROJECT area, suitable habitat includes chamise chaparral, Peninsular juniper woodland and scrub, redshank chaparral, northern mixed chaparral, semi-desert chaparral, southern north slope chaparral, Sonoran mixed woody succulent scrub, and upper Sonoran subshrub scrub.

Sticky Geraea

Sticky geraea (*Geraea viscida*), a perennial herb, is a CNPS list 2.3 species. It is found in Imperial County and eastern San Diego County and Baja California, Mexico. It is associated with chaparral (usually in disturbed areas), between 1,500 and 5,600 feet in elevation. Its blooming period is between May and June. Within the Proposed PROJECT area, suitable habitat includes chamise chaparral, redshank chaparral, northern mixed chaparral, semi-desert chaparral, and southern north slope chaparral.

Palmer's Grappling Hook

Palmer's grappling hook (*Harpagonella palmeri*), an annual herb, is a CNPS list 4.2 species. It is found in San Diego, Riverside, Orange, and Los Angeles counties; Arizona; and Baja California and Sonora, Mexico. It is associated with chaparral, coastal scrub, and valley and foothill grassland between 60 and 3,100 feet in elevation. Its blooming period is between March and May. Within the Proposed Project area, suitable habitat includes chamise chaparral, redshank chaparral, northern mixed chaparral, semi-desert chaparral, southern north slope chaparral, and Sonoran mixed woody succulent scrub and upper Sonoran subshrub scrub.

Curly Herissantia

Curly herissantia (*Herissantia crispa*), an annual or perennial herb, is a CNPS list 2.3 species. It is found in scattered locations in San Diego County; Arizona; Texas; and Baja California, Mexico. It is associated with Sonoran desert scrub between 2,200 and 2,400 feet in elevation. It blooms between August and September. Within the Proposed PROJECT area, suitable habitat includes Sonoran mixed woody succulent scrub and upper Sonoran subshrub scrub.

ECO Substation Project

- Proposed 138 kV Line
- Existing Transmission Line
- Existing Boulevard Substation
- Proposed 138 kV Line Milepost
- Proposed ECO Substation
- Proposed Boulevard Substation Rebuild

Tule Wind Project Components

- Proposed Wind Turbine
- Proposed Met Tower
- Alternative Met Tower
- Proposed SODAR
- Tule 138 kV Line Milepost
- Operation and Maintenance Station
- Collector Substation
- Overhead
- Proposed 138 kV Gen-Tie Line

Energia Sierra Juarez Gen-Tie (ESJ Gen-Tie)

- ESJ Gen-Tie 500 kV Route
- ESJ Gen-Tie 230 kV Route

Campo Wind Energy Project

Manzanita Wind Energy Project

Jordan Wind Energy Project (Padoma)

Quino Checkersport Butterfly

- ECO 2009 Survey Point Locations
- Tule 2010 Survey Point Locations
- CNDDB Point Locations
- USFWS Point Locations
- 2009 CNDDB Occurrence Data
- 2009 USFWS Critical Habitat

Peninsular Bighorn Sheep

- CNDDB Point Location
- 2009 CNDDB Occurrence Data
- Cumulative Peninsular Bighorn Sheep Occurrence Data (USFWS)
- 2009 USFWS Critical Habitat

Golden Eagle

- CNDDB Point Locations
- 2010 WRI Nest Locations (Not shown due to sensitivity)

Raptor Nest

- Cooper's hawk

Burrowing Owl

- Burrow
- Burrow/Burrowing Owl Sighting

Tule Wind Project

Tule Wind 138 kV Transmission Line

Boulevard Substation Rebuild Site

ECO Substation

ESJ Gen-Tie Lines

ESJ Wind Phase I

ECO Transmission 138 kV Transmission Line

Old Highway 80

Boulevard

Clover Flat

Tierra del Sol

Jacumba

Campo

County Highway S2

San Diego County

Imperial County

UNITED STATES

MEXICO

0 1.5 3 Miles

SOURCE: BLM; SanGIS; SANDAG; USFS; Tule Wind Project: HDR Engineering 2010;
ESJ U.S. Project: Entrix 2009; ESJ Wind Project: Entrix 2010;
ECO Substation Project: SDG&E 2009

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FIGURE D-2.9

Key Wildlife Species

East County Substation/Tule Wind/Energia Sierra Juarez Gen-Tie Projects - EIR/EIS

Z:\Projects\6168\01\MAPDOC\MAPSERIES\EIS Final\Section D\Fig D2-9 Key Wildlife Species.mxd

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Laguna Mountains Alumroot

Laguna Mountains alumroot (*Heuchera brevistaminea*), a perennial rhizomatous herb, is a CNPS list 1B.3 species. It is found in scattered locations in San Diego County. It is associated with broad-leaved upland forest, chaparral, cismontane woodland, and riparian forests in rocky substrate between 4,400 and 6,500 feet in elevation. It blooms between April and July. Within the Proposed PROJECT area, suitable habitat includes chamise chaparral, redshank chaparral, northern mixed chaparral, semi-desert chaparral, and southern north slope chaparral within higher elevations.

San Diego Sunflower

San Diego sunflower (*Hulsea californica*), a perennial herb, is a CNPS list 1B.3 species. It is found in scattered locations in San Diego County. It is associated with chaparral and lower and upper montane conifer forest, including openings in burned areas, between 3,000 and 9,600 feet in elevation. It blooms between April and June. Within the Proposed PROJECT area, suitable habitat includes chamise chaparral, redshank chaparral, northern mixed chaparral, semi-desert chaparral, and southern north slope chaparral within higher elevations.

Slender-Leaved Ipomopsis

Slender-leaved ipomopsis (*Ipomopsis tenuifolia*), a perennial herb, is a CNPS list 2.3 species. It is found in Imperial County and eastern San Diego County. It is associated with chaparral, pinyon and juniper woodland, and Sonoran desert scrub (usually in gravelly or rocky areas), between 330 and 4,000 feet in elevation. Its blooming period is between March and May. Within the Proposed PROJECT area, suitable habitat includes chamise chaparral, Peninsular juniper woodland and scrub, redshank chaparral, northern mixed chaparral, semi-desert chaparral, southern north slope chaparral, Sonoran mixed woody succulent scrub, and upper Sonoran subshrub scrub.

Pride-of-California

Pride-of-California (*Lathyrus splendens*), a perennial herb, is a CNPS list 4.3 species. It is found in San Diego County and Baja California, Mexico. It is associated with chaparral, between 640 and 4,900 feet in elevation. Its blooming period is between March and June. Within the Proposed PROJECT area, suitable habitat includes chamise chaparral, redshank chaparral, northern mixed chaparral, semi-desert chaparral, and southern north slope chaparral.

Desert Beauty

Desert beauty (*Linanthus bellus*), an annual herb, is a CNPS list 2.3 species. It is found in San Diego County and Baja California, Mexico. It is associated with chaparral (usually in sandy

substrates), between 3,280 and 4,600 feet in elevation. Its blooming period is between April and May. Within the Proposed PROJECT area, suitable habitat includes chamise chaparral, redshank chaparral, northern mixed chaparral, semi-desert chaparral, southern north slope chaparral, Sonoran mixed woody succulent scrub, and upper Sonoran subshrub scrub.

Pygmy Lotus

Pygmy lotus (*Lotus haydonii*), a perennial herb, is a CNPS list 1B.3 species. It is found in Imperial County; eastern San Diego County; and Baja California, Mexico. It is associated with pinyon and juniper woodland and Sonoran desert scrub, between 1,700 and 3,950 feet in elevation. Its blooming period is between January and June. Within the Proposed PROJECT area, suitable habitat includes Peninsular juniper woodland and scrub, Sonoran mixed woody succulent scrub, and upper Sonoran subshrub scrub.

Mountain Springs Bush Lupine

Mountain Springs bush lupine (*Lupinus excubitus* var. *medius*), a shrub, is a CNPS 1B.3 and BLM sensitive species. It is found in Imperial and San Diego counties and Baja California, Mexico. It is associated with pinyon and juniper woodland and Sonoran desert scrub, between 1,350 and 4,500 feet in elevation. Its blooming period is between March and May. Within the Proposed PROJECT area, suitable habitat includes Peninsular juniper woodland and scrub, Sonoran mixed woody succulent scrub, and upper Sonoran subshrub scrub.

Parish's Desert-Thorn

Parish's desert-thorn (*Lycium parishii*), a shrub, is a CNPS list 2.3 species. There are scattered populations in Southern California, Arizona, and Sonora, Mexico. It is associated with coastal scrub and Sonoran desert scrub, between 950 and 3,000 feet in elevation. Its blooming period is between March and April. Within the Proposed PROJECT area, suitable habitat includes Sonoran mixed woody succulent scrub and upper Sonoran subshrub scrub.

Hairy Stickleaf

Hairy stickleaf (*Mentzelia hirsutissima*), an annual herb, is a CNPS list 2.3 species. It is found scattered in San Diego and Imperial counties and Baja California, Mexico. It is associated with Sonoran Desert scrub up to 2,450 feet in elevation. It blooms between April and May. Within the Proposed PROJECT area, suitable habitat includes Sonoran mixed woody succulent scrub and upper Sonoran subshrub scrub.

Creamy Blazing Star

Creamy blazing star (*Mentzelia tridentata*), an annual herb, is a CNPS list 1B.3 species. It is found in scattered populations in Southern California. It is associated with Mojavean desert scrub, generally in rocky, gravelly, or sandy areas, between 2,300 and 3,300 feet in elevation. Its blooming period is between March through May. Within the Proposed PROJECT area, suitable habitat includes Sonoran mixed woody succulent scrub and upper Sonoran subshrub scrub.

Jacumba Monkeyflower

Jacumba monkeyflower (*Mimulus aridus*), an evergreen shrub, is a CNPS list 4.3 species. It is found in San Diego and Imperial counties and Baja California, Mexico. It is associated with chaparral, generally in rocky areas, between 2,400 and 3,500 feet in elevation. Its blooming period is between April and June. Within the Proposed PROJECT area, suitable habitat includes chamise chaparral, redshank chaparral, northern mixed chaparral, semi-desert chaparral, and southern north slope chaparral.

Palmer's Monkeyflower

Palmer's monkeyflower (*Mimulus palmeri*) is not a federally or state-listed species or listed as sensitive by CNPS. It is included as a List D species (plants of limited distribution and are uncommon, but not presently rare or endangered) in the County of San Diego's sensitive plant list (2009). It is associated with lower montane coniferous forest and chaparral communities in sandy, often disturbed, soils up to 6,740 feet in elevation. Its blooming period is between March and June. Within the Proposed PROJECT area, suitable habitat includes chamise chaparral, redshank chaparral, northern mixed chaparral, semi-desert chaparral, and southern north slope chaparral.

Thurber's Beardtongue

Thurber's beardtongue (*Penstemon thurberi*), a perennial herb, is a CNPS list 2.3 species. It is found in San Diego, Imperial, Riverside, and San Bernardino counties; Arizona; New Mexico; and Baja California, Mexico. It is associated with chaparral, Joshua tree woodland, pinyon and juniper woodland, and Sonoran Desert scrub between 1,600 and 3,900 feet in elevation. It blooms between May and July. Within the Proposed PROJECT area, suitable habitat includes chamise chaparral, Peninsular juniper woodland and scrub, redshank chaparral, northern mixed chaparral, semi-desert chaparral, southern north slope chaparral, Sonoran mixed woody succulent scrub, and upper Sonoran subshrub scrub.

Desert Spike Moss

Desert spike moss (*Selaginella eremophila*), a rhizomatous herb, is a CNPS list 2.2 species. It is found in Riverside and San Diego counties; Arizona; and Baja California, Mexico. It is associated with Sonoran desert scrub, between 660 and 2,960 feet in elevation. Its blooming period is in June (less common in May and July). Within the Proposed PROJECT area, suitable habitat includes Sonoran mixed woody succulent scrub and upper Sonoran subshrub scrub.

Chaparral Ragwort

Chaparral ragwort (*Senecio aphanactis*), an annual herb, is a CNPS list 2.2 species. It is found throughout California, primarily along the coast. It is associated with chaparral, cismontane woodland, and coastal scrub (sometimes in alkaline substrates) between 50 and 2,630 feet in elevation. Its blooming period is between January and April. Within the Proposed PROJECT area, suitable habitat includes big sagebrush scrub, chamise chaparral, mulefat scrub, redshank chaparral, northern mixed chaparral, semi-desert chaparral, southern north slope chaparral, shadscale scrub, southern willow scrub, and southern riparian woodland.

Cove's Cassia

Cove's cassia (*Senna covesii*), a perennial herb, is a CNPS list 2.2 species. It is found in San Diego, Imperial, Riverside, and San Bernardino counties; Arizona; Nevada; and Baja California, Mexico. It is associated with Sonoran desert scrub between 970 and 3,430 feet in elevation. It blooms between March and June. Within the Proposed PROJECT area, suitable habitat includes Sonoran mixed woody succulent scrub and upper Sonoran subshrub scrub.

Southern Jewel-Flower

Southern jewel-flower (*Streptanthus campestris*), a perennial herb, is a CNPS list 1B.3 and BLM sensitive species. It is found in Southern California, primarily in eastern San Diego County, and Imperial and Riverside counties. It is associated with chaparral, lower montane coniferous forest, and pinyon and juniper woodland (usually in rocky areas), between 2,950 and 7,550 feet in elevation. Its blooming period is between May and July. Within the Proposed PROJECT area, suitable habitat includes chamise chaparral, Peninsular juniper woodland and scrub, redshank chaparral, northern mixed chaparral, semi-desert chaparral, and southern north slope chaparral.

Other Special-Status Plant Species

Plants addressed in the California Desert Native Plants Act (e.g., cholla species and desert agave) have the potential to occur in the Proposed PROJECT area. These species can occur in many of the vegetation communities found in the Proposed PROJECT area.

Special-Status Wildlife Species

Quino Checkerspot Butterfly

The Quino checkerspot butterfly (*Euphydryas editha quino*) is a federally endangered species found only from western Riverside County; southern San Diego County; and northern Baja California, Mexico (USFWS 2003). This species is found on sparsely vegetated hilltops, ridgelines, and occasionally on rocky outcrops in open chaparral and coastal sage scrub habitat (less than 3,000 feet in elevation). This species requires host plants within these vegetation communities for feeding and reproduction. The primary larval host plant is dwarf plantain (*Plantago erecta*); however, several other species have been documented as important larval host plants, including desert plantain, sometimes called woolly plantain (*P. patagonica*); thread-leaved bird's beak (*Cordylanthus rigidus*); white snapdragon (*Antirrhinum coulterianum*); owl's clover (*Castilleja exserta*); and Chinese houses (*Collinsia* spp.) (USFWS 2003). Within the Proposed PROJECT area, big sagebrush scrub, chamise chaparral (open), montane buckwheat scrub, Peninsular juniper woodland and scrub, redshank chaparral, northern mixed chaparral, semi-desert chaparral, southern north slope chaparral, shadscale scrub, Sonoran mixed woody succulent scrub, and upper Sonoran subshrub scrub could support the Quino checkerspot butterfly and its larval and adult host plant species.

Orange-Throated Whiptail

The orange-throated whiptail (*Aspidoscelis hyperythra*) is a CDFG California Species of Special Concern. Its current range includes southwestern California and Baja California, Mexico, from the southern edges of Orange County (Corona del Mar) and San Bernardino County (near Colton), southward to the Mexican border. This species is located on the coastal slope of the Peninsular Ranges and extends from near sea level to 3,412 feet (northeast of Aguanga, Riverside County) (Jennings and Hayes 1994). It commonly occurs in coastal sage scrub, chaparral, grassland, juniper, and oak woodland. Within the Proposed PROJECT area, suitable habitat includes big sagebrush scrub, chamise chaparral, coast live oak woodland, Peninsular juniper woodland and scrub, redshank chaparral, northern mixed chaparral, semi-desert chaparral, southern north slope chaparral, scrub oak chaparral, shadscale scrub, Sonoran mixed woody succulent scrub, and upper Sonoran subshrub scrub.

Coastal Western Whiptail

The coastal western whiptail (*Aspidoscelis tigris stejnegeri*) is not considered special status by any state or federal agencies; however, it is considered a Group 2 species by the County of San Diego (2009). It is found in coastal Southern California, mostly west of the Peninsular Ranges and south of the Transverse Ranges, and north into Ventura County and south into Baja California, Mexico (Lowe et al. 1970; Stebbins 2003).

The western whiptail (*Aspidoscelis tigris*) is found in a variety of habitats, primarily in areas where plants are sparse and there are open areas for running. According to Stebbins (2003), the species ranges from deserts to montane pine forests where it prefers warmer and drier areas. The species is also found in woodland and streamside growth, and it avoids dense grassland and thick shrub growth. Within the Proposed PROJECT area, suitable habitat includes big sagebrush scrub, Peninsular juniper woodland and scrub, montane buckwheat scrub, semi-desert chaparral, shadscale scrub, Sonoran mixed woody succulent scrub, and upper Sonoran subshrub scrub.

Barefoot Banded Gecko

The barefoot banded gecko (*Coleonyx switaki*) is a state-listed threatened species. In California, it is known from the eastern edge of the Peninsular Ranges from Palms to Pines Highway State Route (SR) 74 to the Baja California, Mexico, border (CPUC and BLM 2008a). It is only known to occur in arid, sparsely vegetated areas associated with massive rocks or rocky outcrops at the heads of canyons, particularly the rocky foothills of Sonoran desert scrub. It spends most of its life deep in rock crevices and subterranean chambers (CDFG 1999). The highest elevation the species has been recorded at is 2,297 feet (600 meters) (Jones and Lovich 2009, cited in HDR 2010a). This species is known from only five localities in eastern San Diego County and western Imperial County (CDFG 1999). It is documented in the Anza-Borrego Desert State Park, which affords some protection for this species (CPUC and BLM 2008a; CDFG 1999). The natural history of the barefoot banded gecko is not well known; it is secretive and nocturnal and hides by day in deep crevices. It is active in fairly cool ambient temperatures during periods of increased humidity, typically spring through fall. It hibernates through the winter (Nafis 2010). There is limited suitable habitat within the Proposed PROJECT area, and the Proposed PROJECT is located at a higher elevation than the highest recorded elevation for this species. However, little is known about the species and there are potentially suitable rock outcrops located within the Proposed PROJECT area. Due to the microhabitat of this species, specific vegetation communities vary but include Sonoran mixed woody succulent scrub and upper Sonoran subshrub scrub.

Rosy Boa

The rosy boa (*Lichanura trivirgata*) is a BLM sensitive species. It occurs from Southern California and southwestern Arizona, south throughout Baja California, Mexico, and northwestern mainland Mexico, avoiding the lowest deserts, which are mainly in agricultural production or open dunes (Stebbins 2003; Yingling 1982; Zeiner et al. 1988). The rosy boa in California ranges from Los Angeles, eastern Kern, and southern Inyo counties, and south through San Bernardino, Riverside, Orange, and San Diego counties (Spiteri 1988; Stebbins 2003; Zeiner et al. 1988). It occurs at elevations from sea level to 5,000 feet in the Peninsular and Transverse mountain ranges. Within its range in Southern California, the rosy boa is absent only from the

southeastern corner of California around the Salton Sea and the western and southern portions of Imperial County (Zeiner et al. 1988).

The rosy boa inhabits rocky shrubland and desert habitats, and is attracted to oases and streams, but does not require permanent water (Stebbins 2003). In the desert it occurs on scrub flats with good cover (Zeiner et al. 1988). Holland and Goodman (1998) add that the species is known in a variety of desert and semi-desert habitats, that it may occur in oak woodlands intergrading with scrub or chaparral habitats, but is absent from grasslands. Within the Proposed PROJECT area, suitable habitat includes chamise chaparral, coast live oak woodland, Peninsular juniper woodland and scrub, redshank chaparral, northern mixed chaparral, semi-desert chaparral, southern north slope chaparral, scrub oak chaparral, shadscale scrub, Sonoran mixed woody succulent scrub, and upper Sonoran subshrub scrub.

Northern Red-Diamond Rattlesnake

The northern red-diamond rattlesnake (*Crotalus ruber ruber*) is a CDFG California Species of Special Concern. It is found in a variety of habitats from the coast to the deserts from San Bernardino County into Baja California, Mexico (below 5,000 feet in elevation). It commonly occurs in rocky areas within coastal sage scrub, chaparral, juniper woodlands, and desert habitats, but can also be found in areas devoid of rocks (Lemm 2006). Within the Proposed PROJECT area, suitable habitat includes big sagebrush scrub, chamise chaparral, coast live oak woodland, Peninsular juniper woodland and scrub, redshank chaparral, northern mixed chaparral, semi-desert chaparral, southern north slope chaparral, scrub oak chaparral, shadscale scrub, Sonoran mixed woody succulent scrub, and upper Sonoran subshrub scrub.

Blainville's Horned Lizard

The Blainville's horned lizard (*Phrynosoma blainvillei*, previously coast horned lizard) is a CDFG California Species of Special Concern. It is found from the Sierra Nevada foothills and central California to coastal Southern California. In the Sierra Nevada foothills, it can be found up to 4,000 feet in elevation and up to 6,000 feet in elevation in Southern California (CDFG 2008a). The species is found in a wide variety of vegetation types with the requisite loose sandy soils, including California sagebrush scrub, annual grassland, chaparral, oak woodland, riparian woodland, and coniferous forest (Lemm 2006; Stebbins 1954). Up to 90% of the diet of the Blainville's horned lizard consists of native harvester ants (*Pogonomyrmex* spp.). Within the Proposed PROJECT area, suitable habitat includes sandy soils within big sagebrush scrub, chamise chaparral, coast live oak woodland, mulefat scrub, Peninsular juniper woodland and scrub, redshank chaparral, northern mixed chaparral, semi-desert chaparral, southern north slope chaparral, scrub oak chaparral, shadscale scrub, Sonoran mixed woody succulent scrub, upper Sonoran subshrub scrub, and southern willow scrub.

Coast Patch-Nosed Snake

The coast patch-nosed snake (*Salvadora hexalepis virgultea*) is a CDFG California Species of Special Concern. It ranges from west-central Nevada south to the tip of Baja California, Mexico, and northwestern Sonora, and from coastal Southern California to southwestern Utah and central Arizona. The coast patch-nosed snake is found at elevations from below sea level to approximately 6,988 feet amsl (Goldberg 1995).

The patch-nosed snake (*S. hexalepis*) is a broad generalist in its habitat requirements and it seems to make use of whatever cover is available and thrives in most environments (Stebbins 1954). It occupies desert scrub, coastal chaparral, washes, sandy flats, and rocky areas. Bogert (1939) noted a predilection in the subspecies coast patch-nosed snake for brush or chaparral. Coast patch-nosed snakes seem to require at least a low shrub structure of minimum density since they are not found in habitats lacking this structural component. Coast patch-nosed snakes are presumed to take refuge and perhaps overwinter in burrows or woodrat nests, so the presence of one or more burrow- or refuge-creating mammals may be necessary for this snake to be present (Zeiner et al. 1988). Within the Proposed PROJECT area, suitable habitat includes chamise chaparral, redshank chaparral, northern mixed chaparral, southern north slope chaparral, shadscale scrub, Sonoran mixed woody succulent scrub, and upper Sonoran subshrub scrub.

Common Chuckwalla

The common chuckwalla (*Sauromalus ater*) is not considered special status by any state or federal agencies; however, it is considered a Group 2 species by the County of San Diego (2009). Its range includes California, Nevada, Arizona, extreme southwestern Utah, and Sonora, Mexico (NatureServe 2010). In California they are widely distributed throughout the Mojave and Sonoran deserts. They are found in rocky areas, especially large rock outcrops and boulder piles, in a variety of desert scrub habitats as well as creosote communities from sea level to 4,600 feet in elevation (Zeiner et al. 1988). Within the Proposed PROJECT area, suitable habitat includes Sonoran mixed woody succulent scrub, Peninsular juniper woodland and scrub, shadscale scrub, and upper Sonoran subshrub scrub.

Western Spadefoot Toad

The western spadefoot toad (*Spea hammondii*) is a CDFG California Species of Special Concern and BLM sensitive species. It is endemic to California and northern Baja California, Mexico. The species ranges from the north end of California's Central Valley near Redding, south, west of the Sierras and the deserts, and into northwest Baja California, Mexico (Jennings and Hayes 1994; Stebbins 2003). Although the species primarily occurs in lowlands, it also occupies foothill and mountain habitats. Within its range, the western spadefoot toad occurs from sea level to 4,000 feet amsl, but mostly at elevations below 3,000 feet (Stebbins 2003).

The western spadefoot toad is almost completely terrestrial, entering water only to breed. The species aestivates in upland habitats near potential breeding sites in burrows approximately 1 meter (3 feet) in depth (Stebbins 1972). The species prefers open areas with sandy or gravelly soils in a variety of habitats, including mixed woodlands, grasslands, coastal sage scrub, chaparral, sandy washes, river floodplains, alluvial fans, playas, and alkali flats (Stebbins 2003; Holland and Goodman 1998). However, the species is most common in grasslands with vernal pools or mixed grassland/coastal sage scrub areas (Holland and Goodman 1998). This species can occur in a variety of habitats within the Proposed PROJECT area, including big sagebrush scrub, non-native grassland, non-vegetated channel, open coast live oak woodland, southern riparian woodland, and southern willow scrub.

Cooper's Hawk

The Cooper's hawk is a CDFG Watch List species. It is found throughout California in wooded areas. It inhabits live oak, riparian, deciduous, or other forest habitats near water. Nesting and foraging usually occur near open water or riparian vegetation. Nests are built in dense stands with moderate crown depths, usually in second-growth conifer or deciduous riparian areas. Cooper's hawks use patchy woodlands and edges with snags for perching while they are hunting for prey such as small birds, small mammals, reptiles, and amphibians within broken woodland and habitat edges (CDFG 2008a). Within the Proposed PROJECT area, there are no permanent water sources. However, the Proposed PROJECT area may support limited nesting opportunities within scattered live oak trees in these areas. Within the Proposed PROJECT area, suitable nesting habitat includes coast live oak woodland, mulefat scrub, southern riparian woodland, and southern willow scrub. Suitable foraging habitat includes big sagebrush scrub, chamise chaparral, emergent wetland, non-native grassland, Peninsular juniper woodland and scrub, redshank chaparral, northern mixed chaparral, semi-desert chaparral, southern north slope chaparral, and shadscale scrub in addition to the nesting habitat.

Tricolored Blackbird

The tricolored blackbird (*Agelaius tricolor*) is a USFWS Birds of Conservation Concern and CDFG California Species of Special Concern with regard to its nesting colony status. It is found throughout the Central Valley of California and the coastal areas from Sonoma County south to San Diego County (CDFG 2008a). Locally, it breeds in southern and western San Diego County.

The tricolored blackbird forages and roosts in large flocks and breeds in large colonies. The tricolored blackbird forms the largest colonies of any North American passerine bird (Beedy and Hamilton 1999). These birds prefer to breed in freshwater marshes with dense growths of emergent vegetation dominated by cattails (*Typha* spp.) or bulrushes (*Schoenoplectus* spp.), but have also established colonies in willows (*Salix* spp.), blackberries (*Rubus* spp.), thistles

(*Cirsium* and *Centaurea* spp.), and nettles (*Urtica* sp.). More recently, the breeding habitat has included diverse upland and agricultural areas. Breeding individuals forage away from the nest sites, often well out of sight of the colony. Most individuals forage within 3 miles of colony sites but may travel up to 8 miles one way (Beedy and Hamilton 1999). Within the Proposed PROJECT area, marginally suitable nesting habitat includes emergent wetland; suitable foraging habitat includes agriculture and non-native grassland.

Southern California Rufous-Crowned Sparrow

The Southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*) is a CDFG Watch List species. The rufous-crowned sparrow is a resident of the southwest region of the United States. The Southern California rufous-crowned sparrow, also called the ashy rufous-crowned sparrow (Collins 1999a), is one of three Pacific Coast subspecies. The current distribution of the Southern California rufous-crowned sparrow is restricted to a narrow belt of semiarid coastal sage scrub and sparse chaparral from Santa Barbara south to the northwestern corner of Baja California, Mexico. (Todd 1922; Grinnell 1926; Grinnell and Miller 1944; Bent 1968; Zeiner et al. 1990a; Unitt 1984; Collins 1999b). The subspecies has also been found on San Martin Island, Baja California. The Southern California rufous-crowned sparrow is considered a resident throughout its range. No true migratory movements have been recorded, though limited movements to lower elevations in some areas have been reported during especially severe winters (Collins 1999a).

The rufous-crowned sparrow occupies moderate to steep hillsides that are rocky, grassy, or covered by coastal sage scrub or chaparral. It is a secretive species, seeking cover in shrubs, rocks, grass, and forb patches. The species often occurs near the edges of denser scrub and chaparral associations, but usually does not occur within these associations. Within the Proposed PROJECT area, suitable habitat includes big sagebrush scrub, chamise chaparral, redshank chaparral, montane buckwheat scrub, northern mixed chaparral, semi-desert chaparral, southern north slope chaparral, shadscale scrub, Sonoran mixed woody succulent scrub, and upper Sonoran subshrub scrub.

Bell's Sage Sparrow

The Bell's sage sparrow (*Amphispiza belli belli*) is a CDFG Watch List species and USFWS Birds of Conservation Concern species. It occurs as a nonmigratory resident on the western slope of the central Sierra Nevada Range, and in the coastal ranges of California southward from Marin County and Trinity County, extending into north-central Baja California, Mexico (County of Riverside 2008a). The range of Bell's sage sparrow overlaps with that of at least one other subspecies of sage sparrow (County of Riverside 2008a).

The sage sparrow occupies semi-open habitats with evenly spaced shrubs that are 3.3 to 6.6 feet high (County of Riverside 2008a). For site selection, specific shrub species may be less important than overall vertical structure, habitat patchiness, and vegetation density (Wiens and Rotenberry 1981). Bell's sage sparrow is uncommon to fairly common in dry chaparral and coastal sage scrub along the coastal lowlands, inland valleys, and lower foothills of the mountains within its range. Within the Proposed PROJECT area, suitable habitat includes big sagebrush scrub, chamise chaparral, redshank chaparral, northern mixed chaparral, semi-desert chaparral, southern north slope chaparral, shadscale scrub, Sonoran mixed woody succulent scrub, and upper Sonoran subshrub scrub.

Golden Eagle

The golden eagle (*Aquila chrysaetos*) is a CDFG Watch List species and state Fully Protected species, USFWS Birds of Conservation Concern species, BLM sensitive species, and is protected under the federal Bald and Golden Eagle Protection Act. It is a yearlong, diurnally active species that is a permanent resident and migrant throughout California. The species is sparsely distributed throughout California and it is found in Southern California occupying primarily mountain, foothill, and desert habitats. Golden eagles are more common in northeast California and the Coast Ranges than in Southern California and the deserts. Foraging habitat for this species is very broad and in California includes open habitats with scrub, grasslands, desert communities, and agricultural areas. This species nests on cliffs within canyons and escarpments and in large trees (generally occurring in open habitats) and is primarily restricted to rugged, mountainous country (Garrett and Dunn 1981; Johnsgard 1990). Most nests are located on cliffs or trees near forest edges or in small stands near open fields (Kochert et al. 2002). Nest locations tend to be more closely associated with topographic heterogeneity than with a particular vegetation type (Call 1978).

Nest building can occur almost any time during the year, but breeding typically begins in January with nest building and egg laying occurring in February to March (Brown 1976; WRI 2010). Pairs may build more than one nest and attend them prior to laying eggs (Kochert et al. 2002). Each pair can have up to 10 nests, but only 2 to 3 are generally used in rotation from one year to the next. Some pairs use the same nest each year, while others use alternate nests year after year, and still others apparently nest only every other year. Succeeding generations of eagles may even use the same nest (Terres 1980). The hatching and feeding of the nestlings takes place from April through June. After fledging, the adult eagles continue to feed the young birds until late November (WRI 2010). As a result of the long breeding cycle, some pairs breed every other year even when food is abundant (WRI 2010). Other environmental conditions may also affect the breeding of eagles including drought conditions that may affect the prey populations. Currently, this region has been undergoing a prolonged drought, which has resulted in a reduced population size of jackrabbits, a primary prey source for golden eagles (WRI 2010). As a correlate to the

lower prey population size, WRI has confirmed unusually low reproductive levels of golden eagles in other regions of Southern California (WRI 2010).

Within the Proposed PROJECT area, suitable foraging habitat includes all vegetation communities and land cover on site (i.e., agriculture, big sagebrush scrub, chamise chaparral, coast live oak woodland, disturbed habitat, field/pasture, emergent wetland, montane buckwheat scrub mulefat scrub, non-native grassland, northern mixed chaparral, semi-desert chaparral, southern north slope chaparral, scrub oak chaparral, Peninsular juniper woodland and scrub, redshank chaparral, shadscale scrub, Sonoran mixed woody succulent scrub, southern riparian woodland, upper Sonoran manzanita chaparral, upper Sonoran subshrub scrub, and southern willow scrub). Typically, the denser forms of chaparral habitat are not suitable for foraging of golden eagle. Suitable nesting habitat (i.e., cliffs) is not known within the Proposed PROJECT area; however, 10 known golden eagle territories have been documented within 10 miles of the Proposed PROJECT (WRI 2010).

Long-Eared Owl

The long-eared owl (*Asio otus*) is a CDFG California Species of Special Concern. It is found in North America, Europe, Asia, and northern Africa between elevations from near sea level to over 2,000 meters (6,562 feet) amsl (Zeiner et al. 1990a). In North America, this species breeds from British Columbia east across Canada and the United States and south to Southern California, southern Arizona, and northern Mexico. It also winters within most of its breeding range, except in the northernmost areas. The long-eared owl's wintering range extends from southern Canada and northern New England to the Gulf states and to the Jalisco, Michoacan, Guerrero, and Oaxaca states in Mexico (Marks et al. 1994).

The species is an uncommon yearlong resident throughout most of the state, with the exception of the Central Valley and Southern California desert regions, where it is generally a winter visitor (Zeiner et al. 1990a). Along the coastline of Southern California, the long-eared owl may be a resident breeder (Marks et al. 1994; Bloom 1994) or a rare winter visitor (Garrett and Dunn 1981).

The long-eared owl primarily uses riparian habitat for roosting and nesting, but it can also use live oak thickets and other dense stands of trees (Zeiner et al. 1990a). It appears to be more associated with forest edge habitat than with open habitat or forest habitat (Holt 1997). The species usually does not hunt in the woodlands where it nests, but in open areas such as fields, rangelands, and clearings. Within the Proposed PROJECT area, suitable foraging habitat includes emergent wetland as well as agriculture, field/pasture, non-native grassland, and disturbed habitat land cover; suitable roosting habitat includes coast live oak woodland, southern

riparian woodland, southern willow scrub, and southern willow scrub/mulefat scrub. This species may occur in the winter in the Proposed PROJECT area, but is not expected to breed.

Burrowing Owl

The burrowing owl (*Athene cunicularia*) is a CDFG California Species of Special Concern, USFWS Birds of Conservation Concern species, and BLM sensitive species. It occurs throughout North and Central America west of the eastern edge of the Great Plains south to Panama (County of Riverside 2008b). The winter range is much the same as the breeding range, except that most western burrowing owls apparently vacate the northern areas of the Great Plains and the Great Basin (County of Riverside 2008b) in winter. The majority of western burrowing owls that breed in Canada and the northern United States are believed to migrate south during September and October and north during March and April, and into the first week of May. These individuals winter within the breeding habitat of more southern populations. Thus, winter observations may include both the migratory individuals as well as the resident population (County of Riverside 2008b). The western burrowing owls in northern California are believed to migrate (Coulombe 1971).

In California, western burrowing owls are yearlong residents of flat, open, dry grassland and desert habitats at lower elevations (Bates 2006). They can inhabit annual and perennial grasslands and scrublands characterized by low-growing vegetation. They may be found in areas that include trees and shrubs if the cover is less than 30% (Bates 2006); however, they prefer treeless grasslands. Although western burrowing owls prefer large, contiguous areas of treeless grasslands, they have also been known to occupy fallow agriculture fields, golf courses, cemeteries, road allowances, airports, vacant lots in residential areas and university campuses, and fairgrounds when nest burrows are present (Bates 2006; County of Riverside 2008b). They typically require burrows made by fossorial mammals, such as California ground squirrels. Within the Proposed PROJECT area, suitable habitat includes agriculture, field/pasture, non-native grassland, and disturbed habitat land cover.

Turkey Vulture

The turkey vulture (*Cathartes aura meridionalis*) is not considered special status by any state or federal agencies; however, it is considered a Group 1 species by the County of San Diego (2009). In California, it is common during the breeding season and is a yearlong resident west of the Sierra Nevada Mountains, especially in coastal areas. Summer and yearlong ranges also include the southeastern United States; portions of Texas, Mexico, Central America, and South America; and some islands in the Caribbean (Kirk and Mossman 1998).

Turkey vultures use a variety of habitats while foraging on both wild and domestic carrion. They prefer open stages of most habitats. In the western United States, they tend to occur regularly in

areas of hilly pastured rangeland, nonintensive agriculture, and areas with rock outcrops suitable for nesting, although they are not generally found in high-elevation mountain areas (Kirk and Mossman 1998; Zeiner et al. 1990a). Nest locations tend to be difficult to find and are usually located in a crevice among granite boulders (Unitt 2004). However, the species prefers hilly areas that provide deflective updrafts for flight and generally avoids extensive areas of row-crop farmland (Kirk and Mossman 1998). Within the Proposed PROJECT area, suitable foraging habitat includes all vegetation communities and undeveloped land cover on site (i.e., agriculture, big sagebrush scrub, chamise chaparral, coast live oak woodland, disturbed habitat, field/pasture, emergent wetland, montane buckwheat scrub, mulefat scrub, non-native grassland, northern mixed chaparral, semi-desert chaparral, southern north slope chaparral, scrub oak chaparral, Peninsular juniper woodland and scrub, redshank chaparral, shadscale scrub, Sonoran mixed woody succulent scrub, southern riparian woodland, upper Sonoran manzanita chaparral, upper Sonoran subshrub scrub, and southern willow scrub). Turkey vulture breeding within the Proposed PROJECT area is poorly documented and no nests have been recorded within the area (Unitt 2004). Much of the Proposed PROJECT area is considered potential for nesting but nesting has not been confirmed. Since thorough surveys have been conducted, nesting in the Proposed PROJECT area may be unlikely (Unitt 2004).

Vaux's Swift

The Vaux's swift (*Chaetura vauxi*) is a CDFG Species of Special Concern. It is a summer resident of northern California and a common migrant throughout the rest of the state during the spring and fall (Zeiner et al. 1990a). Swifts spend the majority of their life flying in the air where they feed on insects. This species nests in tall, large hollow trees and snags. They forage over a variety of habitats, but seem to prefer foraging over lakes and rivers (Zeiner et al. 1990a). Within the Proposed PROJECT area, Vaux's swifts could forage over any of the vegetation communities and land covers; however, there are no lakes or rivers that provide the preferred habitat features for this species.

Northern Harrier

The northern harrier (*Circus cyaneus*) is a CDFG Species of Special Concern. Also known as the ~~"~~marsh hawk" for its affinity for marshes and open grassland and prairie, this species has a wide geographical range throughout much of the holarctic (northern continents). The northern harrier is common along the west coast in mountain and desert regions. Northern harriers winter throughout much of Canada, the United States, and the Caribbean islands (Macwhirter and Bildstein 1996).

This species occurs throughout California from sea level to 3,000 meters (10,000 feet) amsl as a widespread winter migrant (CDFG 2008b; Zeiner et al. 1990a). The northern harrier is also a

permanent resident in coastal areas, the northeastern plateau, the Central Valley, and the Sierra Nevada, where its elevational range as a breeder reaches 1,700 meters (5,700 feet) (Zeiner et al. 1990a). Breeding populations are also known from around San Francisco Bay and in the Mono Lake area (Gaines 1977; CDFG 2008b). Most of the breeding population in California occurs in ungrazed parts of the state and in federal wildlife refuges (CDFG 2008b).

Northern harriers use a wide variety of open habitats in California, including deserts, coastal sand dunes, pasturelands, croplands, dry plains, grasslands, estuaries, flood plains, and marshes (Macwhirter and Bildstein 1996). Nesting areas are associated with marshes, pastures, grasslands, prairies, croplands, desert shrub-steppe, and riparian woodland (Macwhirter and Bildstein 1996). Winter habitats similarly include a variety of open habitats dominated by herbaceous cover. Within the Proposed PROJECT area, suitable habitat includes emergent wetland as well as agriculture, field/pasture, non-native grassland, and disturbed habitat land cover.

Olive-Sided Flycatcher

The olive-sided flycatcher (*Contopus cooperi*) is a CDFG Watch List species and USFWS Birds of Conservation Concern. It is a migratory species arriving from South America to California in the spring where it can be found throughout various parts of California. It is not a summer resident in the deserts, Central Valley, or lowland valleys and basins in California (Zeiner et al. 1990a). It is primarily found in montane conifer forests, particularly where it overlooks open habitat; nests are usually in large, tall trees (Zeiner et al. 1990a). Because there are no coniferous woodlands within the Proposed PROJECT area, this species could occur over a variety of habitats during migration.

Yellow Warbler

The yellow warbler is a CDFG Species of Special Concern. The yellow warbler is widely distributed, with a breeding range from northern Alaska eastward to Newfoundland and southward to northern Baja California, Mexico, and Georgia. This species is a migrant throughout much of North America and winters from Southern California, Arizona, and the Gulf Coast southward to central South America (Lowther et al. 1999). In California, it is an uncommon to common summer resident in the north and a locally common resident in the south (Zeiner et al. 1990a).

Yellow warblers breed in riparian woodlands southward from the northern border of California, generally west of the Sierra Nevada to the coastal slopes of Southern California, and from coastal and desert lowlands up to 2,700 meters (8,860 feet) amsl in the Sierra Nevada and other montane chaparral and forest habitats (Lowther et al. 1999; Grinnell and Miller 1944). Winter populations

occur in small numbers in California, southwestern Arizona, southern Florida, and the Greater Antilles (Lowther et al. 1999), including Southern California lowlands (Garrett and Dunn 1981).

During migration, yellow warblers occur in lowland and foothill woodland habitats such as desert oases, riparian woodlands, oak woodlands, mixed deciduous–coniferous woodlands, shrublands, forests, suburban and urban gardens and parks, groves of exotic trees, farmyard windbreaks, and orchards (Small 1994). Within the Proposed PROJECT, suitable habitat includes mulefat scrub, southern riparian woodland, and southern willow scrub.

Southwestern Willow Flycatcher

The southwestern willow flycatcher (*Empidonax traillii extimus*) is a federally and state-listed endangered species. The southwestern willow flycatcher has a breeding distribution that encompasses at least six states: Arizona, New Mexico, California from the Santa Ynez River south, southwestern Colorado, extreme southern portions of Nevada and Utah, and possibly western Texas. The breeding distribution of the southwestern willow flycatcher in California is from the Mexican border north to Independence in the Owens Valley, the South Fork Kern River, and the Santa Ynez River in Santa Barbara County (Craig and Williams 1998). The southwestern willow flycatcher was formerly a common summer resident throughout California, but has been extirpated from most of its historic breeding range in the state. The smallest of the breeding populations consists of about five pairs and the largest approximately 50 pairs. The number of southwestern willow flycatchers in California has been estimated at approximately 200, recorded at 22 locations within 13 drainages (Finch et al. 2000).

Because the migrant subspecies of willow flycatcher (*E. t. adastus* and *E. t. brewsteri*) pass through the breeding range of the southwestern willow flycatcher, the conclusion as to the identity of the observed subspecies is dependent on the timing of the observation. Willow flycatchers are late spring migrants and have a short breeding season of 3 months or less (Sedgwick 2000). The earliest that willow flycatcher may be observed is approximately mid-May, when all of the subspecies may be present. When a willow flycatcher is observed after June 22, especially if breeding activity is observed, it can be concluded that the individual is the southwestern willow flycatcher, since by this time, migrant willow flycatchers are no longer passing through the region. Migrant willow flycatchers (full species) also may be observed in late July as they begin to pass through the region heading south to their wintering area (Sogge et al. 1997). In Arizona, the southwestern willow flycatcher is the first of the subspecies to arrive, at the beginning of May, whereas in California, this subspecies is a late spring migrant that arrives from the second week of May to mid-June (Small 1994).

The southwestern willow flycatcher is a riparian obligate species restricted to dense streamside vegetation. In California, typical habitat is composed of a single species (e.g., Goodding's or

other willow species) or a mixture of broadleaf trees and shrubs, including cottonwood (*Populus*), willow (*Salix*), box elder (*Acer negundo*), ash (*Fraxinus*), alder (*Alnus*), and buttonbush (*Cephalanthus*) from 3 to 15 meters (approximately 10 to 50 feet) tall and characterized by trees of different size classes yielding multiple layers of canopy (Sogge et al. 1997). Within the Proposed PROJECT area, suitable habitat includes mulefat scrub, southern riparian woodland, and southern willow scrub.

California Horned Lark

The California horned lark (*Eremophila alpestris actia*) is a CDFG Watch List species. The California horned lark is a permanent resident found throughout much of the southern half of California. This species breeds and resides in the coastal region of California from Sonoma County southeast to the U.S.–Mexico border, including most of the San Joaquin Valley, and eastward to the foothills of the Sierra Nevada (Grinnell and Miller 1944; Beason 1995). It is found from grasslands along the coast and deserts near sea level to alpine dwarf-shrub habitat above tree line. This species prefers open habitats, grassland, rangeland, shortgrass prairie, montane meadows, coastal plains, and fallow grain fields, and it nests on the ground in a hollow scrape. Within the Proposed PROJECT area, suitable nesting and foraging habitat includes big sagebrush scrub (sparse), non-native grassland, as well as agriculture and field/pasture.

Prairie Falcon

The prairie falcon (*Falco mexicanus*) is a CDFG Watch List species and USFWS Birds of Conservation Concern. The prairie falcon is a permanent resident found throughout most of California. It prefers chaparral, desert grasslands, and creosote bush habitats for foraging and nests on cliffs or bluffs near these open habitats. Within the Proposed PROJECT area, suitable foraging habitat includes chamise chaparral, Peninsular juniper woodland and scrub, montane buckwheat scrub, non-native grassland, northern mixed chaparral, semi-desert chaparral, southern north slope chaparral, redshank chaparral, shadscale scrub, Sonoran mixed woody succulent scrub, and upper Sonoran subshrub scrub, as well as agriculture and field/pasture. Potential nest locations are located within the vicinity in Carrizo Gorge and other rocky mountain and cliff terrain north and east of the project components (Unitt 2004).

California Condor

The California condor (*Gymnogyps californianus*) is a federally and state-listed endangered species and is also a state Fully Protected species. It is a resident of the semi-arid, rugged mountain ranges surrounding the southern San Joaquin Valley, including the Coast Ranges from Santa Clara County south to Los Angeles County, the Transverse Ranges, Tehachapi Mountains, and southern Sierra Nevada (CDFG 2008a). Captive-bred condors and the remaining wild

individuals that were brought into captivity were released back into the wild beginning in 1992. Release sites included Southern and northern California; Arizona; and Baja California, Mexico.

The California condor occurs mostly between sea level and 8,100 feet elevation. Foraging flights occurred, and continue to occur, over vast areas encompassing hundreds of linear miles of travel each day (Meretsky and Snyder 1992). Foraging occurs mostly on private ranches in relatively open grasslands, including ranchlands and pastures within chaparral areas or in oak savannahs (USFWS 1996). Suitable foraging habitat for the California condor includes an adequate food supply, open areas where food can be easily located, and reliable air movements to allow for extended soaring. Nesting habitat is found in the national forests and primarily includes forested montane regions, including redwood forests (Snyder and Schmitt 2002). California condors nest in various types of rock formations, including crevices, overhung ledges, and potholes, and, more rarely, in cavities in giant sequoia trees (*Sequoiadendron giganteum*) (Snyder and Schmitt 2002).

The March 31, 2010, California condor status report by Jesse Grantham of the USFWS showed a total population of 349 individuals, including 180 in captivity and 169 in the wild.

Based on information from HDR (2010a), a California condor was observed in 2007 in San Diego County:

> A single female captive-born California condor [#321] was observed April 4, 2007, by two hikers along the Pacific Crest Trail west of the proposed project. The same bird was also seen on at least two occasions along Highway 79, also west of the proposed project (San Diego Union Tribune 2007). The condor had been fitted with a satellite tracking device by the San Diego Zoological Society and was monitored in San Diego County, riding the thermals above Cuyamaca Rancho and Anza-Borrego State Parks. She was born in 2004 at the San Diego Zoo and released in 2005 in Sierra San Pedro de Martir National Park in Baja California. The condor flew 100 miles (160 km) from the release site and was tracked back to Baja three days later. This is the first record of a condor entering the United States from Baja California, and the first wild condor seen in San Diego County since 1910 (San Diego Union Tribune 2007). There have been no observations of condors in San Diego County other than this one three-day excursion.

Within the Proposed PROJECT area, suitable foraging habitat includes agriculture, disturbed habitat, field/pasture, and non-native grassland, but this species is not likely to occur within San Diego County since the closest potential breeding population is located in Baja California, Mexico, as noted previously. The species could occasionally wander north from Baja, but breeding of the species in San Diego County has not been recorded since the 1880s (Unitt 2004).

Loggerhead Shrike

The loggerhead shrike (*Lanius ludovicianus*) is a CDFG California Species of Special Concern and USFWS Birds of Conservation Concern. It is found in lowlands and foothills throughout California and it remains in the southern portion of the state year-round. Preferred habitats for the loggerhead shrike are open areas that include scattered shrubs, trees, posts, fences, utility lines, or other structures that provide hunting perches with views of open ground, as well as nearby spiny vegetation or man-made structures (such as top of chain-link fences or barbed wire) that provide means to skewer prey items. The species occurs most frequently in riparian areas along the woodland edge, grasslands with sufficient perch and butcher sites, scrublands, and open-canopied woodlands, although they can be quite common in agricultural and grazing areas, and can sometimes be found in mowed roadsides, cemeteries, and golf courses, although they occur rarely in heavily urbanized areas (CDFG 2008a). Loggerhead shrikes build nests in stable shrubs or trees requiring dense foliage for well-concealed nests. Within the Proposed PROJECT area, suitable nesting habitat includes coast live oak woodland, mulefat scrub, Peninsular juniper woodland and scrub, shadscale scrub, Sonoran mixed woody succulent scrub, upper Sonoran subshrub scrub, southern riparian woodland, and southern willow scrub. The species may forage in chamise chaparral, redshank chaparral, northern mixed chaparral, semi-desert chaparral, southern north slope chaparral, as well as agriculture, non-native grassland, and field/pasture.

Gray Vireo

The gray vireo (*Vireo vicinior*) is a CDFG California Species of Special Concern, USFWS Birds of Conservation Concern, and BLM sensitive species. Historically they were more widespread, breeding west to Kern County, in the northern and western foothills of the San Gabriel Mountains, and at many areas in San Bernardino, Riverside, and San Diego counties. Presently, they are a summer resident found in scattered locations in arid pinyon-juniper, juniper, and chamise-redshank chaparral habitats from 2,000 to 6,500 feet in the mountains of Southern California (CDFG 2008a). In the Peninsular Range of Southern California, gray vireos will commonly nest in chaparral dominated by chamise, red shank, scrub oak, Manzanita, pinyon, or big sagebrush (Shuford and Gardali 2008). Within the Proposed PROJECT area, suitable habitat includes chamise chaparral, Peninsular juniper woodland and scrub, northern mixed chaparral, semi-desert chaparral, Sonoran manzanita scrub, southern north slope chaparral, and redshank chaparral.

Pallid Bat

The pallid bat (*Antrozous pallidus*) is a CDFG California Species of Special Concern and BLM sensitive species. It is widespread throughout the western United States; southern British Columbia, Canada; and mainland and Baja California, Mexico (Hermanson and O'Shea 1983;

Hall 1981). Within the United States, it ranges east into southern Nebraska, western Oklahoma, and western Texas.

The pallid bat is locally common in arid deserts (especially the Sonoran life zone) and grasslands throughout the western United States and also occurs in shrublands, woodlands, and forests at elevations up to 8,000 feet (2,440 meters) (Hermanson and O'Shea 1983; Hall 1981). Although it prefers rocky outcrops, cliffs, and crevices with access to open habitats for foraging, it has been observed far from such areas (Hermanson and O'Shea 1983). Within the Proposed PROJECT area, suitable habitat includes big sagebrush scrub, chamise chaparral, coast live oak woodland, emergent wetland, mulefat scrub, Peninsular juniper woodland and scrub, montane buckwheat scrub, redshank chaparral, northern mixed chaparral, semi-desert chaparral, southern north slope chaparral, shadscale scrub, Sonoran mixed woody succulent scrub, upper Sonoran subshrub scrub, southern riparian woodland, and southern willow scrub, as well as agriculture, field/pasture, and non-native grassland.

Dulzura Pocket Mouse

The Dulzura pocket mouse (*Chaetodipus californicus femoralis*) is a CDFG California Species of Special Concern. It is associated with chaparral, but has been found in other vegetation communities. Within the Proposed PROJECT area, suitable habitat includes chamise chaparral, redshank chaparral, northern mixed chaparral, semi-desert chaparral, southern north slope chaparral, shadscale scrub, Sonoran mixed woody succulent scrub, and upper Sonoran subshrub scrub.

Pallid San Diego Pocket Mouse

The pallid San Diego pocket mouse (*Chaetodipus fallax pallidus*) is a CDFG California Species of Special Concern. This species has limited distribution in Southern California and is found along the margins of the desert in eastern San Diego County and northern Baja California, Mexico. It is found in a variety of desert habitats, including coastal scrub, chamise-redshank chaparral, mixed chaparral, sagebrush, desert wash, desert scrub, desert succulent shrub, pinyon-juniper, and annual grassland. Within the Proposed PROJECT area, suitable habitat includes big sagebrush scrub, chamise chaparral, Peninsular juniper woodland and scrub, redshank chaparral, northern mixed chaparral, semi-desert chaparral, southern north slope chaparral, shadscale scrub, Sonoran mixed woody succulent scrub, and upper Sonoran subshrub scrub.

Mountain Lion

The mountain lion is not considered special status by any state or federal agencies; however, it is considered a Group 2 species by the County of San Diego (2009). Its range throughout California extends from deserts to humid forests in the Coast Ranges and from sea level to 3,050 meters

(10,000 feet), but mountain lions do not inhabit xeric regions of the Mojave and Colorado deserts. They are most abundant in habitats that support their primary prey, mule deer, and their seasonal movements tend to follow migrating deer herds.

Mountain lions prefer habitats that provide cover, such as thickets in brush and timber in woodland vegetation (Zeiner et al. 1990b). They also utilize caves and other natural cavities for cover and breeding. They require extensive areas of riparian vegetation and brushy stages of various habitats, with interspersions of irregular terrain, rocky outcrops, and tree–brush edges. Within the Proposed PROJECT area, suitable habitat includes chamise chaparral, coast live oak woodland, emergent wetland, mulefat scrub, Peninsular juniper woodland and scrub, redshank chaparral, northern mixed chaparral, southern north slope chaparral, scrub oak chaparral, upper Sonoran manzanita chaparral, shadscale scrub, Sonoran mixed woody succulent scrub, southern riparian woodland, and southern willow scrub.

San Diego Black-Tailed Jackrabbit

The San Diego black-tailed jackrabbit (*Lepus californicus bennettii*) is a CDFG California Species of Special Concern. It is confined to coastal Southern California, with marginal eastern records being Mt. Piños, Arroyo Seco, Pasadena, San Felipe Valley, and Jacumba (Hall 1981). It is found in many diverse habitats, but primarily in arid regions supporting short-grass habitats. Jackrabbits typically are not found in high grass or dense brush where it is difficult for them to move quickly, and the openness of open scrub habitat probably is preferred over dense chaparral. Jackrabbits are common in grasslands that are overgrazed by cattle, and they are well adapted to using low-intensity agricultural habitats (Hall 1981). Within the Proposed PROJECT area, suitable habitat includes big sagebrush scrub, coast live oak woodland, Peninsular juniper woodland and scrub, montane buckwheat scrub, semi-desert chaparral, shadscale scrub, Sonoran mixed woody succulent scrub, and upper Sonoran subshrub scrub.

San Diego Desert Woodrat

The San Diego desert woodrat (*Neotoma lepida intermedia*) is a CDFG California Species of Special Concern. This species is found in coastal Southern California into Baja California, Mexico (Reid 2006). Marginal eastern records for the San Diego desert woodrat in the United States include San Luis Obispo, San Fernando in Los Angeles County, the San Bernardino Mountains and Redlands in San Bernardino County, and Julian in San Diego County (Hall 1981). Desert woodrats are found in a variety of shrub and desert habitats and are primarily associated with rock outcroppings, boulders, cacti, or areas of dense undergrowth. Within the Proposed PROJECT area, suitable habitat includes chamise chaparral, coast live oak woodland, Peninsular juniper woodland and scrub, northern mixed chaparral, southern north slope

chaparral, scrub oak chaparral, upper Sonoran manzanita chaparral, redshank chaparral, shadscale scrub, Sonoran mixed woody succulent scrub, and upper Sonoran subshrub scrub.

Pocketed Free-Tailed Bat

The pocketed free-tailed bat (*Nyctinomops femorosaccus*) is a CDFG California Species of Special Concern. It is found only in San Diego, Riverside, and Imperial counties in Southern California, but is more common in Mexico. It primarily occurs in desert habitats at elevations from sea level to 7,380 feet but may forage over most habitats where it occurs (Kumirai and Jones 1990). Day roosts usually are in crevices in rocky outcrops, steep slopes, and rugged cliffs (Kumirai and Jones 1990), but the pocketed free-tailed bat may also roost in buildings and under roof tiles (NatureServe 2007).

Pocketed free-tailed bats form small colonies in day roosts up to about 100 individuals, in crevices in canyons and cliffs and sometimes in man-made structures (Kumirai and Jones 1990). There is marginal roosting habitat in rocky areas of the project site. Within the Proposed PROJECT area, suitable foraging habitat includes big sagebrush scrub, chamise chaparral, coast live oak woodland, emergent wetland, mulefat scrub, Peninsular juniper woodland and scrub, montane buckwheat scrub, redshank chaparral, northern mixed chaparral, semi-desert chaparral, southern north slope chaparral, shadscale scrub, Sonoran mixed woody succulent scrub, upper Sonoran subshrub scrub, southern riparian woodland, and southern willow scrub as well as agriculture, field/pasture, and non-native grassland.

Southern Grasshopper Mouse

The southern grasshopper mouse (*Onychomys torridus Ramona*) is a CDFG California Species of Special Concern. It is restricted to coastal Southern California, with marginal eastern records for Mint Canyon west of Palmdale and San Fernando in Los Angeles County; Riverside and Valle Vista in Riverside County; and Warner Pass, La Puerta Valley, Jacumba, Santee Mountains, and the mouth of the Tijuana River Valley in San Diego County (Hall 1981). It is found in grasslands and sparse coastal scrub in desert habitats with other rodent burrows present. Within the Proposed PROJECT area, suitable habitat includes big sagebrush scrub, montane buckwheat scrub, non-native grassland, shadscale scrub, Sonoran mixed woody succulent scrub, and upper Sonoran subshrub scrub.

Peninsular Bighorn Sheep

Peninsular bighorn sheep (*Ovis canadensis nelsoni*) is a federally endangered and California state-threatened and Fully Protected species. It is found in the Peninsular Ranges from the San Jacinto and Santa Rosa Ranges south into Mexico. Their habitat consists of alpine dwarf-shrub, low sage, sagebrush, bitterbrush, pinyon-juniper, palm oasis, desert riparian, desert succulent

shrub, desert scrub, subalpine conifer, perennial grassland, montane chaparral, and montane riparian habitat. Peninsular bighorn sheep feed in open habitat while remaining near steep, rugged terrain that they can access for protection, lambing, and bedding areas. Their range also requires adequate water sources linking these habitat areas (CDFG 2008a). Within the Proposed PROJECT area, suitable habitat includes Peninsular juniper woodland and scrub, Sonoran mixed woody succulent scrub, and upper Sonoran subshrub scrub, and upper Sonoran manzanita chaparral; however, steep, rocky areas are lacking throughout the majority of the Proposed PROJECT area.

Jacumba Little Pocket Mouse

The Jacumba little pocket mouse (*Perognathus longimembris internationalis*) is a CDFG California Species of Special Concern. It inhabits arid coastal scrub and chaparral habitats where sandy soils area is present. It has been observed in desert wash, desert scrub, desert riparian, and sagebrush habitats. It occurs in central San Diego County south to Baja California, Mexico. Within the Proposed PROJECT area, suitable habitat includes sandy areas within big sagebrush scrub, chamise chaparral, mulefat scrub, Peninsular juniper woodland and scrub, redshank chaparral, northern mixed chaparral, semi-desert chaparral, southern north slope chaparral, shadscale scrub, Sonoran mixed woody succulent scrub, southern riparian woodland, and southern willow scrub.

American Badger

The American badger (*Taxidea taxus*) is a CDFG California Species of Special Concern. It is found throughout California in drier open stages of most shrub, forest, and herbaceous habitats; they require friable soils since they are fossorial species (CDFG 2008a). Within the Proposed PROJECT area, suitable habitat includes chamise chaparral, coast live oak woodland, mulefat scrub, Peninsular juniper woodland and scrub, redshank chaparral, northern mixed chaparral, semi-desert chaparral, southern north slope chaparral, scrub oak chaparral, shadscale scrub, Sonoran mixed woody succulent scrub, upper Sonoran subshrub scrub, upper Sonoran manzanita chaparral, southern riparian woodland, and southern willow scrub.

Critical Habitat

Under the federal Endangered Species Act (FESA), the USFWS, to the extent prudent and determinable, is required to designate critical habitat for endangered and threatened species (16 United States Code (U.S.C.) 1533 (a)(3)). Critical habitat describes the areas of land, water, and air space containing the physical and biological features essential for the survival and recovery of endangered and threatened species. Designated critical habitat includes sites for breeding and rearing, movement or migration, feeding, roosting, and shelter.

Designated critical habitat requires special management and protection of existing resources, such as water quality and quantity, host animals and plants, food availability, pollinators, sunlight, and specific soil types. Critical habitat designation delineates all suitable habitat, occupied or not, essential to the survival and recovery of the species. A critical habitat designation affects only projects subject to federal action. Under projects subject to federal action, potential impacts to designated or proposed critical habitat will be evaluated by the USFWS under Section 7 of FESA. The Proposed PROJECT may be subject to a federal action in that it may be required to obtain a Section 404 permit from the ACOE. ACOE will determine whether it will consult with USFWS under Section 7 with respect to critical habitat.

In 2002, the USFWS designated 171,605 acres of critical habitat for the Quino checkerspot butterfly. In 2009, the critical habitat was revised to include 62,125 acres of habitat in San Diego and Riverside counties (74 Federal Register (FR) 115). Based on the current knowledge of the species, the USFWS determined the primary constituent elements for the Quino checkerspot butterfly to be open areas within scrublands at least 21.5 square feet in size that (1) (A) contain no woody canopy cover; and (B) contain one or more of the host plants, dwarf plantain, desert plantain, white snapdragon, or Chinese houses used for Quino checkerspot butterfly growth, reproduction, and feeding; or (C) contain one or more of the host plants, thread-leaved bird's beak or owl's clover that are within 328 feet of the host plants listed in (B); or (D) contain flowering plants with a corolla tube less than or equal to 0.43 inch used for Quino checkerspot butterfly feeding; (2) consist of open scrubland areas and vegetation within 656 feet of the open canopy areas used for movement and basking; and (3) are hilltops or ridges within scrublands that contain an open, woody-canopy area at least 21.5 square feet in size used for Quino checkerspot butterfly mating (hilltopping behavior) and are contiguous with (but not otherwise included in) open areas and natural vegetation (74 FR 28776–28862).

Within the Proposed PROJECT area, there is designated Critical Habitat for the Quino checkerspot butterfly along the ECO 138 kV transmission line approximately between mileposts (MP) 4 and 5.5 (see Figure D.2-9). This is designated as Unit 10 and includes 2,514 acres of critical habitat (74 FR 28776–28862).

In 2001, the USFWS designated 844,897 acres of critical habitat for the Peninsular bighorn sheep in San Diego, Riverside, and Imperial counties. The designation was for the distinct population segment, the Peninsular bighorn sheep, of the desert bighorn sheep. In 2009, the critical habitat was revised to include approximately 376,938 acres. This revised designation of critical habitat for Peninsular bighorn sheep reduces the 2001 designation by approximately 467,959 acres. The revised critical habitat is located in Riverside, San Diego, and Imperial counties, California.

There are eight permanently occupied subpopulations of Peninsular bighorn sheep from Carrizo Gorge and portions of the In-Ko-Pah Mountains in San Diego and Imperial counties to the San Jacinto Mountains in Riverside County (USFWS 2009a). Unit 3 of the 2009 revised critical habitat for Peninsular bighorn sheep includes the Carrizo Gorge and portions of the In-Ko-Pah Mountains and are located within approximately 800 feet of the Proposed PROJECT footprint (74 FR 17288–17365). Unit 3 contains the physical and biological features that are essential for Peninsular bighorn sheep habitat, including a range of vegetation types, foraging and watering areas, and steep to very steep, rocky terrain with appropriate elevations and slope (74 FR 17288–17365). Unit 3 is currently occupied by Peninsular bighorn sheep (74 FR 17288–17365). Records of Peninsular bighorn sheep dating back to 1940 show the closest documented Peninsular bighorn sheep location as 0.79 mile from the Proposed PROJECT, near Tule Peak (USFWS 2010b, cited in HDR 2010a). The revised designated critical habitat is still within San Diego, Riverside, and Imperial counties. The closest critical habitat for this species is just east of the Tule Wind Project area (see Figure D.2-9), where it is located less than half a mile from the easternmost portion. South of Interstate 8 (I-8), a north–south swath of critical habitat is designated approximately 4 miles east of the ECO and ESJ Gen-Tie project areas in Imperial County (see Figure D.2-9).

Regional Wildlife Corridors

Wildlife corridors are defined as areas that connect suitable wildlife habitat areas in a region otherwise fragmented by rugged terrain, changes in vegetation, or human disturbance. Natural features, such as canyon drainages, ridgelines, or areas with vegetation cover, provide corridors for wildlife travel. Wildlife corridors are important because they provide access to mates, food, and water; allow the dispersal of wildlife from high-density areas; and facilitate the exchange of genetic traits between populations (Beier and Loe 1992). Wildlife corridors are considered sensitive by resource and conservation agencies.

The County of San Diego's Department of Planning and Land Use (DPLU) wildlife movement modeling of connectivity identifies areas within the Proposed PROJECT area as an important wildlife linkage within the East County extending north from I-8. The DPLU models only consider areas where the County has some measure of control of development and other areas, such as tribal lands, are not considered in their long-term habitat connectivity model (HDR 2010a). To the west of the Proposed PROJECT area are the Laguna Mountains, and to the east is Anza-Borrego Desert and the Peninsular Range.

Although I-8 presents a barrier to north–south wildlife movement, Peninsular bighorn sheep occasionally migrate south and cross into Mexico to breed with other populations (SDG&E 2009). The closest Peninsular bighorn sheep population is the Carrizo Canyon subpopulation (63 FR 13134–13150; USFWS 2000); also, west of the In-Ko-Pah Gorge and I-8 there are ~~–i~~sland"

areas that receive transient bighorn sheep use. The Proposed PROJECT area is located outside of these areas.

The Pacific Flyway is a major north–south migration route for birds that travel between North and South America. In Southern California, birds typically use the coast and inland areas. The Pacific Coast route is used by gulls, ducks, and other water birds. The longest and most important route of the Pacific Flyway is that originating in northeastern Alaska. This route, that includes most waterfowl and shorebirds, passes through the interior of Alaska and then branches such that large flights continue southeast into the Central and Mississippi flyways or they may turn in a southwestern direction and pass through the interior valleys of California ending or passing through the Salton Sea (Birdnature 2010). The southward route of long-distance migratory land birds of the Pacific Flyway that typically overwinter south of the United States, extends through the interior of California to the mouth of the Colorado River and on to their winter quarters that may be located in western Mexico (USGS 2006).

The Salton Sea, approximately 40 miles northeast, is an important stopover for many birds that travel inland (SDG&E 2009); the inland Pacific Flyway migration route, which is focused on a stopover at the Salton Sea, is east of the Proposed PROJECT area. A study from 1985 to 1999 focused on shorebird migration and recorded avian use at the Salton Sea and adjacent Imperial Valley. Large numbers of shorebirds, including black-necked stilt (*Himantopus mexicanus*), American avocet (*Recurvirostra americana*), western sandpiper (*Calidris mauri*), and dowitchers (*Limnodromus* spp.) were recorded during migration periods (Shuford et al. 2003). In addition, the study showed that birds traveling to the Salton Sea use this site not only as a migratory stopover, but the site is also a wintering area for many species, including the mountain plover (*Charadrius montanus*) (Shuford et al. 2003).

Migration timing varies from species to species and for some, there is little documentation of the timing; for others, the arrival and departure has been well documented species by species (Unitt 2004). In general, bird migration occurs during the months of March through April and August through November.

Although many species of migrants have been documented to migrate at high altitudes, from 500 to 2,000 feet (Williams 1950), most migrants flying over or near the ocean migrate at lower altitude, below 300 feet (Hüppop et al. 2006). Birds migrating over terrestrial locations appear to migrate at higher altitudes, but do not frequently exceed 1,500 feet (Cooper and Ritchie 1995). Larger birds, such as ducks and geese, are frequently observed up to 7,000 feet (FAA 2010).

Special Habitat Management Areas

Several regional habitat management programs exist in San Diego County, proximate to the Proposed PROJECT area, including the MSCP, Eastern San Diego County Management Framework Plan (MFP), and Eastern San Diego County Resource Management Plan (RMP).

The MSCP seeks to preserve the unique, native habitats and wildlife within San Diego County. The MSCP is a regional conservation effort that relies on multiple jurisdiction and agencies to ensure conservation goals and policies are implemented and successful. The MSCP includes three subareas each containing a separate conservation plan. The three subareas are North County, South County, and East County. Only the South County MSCP Subarea Plan is approved.

The Proposed PROJECT is located within the boundary of the MSCP East County Plan. As stated above, the MSCP East County Plan is currently in preparation (a Preliminary Draft Map has been completed). The overall intent of the East County Plan is to create a large, connected preserve that addresses the regional habitat needs for multiple species. It is unknown at this time when the East County Plan will be approved.

Approved in 1981, the Eastern San Diego County MFP guides land management within the Eastern San Diego Planning Area (98,902 acres of BLM land immediately west of the California Desert Conservation Area (CDCA)) within which the Proposed PROJECT is located. Table Mountain is an area designated by the BLM as an area of Critical Environmental Concern under the MFP. The MFP provides direction regarding the management of various resources on BLM land, including minerals, soils, and biological resources.

The intent of the Eastern San Diego County RMP and Final EIS is to direct future land uses and land management within the Eastern San Diego Planning Area. The RMP addresses conflicts among various recreational users accessing BLM lands, provides direction for future site-specific development including renewable energy projects, and provides for monitoring to determine the effectiveness of BLM land management strategies. The RMP stresses that future policy decisions and land management strategies shall be compatible with the multiple use mission of the BLM. The multiple use mission promotes recreational use and responsible development within BLM-administered lands while maintaining environmental quality of the land.

D.2.1.2 ECO Substation Project

Native Vegetation Communities and Associated Wildlife Habitats by ECO Substation Project Components

As illustrated in Figures D.2-1 through D.2-3, a total of seven native vegetation communities were mapped within the ECO Substation Project area, including chamise chaparral/redshank chaparral, coast live oak woodland, emergent wetland, Peninsular juniper woodland and scrub, shadscale scrub, Sonoran mixed woody succulent scrub, and southern willow scrub/mulefat scrub. Other land cover types in the ECO Substation Project area include agriculture, disturbed habitat, and developed.

ECO Substation 500 kV and 230/138 kV Yards and Southwest Powerlink Loop-In

The ECO Substation 500 kV and 230/138 kV yards and SWPL Loop-In project component areas are characterized by Sonoran mixed woody succulent scrub and Peninsular juniper woodland and scrub. Approximately 14.5 acres of Sonoran mixed woody succulent scrub and 74.5 acres of Peninsular juniper woodland and scrub occur within the study area for the ECO Substation and SWPL Loop-In project components.

138 kV Transmission Line

The 138 kV transmission line project component study area is characterized by chamise chaparral/redshank chaparral (303.0 acres), coast live oak woodland (6.5 acres), emergent wetland (5.0 acres), Peninsular juniper woodland and scrub (23.5 acres), Sonoran mixed woody succulent scrub (273.0 acres), southern willow scrub/mulefat scrub (7.0 acres), and shadscale scrub (16.5 acres). Other land covers in the study corridor for this project component include agriculture, disturbed habitat, and developed.

Boulevard Substation Rebuild

The existing Boulevard Substation area is characterized by chamise chaparral/redshank chaparral and residential/developed. The proposed 8.5-acre Boulevard Substation site is characterized as developed.

Jurisdictional Wetlands and Waters

ECO Substation and Southwest Powerlink Loop-In

Several dry washes, swales, and gullies occur in the ECO Substation and SWPL Loop-In study areas. These features would be considered non-wetland waters and streambeds and have the potential to be subject to the jurisdiction of the ACOE, CDFG, and/or RWQCB. These features generally flow east to west across the site and flow to a tributary of Carrizo

Creek off site. No jurisdictional wetlands occur in the ECO Substation and SWPL Loop-In project component areas.

138 kV Transmission Line

Numerous intermittent drainages, desert washes, and swales cross the transmission line corridor. These features would be considered non-wetland waters and streambeds and have the potential to be subject to the jurisdiction of the ACOE, CDFG, and/or RWQCB. Additionally, several potentially jurisdictional wetland features occur within the transmission line corridor, including southern willow scrub/mulefat scrub and emergent wetland near MP 3.5 and southern willow scrub/mulefat scrub features near MPs 8 and 11.5.

Boulevard Substation Rebuild

No potential jurisdictional features were identified at this project component site.

Special-Status Species

The following sections provide an assessment of the potential for special-status species to occur within the proposed ECO Substation Project area. CNDDB occurrence data and survey results are illustrated in Figures D.2-1 through D.2-3.

Special-Status Plant Species

Jacumba Milk-Vetch

Several populations of this species were observed during 2009 and 2010 surveys (Insignia Environmental 2010a). This species was generally observed in small numbers; however, a few larger populations of between 20 and 90 individuals were also observed (Insignia Environmental 2010a). This species was mapped in seven general locations between MP 13 and MP 6 west of Highway 80 with a total population of approximately 189 individuals (Insignia Environmental 2010a). CNDDB has records of this species along eastern portion of the 138 kV transmission line corridor in Jacumba, Live Oak Springs, and Tierra del Sol quadrangles. The closest CNDDB record is from 1978 and is located adjacent to the 138 kV transmission line near MP 1.

California Ayenia

This species has moderate potential to occur based on suitable habitat in the project site and it is within this species' elevation range. There are no CNDDB records within the In-Ko-Pah Gorge, Jacumba, Live Oak Springs, or Tierra del Sol quadrangles and this species was not observed during the 2008 through 2010 surveys. The closest CNDDB record is from 1979 and is located approximately 9 miles north in Sweeny Pass quadrangle.

Elephant Tree

This species has moderate potential to occur based on suitable habitat in the project site; however, the project site is outside of the known elevation range for this species. This species would have been observed if it occurred on site. There is one CNDDB record within the In-Ko-Pah Gorge quadrangle from 1986 and is located approximately 4 miles to the northeast; this species was not observed during the 2008 through 2010 surveys.

Payson's Jewel-Flower

This species has moderate potential to occur on site as it was observed on the adjacent Tule Wind Project site. There are no CNDDB records of this species within the In-Ko-Pah Gorge, Jacumba, Live Oak Springs, or Tierra del Sol quadrangles where the project area is located; this species was not observed during the 2008 through 2010 surveys.

Utah Vine Milkweed

This species has moderate potential to occur based on suitable habitat in the project site and it is within this species' elevation range. There are no CNDDB records within the In-Ko-Pah Gorge, Jacumba, Live Oak Springs, or Tierra del Sol quadrangles and this species was not observed during the 2008 through 2010 surveys.

Tecate Tarplant

This species has high potential to occur based on suitable habitat in the project site and it is within this species' elevation range. It was observed in the adjacent Tule Wind Project area (HDR 2010a). There are multiple CNDDB records in the Jacumba, Live Oak Springs, and Tierra del Sol quadrangles; the closest CNDDB record (date unknown) is located approximately a half mile south of MP 7. This species was not observed during the 2008 through 2010 surveys.

Colorado Desert Larkspur

This species was observed during the 2009 and 2010 surveys (RBC 2009a; Insignia Environmental 2010a). In 2009, low number of individuals were observed between MP 13 and MP 12 and near MP 11; a small population was observed near MP 7; it was observed frequently around MP 6; and it was observed in small clusters between MP 2 and the proposed ECO Substation (RBC 2009a). In 2010, this species was not described or mapped. There are no CNDDB records within the In-Ko-Pah Gorge, Jacumba, Live Oak Springs, or Tierra del Sol quadrangles.

Sticky Geraea

This species was observed scattered throughout the 138 kV transmission line corridor during the 2009 and 2010 surveys from MP 13 through MP 2. Populations of this species were generally 5 to 15 individuals, but more than 100 individuals were also observed in some places (RBC 2009a; Insignia Environmental 2010a). Based on the 2010 surveys, there are approximately 660 individuals scattered throughout the project area. There are multiple CNDDB records within the In-Ko-Pah Gorge, Jacumba, Live Oak Springs, and Tierra del Sol quadrangles. The closest CNDDB record is from 1920 and is located near MP 13; however, more recent observations from 1978 and 1979 are located 1.5 to 2.5 miles north of the 138 kV transmission line.

Palmer's Grappling Hook

This species was observed during the 2009 and 2010 surveys. In 2009, it was observed within some clay soil areas within the project area. Specifically, a population of less than 100 individuals was observed around MP 4.5; a population of more than 1,000 individuals was observed between MP 4.5 and MP 4; small populations were observed between MP 4 and MP 1; and a population of more than 1,000 individuals was observed near the east end of the survey area near the proposed staging yard north of the proposed ECO Substation (RBC 2009a). This species is not mapped or described in the 2010 survey report (Insignia Environmental 2010a). There are no CNDDB records within the In-Ko-Pah Gorge, Jacumba, Live Oak Springs, or Tierra del Sol quadrangles.

Curly Herissantia

This species has moderate potential to occur based on suitable habitat in the project site and it is within this species' elevation range. There is one CNDDB record within the In-Ko-Pah Gorge quadrangle; this species was not observed during the 2008 through 2010 surveys. The closest CNDDB record (date unknown) is located approximately 3 miles north of the 138 kV transmission line.

Laguna Mountains Alumroot

This species is not expected to occur within the project site because it is outside of its elevation range. However, it was observed in the adjacent Tule Wind Project area. There are no CNDDB records within the In-Ko-Pah Gorge, Jacumba, Live Oak Springs, or Tierra del Sol quadrangles; this species was not observed during the 2008 through 2010 surveys. The closest CNDDB record is from 1992 and is located approximately 15 miles northwest in the Mount Laguna quadrangle.

San Diego Sunflower

This species has low potential to occur within the project site because it is outside of its elevation range. However, it was observed in the adjacent Tule Wind Project area. There are no CNDDB records within the In-Ko-Pah Gorge, Jacumba, Live Oak Springs, or Tierra del Sol quadrangles; this species was not observed during the 2008 through 2010 surveys. The closest CNDDB record is from 1979 and is located approximately 12 miles northwest in the Sombrero Peak quadrangle.

Slender-Leaved Ipomopsis

One population of this species was observed west and south of MP 1 during the 2009 surveys. In 2009, approximately 25 individuals were observed growing in clusters of 2 to 5 among large boulders (RBC 2009a), and in 2010 approximately 7 individuals were observed in the same location (Insignia Environmental 2010a). There are several CNDDB records within the In-Ko-Pah Gorge and Jacumba quadrangles; the closest CNDDB record is from 1983 located within the survey corridor between MPs 1 and 2.

Pride-of-California

This species was observed during the 2009 and 2010 surveys primarily along the north–south portion of the survey area. In 2009, several populations were observed near MP 13 and isolated occurrences were observed south of MP 11.5 and east of MP 11 (RBC 2009a); this species is not mapped or described in the 2010 survey report (Insignia Environmental 2010a). There are no CNDDB records within the In-Ko-Pah Gorge, Jacumba, Live Oak Springs, or Tierra del Sol quadrangles.

Desert Beauty

This species was observed during 2009 and 2010 surveys in several locations between MP 13 and MP 5 with the largest populations near MP 13. Generally, populations of this species ranged from 60 to 90 individuals, but more than 100 individuals were also observed in some places (RBC 2009a; Insignia Environmental 2010a). Based on the 2010 surveys, there are approximately 8,600 individuals scattered throughout the project area (Insignia Environmental 2010a). There are several CNDDB records within the Jacumba, Live Oak Springs, and Tierra del Sol quadrangles; the closest CNDDB record is located less than a quarter mile south of the 138 kV transmission line (date unknown).

Pygmy Lotus

This species has moderate potential to occur based on suitable habitat in the project site and it is within this species' elevation range. There are two CNDDB records within the In-Ko-Pah Gorge and Jacumba quadrangles; the closest record is from 2001, approximately a half mile south of

MP 4 of the 138 kV transmission line corridor. This species was not observed during the 2008 through 2010 surveys.

Mountain Springs Bush Lupine

This species has moderate potential to occur based on suitable habitat in the project site and it is within this species' elevation range. It was observed in the adjacent Tule Wind Project area. There are multiple CNDDB records within the In-Ko-Pah Gorge and Jacumba quadrangles; the closest CNDDB record is from 1979 and located less than a quarter mile south of MP 1. This species was not observed during the 2008 through 2010 surveys.

Parish's Desert-Thorn

This species has moderate potential to occur based on suitable habitat in the project site. There are no CNDDB records within the In-Ko-Pah Gorge, Jacumba, Live Oak Springs, and Tierra del Sol quadrangles; this species was not observed during the 2008 through 2010 surveys. The closest CNDDB record is from 1955 and is located approximately 16 miles north of the 138 kV transmission line in Sweeny Pass quadrangle.

Hairy Stickleaf

This species has moderate potential to occur based on suitable habitat in the project site; however, the project site is slightly outside the known elevation range of this species. There is one CNDDB record within the In-Ko-Pah Gorge quadrangle from 1922, and it is located approximately 3 miles northeast of the 138 kV transmission line; this species was not observed during the 2008 through 2010 surveys.

Creamy Blazing Star

This species has moderate potential to occur based on suitable habitat in the project site and it is within this species' elevation range. There is one CNDDB record from 1927 within the In-Ko-Pah Gorge quadrangle approximately 1.5 miles north of the ECO Substation and SWPL Loop-In structure site. This species was not observed during the 2008 through 2010 surveys.

Jacumba Monkeyflower

This species was observed during 2009 surveys. This species was observed in the east–west portion of the survey area between MP 8.5 and MP 6 and near MP 1, a few individuals were scattered in the rocks along with scarlet gilia (slender-leaved ipomopsis) (RBC 2009a). There are no CNDDB records within the In-Ko-Pah Gorge, Jacumba, Live Oak Springs, or Tierra del Sol quadrangles.

Palmer's Monkeyflower

This species has moderate potential to occur based on suitable habitat in the project site. There are no CNDDB records within the In-Ko-Pah Gorge, Jacumba, Live Oak Springs, or Tierra del Sol quadrangles; this species was not observed during the 2008 through 2010 surveys.

Thurber's Beardtongue

This species has moderate potential to occur based on suitable habitat in the project site. There are no CNDDB records within the In-Ko-Pah Gorge, Jacumba, Live Oak Springs, or Tierra del Sol quadrangles; this species was not observed during the 2008 through 2010 surveys.

Desert Spike Moss

This species has moderate potential to occur based on suitable habitat in the project site and it is within this species' elevation range. There is one CNDDB record from 1894 located approximately 3 miles to the northeast within the In-Ko-Pah Gorge quadrangle and another CNDDB (date unknown) located approximately 16 miles to the north in the Sweeny Pass quadrangle. This species was not observed during the 2008 through 2010 surveys.

Chaparral Ragwort

This species has moderate potential to occur based on suitable habitat in the project site. There is one CNDDB record (date unknown) within the Jacumba quadrangle, approximately a half mile south of MP 4 along the 138 kV transmission line corridor; this species was not observed during the 2008 through 2010 surveys.

Cove's Cassia

This species has moderate potential to occur based on suitable habitat in the project site and it is within this species' elevation range. There are no CNDDB records within the In-Ko-Pah Gorge, Jacumba, Live Oak Springs, or Tierra del Sol quadrangles; this species was not observed during the 2008 through 2010 surveys.

Southern Jewel-Flower

This species has moderate potential to occur based on suitable habitat in the project site and it is within this species' elevation range. There is one CNDDB record (date unknown) within the proposed Boulevard Substation Rebuild in the Live Oak Springs quadrangle; this species was not observed during the 2008 through 2010 surveys.

Other Special-Status Plant Species

Some plants addressed in the California Desert Native Plants Act (e.g., cholla and desert agave) were observed in the ECO Substation Project area, including barrel cactus (*Ferocactus cylindraceus* var. *lecontei*) and Gander's buckhorn cholla (*Cylindropuntia ganderi* var. *ganderi*). These species can occur in many of the vegetation communities found in the ECO project area.

Special-Status Wildlife Species

Quino Checkerspot Butterfly

Within the project area, chamise chaparral/redshank chaparral, open Peninsular juniper woodland and scrub, Sonoran mixed woody succulent scrub, and shadscale scrub could support the Quino checkerspot butterfly and its larval and adult host plant species. Focused protocol-level surveys were conducted for the Quino checkerspot butterfly in 2008 for the ECO Substation and SWPL Loop-In components and in 2009 and 2010 for all project components (RBC 2009b, 2010). The 2009 and 2010 surveys were positive for both Quino checkerspot butterflies and larval host plants. In 2009, one Quino checkerspot butterfly was observed near the MP 4.5 of the proposed 138 kV transmission line hilltopping on Jacumba Peak. In 2010, Quino checkerspot butterflies were observed north, east, and west of proposed steel pole 75 between MPs 4 and 5 (Figure D.2-9). Based on the Rocks Biological Consulting survey in 2010, one female was observed in this area during survey 1 on March 25. During surveys 1 through 5, Quino checkerspot butterflies ~~–~~were observed flying low over the ground, often along the low ridges below Jacumba Peak landing on and near patches of dot-seed plantain." At least four Quino checkerspot butterflies were observed on April 7 and 16, and three individuals were hilltopping on Jacumba Peak on April 19. One was observed for the final time during the April 27 visit, a female with visible wear on the margins of the fore and hind wings. They were also observed on April 2 and 9. The presence of Quino checkerspot butterflies can be contributed to a large, dense population of dot-seed plantain mixed with Palmer's grappling-hook (*Harpagonella palmeri*), and pectocarya (*Pectocarya* spp.) north of Jacumba Peak in clay soils (RBC 2010).

During both the 2009 and 2010 surveys, Quino checkerspot butterflies were observed with chalcedon checkerspot (*Euphydryas chalcedona*), a butterfly that closely resembles the Quino checkerspot butterfly. The chalcedon checkerspot was common throughout the survey area in canyons and peaks near their host plant, yellow bush penstemon (*Keckiella antirrhinoides* var. *antirrhinoides*). In 2010 a total of 39 butterfly species were observed.

There is a CNDDB record from 1997 for a population of Quino checkerspot along the proposed 138 kV transmission line between MPs 4 and 5, which is consistent with the locations of the species detected in the 2009 and 2010 surveys.

Orange-Throated Whiptail

This species was observed during the 2008 surveys within the footprint of the ECO Substation and SWPL Loop-In and along the 138 kV transmission line (SDG&E 2009). There are no CNDDB records within the In-Ko-Pah Gorge, Jacumba, Live Oak Springs, or Tierra del Sol quadrangles.

Coastal Western Whiptail

This species has high potential to occur based on suitable habitat in the project site. This species was not observed during the 2008 surveys, and there is one CNDDB record from 1993 within the Live Oak Springs quadrangle approximately 2 miles west of the proposed Boulevard Substation Rebuild.

Rosy Boa

This species has moderate potential to occur based on suitable habitat in the project site. This species was not observed during the 2008 surveys; there is one CNDDB record from 1987 within the Live Oak Springs quadrangle approximately 2 miles west of the proposed Boulevard Substation Rebuild.

Barefoot Banded Gecko

The Sunrise Powerlink project described suitable habitat as desert scrub and desert succulent scrub for the barefoot banded gecko (CPUC and BLM 2008a) and potential suitable habitat occurring between the Sunrise Powerlink MPs 23 and 39 (CPUC and BLM 2010). A portion of this area overlaps with the ECO project buffer from the Imperial County border west to proposed steel pole 84 (just east of MP 3) and then continues outside of the buffer northwest into the adjacent Tule Wind Project area.

Little is known about this species, and surveys have not recorded many observations. A habitat assessment at the adjacent Tule Wind Project area by herpetologist Eric A. Dugan in June of 2010 states that the barefoot banded gecko has only been documented along a narrow zone along the desert slopes and has not been recorded at elevations above 2,300 feet (Appendix N of HDR 2010a). The ECO project, located at 2,800 to 3,900 feet elevation, is at an elevation higher than that at which the barefoot banded gecko is known to occur. There are some rocky areas that the barefoot banded gecko prefers within the project area; however, the project is well outside the known elevation range and is considered to have a low potential to occur. This species was not observed during the surveys, and there are no CNDDB records within the In-Ko-Pah Gorge, Jacumba, Live Oak Springs, or Tierra del Sol quadrangles.

Northern Red-Diamond Rattlesnake

This species has high potential to occur based on suitable habitat in the project site. This species was not observed during the 2008 surveys and there are no CNDDB records within the In-Ko-Pah Gorge, Jacumba, Live Oak Springs, or Tierra del Sol quadrangles. The closest CNDDB record is from 1993 approximately 16 miles north of the 138 kV transmission line in Sweeny Pass quadrangle.

Blainville's Horned Lizard

This species has high potential to occur based on suitable habitat and CNDDB records nearby. There are several CNDDB records of the Blainville's horned lizard within the Jacumba, Live Oak Springs, and Tierra del Sol quadrangles; the closest record is from 1990 less than a quarter mile from the Boulevard Substation. This species was not observed during the 2008 surveys.

Coast Patch-Nosed Snake

This species has moderate potential to occur based on suitable habitat in the project site. This species was not observed during the 2008 surveys and there are no CNDDB records within the In-Ko-Pah Gorge, Jacumba, Live Oak Springs, or Tierra del Sol quadrangles.

Common Chuckwalla

This species has moderate potential to occur based on suitable habitat in the project site. This species was not observed during the 2008 surveys and there are no CNDDB records within the In-Ko-Pah Gorge, Jacumba, Live Oak Springs, or Tierra del Sol quadrangles.

Western Spadefoot Toad

This species has low potential to occur. A small area was mapped as fresh emergent wetland near MP 3.5; this area may be sustained by periodic flooding (SDG&E 2009). No tadpoles were observed during the 2008 surveys and there are no CNDDB records within the In-Ko-Pah Gorge, Jacumba, Live Oak Springs, or Tierra del Sol quadrangles. However, tadpoles were observed at the adjacent Tule Wind Project area.

Cooper's Hawk

During the 2008 surveys, a pair of Cooper's hawks was observed near MP 11. Based on observations and known nesting locations, this species is considered a resident in the area. One CNDDB record from 1914 is located in the Jacumba quadrangle approximately a half mile south of MP 4. The Cooper's hawk is also recorded as nesting near this location in the San Diego County Bird Atlas (Unitt 2004).

Tricolored Blackbird

This species has moderate potential to forage on site. Within the ECO project area, the emergent wetlands do not support the structure or composition of vegetation that tricolored blackbirds require for breeding. However there may be suitable foraging opportunities composed of a variety of vegetation communities within the project area where project components are located near off-site wetland vegetation, particularly near MPs 9 and 11 and near Carrizo Creek. In addition, foraging habitat occurs within the project area near previously recorded nesting locations. One CNDDB record from 2000 is located within the Jacumba quadrangle less than 1 mile south of MP 4.

Southern California Rufous-crowned Sparrow

This species has moderate potential to occur based on suitable habitat in the project site and confirmed and probable breeding locations within the area (Unitt 2004). There are no CNDDB records within the In-Ko-Pah Gorge, Jacumba, Live Oak Springs, or Tierra del Sol quadrangles and this species was not observed during 2008 surveys.

Bell's Sage Sparrow

This species has moderate potential to occur based on suitable habitat in the project site and known occurrences near the project area (Unitt 2004). This species was not observed during the 2008 surveys and there are no CNDDB records within the In-Ko-Pah Gorge, Jacumba, Live Oak Springs, or Tierra del Sol quadrangles.

Golden Eagle

This species has high potential to forage over the site based on suitable habitat in the project site and known occurrences in the area (Unitt 2004). Within the ECO project area, there may be suitable nesting areas in coast live oak woodland along the 138 kV transmission line corridor. Other suitable areas for nesting are located within the vicinity within the rocky cliff areas east and north of the project and nests are recorded for both of these areas between 1997 and 2001 (Unitt 2004). In spring 2010, Wildlife Research Institute conducted a golden eagle helicopter survey within a 10-mile radius of the proposed Tule Wind portion of the project, which also included the ECO project area (WRI 2010). Within 10 miles of the ECO project area, three golden eagle territories were observed, none which were currently active. The territories are generally located at Table Mountain (five nests), Carrizo Gorge (four nests), and Boundary Peak (no nests). The Table Mountain territory is approximately 2.5 miles north of the eastern portion of the ECO project. The Carrizo Gorge territory is approximately 5 miles north of the project. The Boundary Peak territory is located at the western end of the project. All of these territories were documented to be active within the past 2 to 3 years. Because the survey was conducted at

the end of March, some of the eagle pairs may have already attempted and failed at nesting for the 2010 breeding season (WRI 2010).

Suitable foraging habitat includes chamise chaparral, coast live oak woodland, emergent wetland, mulefat scrub, Peninsular juniper woodland and scrub, redshank chaparral, shadscale scrub, Sonoran mixed woody succulent scrub, and southern willow scrub, as well as agriculture. Typically, the denser forms of chaparral habitat are not suitable foraging for the golden eagle. There are no CNDDB records located within the In-Ko-Pah Gorge, Jacumba, Live Oak Springs, or Tierra del Sol quadrangles and this species was not observed during the 2008 surveys.

Long-Eared Owl

This species has moderate potential to occur based on suitable habitat in the project site and may winter in the area (Unitt 2004). This species was not observed during the 2008 surveys but may winter in the vicinity. There are no CNDDB records within the In-Ko-Pah Gorge, Jacumba, Live Oak Springs, or Tierra del Sol quadrangles.

Burrowing Owl

In January 2010, Insignia Environmental conducted a habitat assessment for burrowing owl within the entire project area, including the proposed ECO Substation, SWPL Loop-In sites, and 138 kV transmission line in accordance with Phase 1 of the Burrowing Owl Survey Protocol (CBOC 1993). Burrow surveys were subsequently conducted in areas identified as suitable burrowing owl habitat in accordance with Phase 2 of the Burrowing Owl Survey Protocol (CBOC 1993), and burrowing owl surveys were then conducted in April 2010 within areas that supported potential burrows in accordance with Phase 3 of the Burrowing Owl Survey Protocol (CBOC 1993). Areas in which Phase 3 surveys were conducted include (1) the ECO Substation and SWPL Loop-In site, the temporary distribution line, and the 138 kV transmission line right-of-way (ROW), from approximately 500 feet east of steel pole 103 to 105; (2) the proposed fly yard near steel pole 87, just east of a large agricultural field; (3) the 138 kV transmission line ROW between steel pole 77 and steel pole 80; (4) the proposed fly yard near steel pole 16; and (5) the Boulevard Station rebuild site (Insignia Environmental 2010b).

Two burrows were identified with potential to support burrowing owl (see Figure D.2-1). On January 25, 2010, a single burrowing owl was observed foraging west and south of burrow #2. The burrowing owl did not perch or enter the burrow and continued to forage further west of the burrow. On January 26, 2010, a burrowing owl was observed within burrow #2. The burrowing owl was not observed leaving the burrow during the survey (Insignia Environmental 2010b). During the spring/breeding survey for burrowing owl, no owls were observed at either burrow. It was concluded that the observation in January was of a single transient individual

that was migrating through the area and that the area does not support resident or breeding burrowing owls.

Turkey Vulture

This species was observed on site and likely uses the site for foraging. Although there may be some potential nesting locations within the site, thorough surveys have not indicated that nest sites are present (Unitt 2004).

Vaux's Swift

This species has moderate potential to occur during migration. It was observed during fall 2007 and spring 2008 at the adjacent Tule Wind Project site (HDR 2010a) and is found over a variety of habitats. This species was not observed during the 2008 surveys of the ECO Substation Project and there are no CNDDB records within the In-Ko-Pah Gorge, Jacumba, Live Oak Springs, or Tierra del Sol quadrangles.

Northern Harrier

This species has high potential to forage on site based on suitable habitat in the project site and potential breeding habitat within the project area (Unitt 2004). This species was not observed during the 2008 surveys and there are no CNDDB records within the In-Ko-Pah Gorge, Jacumba, Live Oak Springs, or Tierra del Sol quadrangles.

Olive-Sided Flycatcher

This species has moderate potential to occur during migration based on observations in fall 2007 and spring 2008 at the adjacent Tule Wind Project area. There is no suitable nesting habitat for this species in the project site. This species was not observed during the 2008 surveys of the ECO Substation Project and there are no CNDDB records within the In-Ko-Pah Gorge, Jacumba, Live Oak Springs, or Tierra del Sol quadrangles.

Yellow Warbler

This species has a moderate potential to occur due to the presence of suitable habitat in a small area of southern willow scrub/mulefat scrub within the project area. This species was not observed during 2008 surveys and there are no CNDDB records within the In-Ko-Pah Gorge, Jacumba, Live Oak Springs, and Tierra del Sol quadrangles.

Southwestern Willow Flycatcher

This species has low potential to occur on site due to lack of suitable habitat and species occurrence records. There is a small area of southern willow scrub/mulefat scrub in the project area; however, there are no breeding records in the area (Unitt 2004). This species was not

observed during the 2008 surveys and there are no CNDDB records within the In-Ko-Pah Gorge, Jacumba, Live Oak Springs, or Tierra del Sol quadrangles.

California Horned Lark

Horned lark (*Eremophila alpestris*) was observed during 2008 surveys within the ECO Substation and SWPL Loop-In and the 138 kV transmission line areas (SDG&E 2009). Some subspecies of horned larks are migratory and could use this area during migration. California horned larks (*E. a. actia*) have the potential to occur based on records in the San Diego Bird Atlas, which states that the species occupies the coastal slope of San Diego County and extends into Jacumba (Unitt 2004). There are no CNDDB records within the In-Ko-Pah Gorge, Jacumba, Live Oak Springs, or Tierra del Sol quadrangles.

Prairie Falcon

This species has moderate potential to forage on site. There is one CNDDB record that documents nesting of this species within the project area; however, the specific location is not public information. Based on information in the San Diego County Bird Atlas, the nesting location is near or within Carrizo Gorge (Unitt 2004). The prairie falcon was not observed during 2008 surveys.

California Condor

The California condor is not known to commonly occur in San Diego County; however, this species has the potential to fly over the ECO Substation project site. It is likely that any condors flying over the project area would be from the small population in Baja. Based on the lack of cliffs or large trees in the project site, this species would not use the project site for roosting.

Loggerhead Shrike

This species has high potential to occur on site based on suitable habitat in the project area. Breeding is confirmed within the vicinity (Unitt 2004). There are no CNDDB records within the In-Ko-Pah Gorge, Jacumba, Live Oak Springs, or Tierra del Sol quadrangles and no loggerhead shrikes were observed during the 2008 surveys.

Gray Vireo

This species has moderate potential to occur on site based on suitable habitat in the project area. There are no CNDDB records within the In-Ko-Pah Gorge, Jacumba, Live Oak Springs, or Tierra del Sol quadrangles and no gray vireos were observed during the 2008 surveys. There are records of possible breeding in the eastern portion of the project area (Unitt 2004).

Pallid Bat

This species has moderate potential to forage on site based on suitable habitat in the project area; however, it is not expected to roost due to lack of suitable roosting habitat. There are no CNDDB records within the In-Ko-Pah Gorge, Jacumba, Live Oak Springs, or Tierra del Sol quadrangles and no pallid bats were observed during the 2008 surveys. The closest CNDDB record is from 1998 approximately 15.5 miles north of the 138 kV transmission line in Sweeny Pass quadrangle.

Dulzura Pocket Mouse

This species has moderate potential to occur based on suitable habitat in the project area. There is one CNDDB record from 1958 within the Live Oak Springs quadrangle approximately 4 miles northwest of the Boulevard Substation; no Dulzura pocket mice were observed during the 2008 surveys.

Pallid San Diego Pocket Mouse

This species has moderate potential to occur based on suitable habitat in the project area and CNDDB records nearby. There are two CNDDB records for this species within the In-Ko-Pah Gorge quadrangle; the closest record is from 2002 approximately 1.5 miles east of the ECO Substation. The pallid San Diego pocket mouse was not observed during the 2008 surveys.

Mountain Lion

This species has moderate potential to occur based on suitable habitat in the project area. This species was not observed during 2008 surveys but is commonly found where mule deer occur.

San Diego Black-Tailed Jackrabbit

This species was observed in 2008 within the proposed ECO Substation and SWPL Loop-In structure sites and within the alignment of the 138 kV transmission line. There is one CNDDB record from 1993 within the Live Oak Springs quadrangle approximately 11 miles northwest of the Boulevard Substation.

San Diego Desert Woodrat

This species has high potential to occur based on suitable habitat in the project area. There is one CNDDB record from 1993 within the Live Oak Springs quadrangle approximately 5 miles north of the Boulevard Substation. Several inactive woodrat middens were observed in the project area within Peninsular juniper woodland and scrub habitat. No woodrats were observed during the 2008 surveys.

Pocketed Free-Tailed Bat

This species has moderate potential to forage on site based on suitable habitat in the project area; however, it is not expected to roost due to lack of suitable roosting habitat. There are no CNDDB records within the In-Ko-Pah Gorge, Jacumba, Live Oak Springs, or Tierra del Sol quadrangles and no pocketed free-tailed bats were observed during the 2008 surveys.

Southern Grasshopper Mouse

This species has high potential to occur based on suitable habitat in the project area and CNDDB records nearby. Multiple CNDDB records occur within the In-Ko-Pah Gorge, Jacumba, Live Oak Springs, and Tierra del Sol quadrangles; one record from 1909 is less than 1 mile south of MP 4, and one record from 1976 is less than 1 mile east of the SWPL Loop-In structure sites. This species was not observed during the 2008 surveys.

Peninsular Bighorn Sheep

This species has low potential to occur due to the lack of occurrences and lack of steep escape terrain in the project area. This was substantiated by discussions with USFWS for the adjacent ESJ Gen-Tie Project (EDAW 2009). There are no CNDDB records for this species within 1 mile of the project site and there are no known populations of Peninsular bighorn sheep in or near the project area. The project area is approximately 3 miles south of permanently occupied habitat of the Carrizo Canyon subpopulation (63 FR 13134–13150; USFWS 2000) and is southwest of the In-Ko-Pah Gorge and I-8 ~~–i~~sland" areas that receive transient bighorn sheep use. Personnel at the Carlsbad field office of the USFWS and Dr. Robert Roy Ramey of Wildlife Science International, Inc. stated that there is a low possibility of Peninsular bighorn sheep to occur in the ECO project area; thus, bighorn sheep surveys were not recommended for the project. There are no historic observations of bighorn sheep by USFWS, as published in the Recovery Plan for this Distinct Vertebrate Population Segment (USFWS 2000). Based on the above analysis, there is a low possibility of Peninsular bighorn sheep to occur in the ECO Substation Project area.

Jacumba Little Pocket Mouse

This species has high potential to occur based on suitable habitat in the project area; however, there are no CNDDB records within the In-Ko-Pah Gorge, Jacumba, Live Oak Springs, or Tierra del Sol quadrangles. The species was not observed during the 2008 surveys.

American Badger

This species has moderate potential to occur based on suitable habitat in the project area. There are no CNDDB records within the In-Ko-Pah Gorge, Jacumba, Live Oak Springs, or Tierra del Sol quadrangles and none were observed during the 2008 surveys.

Critical Habitat

Within the vicinity of the ECO Substation Project, the USFWS has designated critical habitat for two species: Peninsular bighorn sheep and Quino checkerspot butterfly. Critical habitat relative to the ECO Substation Project is illustrated in Figure D.2-9.

ECO Substation and Southwest Powerlink Loop-In

Critical habitat does not overlap with the location of the proposed ECO Substation and SWPL Loop-In project components, which are several miles west and south and several miles west of the boundary of critical habitat for the Peninsular bighorn sheep and Quino checkerspot butterfly, respectively.

138 kV Transmission Line

A portion of the proposed 138 kV transmission line (including nine tower locations) crosses approximately 1.5 miles of the Jacumba Critical Habitat Unit for the Quino checkerspot butterfly from approximately MP 4 to MP 5.5. All observations of Quino checkerspot butterfly during the 2009 surveys were located within critical habitat designated for this species by USFWS.

Critical habitat for Peninsular bighorn sheep does not overlap with the location of the proposed 138 kV transmission line.

Boulevard Substation Rebuild

Critical habitat does not overlap with the location of the proposed Boulevard Substation Rebuild.

Regional Wildlife Corridors

ECO Substation and Southwest Powerlink Loop-In

Due to the undeveloped nature of the proposed ECO Substation location, wildlife movement is not constrained. Terrestrial wildlife species would be expected to move freely through the area but may concentrate their movements within drainages and on ridgelines, or they may use areas of better cover where it is present or the path of least resistance such as dirt roads or pathways. Winged wildlife such as birds and butterflies would be able to move freely over the entire site. In general, the entire area currently functions as a block of habitat and is not constrained to only function as a wildlife corridor between two larger blocks; therefore, the designation of a specific linkage is not appropriate. North–south movement of large animals in the region is restricted by two landscape features, I-8 and the U.S.–Mexico Border.

138 kV Transmission Line

Wildlife movement within the footprint of the transmission line is expected to be similar to the movement discussed above for the ECO Substation; however, wildlife may avoid areas that are highly developed or in active agriculture such as the areas near Jacumba and the agriculture land use areas at MP 3. The Pacific Flyway route is located to the east of the project; however, bird species can still use this area for foraging, breeding, and migration.

The County's DPLU has modeled wildlife movement connectivity and describes the adjacent Tule Wind Project area as an important wildlife linkage within the East County extending north from I-8. The 138 kV transmission line is located within the general east–west modeled connectivity between the Laguna Mountains to the west and the Anza-Borrego Desert and Peninsular Range to the east. Based on the design of the transmission line, wildlife movement is not expected to be impeded.

Boulevard Substation Rebuild

Due to the developed nature of this Boulevard Substation and general lack of cover, wildlife movement is expected to be minimal within this project component area.

D.2.1.3 Tule Wind Project

Native Vegetation Communities and Associated Wildlife Habitats by Tule Wind Project Components

As shown in Table D.2-1, a total of 17 native vegetation communities were mapped within the Tule Wind Project area, including big sagebrush scrub (151.3 acres), chamise chaparral (178.5 acres), closed coast live oak woodland (12.8 acres), open coast live oak woodland (50.3 acres), montane buckwheat scrub (171.0 acres), mulefat scrub (0.3 acre), non-native grassland (65.1 acres), non-vegetated channel (3.4 acres), northern mixed chaparral (477.4 acres), redshank chaparral (118.1 acres), scrub oak chaparral (550.8 acres), semi-desert chaparral (1,689.8 acres), southern north slope chaparral (56.7 acres), southern riparian woodland (1.2 acres), southern willow scrub (1.8 acres), upper Sonoran manzanita chaparral (220.8 acres), and upper Sonoran subshrub scrub (610.8 acres). Other land cover in the Tule Wind Project area includes agriculture/field/pasture, developed, and disturbed habitat. In addition, 374.4 acres of the Tule Wind Project area were not surveyed due to access restrictions on Native American and private lands.

Jurisdictional Wetlands and Waters

The Tule Wind Project area contains numerous ephemeral and intermittent drainages that would be considered non-wetland waters and streambeds and have the potential to be subject to the

jurisdiction of the ACOE, CDFG, RWQCB, and/or County. These non-wetland features include broad channels with incised banks and narrow channels with gently sloping banks. Most drainages were unvegetated with sand substrate. No ACOE jurisdictional wetlands occur in the Tule Wind Project area, primarily due to the lack of hydric soils and lack of hydrophytic vegetation dominance. The mapping of vegetation communities identified mulefat scrub, southern riparian woodland, and southern willow scrub in the project area, and these features would be considered CDFG jurisdictional riparian wetlands.

Special-Status Species

The following sections provide an assessment of the potential for special-status species to occur within the proposed Tule Wind Project area. CNDDB occurrence data and survey results are illustrated in Figures D.2-5 through D.2-8.

Special-Status Plant Species

Jacumba Milk-Vetch

During the 2009 general biological survey, large numbers of milk-vetch were observed on site but had not yet flowered, and positive identification of the species had not yet been determined. In spring 2010, Jacumba milk-vetch was confirmed in the project area (HDR 2010a). There are several CNDDB records of this species within the Mount Laguna, Sombrero Peak, Live Oak Springs, and Jacumba quadrangles where the project area is located, including 12 records within the project boundary; dates of the records range from 1978 to 1998.

California Ayenia

This species has moderate potential to occur based on suitable habitat, and it is within the elevation range of the species. There are three CNDDB records within the Sombrero Peak quadrangle where the majority of the Tule Wind Project area is located; the closest CNDDB record is from 1979 approximately 1 mile north of the project area.

Elephant Tree

This species has moderate potential to occur based on suitable habitat in the project area; however, it is slightly outside of the known elevation range for this species. This species would have been observed if it occurred on site. There are no CNDDB records of this species within the Mount Laguna, Sombrero Peak, Live Oak Springs, and Jacumba quadrangles where the project area is located. The closest CNDDB record is from 1979 approximately 5 miles northeast in Sweeny Pass quadrangle.

Payson's Jewel-Flower

This species was observed on site during focused rare plants surveys of the project survey corridor (HDR 2010a). It is found throughout the project area from east of Ribbonwood Road north towards Thing Valley. There are no CNDDB records of this species within the Mount Laguna, Sombrero Peak, Live Oak Springs, and Jacumba quadrangles where the project area is located.

Utah Vine Milkweed

This species has moderate potential to occur based on suitable habitat in the project area, and it is within the elevation range of the species. There are no CNDDB records of this species within the Mount Laguna, Sombrero Peak, Live Oak Springs, and Jacumba quadrangles where the project area is located.

Tecate Tarplant

This species was observed on site along McCain Valley Road south of Lost Valley Road during general vegetation surveys and focused rare plants surveys of the project survey area (HDR 2010a). There are several CNDDB records of this species within the Sombrero Peak, Live Oak Springs, and Jacumba quadrangles where the project area is located. Several CNDDB records from 1979 and 1982 are within and adjacent to the project corridor.

Colorado Desert Larkspur

This species was observed during focused rare plant surveys of the project survey corridor (HDR 2010a). There are no CNDDB records of this species within the Mount Laguna, Sombrero Peak, Live Oak Springs, and Jacumba quadrangles where the project area is located.

Sticky Geraea

This species was observed on site along McCain Valley Road during general vegetation surveys and focused rare plants surveys of the project survey corridor (HDR 2010a). There are several CNDDB records of this species within the Mount Laguna, Sombrero Peak, Live Oak Springs, and Jacumba quadrangles where the project area is located, including five within the project boundary from 1978 and 1979.

Palmer's Grappling Hook

This species has low potential to occur based on marginal habitat in the project area. There are no CNDDB records of this species within the Mount Laguna, Sombrero Peak, Live Oak Springs, and Jacumba quadrangles where the project area is located.

Curly Herissantia

This species has moderate potential to occur based on suitable habitat in the project area. There are no CNDDB records of this species within the Mount Laguna, Sombrero Peak, Live Oak Springs, and Jacumba quadrangles where the project area is located. The closest CNDDB record (date unknown) is approximately 8.5 miles east of the project area in the In-Ko-Pah Gorge quadrangle.

Laguna Mountains Alumroot

This species was observed during focused rare plants surveys of the project survey corridor (HDR 2010a). There is one CNDDB record from 1992 approximately 3 miles northwest of the project area in the Mount Laguna quadrangle.

San Diego Sunflower

This species was observed during focused rare plants surveys of the project survey corridor (HDR 2010a). There are several CNDDB records within Mount Laguna and Sombrero Peak quadrangles. The closest CNDDB records are from 1979 within the northwest project corridor.

Slender-Leaved Ipomopsis

This species has high potential to occur based on suitable habitat in the project area, and it is within the elevation range of the species. It was observed in the adjacent ECO project area. There are several CNDDB records of this species within the Jacumba quadrangle where part of the project area is located. The closest CNDDB record is from 1997 approximately 4 miles east of the project area.

Pride-of-California

This species has low potential to occur based on marginal habitat in the project area. There are no CNDDB records of this species within the Mount Laguna, Sombrero Peak, Live Oak Springs, or Jacumba quadrangles.

Desert Beauty

This species was observed throughout the project site during focused rare plants surveys of the project survey corridor (HDR 2010a). There are several CNDDB records of this species within the Mount Laguna, Sombrero Peak, Live Oak Springs, and Jacumba quadrangles where the project area is located, including six records within the project boundary from dates ranging between 1979 and 1998.

Pygmy Lotus

This species has moderate potential to occur based on suitable habitat in the project area, and it is within the elevation range of the species. There is one CNDDB record from 2001 of this species approximately 5 miles southeast of the project area within the Jacumba quadrangle.

Mountain Springs Bush Lupine

This species was observed in the project area during focused rare plants surveys of the project survey corridor (HDR 2010a). There are several CNDDB records of this species within the Sombrero Peak and Jacumba quadrangles where part of the project area is located, including one record within the project boundary from 1998.

Parish's Desert-Thorn

This species has moderate potential to occur based on suitable habitat in the project area, and it is within the elevation range of the species. There are no CNDDB records of this species within the Mount Laguna, Sombrero Peak, Live Oak Springs, and Jacumba quadrangles where the project area is located. The closest CNDDB record is from 1955 approximately 7 miles northeast of the project area in the Sweeny Pass quadrangle.

Hairy Stickleaf

This species has moderate potential to occur based on suitable habitat in the project area; however, it is slightly outside of the known elevation range for this species. There are no CNDDB records of this species within the Mount Laguna, Sombrero Peak, Live Oak Springs, and Jacumba quadrangles where the project area is located. The closest CNDDB record is from 1979 approximately 4 miles east in Sweeny Pass quadrangle.

Creamy Blazing Star

This species has moderate potential to occur based on suitable habitat in the project area, and it is within the elevation range of the species. There are no CNDDB records within the Mount Laguna, Sombrero Peak, Live Oak Springs, and Jacumba quadrangles where the project area is located. The closest CNDDB record is from 1927 approximately 9 miles east in In-Ko-Pah Gorge quadrangle.

Jacumba Monkeyflower

This species was observed on site during focused rare plant surveys (HDR 2010a). There are no CNDDB records within the Mount Laguna, Sombrero Peak, Live Oak Springs, and Jacumba quadrangles where the project area is located.

Palmer's Monkeyflower

This species was observed on site during focused rare plant surveys (HDR 2010a). There are no CNDDB records within the Mount Laguna, Sombrero Peak, Live Oak Springs, and Jacumba quadrangles where the project area is located.

Thurber's Beardtongue

This species has moderate potential to occur based on suitable habitat in the project area, and it is within the elevation range of the species. There are no CNDDB records of this species within the Mount Laguna, Sombrero Peak, Live Oak Springs, and Jacumba quadrangles where the project area is located.

Desert Spike Moss

This species has moderate potential to occur based on suitable habitat in the project area, and it is within the elevation range of the species. There are no CNDDB records within the Mount Laguna, Sombrero Peak, Live Oak Springs, and Jacumba quadrangles where the project area is located. The closest CNDDB record (date unknown) is located approximately 6.5 miles northeast of the project area in Sweeny Pass quadrangle.

Chaparral Ragwort

This species has moderate potential to occur based on suitable habitat in the project area. There is one CNDDB record (date unknown) approximately 5 miles southeast of the project area within the Jacumba quadrangle where the project area is located.

Cove's Cassia

This species has moderate potential to occur based on suitable habitat in the project area, and it is within the elevation range of the species. There are no CNDDB records of this species within the Mount Laguna, Sombrero Peak, Live Oak Springs, and Jacumba quadrangles where the project area is located.

Southern Jewel-Flower

This species was observed on site during focused rare plant surveys (HDR 2010a). There are several CNDDB records of this species within the Mount Laguna and Live Oak Springs quadrangles, including one CNDDB record (date unknown) in the Boulevard Substation.

Other Special-Status Plant Species

Some plants covered under the California Desert Native Plants Act (e.g., cholla and desert agave) were observed in the Tule Wind Project area, including desert prickly pear (*Opuntia*

phaeacantha) and Gander's buckhorn cholla. These species can occur in many of the vegetation communities found in the Tule Wind Project area.

Special-Status Wildlife Species

Quino Checkerspot Butterfly

This species was observed on site during focused surveys in 2010. Within the Tule Wind Project area, big sagebrush scrub, disturbed habitat, field/pasture, flat-topped buckwheat, granitic chamise chaparral-open, granitic southern mixed chaparral-open, non-native grassland, red shank chaparral, scrub oak chaparral-open, and semi-desert chaparral, could support the Quino checkerspot butterfly and its larval and adult host species.

A Quino checkerspot habitat assessment was conducted in 2008 and focused protocol-level surveys were conducted in March and April of 2009 for an earlier version of the site layout of the Tule Wind Project (Dudek 2008, 2009). Although nectar sources were present throughout the survey area, the 2009 survey results were negative for Quino checkerspot butterflies as well as larval host plants.

In 2010, HDR began a second Quino checkerspot butterfly habitat assessment and focused protocol-level survey. The survey area included all of the areas surveyed by Dudek in 2009, as well as any new areas that were determined and agreed by the USFWS to be suitable for Quino checkerspot butterfly based on project design changes and the 2010 habitat assessment (HDR 2010a). All butterfly species observed in the field were recorded as well as the presence of Quino checkerspot butterfly host plants Chinese houses and thread-leaved bird's beak (HDR 2010a).

A single female Quino checkerspot butterfly was recorded within the project survey corridor on April 20, 2010. This observation was reported to the USFWS per survey requirements. There is also one CNDDB record in the Jacumba quadrangle. In August 2003, the USFWS completed the Recovery Plan for Quino checkerspot butterfly. The Recovery Plan identified six recovery units that were delineated based on ecological and political factors. The Southeast San Diego Recovery Unit covers the southeastern portion of the Tule Wind Project area. The nearest documented occurrence of Quino checkerspot butterfly is in the Jacumba Occurrence Complex, located approximately 6 miles southeast of the southeastern portion of the proposed study area.

In July 2010, HDR (2010c) prepared a draft Biological Assessment that covers Quino checkerspot butterfly. The Biological Assessment quantifies 3,879 acres of suitable habitat for this species in the Tule Wind Project area.

Orange-Throated Whiptail

There is high potential for this species to occur on site based on suitable habitat in the project area. There is one CNDDB record of this species within the Mount Laguna, Sombrero Peak, Live Oak Springs, and Jacumba quadrangles where the project area is located.

Coastal Western Whiptail

There is high potential for this species to occur on site based on suitable habitat in the project area and it is known approximately 1 mile from the project site (HDR 2010a). There is one CNDDB record from 1993 approximately 2 miles west of the Boulevard Substation within the Live Oak Springs quadrangle.

Rosy Boa

This species was observed within the project survey corridor during surveys conducted in spring of 2010 (Insignia Environmental 2010a). During vegetation surveys conducted in November and December of 2009, several suitable habitats were identified that have a high potential of supporting the rosy boa in McCain Valley and the Tule Wind Project area, including semi-desert chaparral and chamise chaparral where some preferred rocky habitat is present. There is one CNDDB record from 1987 approximately 2 miles west of the Boulevard Substation within the Live Oak Springs quadrangle.

Barefoot Banded Gecko

The Sunrise Powerlink project described suitable habitat as desert scrub and desert succulent scrub for the barefoot banded gecko (CPUC and BLM 2008a) and potential suitable habitat occurring between the Sunrise Powerlink MPs 23 and 39 (CPUC and BLM 2010). A portion of this area overlaps with the adjacent ECO project buffer from the Imperial County border west to steel pole 84 (just west of MP 3) and then continues outside of the buffer northwest into the southern portion of the Tule Wind Project area.

A habitat assessment on Tule Wind Project area by herpetologist Eric A. Dugan in June of 2010 states that the Tule Wind Project does not contain suitable habitat for the barefoot banded gecko (Appendix N of HDR 2010a). According to the focused habitat assessment, the barefoot banded gecko has only been documented along a narrow zone along the desert slopes and has not been recorded at elevations above 2,300 feet. There are substantial rocky areas that the barefoot banded gecko prefers and some suitable microhabitats may exist within the project area; however, this species is not known to occur at the elevations of the Tule Wind Project (over 3,000 feet). Therefore the potential for this species to occur within the Tule Wind Project area is low.

This species was not observed during the surveys and there are no CNDDB records of this species within the Mount Laguna, Sombrero Peak, Live Oak Springs, and Jacumba quadrangles where the project area is located.

Northern Red-Diamond Rattlesnake

This species was observed in spring 2010. Suitable habitat in association with large granite outcroppings was identified within the project survey corridor, including semi-desert chaparral, open scrub oak chaparral, and chamise chaparral (HDR 2010a). There are no CNDDB records of this species within the Mount Laguna, Sombrero Peak, Live Oak Springs, and Jacumba quadrangles where the project area is located. The closest CNDDB record is from 1993 approximately 8.5 miles northeast in the Sweeny Pass quadrangle.

Blainville's Horned Lizard

This species was observed within the Tule Wind Project area during surveys conducted in 2008 through 2009 (HDR 2010a). There are several CNDDB records of this species within the Mount Laguna, Sombrero Peak, Live Oak Springs, and Jacumba quadrangles where the project area is located. The closest CNDDB record is next to the Boulevard Substation (date unknown).

Coast Patch-Nosed Snake

This species has been observed within the project survey corridor during surveys conducted in spring of 2010 (HDR 2010a). There are no CNDDB records within Mount Laguna, Sombrero Peak, Live Oak Springs, and Jacumba quadrangles where the project area is located.

Common Chuckwalla

This species was observed on site (HDR 2010a). There are no CNDDB records within Mount Laguna, Sombrero Peak, Live Oak Springs, and Jacumba quadrangles where the project area is located.

Western Spadefoot Toad

Tadpoles of the western spadefoot toad were observed in a man-made ephemeral pond within the southeastern portion of the project area during surveys conducted in spring 2010 (HDR 2010a). No vernal pools or open water were mapped or observed within the project survey corridor. Based on the biological surveys within the Tule Wind Project area, western spadefoot toads would most likely be found in grasslands habitats that have been modified to create cattle tanks, or that once held waterways and have since been modified through dry-land farming (HDR 2010a).

Cooper's Hawk

Cooper's hawks were observed during both the 2005–2006 and 2007–2008 avian surveys (Tetra Tech EC, Inc. 2008 and 2009) as well as during the general surveys conducted by HDR (2010a). A Cooper's hawk nest was observed in an oak tree during the avian survey (Tetra Tech EC, Inc. 2009) (Figure D.2-6). This species is considered a resident species. Observations of Cooper's hawks within the Tule Wind Project area were made in fall 2007 (six individuals observed), spring 2008 (two individuals observed), and summer 2008 (five individuals observed).

There is one CNDDB record from 1914 approximately 5.5 miles southeast of the project area within the Jacumba quadrangle.

Tricolored Blackbird

There is moderate potential for this species to forage on site; however, suitable nesting habitat is not likely. There is one CNDDB record from 2000 approximately 5.5 miles southeast of the Boulevard Substation within the Jacumba quadrangle, and there are also records of this species for the McCain Valley area: a total of 12 individuals were observed in May of 1999 (Unitt 2004). These observations may be of foraging individuals from the colony that have been documented in the Jacumba area (Unitt 2004).

Southern California Rufous-Crowned Sparrow

This species was observed once in summer 2008 (Tetra Tech EC, Inc. 2009). Based on the San Diego County Bird Atlas, there is possible breeding of the species within the project area (Unitt 2004). There are no CNDDB records within Mount Laguna, Sombrero Peak, Live Oak Springs, and Jacumba quadrangles where the project area is located.

Bell's Sage Sparrow

There is moderate potential for this species to occur on site based on suitable habitat in the project area. There are no CNDDB records within Mount Laguna, Sombrero Peak, Live Oak Springs, and Jacumba quadrangles where the project area is located. There are confirmed breeding locations within the vicinity (Unitt 2004).

Golden Eagle

There were three observations of golden eagles during the avian survey in fall 2007 and spring 2008 (Tetra Tech EC, Inc. 2009). Two of the observations were during point count and one was an incidental observation. No nests were observed during that survey and overall the observations of golden eagles were low relative to the survey effort.

In spring 2010, Wildlife Research Institute conducted a golden eagle helicopter survey within a 10-mile radius of the proposed Tule Wind Project. This survey found 10 golden eagle territories, 6 of which were active[1] with 1 territory possibly active and the 3 remaining territories considered to be inactive. A total of 37 golden eagle nests were recorded during the helicopter survey, 31 of which were considered to be golden eagle nests. All of the 10 territories were documented to be active within the past 2 to 3 years. Because the survey was conducted at the end of March, some of the eagle pairs may have already attempted and failed at nesting for the 2010 breeding season (WRI 2010). Every mountain range within the survey area, except for the Boundary Peak territory, has had recent nest evidence but only the six or possibly seven showed evidence of 2010 activity. This is considered typical for breeding activity of this species and golden eagles may average as few as 62% of the pairs breeding within any 1 year (Kochert et al. 2002).

Of the six active territories, three nests had golden eagles incubating eggs. The nests with incubating adults are generally described as the Canebrake, Moreno Butte, and Glenn Cliff/Buckman Springs locations. The Canebrake location is approximately 0.1 mile west of the northern portion of the Tule Project. The Moreno Butte location is approximately 10 miles southwest of the project. The Glenn Cliff/Buckman Springs location is approximately 8 miles west of the central portion of the project. The other active territories, located at Garnet Mountain, Monument Peak, and Thing Valley, are approximately 8, 5, and 5 miles west or northwest of the Tule Wind Project, respectively.

There are no CNDDB records of this species within the Mount Laguna, Sombrero Peak, Live Oak Springs, and Jacumba quadrangles where the project area is located. The San Diego County Bird Atlas corroborates the above description with active breeding locations located southwest and northwest of the project site as well as nesting locations located farther east within the Carrizo Gorge area (Unitt 2004).

Long-Eared Owl

This species was observed once in winter 2007 (Tetra Tech EC, Inc. 2009), and an occupied nest was observed during the 2005–2009 surveys outside of the survey corridor (HDR 2010a). There are no CNDDB records of this species within the Mount Laguna, Sombrero Peak, Live Oak Springs, and Jacumba quadrangles where the project area is located.

[1] Active territories were determined by the presence of active nests, which can be defined by either the presence of a golden eagle (e.g., an incubating female or a young bird) or evidence of new material having been added during the season in which the survey was conducted (WRI 2010).

Burrowing Owl

This species was not observed during the 2005–2006 and 2007–2008 avian surveys (Tetra Tech EC, Inc. 2008, 2009) or during the nesting raptor surveys. There is suitable habitat in the project area and the species was observed at the ECO Substation Project site in 2010 (Insignia Environmental 2010b); however, based on the observations during the focused survey for the ECO Substation Project site and lack of records of the species in the region, the species would likely only occur on the Tule Wind Project site as a wintering or migratory individual (Unitt 2004). There are no CNDDB records of this species within the Mount Laguna, Sombrero Peak, Live Oak Springs, and Jacumba quadrangles where the project area is located.

Turkey Vulture

This species was observed frequently over the project area during the 2005–2006 and 2007–2008 avian surveys (Tetra Tech EC, Inc. 2008, 2009) as well as during the general biological surveys (HDR 2010a). Approximately 166 individuals were observed between fall 2007 and summer 2008 (Tetra Tech EC, Inc. 2009). There are potential nesting areas in the In-Ko-Pah Mountains nearby. There are no CNDDB records of this species within the Mount Laguna, Sombrero Peak, Live Oak Springs, and Jacumba quadrangles where the project area is located.

Vaux's Swift

This species was observed in the fall 2007 (Tetra Tech EC, Inc. 2009) and spring 2008 (HDR 2010a). Approximately 163 individuals were observed during the fall 2007 surveys. It is a fairly common migrant in California and could forage over a variety of habitats on site. There are no CNDDB records of this species within the Mount Laguna, Sombrero Peak, Live Oak Springs, and Jacumba quadrangles where the project area is located.

Northern Harrier

This species was observed in fall 2005 (one individual), winter 2006 (two individuals), fall 2007 (three individuals), and winter (seven individuals) and spring 2008 (one individual) (Tetra Tech EC, Inc. 2008, 2009). There are no CNDDB records of this species within the Mount Laguna, Sombrero Peak, Live Oak Springs, and Jacumba quadrangles where the project area is located.

Olive-Sided Flycatcher

This species was observed in fall 2007 and spring 2008 in project corridor (HDR 2010a); one individual was observed in summer 2008 (Tetra Tech EC, Inc. 2009). There is no suitable nesting habitat for this species in the project site, but it can occur during migration. There are no CNDDB records of this species within the Mount Laguna, Sombrero Peak, Live Oak Springs, and Jacumba quadrangles where the project area is located.

Yellow Warbler

This species was observed in the fall 2007 and spring 2008 within the project corridor (HDR 2010a). One individual was also observed in summer 2008 (Tetra Tech EC, Inc. 2009). Based on the life history of the species and the small amount of suitable riparian habitat present within the project area, the occurrence of the species is presumed to be of migrant individuals (Unitt 2004). There are no CNDDB records within Jacumba, Live Oak Springs, Mount Laguna, and Sombrero Peak quadrangles.

Southwestern Willow Flycatcher

A willow flycatcher (*Empidonax traillii*; subspecies not determined) was observed in fall 2007 and spring 2008 within the Thing Valley area, which is outside of the Tule Wind Project area (Tetra Tech EC, Inc. 2009). Based on the timing of the observation, the individual was likely a migrant subspecies of the willow flycatcher and not southwestern willow flycatcher. No willow flycatchers were observed during the summer 2005 or 2008 surveys. Although the project area contains southern willow scrub and southern riparian woodland, these riparian vegetation communities are small (approximately 3 acres in total), disturbed, and isolated; therefore, there is no suitable habitat in the project area to support this species (HDR 2010a). There are no CNDDB records of this species within the Mount Laguna, Sombrero Peak, Live Oak Springs, and Jacumba quadrangles where the project area is located.

California Horned Lark

Horned lark was observed five times in spring 2008 (Tetra Tech EC, Inc. 2009). Some subspecies of horned larks are migratory and could use this area during migration. Based on the timing of the observation, it is not possible to determine whether it is a migratory subspecies or the coastal population of California horned larks (E. a. actia), as both could occur in spring. The California horned lark has the potential to occur based on records in the San Diego Bird Atlas, which states that the species occupies the coastal slope of San Diego County but does extend into Jacumba (Unitt 2004). There are no CNDDB records of this species within the Mount Laguna, Sombrero Peak, Live Oak Springs, and Jacumba quadrangles where the project area is located.

Prairie Falcon

Prairie falcon was observed in the project area once during the spring 2008 avian survey (Tetra Tech EC, Inc. 2009). No nests were observed; however, there may be potential nesting areas nearby in the In-Ko-Pah Mountains. Based on information in the San Diego County Bird Atlas, the nesting location is near or within Carrizo Gorge (Unitt 2004). There are no CNDDB records of this species within the Mount Laguna, Sombrero Peak, Live Oak Springs, and Jacumba quadrangles where the project area is located.

California Condor

The California condor is not known to commonly occur in San Diego County; however, this species has the potential to fly over the Tule Wind Project site. It is likely that any condors flying over the project would be from the small reintroduced population in Baja. The project area has some rocky areas and ridgelines, but it lacks large, tall trees suitable for roosting.

Loggerhead Shrike

Loggerhead shrikes were observed once during the fall 2005 survey, three times during winter 2006 surveys (Tetra Tech EC, Inc. 2008), and six times in the fall 2007 avian survey (Tetra Tech EC, Inc. 2009). Confirmed breeding locations are within the area (Unitt 2004). No nests were observed; however, this species has potential to nest on site.

There are no CNDDB records of this species within the Mount Laguna, Sombrero Peak, Live Oak Springs, and Jacumba quadrangles where the project area is located.

Gray Vireo

There is moderate potential for this species to occur on site based on suitable habitat in the project area and records of possible breeding locations in the project area (Unitt 2004). There are no CNDDB records of this species within the Mount Laguna, Sombrero Peak, Live Oak Springs, and Jacumba quadrangles where the project area is located.

Pallid Bat

There is moderate potential for this species to forage over the site. In the northwestern portion of the project area, there are several abandoned mines; based on the visual survey of these mines, most of them do not appear to be suitable for roosting and acoustic surveys did not detect the frequency of the pallid bat (WEST 2010a). One mine shaft could have roosting potential and acoustic surveys for that mine were not yet available (WEST 2010a); therefore, it is assumed that this mine could support roosting pallid bat. During the surveys conducted for bat species within the project area, the frequency range of the pallid bat (15–30 kilohertz) was observed 17.9% of the time at the ground-level stations and 62.8% of the time at the raised stations. There are no CNDDB records of this species within the Mount Laguna, Sombrero Peak, Live Oak Springs, and Jacumba quadrangles where the project area is located. The closest CNDDB record is from 1998 approximately 6.7 miles northeast of the project area in Sweeny Pass.

Dulzura Pocket Mouse

There is moderate potential for this species to occur on site based on suitable habitat in the project area. There are three CNDDB records of this species within the Mount Laguna, Sombrero

Peak, and Live Oak Springs, quadrangles; the closest record is from 1978 approximately 1 mile east of the proposed turbines.

Pallid San Diego Pocket Mouse

There is moderate potential for this species to occur on site based on suitable habitat in the project area. There are no CNDDB records of this species within the Mount Laguna, Sombrero Peak, Live Oak Springs, and Jacumba quadrangles where the project area is located. The closest CNDDB record is from 1938 approximately 9.5 miles southeast of the project area in In-Ko-Pah Gorge quadrangle.

Mountain Lion

This species was observed in spring 2010 in addition to signs (scat, tracks) observed during 2005–2010 surveys in the project area (HDR 2010a). There is suitable habitat and cover throughout many of the vegetation communities, including coast live oak woodland and scrub oak chaparral. In addition, its main prey, mule deer, was observed on site (HDR 2010a).

San Diego Black-Tailed Jackrabbit

This species was observed in the project area on several occasions during the 2005–2010 surveys (HDR 2010a). There is one CNDDB record from 1993 approximately 2 miles west of the Boulevard Substation within the Live Oak Springs quadrangle.

San Diego Desert Woodrat

There is high potential for this species to occur on site based on suitable habitat in the project area. There is one CNDDB record from 1993 located approximately a quarter mile east of the proposed turbines within the Live Oak Springs quadrangle.

Pocketed Free-Tailed Bat

There is moderate potential for this species to forage over the site. In the northwestern portion of the project area, there are several abandoned mines; based on the visual survey of these mines, most of them do not appear to be suitable for roosting, and acoustic surveys did not detect the frequency of the pocketed free-tailed bat (WEST 2010a). One mine shaft could have roosting potential, and acoustic surveys for that mine are ongoing (WEST 2010a); therefore, it is assumed that this mine could support roosting pocketed free-tailed bat. There are no CNDDB records of this species within the Mount Laguna, Sombrero Peak, Live Oak Springs, and Jacumba quadrangles where the project area is located.

Southern Grasshopper Mouse

There is high potential for this species to occur on site based on suitable habitat in the project area. There are multiple CNDDB records of this species within the Sombrero Peak, Live Oak Springs, and Jacumba quadrangles, including one CNDDB record from 1978 within the northern proposed turbine locations.

Peninsular Bighorn Sheep

A portion of the proposed Tule Wind Project is located near the 2009 revised critical habitat for this species. This species tends to stay close to escape terrain (steep, rocky terrain with over 60% slope and within 1 kilometer of water), which is essential for high-quality Peninsular bighorn sheep habitat (HDR 2010a). The portion of the Tule Wind Project that is near the critical habitat does not support this type of terrain; however, Peninsular bighorn sheep will venture away from escape terrain in search of forage (Bleich et al. 1997, cited in HDR 2010a), and will move between subpopulations (Turner 1976; Singer et al. 2000a and 2000b; Turner et al. 2004, cited in HDR 2010a).

The project area is west of the permanently occupied habitat of the Carrizo Canyon subpopulation (63 FR 13134–13150; USFWS 2000). There are no historic observations of bighorn sheep by USFWS, as published in the Recovery Plan for this Distinct Vertebrate Population Segment (USFWS 2000), in the project area; however, point locations are within 0.75 mile of the northeastern portion of the Tule Wind Project area.

Jacumba Little Pocket Mouse

There is high potential for this species to occur on site based on suitable habitat in the project area. There are no CNDDB records of this species within the Mount Laguna, Sombrero Peak, Live Oak Springs, and Jacumba quadrangles where the project area is located.

American Badger

There is moderate potential for this species to occur on site based on suitable habitat in the project area. There are no CNDDB records of this species within the Mount Laguna, Sombrero Peak, Live Oak Springs, and Jacumba quadrangles where the project area is located.

Critical Habitat

In close proximity to the Tule Wind Project but not within the project footprint, the USFWS has designated critical habitat for one species: Peninsular bighorn sheep. Unit 3 of the 2009 revised critical habitat for peninsular bighorn sheep includes the Carrizo Gorge and portions of the In-Ko-Pah Mountains and are located within approximately 800 feet of the Tule Wind Project footprint (74 FR 17288–17365). Unit 3 contains the physical and biological features that are

essential for Peninsular bighorn sheep habitat, including a range of vegetation types, foraging and watering areas, and steep to very steep, rocky terrain with appropriate elevations and slope (74 FR 17288–17365). Unit 3 is currently occupied by peninsular bighorn sheep (74 FR 17288–17365) (see Figure D.2-9).

Regional Wildlife Corridors

The Tule Wind Project area covers a large area, which is generally referred to as McCain Valley, located in the In-Ko-Pah Mountains region of southeastern San Diego County. These mountains have few dramatic peaks and are characterized by broad rolling upland areas of granite rock formations. The mountains are oriented generally northwest to southeast and rise gradually above the McCain Valley in the west and drop off into the Carrizo Canyon in the east.

Within the region, roads are the largest obstacles to wildlife movement. The Tule Wind Project area is bound by transportation-oriented development with I-8 to the south and a single power line linking the proposed project to Boulevard Station. Further north of the project area is SR-78; State Highway S-2 is to the east; and SR-79 (Sunrise Highway) and Kitchen Creek Road are to the west. All of the roads and highways within the region have bridges and other areas where wildlife can pass through without crossing the road. The roads vary in the degree to which they are barriers, from the busy four-lane highway of I-8 to stretches of low vehicle traffic on S-2. The amount of barrier varies with the frequency of travel on the road and the number of available crossings in each portion of the road. Within the majority of the project area and the surrounding areas is undeveloped land allowing relatively unconstrained wildlife movement. The upper McCain Valley and surrounding mountains have roadways, campgrounds, fencing, off-highway vehicle (OHV) uses, grazing uses, and other scattered rural residential uses. Additional obstacles to wildlife movement include the existing Kumeyaay wind farm on the Campo Indian Reservation. The region in general is largely public lands predominated by open space.

Based on the Tule Wind Project Biological Technical Report, ~~"~~potential water sources for migrating or resident wildlife include Tule Creek, which runs the length of McCain Valley and drains into Tule Lake at the southern end of the valley; several reservoirs and wells located in the valley, along with numerous unnamed creeks and springs; and Bow Willow Creek, which intersects McCain Valley at the northern end of the proposed project area near Canebrake Road." (HDR 2010a)

Terrestrial wildlife species would be expected to move freely through the area but may concentrate their movements within drainages and on ridgelines, or may use areas of better cover where it is present or the path of least resistance such as dirt roads or pathways. Winged wildlife such as birds and butterflies would be able to move freely over the entire site. In general, the entire area currently functions as a block of habitat and is not constrained to only function as a

wildlife corridor between two larger blocks; therefore, the designation of a specific linkage is not appropriate. In terms of movement of large mammals in the region, north–south movement is restricted by two landscape features, I-8 and the U.S.–Mexico Border.

The Pacific Flyway goes through the western United States and birds could pass through the Tule Wind Project area during migration. In addition, it supports a number of resident bird species such as red-tailed hawks, mourning doves, and common ravens. A major route of the Pacific Flyway is to the east and northeast, particularly the Salton Sea, which is a major stop-over for many migratory bird species.

Based on the County's DPLU wildlife movement modeling of connectivity, the Tule Wind Project area as an important wildlife linkage within the East County. This linkage area extends north from I-8 and the proposed project. The DPLU models only consider areas where the County has some measure of control of development and other areas, such as tribal lands, are not considered in their long-term habitat connectivity model (HDR 2010a). To the west of the project area are the Laguna Mountains, which have existing camping areas as well as a portion of the Pacific Crest Trail. Common species that occur here are similar to that of the Tule Wind Project area. The Anza-Borrego Desert is located to the east where there are several desert campgrounds along S-2. The Carrizo Gorge in the Anza-Borrego Desert provides a transition area from chaparral to desert. While there are many species that overlap (e.g., mule deer, mountain lion, scrub jay), the majority of desert wildlife species will not inhabit chaparral habitat and vice versa. I-8 is located to the south, which constitutes an east–west barrier for the wildlife corridor within the Peninsular Range. Bridge canyons do provide passage ways for wildlife, and based on the 2009 USFWS Biological Opinion for the Sunrise Powerlink, Peninsular bighorn sheep have been reported using Devil's Canyon to venture south of the highway, an area where they were thought to be extirpated in the 1980s (USFWS 2009b). It is presumable that other, smaller species are using this canyon and similar passages for traveling between areas north and south of the interstate (HDR 2010a). A non-profit group, South Coast Wildlands, has also suggested a Jacumba corridor to Mexico south of the proposed project (HDR 2010a; Penrod et al. 2006). Finally, to the north, South Coast Wildlands has proposed creating a linkage corridor between the Peninsular Range and the Anza-Borrego Desert (HDR 2010a; Penrod et al. 2006). This linkage is several miles north of the proposed Tule Wind Project area, and wildlife movement through the corridor is not expected to be impeded.

D.2.1.4 ESJ Gen-Tie Project

Native Vegetation Communities and Associated Wildlife Habitats by ESJ Gen-Tie Project Components

As shown in Table D.2-1, two vegetation communities and land covers were mapped within the ESJ Gen-Tie Project area: Sonoran mixed woody succulent scrub (46.4 acres) and Peninsular juniper woodland and scrub (14.9 acres) (EDAW 2009). Disturbed habitat also occurs in the project area.

Jurisdictional Wetlands and Waters

A site assessment was conducted to determine if jurisdictional wetlands or waters occurred within the ESJ Gen-Tie Project area. No jurisdictional wetlands were identified in the project area. Several erosive features (i.e., isolated erosive or concave areas that convey runoff for short distances and of short duration) were noted but determined not to be potentially jurisdictional waters under ACOE, CDFG, RWQCB, or County jurisdiction. In addition, these features do not support on- or off-site "beneficial uses" (e.g., enhancement of fish, wildlife, and other aquatic resources) and are not considered "waters" under California Water Code, Section 13050(e), that would be regulated under Porter-Cologne (EDAW 2009).

Special-Status Species

The following sections provide an assessment of the potential for special-status species to occur within the proposed ESJ Gen-Tie Project area. CNDDB occurrence data and survey results are illustrated in Figure D.2-4.

Special-Status Plant Species

Jacumba Milk-Vetch

This species has high potential to occur based on suitable habitat in the project area and it is within the species' elevation range. There are no CNDDB records within the In-Ko-Pah Gorge quadrangle where the project area is located; this species was not observed during the 2008 surveys (EDAW 2009). The closest CNDDB record is from 1978 near the ECO project, approximately 1 mile away.

California Ayenia

This species has moderate potential to occur based on suitable habitat in the project area and it is within the species' elevation range. There are no CNDDB records within the In-Ko-Pah Gorge quadrangle where the project area is located; this species was not observed during the 2008

surveys (EDAW 2009). The closest CNDDB record is from 1979 approximately 10 miles north of the project area in Sweeny Pass quadrangle.

Elephant Tree

This species has moderate potential to occur based on suitable habitat in the project site; however, the project site is outside of the known elevation range for this species. This species would have been observed if it occurred on site. There is one CNDDB record from 1986 approximately 4 miles northeast of the project area within the In-Ko-Pah Gorge quadrangle; this species was not observed during the 2008 surveys (EDAW 2009).

Payson's Jewel-Flower

This species has moderate potential to occur on site as it was observed on the nearby Tule Wind Project site. There are no CNDDB records of this species within the In-Ko-Pah Gorge quadrangle where the project area is located, and it was not observed during surveys.

Utah Vine Milkweed

This species has moderate potential to occur based on suitable habitat in the project area and it is within the species' elevation range. There are no CNDDB records within the In-Ko-Pah Gorge quadrangle where the project area is located; this species was not observed during the 2008 surveys (EDAW 2009).

Tecate Tarplant

This species has moderate potential to occur based on suitable habitat in the project area and it is within the species' elevation range. There are no CNDDB records within the In-Ko-Pah Gorge quadrangle where the project area is located; this species was not observed during the 2008 surveys (EDAW 2009). The closest CNDDB record (date unknown) is approximately 1 mile west of the project area.

Colorado Desert Larkspur

This species has moderate potential to occur based on suitable habitat in the project area and it is within the species' elevation range. There are no CNDDB records within the In-Ko-Pah Gorge quadrangle where the project area is located; this species was not observed during the 2008 surveys (EDAW 2009).

Sticky Geraea

This species has high potential to occur based on suitable habitat in the project area and it is within the species' elevation range. There are two CNDDB records within the In-Ko-Pah Gorge quadrangle where the project area is located; the closest record (date unknown) is approximately

1.5 miles northeast of the project site. This species was not observed during the 2008 surveys (EDAW 2009).

Palmer's Grappling Hook

This species has low potential to occur based on marginal habitat in the project area. There are no CNDDB records within the In-Ko-Pah Gorge quadrangle where the project area is located; this species was not observed during the 2008 surveys (EDAW 2009).

Curly Herissantia

This species has moderate potential to occur based on suitable habitat in the project area; however, it is outside the species' known elevation range. There is one CNDDB record (date unknown) approximately 3 miles north of the project area within the In-Ko-Pah Gorge quadrangle. This species was not observed during the 2008 surveys (EDAW 2009).

Laguna Mountains Alumroot

This species is not expected to occur in the project area as the project area is outside of the species' known elevation range. The closest CNDDB record is from 1992 located approximately 22 miles to the northwest. This species was not observed during the 2008 surveys (EDAW 2009).

San Diego Sunflower

This species is not expected to occur due to lack of suitable habitat. The closest CNDDB record is from 1979 located approximately 17 miles to the northwest in Sombrero Peak quadrangle. This species was not observed during the 2008 surveys (EDAW 2009).

Slender-Leaved Ipomopsis

This species has high potential to occur based on suitable habitat in the project area and it is within the species' elevation range. There are several CNDDB records within the In-Ko-Pah Gorge quadrangle where the project area is located; the closest record is from 1979 less than a quarter mile to the east. This species was not observed during the 2008 surveys (EDAW 2009).

Pride-of-California

This species has low potential to occur based on marginal habitat in the project area. There are no CNDDB records within the In-Ko-Pah Gorge quadrangle where the project area is located; this species was not observed during the 2008 surveys (EDAW 2009).

Desert Beauty

This species has high potential to occur based on suitable habitat in the project area and it is within the species' elevation range. There are no CNDDB records within the In-Ko-Pah Gorge quadrangle where the project area is located; this species was not observed during the 2008 surveys (EDAW 2009). The closest CNDDB record (date unknown) is approximately 1 mile to the west.

Pygmy Lotus

This species has moderate potential to occur based on suitable habitat in the project area and it is within the species' elevation range. There is one CNDDB record from 2001 approximately 4 miles to the west within the In-Ko-Pah Gorge quadrangle; this species was not observed during the 2008 surveys (EDAW 2009).

Mountain Springs Bush Lupine

This species has moderate potential to occur based on suitable habitat in the project area and it is within the species' elevation range. There are four CNDDB records within the In-Ko-Pah Gorge quadrangle where the project area is located; the closest record is from 1979 near the ECO project area approximately 1 mile to the west. This species was not observed during the 2008 surveys (EDAW 2009).

Parish's Desert-Thorn

This species has low potential to occur based on marginal habitat in the project area. There are no CNDDB records within the In-Ko-Pah Gorge quadrangle where the project area is located; this species was not addressed in the ESJ Biological Technical Resources Report (EDAW 2009). The closest CNDDB record is from 1955 approximately 17 miles to the north in Sweeny Pass quadrangle.

Hairy Stickleaf

This species has moderate potential to occur based on suitable habitat in the project area; however, it is outside the species' known elevation range. There is one CNDDB record from 1922 approximately 3 miles northeast within the In-Ko-Pah Gorge quadrangle where the project area is located. This species was not observed during the 2008 surveys (EDAW 2009). The closest CNDDB record is from 1922 approximately 3 miles to the northeast in the In-Ko-Pah Gorge quadrangle.

Creamy Blazing Star

This species has moderate potential to occur based on suitable habitat in the project area and it is within the species' elevation range. There is one CNDDB record from 1927 approximately 1 mile to the northeast within the In-Ko-Pah Gorge quadrangle; this species was not observed during the 2008 surveys (EDAW 2009).

Jacumba Monkeyflower

This species has low potential to occur based on the lack of suitable habitat. There are no CNDDB records within the In-Ko-Pah Gorge quadrangle where the project area is located; this species was not observed during the 2008 surveys (EDAW 2009).

Palmer's Monkeyflower

This species has low potential to occur based on the lack of suitable habitat. There are no CNDDB records within the In-Ko-Pah Gorge quadrangle where the project area is located; this species was not observed during the 2008 surveys (EDAW 2009).

Thurber's Beardtongue

This species has moderate potential to occur based on suitable habitat in the project area and it is within the species' elevation range. There are no CNDDB records within the In-Ko-Pah Gorge quadrangle where the project area is located; this species was not observed during the 2008 surveys (EDAW 2009).

Desert Spike Moss

This species has moderate potential to occur based on suitable habitat in the project area. There is one CNDDB record from 1894 approximately 3 miles north within the In-Ko-Pah Gorge quadrangle and another record (date unknown) approximately 16 miles to the north in Sweeny Pass quadrangle; this species was not observed during the 2008 surveys (EDAW 2009).

Chaparral Ragwort

This species has low potential to occur based on lack of suitable habitat in the project area. There are no CNDDB records within the In-Ko-Pah Gorge quadrangle where the project area is located; this species was not observed during the 2008 surveys (EDAW 2009). The closest CNDDB record (date unknown) is approximately 4 miles to the east.

Cove's Cassia

This species has moderate potential to occur based on suitable habitat in the project area and it is within the species' elevation range. There are no CNDDB records within the In-Ko-Pah Gorge

quadrangle where the project area is located; this species was not observed during the 2008 surveys (EDAW 2009).

Southern Jewel-Flower

This species has moderate potential to occur based on suitable habitat in the project area and it is within the species' elevation range. There are no CNDDB records within the In-Ko-Pah Gorge quadrangle where the project area is located; this species was not observed during the 2008 surveys (EDAW 2009). The closest CNDDB record (date unknown) is located 9 miles to the northwest near the Boulevard Substation.

Other Special-Status Plant Species

Some plants covered under the California Desert Native Plants Act (e.g., cholla and desert agave) have been found in the ESJ Gen-Tie Project area, including agave (*Agave deserti*), Gander's buckhorn cholla, and Mojave prickly pear (*Opuntia phaecantha*). These species can occur in many of the vegetation communities found in the project area.

Special-Status Wildlife Species

Quino Checkerspot Butterfly

There is moderate potential for this species to occur on site based on the observations of Quino checkerspot butterfly at Jacumba Peak in the ECO Substation Project site in 2009 (RBC 2009b). The ESJ Gen-Tie Project area is relatively flat to gently sloping with deep alluvial granitic soils in most areas with an elevation of approximately 3,100 feet amsl. Several ephemeral washes supporting a relatively high diversity of herbaceous annuals run west–east across the site (EDAW 2009). Within the project area, Sonoran mixed woody succulent scrub could support the Quino checkerspot butterfly and its larval and adult host species. The primary nectar sources on site include common goldfields (*Lasthenia gracilis*), desert dandelion (*Malacothrix glabrata*), scale-bud (*Anisocoma acaulis*), wild heliotrope (*Phacelia distans*), California butterweed (*Senecio californicus*), California coreopsis (*Coreopsis californica* var. *californica*), and pincushion (*Chaenactis* spp.).

Focused protocol-level surveys were conducted for the Quino checkerspot butterfly in 2008 and 2009 for the ESJ Gen-Tie Project area. Although nectar sources were present throughout the survey area, the survey results were negative for Quino checkerspot butterflies as well as larval host plants (RBC 2008, 2009b).

The ESJ Gen-Tie Project area is not located within the USFWS designated critical habitat for Quino checkerspot butterfly and no CNDDB records exist for this species in the In-Ko-Pah Gorge quadrangle.

Orange-Throated Whiptail

This species has high potential to occur based on suitable habitat in the project area. This species was not observed during the 2008 surveys (EDAW 2009) and there are no CNDDB records within the In-Ko-Pah Gorge quadrangle.

Coastal Western Whiptail

This species has high potential to occur based on suitable habitat in the project area. This species was not observed during the 2008 surveys (EDAW 2009) and there are no CNDDB records within the In-Ko-Pah Gorge quadrangle. The closest CNDDB record is from 1993 approximately 11 miles northwest near the Boulevard Substation.

Rosy Boa

This species has moderate potential to occur based on suitable habitat in the project area. This species was not observed during the 2008 surveys (EDAW 2009) and there are no CNDDB records within the In-Ko-Pah Gorge quadrangle.

Barefoot Banded Gecko

This species has low potential to occur in the project area. Potential suitable habitat for the barefoot banded gecko was described in the Sunrise Powerlink project between Sunrise Powerlink MPs 23 and 39 (CPUC and BLM 2010). This area occurs just north of the ESJ Gen-Tie Project boundary along a portion of the ECO Substation Project 138 kV transmission line in Sonoran mixed woody succulent scrub. This vegetation type occurs mostly on rocky, well-drained slopes (EDAW 2009); however, it is not associated with the large rocky outcrops this species prefers. The ridge immediately adjacent and to the east of the project area contains boulders and rocky outcrops where this species could occur (EDAW 2009). The ESJ Gen-Tie Project, at an elevation of 3,300 to 3,400 feet, is located higher than the elevation at which the barefoot banded gecko occurs. Although some suitable microhabitats may exist within the project area, the project area is outside of the known elevation range for the species; therefore, the potential to occur is considered to be low. A habitat assessment performed at the Tule Wind Project area to northwest of the ESJ Gen-Tie Project boundary states that there are no records of barefoot banded geckos above 2,300 feet in elevation (Appendix N of HDR 2010a). This species was not observed during project surveys and there are no CNDDB records within the In-Ko-Pah Gorge quadrangle.

Northern Red-Diamond Rattlesnake

This species has high potential to occur based on suitable habitat in the project area. This species was not observed during the 2008 surveys (EDAW 2009). There are no CNDDB records within

the In-Ko-Pah Gorge quadrangle. The closest CNDDB record is from 1993 approximately 17 miles north of the project area.

Blainville's Horned Lizard

This species has high potential to occur based on suitable habitat in the project area. This species was not observed during the 2008 surveys (EDAW 2009) and there are no CNDDB records within the In-Ko-Pah Gorge quadrangle. The closest CNDDB record (date unknown) is located approximately 3.5 miles west of the project area.

Coast Patch-Nosed Snake

This species has moderate potential to occur based on suitable habitat in the project area. This species was not observed during the 2008 surveys (EDAW 2009) and there are no CNDDB records within the In-Ko-Pah Gorge quadrangle.

Common Chuckwalla

This species has high potential to occur based on suitable habitat in the project area. This species was not observed during the 2008 surveys (EDAW 2009) and there are no CNDDB records within the In-Ko-Pah Gorge quadrangle.

Western Spadefoot Toad

This species is not expected to occur on site. There are no water resources that could support the western spadefoot toad; the only signs of water flow in the project area are swales and erosive features that do not provide suitable conditions for breeding. This species was not observed during the 2008 surveys (EDAW 2009) and there are no CNDDB records within the In-Ko-Pah Gorge quadrangle.

Cooper's Hawk

This species has high potential to forage on site based on suitable habitat in the project area. This species was not observed during the 2008 surveys (EDAW 2009) and there are no CNDDB records within the In-Ko-Pah Gorge quadrangle. The closest CNDDB record is from 1914 approximately 3.5 miles to the west.

Tricolored Blackbird

This species is not expected to occur on site based on lack of suitable habitat. This species was not observed during the 2008 surveys (EDAW 2009) and there are no CNDDB records within the In-Ko-Pah Gorge quadrangle. The closest CNDDB record is from 2000 approximately 4 miles to the west.

Southern California Rufous-Crowned Sparrow

This species has moderate potential to occur based on suitable habitat in the project area. There are some known breeding locations within the area (Unitt 2004). This species was not observed during the 2008 surveys (EDAW 2009) and there are no CNDDB records within the In-Ko-Pah Gorge quadrangle.

Bell's Sage Sparrow

This species has moderate potential to occur based on suitable habitat in the project area. There are some known occurrences within the area (Unitt 2004). This species was not observed during the 2008 surveys (EDAW 2009) and there are no CNDDB records within the In-Ko-Pah Gorge quadrangle.

Golden Eagle

This species has high potential for foraging based on suitable foraging habitat in the project area. This species is not expected to nest in the ESJ Gen-Tie Project area due to lack of habitat; however, there could be territories located within the vicinity. This species was not observed during the 2008 surveys (EDAW 2009) and there are no CNDDB records within the In-Ko-Pah Gorge quadrangle. In spring 2010, Wildlife Research Institute conducted a golden eagle helicopter survey within a 10-mile radius of the proposed Tule Wind portion of the project, which also included the ESJ Gen-Tie Project area (WRI 2010). Within 10 miles of the ESJ Gen-Tie project area, the survey found three golden eagle territories, none of which were currently active. The territories are generally located at Table Mountain with five nests, Carrizo Gorge with four nests, and Boundary Peak, which, as a historical territory, had no nests. The Table Mountain location is approximately 3 miles north of the project. The Carrizo Gorge location is approximately 8 miles north of the project. The Boundary Peak territory is approximately 10 miles west of the western portion of the project. All of these territories, except Boundary Peak, were documented to be active within the past 2 to 3 years. Because the survey was conducted at the end of March, some of the eagle pairs may have already attempted and failed at nesting for the 2010 breeding season (WRI 2010).

Long-Eared Owl

This species has low potential to occur based on lack of suitable habitat in the project area. This species may winter in the area (Unitt 2004). This species was not observed during the 2008 surveys (EDAW 2009) and there are no CNDDB records within the In-Ko-Pah Gorge quadrangle.

Burrowing Owl

This species has high potential to occur based on suitable habitat in the project area and the observations of this species at the ECO project site in 2010 (Insignia Environmental 2010b).

Based on the observations during the focused survey for the ECO project site and lack of records of the species in the region, if it occurs within the project area, it is likely as a wintering or migratory individual (Unitt 2004). This species was not observed during the 2008 surveys (EDAW 2009) and there are no CNDDB records within the In-Ko-Pah Gorge quadrangle.

Turkey Vulture

This species was not observed during the survey, but it probably occurs based on the observations in the adjacent project areas.

Vaux's Swift

This species has moderate potential to occur during migration. It was observed during fall 2007 and spring 2008 at the adjacent Tule Wind Project site (HDR 2010a) and is found over a variety of habitats. This species was not observed during the 2008 surveys (EDAW 2009) and there are no CNDDB records within the In-Ko-Pah Gorge quadrangle.

Northern Harrier

This species has high potential to forage on site based on suitable habitat in the project area. This species was not observed during the 2008 surveys (EDAW 2009) and there are no CNDDB records within the In-Ko-Pah Gorge quadrangle.

Olive-Sided Flycatcher

This species has moderate potential to occur during migration based on observations in fall 2007 and spring 2008 at the adjacent Tule Wind Project area. There is no suitable nesting habitat for this species in the project site. This species was not observed during the 2008 surveys (EDAW 2009) and there are no CNDDB records within the In-Ko-Pah Gorge quadrangle.

Yellow Warbler

This species is not expected to occur based on lack of suitable habitat in the project area. There are no breeding records in the area (Unitt 2004). This species was not observed during the 2008 surveys (EDAW 2009) and there are no CNDDB records within the In-Ko-Pah Gorge quadrangle.

Southwestern Willow Flycatcher

This species is not expected to occur based on lack of suitable habitat in the project area. There are no breeding records in the area (Unitt 2004). This species was not observed during the 2008 surveys (EDAW 2009) and there are no CNDDB records within the In-Ko-Pah Gorge quadrangle.

California Horned Lark

California horned lark was observed foraging in the open areas between shrubs on site during the 2008 and 2009 surveys within the ESJ project area (EDAW 2009) (Figure D.2-4); thus, it is likely nesting in the vicinity and is considered to be occupying the entire project site. There are no CNDDB records of this species within the In-Ko-Pah Gorge quadrangle.

Prairie Falcon

This species has moderate potential to forage based on suitable foraging habitat in the project area. There are no breeding records in the area (Unitt 2004). This species was not observed during the 2008 surveys (EDAW 2009) and there are no CNDDB records within the In-Ko-Pah Gorge quadrangle.

California Condor

The California condor is not known to commonly occur in San Diego County; however, this species has the potential to fly over the project site. The source of the birds that have potential to fly over the site would be from the small reintroduced population in Baja. The project site does have some flat and sparsely vegetated areas that could be suitable for foraging over; however, it lacks cliffs and large, tall trees suitable for roosting.

Loggerhead Shrike

This species has high potential to occur based on suitable habitat in the project area. There are confirmed breeding locations in the area (Unitt 2004). This species was not observed during the 2008 surveys (EDAW 2009); however, there is high potential for it to occur on site. There are no CNDDB records within the In-Ko-Pah Gorge quadrangle.

Gray Vireo

This species has moderate potential to occur based on suitable habitat in the project area. There are records of possible breeding locations in the project area (Unitt 2004). This species was not observed during the 2008 surveys (EDAW 2009) and there are no CNDDB records within the In-Ko-Pah Gorge quadrangle.

Pallid Bat

This species has moderate potential to forage on site based on suitable habitat in the project area; however, there is no roosting habitat in the project area. This species was not observed during the 2008 surveys (EDAW 2009) and there are no CNDDB records within the In-Ko-Pah Gorge quadrangle. The closest CNDDB record is from 1998 approximately 17 miles to the northwest in Sweeny Pass quadrangle.

Dulzura Pocket Mouse

This species has moderate potential to occur based on suitable habitat in the project area. This species was not observed during the 2008 surveys (EDAW 2009) and there are no CNDDB records within the In-Ko-Pah Gorge quadrangle. The closest CNDDB record is from 1958 approximately 12 miles to the northwest.

Pallid San Diego Pocket Mouse

This species has moderate potential to occur based on suitable habitat in the project area. This species was not observed during the 2008 surveys (EDAW 2009); there is one CNDDB record within the In-Ko-Pah Gorge quadrangle. The closest CNDDB record is from 2002 approximately 1.5 miles to the east.

Mountain Lion

This species has moderate potential to occur based on suitable habitat in the project area. This species was not observed during 2008 or 2009 surveys but is commonly found where mule deer occur.

San Diego Black-Tailed Jackrabbit

A San Diego black-tailed jackrabbit was observed on site and in the surrounding vicinity in 2008 within the ESJ project area (EDAW 2009) (Figure D.2-4). Although the location of the species is represented by a point location, it would be considered to be occupying the entire project site. There are no CNDDB records of this species within the In-Ko-Pah Gorge quadrangle; the closest CNDDB record is from 1993 approximately 11 miles to the northwest.

San Diego Desert Woodrat

This species has high potential to occur based on suitable habitat in the project area. This species, or any sign of this species (i.e., middens), was not observed during the 2008 surveys (EDAW 2009) and there are no CNDDB records within the In-Ko-Pah Gorge quadrangle. The closest CNDDB record is from 1993 approximately 11 miles to the northwest.

Pocketed Free-Tailed Bat

This species has moderate potential to forage on site based on suitable habitat in the project area; however, there is no roosting habitat in the project habitat. The species was not observed during the 2008 surveys (EDAW 2009) and there are no CNDDB records within the In-Ko-Pah Gorge quadrangle.

Southern Grasshopper Mouse

This species has high potential to occur based on suitable habitat in the project area. This species was not observed during the 2008 surveys (EDAW 2009); there is one CNDDB record within the In-Ko-Pah Gorge quadrangle. The closest CNDDB record is from 1976 approximately 1 mile to the east.

Peninsular Bighorn Sheep

During discussions with the USFWS, the USFWS indicated that, based on tracked sheep locations, there is a very low probability of finding bighorn sheep in the area (USFWS 2008; EDAW 2009).

No Peninsular bighorn sheep, tracks, or droppings were seen during site visits. Several forage plant species were identified in the area, including acacia, ephedra, California buckwheat, jojoba, California juniper, agave, and yucca. The project area is outside of the USFWS-designated critical habitat for the Peninsular bighorn sheep, which is located east of the site (USFWS 2009a). Permanent Peninsular bighorn sheep occupation within the region includes a subpopulation of the subspecies in Carrizo Canyon (USFWS 2000), west of the project site (see Figure D.2-9). Transient use of the In-Ko-Pah Gorge/I-8 ~~i~~sland" has also been documented to the west of the site, although this does not represent a permanently occupied area (BLM 2008b).

Jacumba Little Pocket Mouse

This species has high potential to occur based on suitable habitat in the project area. This species was not observed during the 2008 surveys (EDAW 2009) and there are no CNDDB records within the In-Ko-Pah Gorge quadrangle.

American Badger

This species has moderate potential to occur based on marginal habitat in the project area. This species was not observed during the 2008 surveys (EDAW 2009) and there are no CNDDB records within the In-Ko-Pah Gorge quadrangle.

Critical Habitat

There is no critical habitat designated for the location of the proposed ESJ Gen-Tie Project. The closest Peninsular bighorn sheep critical habitat is approximately 3 miles to northeast, and Quino checkerspot butterfly critical habitat occurs over a portion of the ECO 138 kV transmission line approximately 4 miles to the west (Figure D.2-9).

Regional Wildlife Corridors

The ESJ Gen-Tie Project area occurs immediately north of the U.S.–Mexico international border fence and is bounded to the west and east by undeveloped open landscape and to the north by Old Highway 80 and I-8. Further north are several dedicated and protected open space areas, including the BLM's Jacumba National Cooperative Land and Wildlife Management Area, Anza-Borrego State Park, In-Ko-Pah County Park, and Mountain Springs County Park; and to the east is the BLM's Jacumba Wilderness Area, in Imperial County. The U.S. Border Patrol uses two primary access roads across the site in order to patrol the international border in the vicinity of the site. Therefore, deterrents to wildlife movement currently exist at the international border fence to the south, and to a lesser extent along the major paved roads (Old Highway 80 and I-8) to the north. These existing features fragment this portion of the landscape and limit and/or deter wildlife movement through the proposed project site in a direct north–south orientation. However, because the project area is adjacent to undeveloped lands, natural areas exist to the east and west, and there are relatively large areas of protected open space that are used for local and regional wildlife movement to the north of the site, wildlife are expected to use the proposed project site for forage and cover, as well as a connection to adjacent local and regional movement corridors (EDAW 2009).

This area can support both resident and migratory bird species; however, there are no known avian migration corridors or riparian corridors associated with the ESJ Gen-Tie site or the surrounding vicinity (EDAW 2009).

D.2.2 Applicable Regulations, Plans, and Standards

This section discusses federal, state, and regional environmental regulations, plans, and standards applicable to the Proposed Project, as well as the Campo, Manzanita, and Jordan wind energy projects. In addition to the federal regulations identified below, the Campo and Manzanita wind energy projects may be subject to the Bureau of Indian Affairs' (BIA's) policies and regulations and tribe-specific policies and plans.

D.2.2.1 Federal Regulations

National Environmental Policy Act

The National Environmental Policy Act (NEPA) process provides the overall framework for the evaluation of the environmental effects of federal actions. NEPA (42 U.S.C. 4321 et seq.) states that environmental statements are required for ~~"~~major Federal actions significantly affecting the quality of the human environment" and that the planning and decision-making process shall follow ~~"~~a systematic, interdisciplinary approach." Federal agencies are required to identify and assess reasonable alternatives to proposed actions based on the Council on Environmental

Quality (CEQ) (40 Code of Federal Regulations (CFR) Parts 1500–1508). Alternatives must avoid or minimize adverse environmental impacts and enhance the quality of the human environment. In addition, the NEPA process must integrate impact studies required by other environmental laws and Executive Orders in order to determine significant environmental issues in project planning. The BLM is the Lead Agency under NEPA for the ECO Substation Project and Tule Wind Project.

Federal Land Policy and Management Act

BLM published the Federal Land and Management Act of 1976, as amended in 2001 (43 U.S.C. 1701–1782) to establish a public land policy and provide guidelines for land management. Section 601 (43 U.S.C. 1781) describes the CDCA, a 25-million-acre area in Southern California, of which 12.1 million acres are BLM-administered public lands. The California Desert Conservation Area Plan of 1980, as amended in 1999, provides management principles for the CDCA. Four multiple-use classes are used in the plan: controlled (Class C), limited (Class L), moderate (Class M), and intensive (Class I) land use. Two million acres of the CDCA are covered as Class C and are intended to be keep wilderness characteristics and values with restrictions on access and limits human disturbance to foot and horse traffic. Class L lands comprise another 5.8 million acres of the CDCA and aim to protect sensitive, natural, scenic, ecological, and cultural resources. Lower-intensity, carefully controlled multiple uses that do not significantly diminish these resources are allowed within this land use class. Approximately 3.3 million acres are designated as Class M and provide for mixed use that balances with ecosystem preservation. This class allows for human disturbance such as mining, livestock grazing, recreation, energy, and utility development to occur, but any potential effects must be mitigated. Finally, Class I lands comprise approximately 500,000 acres and allow for concentrated human disturbance. In addition, 300,000 acres of land is ―unclassified‖; it has not been designated in one of the four classes and consists of scattered, isolated lands that are managed on a case-by-case basis. Mitigation for human disturbance and development should be conducted within this land use class when possible. The CDCA contains approximately 80 Areas of Critical Environmental Concern (ACECs) covering approximately 750,000 acres. Each ACEC has its own management plan to ensure maintenance and protection of the unique resources within each ACEC.

Clean Water Act

The Clean Water Act (CWA) is intended to restore and maintain the quality and biological integrity of the nation's waters. Section 402 of the CWA prohibits the discharge of pollutants to ―waters of the United States‖ from any point source unless the discharge is in compliance with a National Pollutant Discharge Elimination System (NPDES) Permit. The CWA, section 402, requires a NPDES Permit for the discharge of stormwater from municipal separate storm sewer systems (MS4) serving urban areas with a population greater than 100,000; construction sites

that disturb one acre or more; and industrial facilities. The Regional Water Quality Control Board administers these permits with oversight provided by the State Water Resources Control Board and EPA Region IX.

Section 404 of the CWA authorizes the Secretary of the Army, acting through the ACOE, to issue permits regulating the discharge of dredged or fill materials into the ~~"n~~navigable waters at specified disposal sites." CWA section 502 further defines ~~"n~~avigable waters" as ~~"w~~aters of the United States, including territorial seas." ~~"W~~aters of the United States" are broadly defined in the Code of Federal Regulations, title 33, section 328.3, subdivision (a)[2] to include navigable waters, perennial and intermittent streams, lakes, rivers, ponds, as well as wetlands, marshes, and wet meadows. Specifically, section 328.3(a) defines ~~"w~~aters of the United States" as follows:

1) All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
2) All interstate waters, including interstate wetlands;
3) All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation, or destruction of which could affect interstate or foreign commerce including any such waters:
    i. Which are or could be used by interstate or foreign travelers for recreational or other purposes;
    ii. From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or
    iii. Which are or could be used for industrial purpose by industries in interstate commerce;
4) All impoundments of waters otherwise defined as waters of the United States under the definition;
5) Tributaries of waters identified in paragraphs (a)(1) through (4) of this section;

[2] This regulation, 33 C.F.R. section 328.3, and the definitions contained therein, have been the subject of recent litigation. In addition, the U.S. Supreme Court has recently addressed the scope and extent of the Corps' jurisdiction over ~~"n~~avigable waters" and ~~"w~~aters of the United States" under the CWA. See, *e.g.*, *Solid Waste Agency of Northern Cook Cty.* v. *U.S. Army Corps of Engineers*, 531 U.S. 159 (2001) (~~"S~~WANCC"); *Rapanos* v. *United States*, 126 S.Ct. 2208 (2006). Despite the impact of these recent decisions, the definitions continue to provide guidance to the extent that they establish an outer limit for the extent of the ACOE's jurisdiction over ~~"w~~aters of the United States," and, therefore, are referenced here for that purpose.

6) The territorial seas; and

7) Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (a)(1) through (6) of this section.

   Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of CWA (other than cooling ponds as defined in 40 C.F.R. 123.11(m) which also meet the criteria of this definition) are not waters of the United States.

8) Waters of the United States do not include prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other federal agency, for the purposes of CWA, the final authority regarding CWA jurisdiction remains with the EPA.

The lateral limits of the ACOE's CWA section 404 jurisdiction in non-tidal waters are defined by the ~~"o~~ordinary high water mark" (OHWM), unless adjacent wetlands are present. The OHWM is a line on the shore or edge of a channel established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed upon the bank, shelving, changes in the character of soil, destruction of vegetation, or presence of debris (33 C.F.R. § 328.3(e)). As such, waters are recognized in the field by the presence of a defined watercourse with appropriate physical and topographic features. If wetlands occur within, or adjacent to, waters of the United States, the lateral limits of the ACOE's jurisdiction will extend beyond the OHWM to the outer edge of the wetlands. The upstream limit of jurisdiction in the absence of adjacent wetlands is the point beyond which the OHWM is no longer perceptible (33 C.F.R. § 328.4; see also 51 FR 41217).

The section 404(b)(1)Guidelines (40 C.F.R. Part 230; Guidelines) govern the issuance of permits authorizing the discharge of fill material into waters of the United States, and state that (40 C.F.R. § 230.10(a)):

> … no discharge of dredged or fill material shall be permitted if there is a practicable alternative to the proposed discharge which would have less adverse impacts on the aquatic ecosystem, so long as the alternative does not have other significant adverse environmental consequences.

Under the Guidelines, the applicant must demonstrate avoidance or minimization of impacts to waters of the United States to the maximum extent practicable. Under the above requirements, the Corps can only issue a CWA section 404 permit for the ~~"l~~least environmentally damaging practicable alternative" (LEDPA). In addition, the ACOE is prohibited from issuing a permit that is contrary to the public interest (33 C.F.R. § 320.4).

In addition to the above regulations on discharges of dredged or fill material into waters of the United States, CWA section 404 extends additional protection to certain rare and/or sensitive

aquatic habitats. These are termed –special aquatic sites," and include six categories: sanctuaries and refuges, wetlands, mudflats, vegetated shallows, coral reefs, and riffle/pool complexes (40 C.F.R. § 230.40–45).

For proposed discharges into these special aquatic sites, the Guidelines require consideration of whether the activity associated with the proposed discharge is dependent on access or proximity to or siting within a special aquatic site to fulfill its basic project purpose. If an activity is determined not to be water dependent, the Guidelines establish the following two presumptions (40 C.F.R. § 230.10, subd.(a)(3)) that the applicant is required to rebut in addition to satisfying the alternatives analysis requirements:

- That practicable alternatives not involving discharges of fill material into special aquatic sites are presumed to be available; and,
- That all practicable alternatives to the proposed discharge not involving a discharge into a special aquatic site are presumed to have less adverse impacts on the aquatic ecosystem.

For nonwater-dependent projects, the applicant must rebut these presumptions in order to demonstrate compliance with the Guidelines.

Of the six categories of special aquatic sites, only wetlands are at issue with respect to the Proposed PROJECT. ACOE regulations define wetlands as (33 C.F.R. § 328.3(b)):

> [T]hose areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.

The ACOE has developed a field technique to identify wetlands, often referred to as the –three-parameter technique" (Corps 1987). This method involves a procedure to identify the three requisite characteristics of a CWA section 404 jurisdictional wetland:

- Hydrophytic vegetation: more than 50% of dominant plants are adapted to anaerobic soil conditions;
- Hydric soils: soils classified as hydric or that exhibit characteristics of a reducing soil environment; and
- Wetland hydrology: inundation or soil saturation during at least 5% of the growing season (in southern California, this is equal to 18 days).

The ACOE's wetlands delineation manual (Corps 1987) describes an approach to identify field indicators of the above characteristics. In general, all three characteristics must be evident by field indicators, and their presence must be determined independent of the other characteristics. Positive identification of wetlands based on the presence of fewer than three characteristics can only occur when one or more parameters is absent due to normal seasonal variation in environmental conditions (–Problem Areas"), or due to recent human activities (–Atypical Situations"). Delineation of wetlands using the Corps' 1987 manual requires a systematic field investigation of soil, plants, and hydrology using formal data forms. In September 2008, the ACOE published a Regional Supplement to the 1987 wetland delineation manual for use in the arid west region of the United States, which provides technical guidance and procedures for identifying and delineating wetlands under section 404 of the CWA.

Section 401 of the CWA requires that an applicant for a federal license or permit to discharge into navigable waters must provide the federal agency with a water quality certification, declaring that the discharge will comply with water quality standard requirements of the CWA. The ACOE is prohibited from issuing a CWA permit until the applicant receives a CWA section 401 water quality certification or waiver from the RWQCB.

Federal Endangered Species Act

The FESA designates threatened and endangered animals and plants and provides measures for their protection and recovery. Under FESA, –take" of listed animal and plant species in areas under federal jurisdiction is prohibited without obtaining a federal permit. FESA defines –take" as –to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct" (16 U.S.C. 1531). Harm includes any act that actually kills or injures fish or wildlife, including significant habitat modification or degradation that significantly impairs essential behavioral patterns of fish or wildlife. Activities that damage (i.e., harm) the habitat of listed wildlife species require approval from USFWS for terrestrial species. If critical habitat has been designated under FESA for listed species, impacts to areas that contain the primary constituent elements identified for the species, whether or not it is currently present, is also prohibited without obtaining a federal permit. FESA Sections 7 and 10 provide two pathways for obtaining permission to take listed species.

Under Section 7 of FESA, a federal agency that authorizes, funds, or carries out a project that –may affect" a listed species or its critical habitat must consult with USFWS. For example, ACOE must issue a permit for projects impacting waters or wetlands under ACOE jurisdiction. In a Section 7 consultation, the lead agency (e.g., ACOE) prepares a Biological Assessment that analyzes whether the project is likely to adversely affect listed wildlife or plant species or their critical habitat, and it proposes suitable avoidance, minimization, or compensatory mitigation measures. If the action would adversely affect the species, USFWS has up to 135 days to

complete the consultation process and develop a Biological Opinion determining whether the project is likely to jeopardize the continued existing species or result in adverse modification of critical habitat. If a ―no jeopardy" opinion is provided, the project may proceed. If a jeopardy or adverse modification opinion is provided, USFWS may suggest ―reasonable and prudent measures" that would result in a no jeopardy opinion.

Under Section 10 of FESA, private parties with no federal nexus may obtain an ―incidental take permit" to harm listed wildlife species incidental to the lawful operation of a project. To obtain an incidental take permit, the applicant must develop a habitat conservation plan (HCP) that specifies impacts to listed species, provides minimization and mitigation measures and funding, and discusses alternatives considered and the reasons why such alternatives are not being used. If USFWS finds the HCP will not appreciably reduce the likelihood of the survival and recovery of the species, it will issue an incidental take permit. Issuance of incidental take permits requires USFWS to conduct an internal Section 7 consultation, thus triggering coverage of any listed plant species or critical habitat present on site (thus listed plants on private property are protected under FESA if a listed animal is present). Unlike a Section 7 consultation, USFWS is not constrained by a time limit to issue an incidental take permit.

Bureau of Land Management Sensitive Species

California BLM Sensitive Species are plant and wildlife species that are designated as sensitive by the California State Director that are not already federal listed proposed, or candidate species, or state listed because of potential endangerment. BLM will carry out management, consistent with the principles of multiple use, for the conservation of federal candidate species and their habitats and will ―ensure that actions requiring authorization or approval by the BLM are consistent with the conservation needs to special status species and do not contribute to the need to list any special status species under the provisions of the ESA" (BLM 2001).

Executive Order 11990 Protection of Wetlands

The EPA Executive Order 11990 states that measures should be taken to ―avoid to the extent possible the long and short term adverse impacts associated with the destruction or modification of wetlands and to avoid direct or indirect support of new construction in wetlands wherever there is a practicable alternative."

Fish and Wildlife Coordination Act

The Fish and Wildlife Coordination Act (16 U.S.C. 661–666) ―authorizes the Secretaries of Agriculture and Commerce to provide assistance to and cooperate with Federal and State agencies to protect, rear, stock, and increase the supply of game and fur-bearing animals, as well as to study the effects of domestic sewage, trade wastes, and other polluting substances on

wildlife." The term "wildlife" includes both animals and plants. Wherever any federal project where the waters of any stream or other body of water are impounded, diverted, deepened, or otherwise modified, consultation with the USFWS appropriate state wildlife agency shall be undertaken to prevent the loss of and damage to wildlife resources. These agencies prepare reports and recommendations that document project effects on wildlife and identify measures that may be adopted to prevent loss or damage to wildlife resources. Provisions of the act are implemented through the NEPA process and Section 404 permit process.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act implements international treaties between the United States and other nations that protect migratory birds (including their eggs and nests) from killing, hunting, pursuing, capturing, selling, and shipping unless expressly authorized or permitted. The list of migratory birds is extensive, including American crow (*Corvus brachyrhynchos*), common raven, and northern mockingbird (16 U.S.C. 703–712).

Bald and Golden Eagle Protection Act

The bald eagle (*Haliaeetus leucocephalus*) and golden eagle are federally protected under the Bald and Golden Eagle Protection Act, passed in 1940 to protect the bald eagle and amended in 1962 to include the golden eagle (16 U.S.C. 668a–d). This act (16 U.S.C. 668–668d) prohibits the take, possession, sale, purchase, barter, offering to sell or purchase, export or import, or transport of bald eagles and golden eagles and their parts, eggs, or nests without a permit issued by the USFWS. The definition of "take" includes to pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest, or disturb. The act prohibits any form of possession or taking of both eagle species and the statue imposes criminal and civil sanctions as well as an enhanced penalty provision for subsequent offenses. Further, the act provides for the forfeiture of anything used to acquire eagles in violation of the statute. The statute exempts from its prohibitions on possession the use of eagles or eagle parts for exhibition, scientific, and Indian religious uses.

However, there is allowance within the act that, after investigation, the Secretary of the Interior may determine that the taking is compatible with the preservation of the bald eagle or the golden eagle. If so, then the Secretary may permit the taking, possession, and transportation of specimens for the scientific or exhibition purposes of public museums, scientific societies, and zoological parks, or for the religious purposes of Indian tribes. The Secretary may also determine that it is necessary to permit the taking of eagles for the protection of wildlife or of agricultural or other interests in any particular locality. This permitting may be for the seasonal protection of domesticated flocks and herds, and may also permit the taking, possession, and transportation of golden eagles for the purposes of falconry if the eagles may cause depredations on livestock or

wildlife. Finally, the Secretary of the Interior may permit the taking of golden eagle nests that interfere with resource development or recovery operations, or in an emergency.

In November 2009, the USFWS published regulations (74 FR 46836–46879) providing the definition of ~~"~~disturb" and creating two new permit rules for take of bald and golden eagles. Disturb means ~~"to~~ agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, (1) injury to an eagle, (2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or (3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior." These regulations may apply to projects such as wind turbines and transmission lines, and were followed by issuance of guidance documents for inventory and monitoring protocols and for avian protection plans (Pagel et al. 2010).

D.2.2.2 State Laws and Regulations

California Endangered Species Act

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

A California Endangered Species Act permit may not authorize the take of Fully Protected species that are protected in other provisions of the California Fish and Game Code, discussed further below.

California Environmental Quality Act

CEQA was enacted in 1970 to provide for full disclosure of environmental impacts to the public before issuance of a permit by state and local public agencies. Qualifying projects include zoning ordinances, issuance of conditional use permits, variances, and the approval of tentative subdivision maps. If a project is regulated under CEQA, the developer completes necessary studies and designs for the project and identifies the state lead agency for the project. The lead agency conducts an Initial Study that identifies the environmental impacts of the project and

determines whether these impacts are significant. In some cases, the lead agency may skip the preparation of the Initial Study and proceed directly to the preparation of an EIR. The lead agency may prepare a Negative Declaration if it finds no significant impacts, a Mitigated Negative Declaration if it revises the project to avoid or mitigate significant impacts, or an EIR if it finds significant, unmitigated impacts. The EIR is subject to more extensive public comment and provides information on the potentially significant impacts, lists ways to minimize these impacts, and discusses alternatives to the project. CEQA only provides a public review process, and projects with significant impacts may be approved if the lead agency makes a finding of overriding considerations.

In addition to state-listed or federally listed species, special-status plants and animals receive consideration under CEQA. Special-status species include wildlife Species of Special Concern listed by CDFG and plant species on the CNPS List 1A, 1B, or 2.

California Fish and Game Code

According to Sections 3511 and 4700 of the California Fish and Game Code, which regulate birds and mammals, respectively, a ―fully protected" species may not be taken or possessed and ―incidental takes" of these species are not authorized. However, the CDFG may authorize the taking of those species for necessary scientific research, including efforts to recover fully protected, threatened, or endangered species, and may authorize the live capture and relocation of those species pursuant to a permit for the protection of livestock. Fully Protected species include the California condor, Peninsular bighorn sheep, and golden eagle.

The California Fish and Game Code provides protection for wildlife species. It states that no mammals, birds, reptiles, amphibians, or fish species listed as Fully Protected can be ―taken or possessed at any time." In addition, CDFG affords protection over the destruction of nests or eggs of native bird species, and it states that no birds in the orders of *Falconiformes* or *Strigiformes* (birds of prey) can be taken, possessed, or destroyed. CDFG cannot issue permits or licenses that authorize the take of any Fully Protected species, except under certain circumstances such as scientific research and live capture and relocation of such species pursuant to a permit for the protection of livestock. Separate from federal and state designations of species, CDFG designates certain vertebrate species as Species of Special Concern based on declining population levels, limited ranges, and/or continuing threats that have made them vulnerable to extinction.

California Native Plant Protection Act

The Native Plant Protection Act of 1977 (California Fish and Game Code, Sections 1900–1913) directed the CDFG to carry out the Legislature's intent to ―preserve, protect and enhance rare and endangered plants in this State." The Native Plant Protection Act gave the California Fish and

Game Commission the power to designate native plants as ~~–e~~ndangered" or ~~–r~~are" and protect endangered and rare plants from take. When the California Endangered Species Act was passed in 1984, it expanded on the original Native Plant Protection Act and enhanced legal protection for plants and created the categories of ~~–t~~hreatened" and ~~–e~~ndangered" species to parallel the FESA. The California Endangered Species Act converted all rare animals into the act as threatened species but did not do so for rare plants, which resulted in three listing categories for plants in California: rare, threatened, and endangered. The Native Plant Protection Act remains part of the California Fish and Game Code, and mitigation measures for impacts to rare plants are specified in a formal agreement between CDFG and the project proponent.

California Desert Native Plants Act

California Food and Agriculture Code, Division 23, Chapter 3, Sections 80071–80075, affords protection to desert native plants under the California Desert Native Plants Act passed in 1981. Sections 1925–1926 of the California Fish and Game Code agree to enforce the provisions of the act. The California Desert Native Plants Act prohibits the harvesting, transport, sale, or possession of designated native desert plants except for scientific or educational purposes (under a permit), or if the person has a valid permit, or wood receipt, and the required tags and seals. The provisions are applicable within the boundaries of Imperial, Inyo, Kern, Los Angeles, Mono, Riverside, San Bernardino, and San Diego counties.

California Natural Community Conservation Planning Act

The California Natural Community Conservation Planning (NCCP) Act provides for regional planning to conserve listed and candidate species, their habitats, and natural communities though habitat-based conservation measures while allowing economic growth and development. The initial application of the NCCP Act was in coastal sage scrub habitat in Southern California, home to the California gnatcatcher; it has subsequently been applied to the CALFED Bay-Delta Program and others in northern California.

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

Porter-Cologne Water Quality Control Act (Wat. Code, § 13000 *et seq.*)

The intent of the Porter-Cologne Water Quality Control Act is to protect water quality and the beneficial uses of water, and it applies to both surface water and groundwater. Under this law,

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

Streambed Alteration Agreement

CDFG must be notified prior to beginning any activity that would obstruct or divert the natural flow of, use material from, or deposit or dispose of material into a river, stream, or lake, whether permanent, intermittent, or ephemeral waterbodies under Section 1602 of the California Fish and Game Code. CDFG has 30 days to review the proposed actions and propose measures to protect affected fish and wildlife resources. The final proposal that is mutually agreed upon by CDFG and the applicant is the Streambed Alteration Agreement. The conditions of a Streambed Alteration Agreement and a CWA Section 404 permit often overlap.

D.2.2.3 Regional Policies, Plans, and Regulations

County of San Diego Multiple Species Conservation Program East County Plan

The County of San Diego is in the process of developing an HCP under the San Diego MSCP for the East County. The East County Plan covers approximately 1.6 million acres and is bounded on the west generally by the western boundary of the Cleveland National Forest, on the north by the Riverside County, the east predominantly by Imperial County, and the south by Mexico. The County only has land use authority over private parcels, which account for approximately 27% (418,930 acres) of the study area. These parcels include areas of the backcountry communities of Central Mountain, Cuyamaca, Descanso, Pine Valley, Desert/Borrego Springs, Julian, Mountain Empire, Boulevard, Jacumba, Lake Morena/Campo, Potrero, Tecate, portions of Dulzura, and Palomar/North Mountain. The East County Plan will create a large, connected preserve that addresses the regional habitat needs for multiple species; implementation of this plan will also result in the issuance of a permit to the County for incidental take of threatened and endangered species.

County of San Diego Resource Protection Ordinance

The County RPO requires that sensitive biological resources be evaluated as part of the County's discretionary environmental review process. The RPO specifically addresses the protection of

wetlands and other sensitive habitat lands. The RPO provides definitions for these resources and guidelines for the avoidance and mitigation of these resources.

SDG&E Subregional Natural Community Conservation Plan

The SDG&E NCCP was approved by the wildlife agencies in December 1995. The NCCP was developed to establish and implement a long-term agreement among CDFG, USFWS, and SDG&E. The NCCP authorized take of 110 species (covered species) as a result of SDG&E's development, installation, operation, and maintenance of its facilities, while providing for the conservation and preservation of sensitive species. It does not cover large-scale development but does cover new electric substations with less than 20 acres of habitat disturbance. The SDG&E NCCP does not cover major new substation projects; therefore, SDG&E will not be permitting the project under the standards of the SDG&E NCCP. After the ECO Substation Project components are installed, the facilities will be operated and maintained to be consistent with the SDG&E NCCP.

BLM East San Diego County Resources Management Plan and Final Environmental Impact Statement

The Eastern San Diego County RMP and Record of Decision guide the development and management of the Eastern San Diego County Planning Area, an area spanning an eastern escarpment of Southern California's Peninsular Ranges and including more than 100,000 acres of public land administered by the BLM (BLM 2008a). The intent of the RMP and Record of Decision is to direct future development and manage land so that natural resources are not impacted. The RMP also addresses conflicts among various recreational users accessing BLM lands, provides direction for future site-specific development including renewable energy projects, and provides for plan monitoring to determine the effectiveness of BLM land management strategies (BLM 2008a). The RMP stresses that future policy decisions and land management strategies shall be compatible with the multiple use mission of the BLM (the multiple use mission includes recreational use and responsible development within BLM-administered lands while maintaining environmental quality of the land).

D.2.3 Environmental Effects

D.2.3.1 Definition and Use of CEQA Significance Criteria/Indicators under NEPA

In accordance with Appendix G of the CEQA Guidelines (14 CCR 15000 et seq.), the Proposed PROJECT, including the Campo, Manzanita, and Jordan wind energy projects, would have a significant impact on biological resources if it would result in any of the following conditions:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFG and USFWS
- Have a substantial adverse effect on a riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the wildlife agencies
- Have a substantial adverse effect on federally protected waters or wetlands as defined by Section 404 of the Clean Water Act, respectively (including, but not limited to riparian, marsh, and desert wash) through direct removal, filling, hydrological interruption, loss of functions or services, or other means
- Interfere substantially with the movement of native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites
- Conflict with local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance
- Conflict with the provisions of a National Wildlife Refuge, state park, or an adopted Habitat Conservation Plan, Natural Communities Conservation Plan, or other approved local, regional, or state habitat conservation plan.

D.2.3.2 Applicant Proposed Measures

ECO Substation Project

SDG&E has proposed Applicant Proposed Measures (APMs) ECO-BIO-1 through ECO-BIO-30 in its PEA to reduce impacts related to biological resources (see Section B.3.4, ECO Substation Project Applicant Proposed Measures, of this EIR/EIS).

Tule Wind Project

Pacific Wind Development has proposed APMs TULE-BIO-1 through TULE-BIO-21 in its September 2010 Environmental Document (Iberdrola Renewables, Inc. 2010) to reduce impacts related to biological resources (see Section B.4.4, Tule Wind Project Applicant Proposed Measures, of this EIR/EIS).

ESJ Gen-Tie Project

Energia Sierra Juarez U.S. Transmission, LLC, has proposed APMs ESJ-BIO-1 through ESJ-BIO-15, which include construction dust and emissions controls, to reduce impacts related to biological resources (see Section B.5.4, ESJ Gen-Tie Project Applicant Proposed Measures, of this EIR/EIS).

Campo, Manzanita, and Jordan Wind Energy Projects

At the time this EIR/EIS was prepared, the project proponents for these three wind energy projects have not developed project-specific APMs.

D.2.3.3 Direct and Indirect Effects

Table D.2-2 lists the impacts and classifications of the impacts under CEQA identified for the Proposed PROJECT. Cumulative effects are analyzed in Section F of this EIR/EIS.

Table D.2-2
Biological Resource Impacts

Impact No.	Description	Classification
ECO Substation – Biological Resource Impacts		
ECO-BIO-1	Construction activities would result in temporary and permanent losses of native vegetation.	Class II
ECO-BIO-2	Construction activities would result in substantial adverse effects to jurisdictional waters and wetlands through vegetation removal, placement of fill, erosion, sedimentation, and degradation of water quality.	Class II
ECO-BIO-3	Construction and operation/maintenance activities would result in the introduction of invasive, non-native, or noxious plant species.	Class II
ECO-BIO-4	Construction activities would create dust that would result in degradation of vegetation.	Class II
ECO-BIO-5	Construction activities would result in direct or indirect loss of listed or sensitive plants or a direct loss of habitat for listed or sensitive plants.	Class II
ECO-BIO-6	Construction, including the use of access roads, would result in disturbance to wildlife and result in wildlife mortality.	Class III
ECO-BIO-7	Construction activities would result in direct or indirect loss of listed or sensitive wildlife or a direct loss of habitat for listed or sensitive wildlife.	Class I
ECO-BIO-8	Construction activities would result in a potential loss of nesting birds (violation of the Migratory Bird Treaty Act).	Class II
ECO-BIO-9	Construction or operational activities would adversely affect linkages or wildlife movement corridors, the movement of fish, and/or native wildlife nursery sites.	Class III
ECO-BIO-10	Presence of transmission lines and wind turbines may result in electrocution of, and/or collisions by, listed or sensitive bird or bat species.	Class II
ECO-BIO-11	Maintenance activities would result in disturbance to wildlife and could result in wildlife mortality.	Class II
Tule Wind – Biological Resource Impacts		
TULE-BIO-1	Construction activities would result in temporary and permanent losses of native vegetation.	Class II
TULE-BIO-2	Construction activities would result in substantial adverse effects to jurisdictional waters and wetlands through vegetation removal, placement of fill, erosion, sedimentation, and degradation of water quality.	Class II
TULE-BIO-3	Construction and operation/maintenance activities would result in the introduction of invasive, non-native, or noxious plant species.	Class II
TULE-BIO-4	Construction activities would create dust that would result in degradation of vegetation.	Class II

Table D.2-2 (Continued)

Impact No.	Description	Classification
TULE-BIO-5	Construction activities would result in direct or indirect loss of listed or sensitive plants or a direct loss of habitat for listed or sensitive plants.	Class II
TULE-BIO-6	Construction, including the use of access roads, would result in disturbance to wildlife and result in wildlife mortality.	Class III
TULE-BIO-7	Construction activities would result in direct or indirect loss of listed or sensitive wildlife or a direct loss of habitat for listed or sensitive wildlife.	Class II
TULE-BIO-8	Construction activities would result in a potential loss of nesting birds (violation of the Migratory Bird Treaty Act).	Class II
TULE-BIO-9	Construction or operational activities would adversely affect linkages or wildlife movement corridors, the movement of fish, and/or native wildlife nursery sites.	Class III
TULE-BIO-10	Presence of transmission lines and wind turbines may result in electrocution of, and/or collisions by, listed or sensitive bird or bat species.	Class I
TULE-BIO-11	Maintenance activities would result in disturbance to wildlife and could result in wildlife mortality.	Class II
ESJ Gen-Tie – Biological Resource Impacts		
ESJ-BIO-1	Construction activities would result in temporary and permanent losses of native vegetation.	Class II
ESJ-BIO-2	Construction activities would result in substantial adverse effects to jurisdictional waters and wetlands through vegetation removal, placement of fill, erosion, sedimentation, and degradation of water quality.	No Impact
ESJ-BIO-3	Construction and operation/maintenance activities would result in the introduction of invasive, non-native, or noxious plant species.	Class II
ESJ-BIO-4	Construction activities would create dust that would result in degradation of vegetation.	Class II
ESJ-BIO-5	Construction activities would result in direct or indirect loss of listed or sensitive plants or a direct loss of habitat for listed or sensitive plants.	Class II
ESJ-BIO-6	Construction, including the use of access roads, would result in disturbance to wildlife and result in wildlife mortality.	Class III
ESJ-BIO-7	Construction activities would result in direct or indirect loss of listed or sensitive wildlife or a direct loss of habitat for listed or sensitive wildlife.	Class II
ESJ-BIO-8	Construction activities would result in a potential loss of nesting birds (violation of the Migratory Bird Treaty Act).	Class II
ESJ-BIO-9	Construction or operational activities would adversely affect linkages or wildlife movement corridors, the movement of fish, and/or native wildlife nursery sites.	Class III
ESJ-BIO-10	Presence of transmission lines and wind turbines may result in electrocution of, and/or collisions by, listed or sensitive bird or bat species.	Class II
ESJ-BIO-11	Maintenance activities would result in disturbance to wildlife and could result in wildlife mortality.	Class II
Proposed PROJECT (COMBINED – including Campo, Manzanita, and Jordan Wind Energy)		
BIO-1	Construction activities would result in temporary and permanent losses of native vegetation.	Class II
BIO-2	Construction activities would result in substantial adverse effects to jurisdictional waters and wetlands through vegetation removal, placement of fill, erosion, sedimentation, and degradation of water quality.	Class II
BIO-3	Construction and operation/maintenance activities would result in the introduction of invasive, non-native, or noxious plant species.	Class II

Table D.2-2 (Continued)

Impact No.	Description	Classification
BIO-4	Construction activities would create dust that would result in degradation of vegetation.	Class II
BIO-5	Construction activities would result in direct or indirect loss of listed or sensitive plants or a direct loss of habitat for listed or sensitive plants.	Class II
BIO-6	Construction, including the use of access roads, would result in disturbance to wildlife and result in wildlife mortality.	Class III
BIO-7	Construction activities would result in direct or indirect loss of listed or sensitive wildlife or a direct loss of habitat for listed or sensitive wildlife.	Class I
BIO-8	Construction activities would result in a potential loss of nesting birds (violation of the Migratory Bird Treaty Act).	Class II
BIO-9	Construction or operational activities would adversely affect linkages or wildlife movement corridors, the movement of fish, and/or native wildlife nursery sites.	Class III
BIO-10	Presence of transmission lines and wind turbines may result in electrocution of, and/or collisions by, listed or sensitive bird or bat species.	Class I
BIO-11	Maintenance activities would result in disturbance to wildlife and could result in wildlife mortality.	Class II

Environmental Impacts/Environmental Effects

Direct and Indirect (*Note: cumulative effects are addressed in Section F of this EIR/EIS*)

Impact BIO-1: Construction activities would result in temporary and permanent losses of native vegetation.

ECO Substation Project

A total of seven native vegetation communities were mapped within the ECO Substation Project area: chamise/redshank chaparral, open coast live oak woodland, emergent wetland, Peninsular juniper woodland and scrub, Sonoran mixed woody succulent scrub, southern willow scrub/mulefat scrub, and shadscale scrub. In addition to vegetation communities, other land cover occurs in the study area, including agriculture, disturbed land, and developed land.

Temporary impacts to native vegetation communities would result from the construction of all project components, including temporary construction areas, staging areas, and temporary access roads. Cleared construction areas around 138 kV transmission line structures and in the area surrounding the substation sites are assumed to be permanent impacts due to necessary vegetation management around these facilities. The temporary impacts to native vegetation communities are summarized in Table D.2-3 and temporary and permanent impacts by jurisdiction (i.e., land ownership) are described in Appendix 2. Temporary impacts to these native vegetation communities would be adverse and therefore, Mitigation Measures BIO-1a through BIO-1d (these measures provide further clarification and supersede APMs ECO-BIO-26 through ECO-BIO-30) have been provided to mitigate this impact. Under CEQA, impacts would

be significant but can be mitigated to a level that is considered less than significant (Class II) with implementation of Mitigation Measures BIO-1a through BIO-1d.

Table D.2-3
Native Vegetation Communities Impact Acreage for the ECO Substation Project

Native Vegetation Community	Existing Acreage in Study Area	Temporary Impact Acreage	Permanent Impact Acreage	ECO Substation Project Total Impact Acreage
Chamise chaparral/redshank chaparral	303.0	10.2	2.2	12.4
Emergent wetland	5.0	—	—	—
Open coast live oak woodland	6.5	—	<0.01	<0.01
Peninsular juniper woodland and scrub	98.0	19.5	75.0	94.5
Shadscale scrub	16.5	2.7	0.1	2.8
Sonoran mixed woody succulent scrub	287.5	22.5	17.1	39.6
Southern willow scrub/mulefat scrub	7.0	0.2	0.1	0.3
Total	**723.5**	**55.1**	**94.5**	**149.6**

Source: Insignia 2009

Permanent impacts to native vegetation communities would result from implementation of all project components, including the ECO Substation and SWPL Loop-In facilities, permanent access roads, transmission line towers, the Boulevard Substation, and vegetation management areas around project facilities. These permanent impacts to native vegetation communities are summarized in Table D.2-3. Permanent impacts to these native vegetation communities would be adverse and therefore, Mitigation Measures BIO-1a through BIO-1e (these measures provide further clarification and supersede APM ECO-BIO-18) have been provided to mitigate this impact. Under CEQA, impacts would be significant but can be mitigated to a level that is considered less than significant (Class II) with implementation of Mitigation Measures BIO-1a through BIO-1e.

No sensitive natural communities occur in the ECO Substation, SWPL Loop-In, or Boulevard Substation project component project areas. No impact to sensitive natural communities would occur from these project components (No Impact). Two sensitive natural communities occur in the 138 kV transmission corridor project component study area: emergent wetland and southern willow scrub/mulefat scrub. Southern willow scrub/mulefat scrub occurs at or near MP 11.5 and MP 8, and emergent wetland occurs near tower MP 3.5. These sensitive natural communities would be largely avoided and spanned by the proposed transmission line, with the exception of impacts to 0.3 acre of southern willow scrub/mulefat scrub from construction of the transmission line. Impacts to sensitive natural communities (i.e., southern willow scrub/mulefat scrub) would be adverse and therefore, Mitigation Measures BIO-1a through BIO-1e have been provided to mitigate this impact. Under CEQA, impacts would be significant but can be mitigated to a level

that is considered less than significant (Class II) with implementation of Mitigation Measures BIO-1a through BIO-1e.

The ECO Substation Project has the potential to result in indirect impacts to surrounding native vegetation communities from erosion and sedimentation and increased risk of fire resulting from ground disturbance and construction personnel and equipment. These indirect effects have the potential to result in vegetation degradation and type conversion. The effects of repeated fire on flora and fauna are described in detail in Section D.15.1.1. Indirect effects to native vegetation communities would be adverse and therefore, Mitigation Measures BIO-1f and BIO-1g (these measures provide further clarification and supersede APMs ECO-BIO-2 and ECO-BIO-4) have been provided to mitigate this impact. Under CEQA, impacts would be significant but can be mitigated to a level that is considered less than significant (Class II) with implementation of Mitigation Measures BIO-1f and BIO-1g.

MM BIO-1a **Confine all construction and construction-related activities to the minimum necessary area as defined by the final engineering plans.** All construction areas, access to construction areas, and construction-related activities shall be strictly limited to the areas identified on the final engineering plans. The limits of the approved work space shall be delineated with orange construction fencing that shall be maintained throughout the construction period. An environmental monitor shall complete regular observations to ensure that all work is completed within the approved work limits, and in the event any work occurs beyond the approved limits, it shall be reported. During and after construction, entrances to access roads shall be gated to prevent the unauthorized use of these construction access roads by the general public. Signs prohibiting unauthorized use of the access roads shall be posted on these gates.

MM BIO-1b **Conduct contractor training for all construction staff.** Prior to construction, all developer, contractor, and subcontractor personnel shall receive training regarding the appropriate work practices necessary to implement the mitigation measures and comply with environmental regulations, including plant and wildlife species avoidance, impact minimization, and best management practices. Sign-in sheets and hard hat decals shall be provided that document contractor training has been completed for construction personnel.

MM BIO-1c **Conduct biological construction monitoring.** An authorized biological monitor must be present at the construction sites during all ground-disturbing and vegetation-removal activities. The monitor shall survey the construction sites and surrounding areas for compliance with all environmental specifications.

Weekly biological construction monitoring reports shall be prepared and submitted to the appropriate permitting and responsible agencies through the duration of the ground-disturbing and vegetation-removal construction phase. Monthly biological construction monitoring reports shall be prepared and submitted through the duration of project construction to document compliance with environmental requirements.

MM BIO-1d Restore all temporary construction areas pursuant to a Habitat Restoration Plan. All temporary work areas not subject to long-term use or ongoing vegetation maintenance shall be revegetated with native species characteristic of the adjacent native vegetation communities in accordance with a Habitat Restoration Plan. A habitat restoration specialist will be designated and approved by the permitting agencies and will determine the most appropriate method of restoration. Restoration techniques may include the following: hydroseeding, hand-seeding, imprinting, and soil and plant salvage. Any salvage and relocation of species considered desert native plants shall be conducted in compliance with the California Desert Native Plant Act. The Habitat Restoration Plan shall include success criteria and monitoring specifications and shall be approved by the permitting agencies prior to construction of the project. At the completion of project construction, all construction materials shall be completely removed from the site. All temporary construction access roads shall be permanently closed and restored. Topsoil located in areas to be restored will be conserved and stockpiled during the excavation process for use in the restoration. Wherever possible, vegetation would be left in place to avoid excessive root damage to allow for natural recruitment following construction. Temporary impacts shall be restored sufficient to compensate for the impact to the satisfaction of the permitting agencies (depending on the location of the impact). If restoration of temporary impact areas is not possible to the satisfaction of the permitting agencies, the temporary impact shall be considered a permanent impact and compensated accordingly (see MM BIO-1e).

MM BIO-1e Provide habitat compensation or restoration for permanent impacts to native vegetation communities. Permanent impact to all native vegetation communities shall be compensated through a combination habitat compensation and habitat restoration at a minimum of a 1:1 ratio or as required by the permitting agencies. Habitat compensation shall be accomplished through agency-approved land preservation or mitigation fee payment for the purpose of habitat compensation of lands supporting comparable habitats to those lands impacted by the Proposed PROJECT. Land preservation or mitigation fee payment for habitat compensation

must be completed within 18 months of permit issuance. Habitat restoration may be appropriate as compensation for permanent impacts provided that restoration is demonstrated to be feasible and the restoration effort is implemented pursuant to a Habitat Restoration Plan, which includes success criteria and monitoring specifications as described above for Mitigation Measure BIO-1d. The Habitat Restoration Plan shall be approved by the permitting agencies prior to construction of the project. All habitat compensation and restoration used as mitigation for the Proposed PROJECT on public lands shall be located in areas designated for resource protection and management. All habitat compensation and restoration used as mitigation for the Proposed PROJECT on private lands shall include long-term management and legal protection assurances.

MM BIO-1f **Implement fire prevention best management practices during construction and operation activities.** Fire prevention best management practices shall be implemented during construction and operation of the project as specified by the Construction Fire Prevention/Protection Plan (to be developed as required under Mitigation Measure FF-1) and Wildland Fire Prevention and Fire Safety Electric Standard Practice (to be revised as required under Mitigation Measure FF-2).

MM BIO-1g **Prepare and implement a Stormwater Pollution Prevention Plan.** Prepare a Stormwater Pollution Prevention Plan pursuant to the specifications described in Mitigation Measure HYD-1.

Tule Wind Project

A total of 17 native vegetation communities were mapped within the Tule Wind Project area: big sagebrush scrub, chamise chaparral, closed coast live oak woodland, open coast live oak woodland, montane buckwheat scrub, mulefat scrub, non-native grassland, non-vegetated channel, northern mixed chaparral, redshank chaparral, scrub oak chaparral, semi-desert chaparral, southern north slope chaparral, southern riparian woodland, southern willow scrub, upper Sonoran manzanita chaparral, and upper Sonoran subshrub scrub. Other land cover in the Tule Wind Project area includes agriculture/field/pasture, developed, and disturbed land. In addition, a portion of the Tule Wind Project area was not surveyed due to access restrictions.

Temporary impacts to native vegetation communities would result from the construction of the transmission line and poles, overhead and underground collector lines, construction of new and existing roadways, temporary parking area, temporary batch plant, temporary staging areas, and temporary meteorological towers. These temporary impacts to native vegetation communities are summarized in Table D.2-4 (temporary and permanent impacts by jurisdiction (i.e., land

ownership) are described in Appendix 2). Temporary impacts to native vegetation communities would be considered adverse and therefore, Mitigation Measures BIO-1a through BIO-1d (these measures provide further clarification and supersede APMs TULE-BIO-4, TULE-BIO-9, TULE-BIO-10, TULE-BIO-11, TULE-BIO-13, and TULE-BIO-14) have been provided to mitigate this impact. Under CEQA, impacts would be significant but can be mitigated to a level that is considered less than significant (Class II) with implementation of Mitigation Measures BIO-1a through BIO-1d.

Table D.2-4
Native Vegetation Communities Impact Acreage for the Tule Wind Project

Native Vegetation Community	Existing Acreage in Study Area	Temporary Impact Acreage	Permanent Impact Acreage	Tule Wind Project Total Impact Acreage
Big sagebrush scrub	151.3	7.2	2.5	9.7
Chamise chaparral	178.5	13.2	22.6	35.8
Closed coast live oak woodland	12.8	0.4	0.0	0.4
Montane buckwheat scrub	171.0	7.4	4.4	11.8
Mulefat scrub	0.3	0.0	0.0	0.0
Non-native grassland	65.1	2.8	2.4	5.2
Non-vegetated channel	3.4	0.1	0.5	0.6
Northern mixed chaparral	477.4	21.0	93.4	114.4
Open coast live oak woodland	50.3	0.9	1.1	2.0
Redshank chaparral	118.1	3.9	5.3	9.2
Scrub oak chaparral	550.8	28.6	65.7	94.3
Semi-desert chaparral	1,689.8	82.7	159.1	241.8
Southern north slope chaparral	56.7	2.7	5.9	8.6
Southern riparian woodland	1.2	0.0	0.0	0.0
Southern willow scrub	1.8	0.1	0.0	0.1
Unsurveyed area[1]	374.4	0.0	24.0	24.0
Upper Sonoran Manzanita chaparral	220.8	10.3	43.0	53.3
Upper Sonoran subshrub scrub	610.4	33.5	62.4	95.9
Total	**4,734.1**	**214.8**	**492.3**	**707.1**

[1]Unsurveyed area refers to portions of the project that were not accessible due to private land restrictions.
Source: HDR 2010a

Permanent impacts to native vegetation communities would result from the construction of turbines, support facilities, and access roads. Vegetation management around project facilities is also considered a permanent impact to vegetation communities. Although areas of the Tule Wind Project may be potentially restored according to a Decommissioning Plan at the termination of the ROW authorization, all turbine locations, support facilities, access roads, and vegetation management areas are considered permanently impacted by construction of the project for the purposes of this analysis. These permanent impacts to native vegetation communities are

summarized in Table D.2-4. Permanent impacts to native vegetation communities are adverse and therefore, Mitigation Measure BIO-1e has been provided to mitigate this impact. Under CEQA, impacts would be significant but can be mitigated to a level that is considered less than significant (Class II) with implementation of Mitigation Measure BIO-1e.

Five sensitive natural communities occur in the Tule Wind Project area, including big sagebrush scrub, mulefat scrub, redshank chaparral, southern riparian woodland, and southern willow scrub. No temporary or permanent impacts to mulefat scrub or southern riparian woodland would occur. The Tule Wind Project would result in 9.7 acres of total impact to big sagebrush scrub, 9.2 acres of total impact to redshank chaparral, and 0.1 acre of total impact to southern willow scrub. Impact to sensitive natural communities from the Tule Wind Project would be adverse and therefore, Mitigation Measures BIO-1a through BIO-1g have been provided to mitigate this impact. Under CEQA, impacts would be considered significant but can be mitigated to a level that is considered less than significant (Class II) with implementation of Mitigation Measures BIO-1a through BIO-1g.

The Tule Wind Project has the potential to result in indirect impacts to surrounding native vegetation communities from erosion, sedimentation, and increased risk of fire. These indirect effects have the potential to result in vegetation degradation and type conversion, which is considered adverse, and therefore Mitigation Measures BIO-1f and BIO-1g and APMs TULE-BIO-1, TULE-BIO-5, TULE-BIO-6, TULE-BIO-7, TULE-BIO-8, TULE-BIO-19, and TULE-BIO-20 have been provided to mitigate this impact. APMs TULE-BIO-1, TULE-BIO-5, TULE-BIO-6, TULE-BIO-7, TULE-BIO-8, TULE-BIO-19, and TULE-BIO-20 are retained as project-specific APMs and are included in Table D.3-12, Mitigation Monitoring, Compliance, and Reporting-ECO Substation, Tule Wind, and ESJ Gen-Tie Projects-Biological Resources. -Under CEQA, indirect effects would be significant but with implementation of Mitigation Measures BIO-1f and BIO-1g, and APMs Tule BIO-1, 5, 6, 7, 8, 19 and 20 impacts would be mitigated to a less than significant (Class II).

ESJ Gen-Tie Project

A total of two vegetation communities were mapped within the ESJ Project area: Peninsular juniper woodland and scrub and Sonoran mixed woody succulent scrub. In addition to vegetation communities, other land cover types occur in the project area, including disturbed land.

Temporary impacts to native vegetation communities would result from the construction of the ESJ Project, including temporary construction areas, staging areas, temporary access roads, wire pull, and laydown sites. Although some of the impacts from the construction of the ESJ Project would be temporary in nature, all temporary impacts were considered permanent for the purposes

of impact analysis and to accommodate for operational vegetation management. Permanent impacts to native vegetation communities are described below.

Permanent impacts to native vegetation communities would result from the construction of the ESJ Project, including construction areas, staging areas, access roads, wire pull areas, and transmission line towers. For the purposes of impact analysis, the impacts of two potential alignments were assessed to address the 500 kV and 230 kV options. The maximum impact from property access routes was assumed in this analysis. These permanent impacts to native vegetation communities are summarized in Table D.2-5. A total of 8.8 to 9.8 acres of permanent impact to native vegetation communities would result from the ESJ Project, including 2.6 acres of Peninsular juniper woodland and scrub and 6.2 to 7.2 acres of Sonoran mixed woody succulent scrub. Impacts to native vegetation communities would be considered adverse and therefore. Mitigation Measures BIO-1a through BIO-1e (these measures provide further clarification and supersede APMs ESJ-BIO-7, ESJ-BIO-8, ESJ-BIO-14, and ESJ-BIO-15) have been provided to mitigate this impact. Under CEQA, impacts would be significant but can be mitigated to a level considered less than significant (Class II) with implementation of Mitigation Measures BIO-1a through BIO-1e.

No sensitive natural communities occur in the ESJ Project areas. No impact to sensitive natural communities would result from the ESJ Project (No Impact).

Table D.2-5
Native Vegetation Communities Impact Acreage for the ESJ Project

Native Vegetation Community	Existing Acreage in Study Area	Temporary Impact Acreage	Permanent Impact Acreage	
			A1	A2
Peninsular juniper woodland and scrub	14.9	—	2.6	2.6
Sonoran mixed woody succulent scrub	46.4	—	7.2	6.2
Total	**61.2**	**—**	**9.8**	**8.8**

Source: EDAW 2010

The ESJ Project has the potential to result in indirect impacts to surrounding native vegetation communities from erosion, sedimentation, and increased risk of fire. These indirect effects have the potential to result in vegetation degradation and type conversion. Indirect effects would be adverse and therefore, Mitigation Measures BIO-1f and BIO-1g (these measures provide further clarification and supersede APMs ESJ-BIO-2 and ESJ-BIO-4) have been provided to mitigate this impact. Under CEQA, impacts would be significant but with implementation of Mitigation Measures BIO-1f and BIO-1g, impacts would be mitigated to a level that is considered less than significant (Class II).

Proposed PROJECT

As discussed previously, the Proposed PROJECT would result in temporary and permanent direct impacts to native vegetation communities resulting from the construction of substations, transmission lines, wind turbines, access roads, other support facilities, and temporary construction areas. In total, the Proposed PROJECT would result in 856.6 acres of impact to native vegetation communities (i.e., direct removal of vegetation), including 239.4 acres of temporary impacts and 617.2 acres of permanent impact. Given their locations in and around the McCain Valley, the proposed Campo, Manzanita, and Jordan wind energy projects would result in impacts to a similar suite of native vegetation communities as the Proposed PROJECT. The extent of the temporary and permanent impacts to vegetation communities associated with these wind projects are not known at this time but will be evaluated under all applicable environmental regulations once sufficient project-level information has been developed. Additionally, construction activities have the potential to result in indirect impacts to native vegetation communities resulting from erosion, sedimentation, increased fire risk, and type conversion. The temporary and permanent loss of native vegetation communities, including sensitive natural communities, would be adverse and therefore, Mitigation Measures BIO-1a through BIO-1e have been provided to mitigate this impact. Under CEQA, these impacts can be reduced to a level that is considered less than significant with the implementation of Mitigation Measures BIO-1a through BIO-1e (Class II). Indirect impacts to native vegetation communities would also be adverse and therefore, Mitigation Measures BIO-1f and BIO-1g have been provided to mitigate this impact. Under CEQA, indirect impacts would be considered significant but can be mitigated to a level considered less than significant (Class II) with implementation of Mitigation Measures BIO-1f and BIO-1g.

Impact BIO-2: **Construction activities would result in substantial adverse effects to jurisdictional waters, including wetlands, through vegetation removal, placement of fill, erosion, sedimentation, and degradation of water quality.**

ECO Substation Project

Numerous dry washes, swales, and wetland features occur on the ECO Substation, SWPL, and 138 kV transmission line project component areas (see Figures D.2-1 through D.2-3). These features have the potential to be subject to the jurisdiction of the ACOE, CDFG, and/or RWQCB. No potential jurisdictional features were identified on the Boulevard Substation project component area.

The ECO Substation Project would result in a total of approximately 0.5 acre of impact through the direct fill to three potential jurisdictional desert swale features in the ECO Substation area. It

is assumed that these features would be regulated by the ACOE and RWQCB as non-wetland waters of the U.S. and by CDFG as unvegetated streambeds. Permanent impacts to jurisdictional waters and wetlands from the ECO Substation and SWPL project components would be adverse and therefore, Mitigation Measures BIO-1a through BIO-1d, BIO-1f, BIO-1g, and BIO-2a through BIO-2c have been provided to mitigate this impact. Under CEQA, impacts would be significant but can be mitigated to a level that is considered less than significant (Class II) with implementation of Mitigation Measures BIO-1a through BIO-1d, BIO-1f, BIO-1g, and BIO-2a through BIO-2c.

The 138 kV transmission line project component area crosses numerous washes and swales that would be regulated by the ACOE and RWQCB as non-wetland waters of the U.S. and by CDFG as unvegetated streambeds. In addition, several drainages supporting mulefat scrub/southern willow scrub and an area supporting emergent wetland occur within the 138 kV transmission line project component area, and it is assumed that these features would be regulated by the ACOE and RWQCB as wetlands and by CDFG as riparian wetlands. Southern willow scrub/mulefat scrub occurs at or near MP 11.5 and MP 8; emergent wetland occurs near MP 3.5; and non-wetland waters occur at or near MP 3 to MP 2.5 and at several other locations along the line. These jurisdictional resources would be largely avoided and spanned by the proposed transmission line, with the exception of potential impacts to non-wetland waters resulting from the undergrounded portion of the transmission line and 0.3 acre of southern willow scrub/mulefat scrub from construction of the transmission line. Impacts to jurisdictional resources from the 138 kV transmission line project component would be considered adverse and therefore, Mitigation Measures BIO-2a through BIO-2c (these measures provide further clarification and supersede APM ECO-BIO-11) has been provided. Under CEQA, impacts would be significant but can be mitigated to a level that is considered less than significant (Class II) with implementation of Measures BIO-2a through BIO-2c.

MM BIO-2a Limit temporary and permanent impacts to jurisdictional features to the minimum necessary as defined by the final engineering plans. Obtain and implement the terms and conditions of agency permit(s) for unavoidable impacts to jurisdictional wetlands and waters. All construction areas, access to construction areas, and construction-related activities shall be strictly limited to the areas within the approved work limits identified on the final engineering plans. The limits of construction shall be delineated with orange construction fencing and maintained throughout construction to avoid and minimize impacts to jurisdictional resources. The project applicant shall obtain applicable permits and provide evidence of permit approval, which may include but not be limited to a Clean Water Act Section 404 Permit, a Clean Water Act Section 401 water quality certification, and a Section 1602 streambed alteration agreement with the

U.S. Army Corps of Engineers, Regional Water Quality Control Board, and California Department of Fish and Game for impacts to jurisdictional features prior to project construction. The terms and conditions of these authorizations shall be implemented.

MM BIO-2b Implement habitat creation and/or restoration pursuant to a wetland mitigation plan to ensure no net loss of jurisdictional waters and wetlands. Temporary and permanent impacts to all jurisdictional resources shall be compensated through a combination habitat creation (i.e., establishment) and habitat restoration at a minimum of a 1:1 ratio or as required by the permitting agencies. The creation/restoration effort shall be implemented pursuant to a Habitat Restoration Plan, which shall include success criteria and monitoring specifications and shall be approved by the permitting agencies prior to construction of the project. A habitat restoration specialist will be designated and approved by the permitting agencies and will determine the most appropriate method of restoration. Restoration techniques may include hydroseeding, hand-seeding, imprinting, and soil and plant salvage. Temporary impacts shall be restored sufficient to compensate for the impact to the satisfaction of the permitting agencies (depending on the location of the impact). If restoration of temporary impact areas is not possible to the satisfaction of the BLM or County, the temporary impact shall be considered a permanent impact and compensated accordingly. All habitat creation and restoration used as mitigation for the Proposed PROJECT on public lands shall be located in areas designated for resource protection and management. All habitat creation and restoration used as mitigation for the Proposed PROJECT on private lands shall include long-term management and legal protection assurances.

MM BIO-2c Where drainage crossings are unavoidable, construct access roads at right angles to drainages. Unless not possible due to existing landforms or site constraints, access roads shall be built perpendicular to drainages to minimize the impacts to these resources and prevent impacts along the length of jurisdictional features.

Tule Wind Project

Numerous dry washes, swales, and wetland features occur in the Tule Wind Project area (see Figures D.2-5 through D.2-8). These features have the potential to be subject to the jurisdiction of the ACOE, CDFG, and/or RWQCB.

No ACOE jurisdictional wetlands occur in the Tule Wind Project area; therefore, no impact to ACOE jurisdictional wetlands would result from project implementation. The Tule Wind Project would result in a total of 0.35 acre of impact (0.22 acre of temporary impact; 0.13 acre of permanent impact) to ACOE and RWQCB non-wetland waters. The Tule Wind Project would result in a total of 0.76 acre of impact (0.54 acre of temporary impact; 0.22 acre of permanent impact) to CDFG jurisdictional features. Although all areas of the Tule Wind Project may be potentially restored according to a Decommissioning Plan at the termination of the ROW authorization, all turbine locations, support facilities, access roads, and vegetation management areas are considered permanently impacted by project construction for the purposes of this analysis. This impact is considered adverse and therefore, Mitigation Measures BIO-1a through BIO-1d, BIO-1f, BIO-1g, and BIO-2a through BIO-2c (Mitigation Measures BIO-2a through BIO-2c provide further clarification and supersede APMs TULE-BIO-2 and TULE-BIO-3) have been provided to mitigate this impact. Under CEQA, impacts would be significant but can be mitigated to a level that is considered less than significant (Class II) with implementation of Mitigation Measures BIO-2a through BIO-2c. Impacts to jurisdictional waters and wetlands from the Tule Wind Project would be adverse and therefore, Mitigation Measures BIO-1a through BIO-1d, BIO-1f, BIO-1g, and BIO-2a through BIO-2c have been provided. Under CEQA, impacts would be significant but can be mitigated to a level that is considered less than significant (Class II) with implementation of Mitigation Measures BIO-1a through BIO-1d, BIO-1f, BIO-1g, and BIO-2a through BIO-2c.

ESJ Gen-Tie Project

No waters or wetland features subject to the jurisdiction of the ACOE, RWQCB, or CDFG were identified in the ESJ Project area. No impact to jurisdictional waters and wetlands would result from the ESJ Project (No Impact).

Proposed PROJECT

As discussed previously, construction of the Proposed PROJECT would result in adverse impacts to jurisdictional resources. In total, the Proposed PROJECT would result in 1.26 acres of direct permanent impact to jurisdictional resources. The extent of the impacts to jurisdictional resources associated with the Campo, Manzanita, and Jordan wind energy projects is not known at this time; however, similar to mitigation imposed as part of the Proposed PROJECT, such as working with the ACOE, RWQCB, and CDFG for impacts to jurisdictional features prior to project construction and the creation of new habitat or habitat restoration, these three wind energy projects would be required to mitigate or at least reduce any potential impacts to such resources. Therefore, the proposed Campo, Manzanita, and Jordan wind energy projects would not substantially impact existing jurisdictional waters and wetlands due to vegetation removal, placement of fill, erosion, sedimentation, or degradation of water quality. The loss of

jurisdictional waters and wetlands resulting from the Proposed PROJECT would be adverse and therefore, Mitigation Measures BIO-1a through BIO-1d, BIO-1f, BIO-1g, and BIO-2a through BIO-2c have been provided to mitigate this impact Under CEQA, jurisdictional waters and wetlands impacts would be significant but can be mitigated to a level that is considered less than significant (Class II) with implementation of Mitigation Measures BIO-1a through BIO-1d, BIO-1f, BIO-1g, and BIO-2a through BIO-2c.

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

ECO Substation Project

The majority of the ECO Substation Project study area is characterized by undisturbed native vegetation communities with low levels of invasive or noxious plant species. Non-native grasses and forbs (e.g., *Bromus* and *Erodium* species) occur as a component of the understory in most of the vegetation communities in the study area, but these species are at lower percent cover and are not generally viewed as invasive or noxious within existing vegetation communities. Areas within the ECO Substation Project study area where ground disturbance is occurring or has occurred support a higher level of and potential for invasive, non-native, and noxious plant species. These areas include the agricultural area along the 138 kV transmission line project component, the areas of residential land uses near Jewel Valley Road along the 138 kV transmission line project component, the Boulevard Substation project component area, and all disturbed areas within all project component areas.

All components of the ECO Substation Project would result in temporary ground-disturbance activities that would result in the disturbance to or removal of existing vegetation. Ground-disturbing activities expose soils and allow invasive and non-native plant species to become established. Increased human and vehicle activity in the project area during construction would have the potential to introduce seeds of invasive and non-native species into the area. During operation and maintenance of all components of the ECO Substation Project, the human and vehicle activities would have the potential to spread invasive and non-native species throughout the area. The introduction and spread of invasive, non-native, or noxious plant species has the potential to degrade plant and species habitat through changes in species composition and habitat type conversion, including areas known to support special-status species and sensitive natural communities. This impact would be adverse and therefore, Mitigation Measures BIO-1a through BIO-1d, BIO-1f, BIO-1g, and BIO-3a (this measure provides further clarification and supersedes APM ECO-BIO-3a) have been provided to mitigate this impact. Under CEQA, impacts would be significant but can be mitigated to a level that is considered less than significant (Class II) with implementation of Mitigation Measures BIO-1a through BIO-1d, BIO-1f, BIO-1g, and BIO-3a.

MM BIO-3a Prepare and implement a Noxious Weeds and Invasive Species Control Plan. A Noxious Weeds and Invasive Species Control Plan shall be prepared and reviewed by applicable permitting agencies. The plan shall be implemented during all phases of project construction and operation. The plan shall include best management practices to avoid and minimize the direct or indirect effect of the establishment and spread of invasive plant species during construction. Implementation of specific protective measures shall be required during construction, such as cleaning vehicles prior to off-road use, using weed-free imported soil/material, restricting vegetation removal, and requiring topsoil storage. Development and implementation of weed management procedures shall be used to monitor and control the spread of weed populations along the construction access and transmission line right-of-ways. Vehicles used in transmission line construction shall be cleaned prior to operation off of maintained roads. Existing vegetation shall be cleared only from areas scheduled for immediate construction work and only for the width needed for active construction activities. Noxious weed management shall be conducted annually to prevent the establishment and spread of invasive plant species. This shall include weed abatement efforts targeted at plants listed as invasive exotics by the California Exotic Plant Pest Council in its most recent ~~"A~~" or ~~"R~~ed Alert" list. Pesticide use shall be limited to non-persistent pesticides and shall only be applied in accordance with label and application permit directions and restrictions for terrestrial and aquatic applications.

Tule Wind Project

Similar to the ECO Substation Project area, the majority of the Tule Wind Project area is characterized by undisturbed native vegetation communities with low levels of invasive or noxious plant species. Non-native grasses and forbs occur as a component of the understory in most of the vegetation communities in the study area, but these species are at low percent cover and are not generally viewed as invasive or noxious within existing vegetation communities. Areas within the Tule Wind Project study area where ground disturbance is occurring or has occurred support a higher level of and potential for invasive, non-native, and noxious plant species. These areas include areas of grazing, developed areas, and along existing roadways.

The Tule Wind Project would result in temporary ground-disturbing activities that would result in disturbance or removal of existing vegetation. Ground-disturbance activities expose soils and allow invasive and non-native plant species to become established. Increased human and vehicle activity in the project area during construction would have the potential to introduce seeds of invasive and non-native species into the area. During operation and maintenance of the Tule Wind Project, the human and vehicle activities would have the potential to spread invasive and

non-native species throughout the area. The introduction and spread of invasive, non-native, or noxious plant species has the potential to degrade plant and species habitat, including areas known to support special-status species and sensitive natural communities. Therefore, impact of the Tule Wind Project on the introduction of invasive, non-native, or noxious plant species would be adverse, and therefore, Mitigation Measures BIO-1a through BIO-1d, BIO-1f, BIO-1g, and BIO-3a have been provided to mitigate this impact. Under CEQA, impacts would be significant but can be mitigated to a level that is considered less than significant (Class II) with implementation of Mitigation Measures BIO-1a through BIO-1d, BIO-1f, BIO-1g, and BIO-3a.

ESJ Gen-Tie Project

Similar to the ECO Substation Project, the ESJ Project study area is characterized by undisturbed native vegetation communities with low levels of invasive or noxious plant species.

The ESJ Project would result in temporary ground-disturbance activities that would result in the disturbance to or removal of existing vegetation. As described for the ECO Substation Project, the construction and operation of the ESJ Project has the potential to introduce and spread invasive, non-native, or noxious plant species, which has the potential to degrade plant and species habitat, including areas known to support special-status species and sensitive natural communities. The impact of the ESJ Project on the introduction of invasive, non-native, or noxious plant species would be adverse and therefore, Mitigation Measures BIO-1a through BIO-1d, BIO-1f, BIO-1g, and BIO-3a have been provided to mitigate this impact. Under CEQA, impacts would be significant but can be mitigated to a level that is considered less than significant (Class II) with implementation of Mitigation Measures BIO-1a through BIO-1d, BIO-1f, BIO-1g, and BIO-3a.

Proposed PROJECT

The ground-disturbance activities and increased vehicle and human uses associated with construction and operation of the Proposed PROJECT, including the Campo, Manzanita, and Jordan wind energy projects, have the potential to introduce and spread invasive, non-native, or noxious plant species in the area, which is generally characterized by undisturbed native vegetation communities with low levels of invasive or noxious plant species. The introduction of invasive, non-native, or noxious plant species resulting from the Proposed PROJECT would be adverse and therefore, Mitigation Measures BIO-1a through BIO-1d, BIO-1f, BIO-1g, and BIO-3a have been provided to mitigate this impact. Under CEQA, this impact is significant but can be mitigated to a level that is considered less than significant (Class II) with implementation of Mitigation Measures BIO-1a through BIO-1d, BIO-1f, BIO-1g, and BIO-3a.

Impact BIO-4: Construction activities would create dust that would result in degradation of vegetation.

ECO Substation Project

The construction of all components of the ECO Substation Project has the potential to generate dust that would cover plants within vegetation communities adjacent to construction areas. Dust cover on plants can cause reduced plant vigor and degraded plant and wildlife habitat through burial of plants or interruption of photosynthesis and other processes, including areas known to support special-status species and sensitive natural communities. The impact of the ECO Substation Project on the construction dust generation resulting in the degradation of vegetation would be adverse and therefore, Mitigation Measure BIO-4a has been provided to mitigate this impact. Under CEQA, impacts would be significant but can be mitigated to a level that is considered less than significant (Class II) with the implementation of Mitigation Measure BIO-4a.

MM BIO-4a Prepare and implement a Dust Control Plan. The project proponent shall (a) pave, apply water three times daily, or apply (non-toxic) soil stabilizers on all unpaved access roads, parking areas, and staging areas if construction activity causes persistent visible emissions of fugitive dust beyond the work area; (b) pre-water sites for 48 hours in advance of clearing; (c) reduce the amount of disturbed area where feasible; (d) spray all dirt stock-pile areas daily as needed; (e) cover loads in haul trucks or maintain at least 6 inches of free-board when traveling on public roads; (f) pre-moisten, prior to transport, import and export dirt, sand, or loose materials; (g) sweep streets daily (with water sweepers) if visible soil material is carried onto adjacent public streets or wash trucks and equipment before entering public streets; (h) plant vegetative ground cover in disturbed areas as soon as possible following construction; (i) apply chemical soil stabilizers or apply water to form and maintain a crust on inactive construction areas (disturbed lands that are unused for 14 consecutive days); and (j) prepare and file with the San Diego Air Pollution Control District and permitting agencies a Dust Control Plan that describes how these measures would be implemented and monitored at all locations of the project. This plan shall be developed consistent with the requirements of Mitigation Measure AQ-1.

Tule Wind Project

As described previously for the ECO Substation Project, the construction of the Tule Wind Project has the potential to generate dust that would cover plants within vegetation communities adjacent to construction areas. Identified impacts would be adverse and therefore, Mitigation

Measure BIO-4a (this measure provides further clarification and supersedes APMs TULE-BIO-16 and TULE-BIO-17) has been provided to mitigate this impact. Under CEQA, impacts would be significant but can be mitigated to a level that is considered less than significant (Class II) with the implementation of Mitigation Measure BIO-4a.

ESJ Gen-Tie Project

Similar to the ECO Substation Project, the construction of the ESJ Gen-Tie Project has the potential to generate dust that would cover plants within vegetation communities adjacent to construction areas. The impact of the ESJ Gen-Tie Project on the construction dust generation resulting in the degradation of vegetation would be adverse and therefore, Mitigation Measure BIO-4a has been provided to mitigate this impact. Under CEQA, impacts would be significant but can be mitigated to a level that is considered less than significant (Class II) with implementation of Mitigation Measure BIO-4a.

Proposed PROJECT

The ground-disturbance activities and increased vehicle and human uses associated with construction of the Proposed PROJECT have the potential to generate dust that could degrade undisturbed native vegetation communities in the area. Given the close proximity of the Campo, Manzanita, and Jordan wind energy projects to the Proposed PROJECT, significant construction dust could be generated, resulting in vegetation degradation if all projects were to be constructed simultaneously. Identified impacts would be adverse and therefore, Mitigation Measure BIO-4a has been provided to mitigate this impact. Under CEQA, the impact would be significant but can be mitigated to a level that is considered less than significant (Class II) with the implementation of Mitigation Measure BIO-4a. .

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

No state-listed or federally listed plant species were observed or have the potential to occur in the Proposed PROJECT area. Special-status plant species that were observed or have high to moderate potential to occur are discussed below. Special-status plant species with no or low potential to occur are not discussed below. All special-status plant species analyzed for the Proposed PROJECT are listed in Appendix 1, Table 1. Given their locations in and around the McCain Valley, the proposed Campo, Manzanita, and Jordan wind energy projects would result in impacts to a similar suite of special-status plant species as the Proposed PROJECT. However, the presence of these species and the extent of the impacts to these species from these proposed wind energy projects are not known at this time but will be evaluated under all applicable environmental regulations once sufficient project-level information has been developed.

ECO Substation Project

As discussed in Section D.2.1.1 and Appendix 1, Table 1, Jacumba milk-vetch, Tecate tarplant, Colorado Desert larkspur, sticky geraea, Palmer's grappling hook, slender-leaved ipomopsis, pride-of-California, desert beauty, and Jacumba monkeyflower occur or have a high potential to occur in the ECO Substation Project area. California ayenia, elephant tree, Utah vine milkweed, curly herissantia, pygmy lotus, Mountain Springs bush lupine, Parish's desert-thorn, hairy stickleaf, creamy blazing star, Thurber's beardtongue, desert spike moss, chaparral ragwort, Cove's cassia, and southern jewel-flower have a moderate potential to occur in the ECO Substation Project Area. The ECO Substation Project could result in impacts to approximately 19 Jacumba milk-vetch, 28 sticky geraea, 5 slender-leaved ipomopsis, and 215 desert beauty individuals.

Direct removal of these species or indirect loss of this species from construction-related dust or trampling or direct removal of suitable habitat would be adverse and therefore, Mitigation Measures BIO-1a through BIO-1g, BIO-3a, BIO-4a, BIO-5a and BIO-5b (Mitigation Measures BIO-5a and BIO-5b provide further clarification and supersede APMs ECO-BIO-12 through ECO-BIO-14) have been provided to mitigate this impact. Under CEQA, impacts would be significant but can be mitigated to a level that is considered less than significant (Class II) with implementation of Mitigation Measures BIO-1a through BIO-1g, BIO-3a, BIO-4a, and BIO-5a through BIO-5b.

MM BIO-5a Install fencing or flagging around identified special-status plant species populations in the construction areas. Prior to the start of construction, a qualified biologist shall conduct focused surveys during the appropriate blooming period for special-status plant species for all construction areas. All of the special-status plant locations shall be recorded using a Global Positioning System (GPS), which will be used to site the avoidance fencing/flagging. Special-status plant species shall be avoided to the maximum extent possible by all construction activities. The boundaries of all special-status plant species to be avoided shall be delineated in the field with clearly visible fencing or flagging. The fencing/flagging shall be maintained for the duration of project construction activities.

MM BIO-5b Implement special-status plant species compensation. Impacts to special-status plant species shall be maximally avoided. Where impacts to special-status plant species are unavoidable, the impact shall be quantified and compensated through off-site land preservation and/or plant salvage and relocation. Where off-site land preservation is biologically preferred, the land shall contain comparable special-status plant resources as the impacted lands and shall include long-term

management and legal protection assurances to the satisfaction of the BLM or County. Land preservation must be completed within 18 months of permit issuance. Where salvage and relocation is demonstrated to be feasible and biologically preferred, it shall be conducted pursuant to an agency-approved plan that details the methods for salvage, stockpiling, and replanting, as well as the characteristics of the receiver sites. Any salvage and relocation plans shall be approved by the permitting agencies prior to project construction. Any salvage and relocation of species considered desert native plants shall be conducted in compliance with the California Desert Native Plant Act. Success criteria and monitoring shall also be included in the plan. If salvage and relocation is not possible to the satisfaction of the BLM or County, off-site land preservation shall be required.

Tule Wind Project

As discussed in Section D.2.1.1 and Appendix 1, Table 1, Jacumba milk-vetch, Tecate tarplant, Payson's jewel-flower, Colorado Desert larkspur, sticky geraea, curly herissantia, Laguna Mountains alumroot, San Diego sunflower, slender-leaved ipomopsis, desert beauty, Mountain Springs bush lupine, Jacumba monkeyflower, Palomar monkeyflower, and southern jewel-flower occur or have a high potential to occur in the Tule Wind Project area. California ayenia, elephant tree, Utah vine milkweed, pygmy lotus, Parish's desert-thorn, hairy stickleaf, creamy blazing star, Thurber's beardtongue, desert spike moss, chaparral ragwort, and Cove's cassia have a moderate potential to occur in the Tule Wind Project area. The Tule Wind Project could result in impacts to 511 Jacumba milk-vetch; 10,608 Payson's jewel-flower; 3,743 Colorado Desert larkspur; 739 sticky geraea; 401 Laguna Mountains alumroot; 6,095 San Diego sunflower; 53,230 desert beauty; 98 Mountain Springs bush lupine; 248 Palomar monkeyflower; and 578 southern jewel-flower individuals.

Direct removal of these species or indirect loss of these species from construction-related dust or trampling or direct removal of suitable habitat would be an adverse impact and therefore, Mitigation Measures BIO-1a through BIO-1g, BIO-3a, BIO-4a, BIO-5a and BIO-5b (Mitigation Measures BIO-5a and BIO-5b provide further clarification and supersede APMs TULE-BIO-16 and TULE-BIO-17) have been provided to mitigate this impact. Under CEQA, impacts would be significant but can be mitigated to a level that is considered less than significant (Class II) with implementation of Mitigation Measures BIO-1a through BIO-1g, BIO-3a, BIO-4a, and BIO-5a through BIO-5b.

ESJ Gen-Tie Project

As discussed in Section D.2.1.1 and Appendix 1, Table 1, Jacumba milk-vetch, sticky geraea, slender-leaved ipomopsis, and desert beauty occur or have a high potential to occur in the ESJ Gen-Tie Project area. California ayenia, elephant tree, Utah vine milkweed, Tecate tarplant, Colorado Desert larkspur, curly herissantia, pygmy lotus, Mountain Springs bush lupine, hairy stickleaf, creamy blazing star, Thurber's beardtongue, desert spike moss, Cove's cassia, and southern jewel-flower have a moderate potential to occur in the ESJ Gen-Tie Project area.

Direct removal of this species or indirect loss of this species from construction-related dust or trampling or direct removal of suitable habitat would be and adverse impact and therefore, Mitigation Measures BIO-5a and BIO-5b (these measures provide further clarification and supersede APM ESJ-BIO-9) have been provided to mitigate this impact. Under CEQA, impacts would be significant but can be mitigated to a level that is considered less than significant (Class II) with implementation of Mitigation Measures BIO-1a through BIO-1g, BIO-3a, BIO-4a, and BIO-5a through BIO-5b.

Proposed PROJECT

The Proposed PROJECT area is characterized by a diverse assemblage of vegetation communities that supports or has the potential to support numerous special-status plant species. The construction of the Proposed PROJECT would result in the direct loss of special-status plant species, indirect effects to special-status plant species, and the loss of suitable habitat for special-status plant species. The direct and indirect loss of special-status plant species and their suitable habitats resulting from the Proposed PROJECT, including the Campo, Manzanita, and Jordan wind energy projects, would be adverse and therefore, Mitigation Measures BIO-1a through BIO-1g, BIO-3a, BIO-4a, and BIO-5a through BIO-5b have been provided to mitigate this impact. Under CEQA, impacts would be mitigated to a level that is considered less than significant (Class II) with the implementation of Mitigation Measures BIO-1a through BIO-1g, BIO-3a, BIO-4a, and BIO-5a through BIO-5b.

Impact BIO-6: Construction, including the use of access roads, would result in disturbance to wildlife and result in wildlife mortality.

ECO Substation Project

The construction of all components of the ECO Substation Project has the potential to disturb wildlife in and adjacent to the construction areas, including direct mortality. Wildlife would be displaced within the construction areas and may avoid the area immediately surrounding the construction areas due to human presence and noise. Additionally, use of access roads around the construction area for the ECO Substation Project has the potential to result in the direct mortality

of less-mobile wildlife. Except where such construction-related disturbance or direct mortality affects special-status wildlife, which is addressed under Impact BIO-7, the construction-related impact of the ECO Substation Project on wildlife disturbance and direct mortality would not be adverse and would be considered less than significant under CEQA (Class III). Potential disturbance and mortality of common wildlife does not rise to a level of significance, and mitigation measures implemented to avoid, minimize, and mitigate construction-related impacts to special-status wildlife species would also be protective of common wildlife species.

As described in Section B of this EIR/EIS, 138 kV transmission line project component would result in construction-related disturbance at approximately 107 transmission tower sites, staging areas, pull sites, and spur roads along the 13.3-mile project area. Additionally, construction personnel and vehicles would be traversing the access roads along the transmission line during the construction phase. Construction-related disturbance to and/or mortality of wildlife, except where such disturbance or mortality affects special-status species, would not be adverse. Under CEQA, impacts would be considered less than significant (Class III). Mitigation measures implemented to avoid, minimize, and mitigate construction-related impacts to special-status wildlife species will benefit other common wildlife species as well.

The Boulevard Substation project component is characterized by disturbed land and developed land and does not provide any substantial wildlife habitat. The disturbance to wildlife, including wildlife mortality, from the construction of the Boulevard Substation project component would not be adverse. Under CEQA, impacts would be considered less than significant (Class III).

Tule Wind Project

As described in Section B, Tule Wind Project would result in disturbance related to the construction of turbines, transmission lines, collectors, access roads, and other support facilities. Additionally, construction personnel and vehicles would be traversing the roadways in the vicinity of the project area during the entire construction phase. Construction-related disturbance to and/or mortality of wildlife, except where such disturbance or mortality affects special-status species, would not be adverse. Under CEQA, impacts would be considered less than significant (Class III). Potential disturbance and mortality of common wildlife does not rise to a level of significance, and mitigation measures implemented to avoid, minimize, and mitigate construction-related impacts to special-status wildlife species will benefit other common wildlife species as well.

ESJ Gen-Tie Project

As described in Section B, the ESJ Gen-Tie Project would result in construction-related disturbance at three to five transmission tower sites, work areas, stringing areas, and access roads along less than 1 mile. Additionally, construction personnel and vehicles would be traversing the

access roads along the transmission line during the entire construction phase. Construction-related disturbance to and/or mortality of wildlife, except where such disturbance or mortality affects special-status species, would not be adverse. Under CEQA, impacts would be considered less than significant (Class III). Potential disturbance and mortality of common wildlife does not rise to a level of significance, and mitigation measures implemented to avoid, minimize, and mitigate construction-related impacts to special-status wildlife species will benefit other common wildlife species as well.

Proposed PROJECT

Increased vehicle and human presence, noise, and other construction-related activities would result from construction of the Proposed PROJECT, including the proposed Campo, Manzanita, and Jordan wind energy projects. Except where such activities resulted in the mortality of and/or disturbance to special-status wildlife species, which is addressed under Impact BIO-7, the potential construction-related mortality of and disturbance to common wildlife species would not be adverse. Under CEQA, impacts would be considered less than significant (Class III). Mitigation measures implemented to avoid, minimize, and mitigate construction-related impacts to special-status wildlife species will benefit other common wildlife species as well.

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

ECO Substation Project

Invertebrates

Quino Checkerspot Butterfly

Quino checkerspot butterfly is a federally endangered species found only from western Riverside County, southern San Diego County, and northern Baja California, Mexico (USFWS 2003). This species is found on sparsely vegetated hilltops, ridgelines, and occasionally on rocky outcrops in open chaparral and coastal sage scrub habitat below 3,000 feet in elevation. This species can be found in a variety of habitats in the project area, as discussed in Section D.2.1.1 and this species was observed in the project area during 2009 and 2010 surveys (see Figure D.2-9). Direct loss of occupied Quino checkerspot butterfly would be considered an adverse impact. Acreage determined to be occupied habitat includes areas of known Quino checkerspot butterfly populations and sightings and a buffer as determined through consultation with the USFWS, which typically encompasses all host plants as well as topographic features (ridgelines and hilltops) in the vicinity. All observations of Quino checkerspot butterfly for the project area were within the designated critical habitat area; therefore, all of the critical habitat within the ECO Substation Project area is considered occupied. Permanent loss of 2.85 acres of USFWS critical

habitat (i.e., occupied habitat) for this species would be adverse and therefore, Mitigation Measures BIO-1a through BIO-1g, BIO-3a, BIO-4a, and BIO-7b through BIO-7i (these measures provide further clarification and supersede APMs ECO-BIO-1, ECO-BIO-5, ECO-BIO-6, ECO-BIO-15 through ECO-BIO-17, and ECO-BIO-23 through ECO-BIO-24) have been provided. However, because comparable habitat compensation may not be obtainable as mitigation for project impacts, the identified impact cannot be mitigated. Under CEQA, this impact would be considered significant and cannot be mitigated to a level that is less than significant (Class I).

Direct or indirect loss of this species from construction related dust or vehicle collisions would also be considered an adverse impact and therefore, Mitigation Measures BIO-1a through BIO-1g, BIO-3a, BIO-4a, and BIO-7b through BIO-7i have been provided to mitigate this impact. Under CEQA, impacts would be significant but can be mitigated to a level that is considered less than significant (Class II) with implementation of Mitigation Measures BIO-1a through BIO-1g, BIO-3a, BIO-4a, and BIO-7b through BIO-7i.

Reptiles

Barefoot Banded Gecko

Barefoot banded gecko is a state-threatened species. It was not observed during the surveys; however, this species is secretive and is not easily detected. Suitable habitat could exist within its preferred microhabitat of rocky boulders and outcrops along portions of the project area. A habitat assessment at the adjacent Tule Wind Project area by herpetologist Eric A. Dugan states that the barefoot banded gecko has only been documented along a narrow zone along the desert slopes and has not been recorded at elevations above 2,300 feet (Appendix N of HDR 2010a). Since this species is not expected to occur in the ECO Substation Project area, the project would have no direct or indirect impact on the species (No Impact).

Other Special-Status Reptiles

The orange-throated whiptail, coastal western whiptail, northern red-diamond rattlesnake, Blainville's horned lizard, coast patch-nosed snake, rosy boa, and common chuckwalla can be found in a variety of habitats in the project area, as discussed in Section D.2.1.1. Orange-throated whiptail was observed in the project area, and the other species have moderate to high potential to occur in the project area. Direct loss of these species, indirect loss of these species from vehicle collisions, ground vibration, and construction-related dust, or removal of suitable habitat would be adverse and therefore, Mitigation Measures BIO-1a through BIO-1g, BIO-3a, BIO-4a, and BIO-7a through BIO-7f (these measures provide further clarification and supersede APMs ECO-BIO-1, ECO-BIO-5, ECO-BIO-6, ECO-BIO-19, and ECO-BIO-24) have been provided to

mitigate this impact. Under CEQA, impacts would be significant but can be mitigated to a level that is considered less than significant (Class II) with implementation of Mitigation Measures BIO-1a through BIO-1g, BIO-3a, BIO-4a, and BIO-7a through BIO-7h.

Birds

Golden Eagle

The golden eagle is a CDFG Watch List species and Fully Protected species, USFWS Birds of Conservation Concern species, and is protected under the Bald and Golden Eagle Protection Act. It is a diurnally active species that is a permanent resident and migrant throughout California. This species could forage over the site and may nest in coast live oak woodlands or on cliffs. Based on recent helicopter surveys conducted for the Tule Wind Project (WRI 2010), the closest active nest is located approximately 10 miles from the ECO Substation Project area at Thing Valley. Three territories that were inactive in 2010 are located between 2.5 and 5 miles from the project site.

Direct and indirect impacts to nesting golden eagles from construction activities would not be adverse due to the distance of known nests in relation to the ECO Substation Project area, and under CEQA, impacts would be considered less than significant (Class III). No loss of individuals or territories is anticipated. Removal of suitable foraging habitat for this species would be an insignificant proportion of the available foraging habitat in the region. The potential effect of electrocution or collision for this species is addressed in Impact BIO-10.

California Condor

The California condor is a federally and state-listed endangered species and is also Fully Protected. This species has been reintroduced to a number of locations within North America as described in Section D.2.1. Although the closest area used by the Baja-released condors is approximately 50 miles south of the ECO Substation Project, a female condor flew from Baja over the Cuyamaca Rancho State Park area. The bird did not remain in the United States for more than a couple of days. However, this indicates that condors could fly the distance to the project area. Although the habitat in the project area is suitable for a condor to forage within, there are no roosting or nesting opportunities, and nesting locations within the Sierra San Pedro de Martir National Park are approximately 100 miles south of the project area.

Direct and indirect impacts to this species from construction activities would not be adverse due to the distance of known nests in relation to the ECO Substation Project area, and under CEQA, impacts would be less than significant (Class III) . Removal of suitable foraging habitat for this species would be an insignificant proportion of the available foraging habitat in the region. The potential effect of electrocution or collision for this species is addressed in Impact BIO-10.

Other Special-Status Raptors

Cooper's hawk, long-eared owl, burrowing owl, turkey vulture, northern harrier, and prairie falcon can be found in a variety of habitats in the project area, as discussed in Section D.2.1.1. A pair of Cooper's hawks was observed during the 2008 surveys and is considered a resident in the area; burrowing owl was observed wintering or during migration during 2010 surveys; and turkey vultures were observed foraging in the project area. Long-eared owl, northern harrier, and prairie falcon have the potential to occur in the project area. Direct loss of these species, indirect loss of these species from noise and increased human presence, or through removal of suitable habitat would be adverse and therefore, Mitigation Measures BIO-1a through BIO-1g, BIO-3a, BIO-4a, BIO-7a through BIO-7h and BIO-7j (these measures provide further clarification and supersede APMs ECO-BIO-1, ECO-BIO-5, ECO-BIO-6, ECO-BIO-19, and ECO-BIO-24) have been provided to mitigate this impact. Under CEQA, impacts would be significant but can be mitigated to a level that is considered less than significant (Class II) with implementation of Mitigation Measures BIO-1a through BIO-1g, BIO-3a, BIO-4a, BIO-7a through BIO-7h and BIO-7j.

Southwestern Willow Flycatcher

The southwestern willow flycatcher is a federally and state-listed endangered species. This species has low potential to occur on site; however, the full species of willow flycatcher (*E. traillii*) could occur during migration in a variety of shrub/tree habitats. There is a small area of southern willow scrub/mulefat scrub in the project area; however, there are no breeding records in the area (Unitt 2004). This species was not observed during the 2008 surveys. Direct loss of any subspecies of willow flycatcher or indirect loss of these species from noise and increased human presence, or removal of suitable habitat would be adverse and therefore, Mitigation Measures BIO-1a through BIO-1g, BIO-3a, BIO-4a, BIO-7b through BIO-7e, and BIO-7j (these measures provide further clarification and supersede APMs ECO-BIO-1, ECO-BIO-5, ECO-BIO-6, ECO-BIO-19, and ECO-BIO-24) have been provided to mitigate this impact. Under CEQA, impacts would be significant but can be mitigated to a level that is considered less than significant (Class II) with implementation of Mitigation Measures BIO-1a through BIO-1g, BIO-3a, BIO-4a, BIO-7b through BIO-7e, and BIO-7j.

Other Special-Status Songbirds

Tricolored blackbird, Southern California rufous-crowned sparrow, Bell's sage sparrow, Vaux's swift, olive-sided flycatcher, California horned lark, loggerhead shrike, and gray vireo can be found in a variety of habitats in the project area, as discussed in Section D.2.1.1. California horned lark was observed in the project area and Southern California rufous-crowned sparrow, Bell's sage sparrow, loggerhead shrike, and gray vireo have the potential to occur in the project area. Vaux's swift and olive-sided flycatcher have a potential to occur within the area during

migration. Tricolored blackbirds may forage in the project area, but nesting habitat is not likely present. Direct loss of these species, indirect loss of these species from noise and increased human presence, or removal of suitable habitat would be adverse and therefore, Mitigation Measures BIO-1a through BIO-1g, BIO-3a, BIO-4a, BIO-7b through BIO-7e, and BIO-7j (these measures provide further clarification and supersede APMs ECO APMs ECO-BIO-1, ECO-BIO-5, ECO-BIO-6, ECO-BIO-19, and ECO-BIO-24) have been provided to mitigate this impact. Under CEQA, impacts would be significant but can be mitigated to a level that is considered less than significant (Class II) with implementation of Mitigation Measures BIO-1a through BIO-1g, BIO-3a, BIO-4a, BIO-7b through BIO-7e, and BIO-7j.

Mammals

Mountain Lion

The mountain lion is found in variety of habitats where its preferred prey, mule deer, is found. Based on the guidelines from the County of San Diego (2009), direct and indirect impacts to Group 2 species are considered significant if they impact the long-term survival of the species. This species was not observed during the surveys, but it has the potential to occur in the project area. Based on the high mobility of the mountain lion, the potential for direct loss of these species is low and would not be considered adverse. In addition, indirect effects of noise and increased human presence on this species would not be considered adverse. Under CEQA, impacts to the potential loss of these species and indirect effects of noise and increased human presence would be considered less than significant (Class III).

Direct removal of suitable habitat for these species would be adverse and therefore, Mitigation Measures BIO-1a through BIO-1g, and BIO-7a through BIO-7h (these measures provide further clarification and supersede APMs ECO-BIO-1, ECO-BIO-5, ECO-BIO-6, ECO-BIO-19, and ECO-BIO-24) have been provided to mitigate this impact. Under CEQA, impacts would be significant but can be mitigated to a level that is considered less than significant (Class II) with implementation of Mitigation Measures BIO-1a through BIO-1g, and BIO-7a through BIO-7h. The effects of the Proposed PROJECT on wildlife movement are addressed in Impact BIO-9.

American Badger

The American badger was not observed during the surveys but has potential to occur in the project area in a variety of habitats, as described in Section D.2.1.1. Direct loss of this species, indirect loss of these species from noise, ground vibration, and increased human presence, or direct removal of suitable habitat would be adverse and therefore, Mitigation Measures BIO-1a through BIO-1g, BIO-3a, BIO-4a, and BIO-7a through BIO-7e (these measures provide further clarification and supersede of APMs ECO-BIO-1, ECO-BIO-5, ECO-BIO-6, ECO-BIO-19, and ECO-BIO-24) have been provided to mitigate this impact. Under CEQA, impacts would

significant but can be mitigated to a level that is considered less than significant (Class II) with implementation of Mitigation Measures BIO-1a through BIO-1g, BIO-3a, BIO-4a, and BIO-7a through BIO-7e.

Peninsular Bighorn Sheep

Peninsular bighorn sheep is a federally endangered and California state-threatened and Fully Protected species. Given the known locations of Peninsular bighorn sheep (based on annual monitoring conducted by CDFG), the species has not been detected in the project area and the nearest occurrence is approximately 3 miles northeast of the site (see Figure D.2-9). Additionally, steep, rocky habitat preferred by the species is lacking in the project area. Therefore, the ECO Substation Project would have no direct or indirect impact on the species (No Impact). No USFWS critical habitat occurs in the project area.

Special-Status Bats

Pallid bat and pocketed free-tailed bat can be found in a variety of habitats in the project area, as discussed in Section D.2.1.1. These species were not observed during the surveys, but they have moderate potential to forage in the project area. Potential direct loss of this species or removal of suitable habitat would be adverse and therefore, Mitigation Measures BIO-1a through BIO-1g, BIO-3a, BIO-4a, and BIO-7b through BIO-7e (these measures provide further clarification and supersede APMs ECO-BIO-1, ECO-BIO-5, ECO-BIO-6, ECO-BIO-19, and ECO-BIO-24) have been provided to mitigate this impact. Under CEQA, impacts would significant but can be mitigated to a level that is considered less than significant (Class II) with implementation of Mitigation Measures BIO-1a through BIO-1g, BIO-3a, BIO-4a, and BIO-7b through BIO-7e.

Special-Status Small Mammals

Dulzura pocket mouse, pallid San Diego pocket mouse, San Diego black-tailed jackrabbit, San Diego desert woodrat, southern grasshopper mouse, and Jacumba little pocket mouse can be found in a variety of habitats in the project area, as discussed in Section D.2.1.1. San Diego black-tailed jackrabbit was observed throughout the project area, and Dulzura pocket mouse, pallid San Diego pocket mouse, San Diego desert woodrat, southern grasshopper mouse, and Jacumba little pocket mouse have the potential to occur in the project area. Direct loss of these species or removal of suitable habitat would be adverse and therefore, Mitigation Measures BIO-1a through BIO-1g, BIO-3a, BIO-4a, and BIO-7b through BIO-7e (these measures provide further clarification and supersede APMs ECO-BIO-1, ECO-BIO-5, ECO-BIO-6, ECO-BIO-19, and ECO-BIO-24) have been provided to mitigate this impact. Under CEQA, impacts would significant but can be mitigated to a level that is considered less than significant (Class II) with implementation of BIO-1a through BIO-1g, BIO-3a, BIO-4a, and BIO-7b through BIO-7e.

MM BIO-7a Cover and/or provide escape routes for wildlife from excavated areas and monitor these areas daily. All steep trenches and excavations during construction shall be inspected twice daily (i.e., morning and evening) by a qualified biologist to monitor for wildlife entrapment. Large/steep excavations shall be covered and/or fenced nightly to prevent wildlife entrapment. Excavations shall provide an earthen ramp to allow for a wildlife escape route.

MM BIO-7b Enforce speed limits in and around all construction areas. Vehicles shall not exceed 25 miles per hour on any gravel roads accessing the construction site or 20 miles per hour on the construction site.

MM BIO-7c Minimize night construction lighting adjacent to native habitats. Lighting of construction areas at night shall be the minimum necessary for personnel safety and shall be low illumination, selectively placed, and directed/shielded appropriately to minimize lighting in adjacent native habitats.

MM BIO-7d Prohibit littering and remove trash from construction areas daily. Littering shall not be allowed by the project personnel. All food-related trash and garbage shall be removed from the construction sites on a daily basis.

MM BIO-7e Prohibit the harm, harassment, collection of, or feeding of wildlife. Project personnel shall not harm, harass, collect, or feed wildlife. No pets shall be allowed in the construction areas.

MM BIO-7f Obtain and implement the terms of agency permit(s) with jurisdiction federal or state-listed species. If determined necessary, the applicant shall obtain a biological opinion through Section 7 consultation between the Bureau of Land Management and U.S. Fish and Wildlife Service for impacts to federally listed wildlife species and a Section 2081 permit (or consistency determination) from the California Department of Fish and Game for impacts to state-listed wildlife species resulting from this project. The terms and conditions included in these authorizations shall be implemented, which may include seasonal restrictions, relocation, monitoring/reporting specifications, and/or habitat compensation through restoration or acquisition of suitable habitat.

MM BIO-7g Conduct protocol surveys for Quino checkerspot butterfly within 1 year prior to project construction activities in occupied habitat. The project proponent shall conduct pre-construction protocol surveys for Quino checkerspot butterfly within 1 year prior to construction activities in any area known to support the species. Surveys shall be conducted by a qualified, permitted biologist

in accordance with the most currently accepted protocol survey method. Results shall be reported to the U.S. Fish and Wildlife Service within 45 days of the completion of the survey.

MM BIO-7h **Provide compensation for temporary and permanent impacts to Quino checkerspot butterfly habitat through conservation and/or restoration.** Temporary and permanent impact to Quino checkerspot butterfly shall be compensated through a combination of habitat compensation and habitat restoration at a minimum of a 2:1 mitigation ratio for non-critical habitat and a minimum of a 3:1 mitigation ratio for critical habitat, or as required by the permitting agencies. Habitat compensation shall be accomplished through agency-approved land preservation or mitigation fee payment for the purpose of habitat compensation of lands supporting Quino checkerspot butterfly. Land preservation or mitigation fee payment for habitat compensation must be completed within 18 months of permit issuance. Habitat restoration may be appropriate as habitat compensation provided that the restoration effort is demonstrated to be feasible and implemented pursuant to a Habitat Restoration Plan, which shall include success criteria and monitoring specifications and shall be approved by the permitting agencies prior to project construction. All habitat compensation and restoration used as mitigation for the Proposed PROJECT on public lands shall be located in areas designated for resource protection and management. All habitat compensation and restoration used as mitigation for the Proposed PROJECT on private lands shall include long-term management and legal protection assurances.

MM BIO-7i **Final design of transmission towers and access roads through Quino checkerspot butterfly critical habitat shall maximally avoid host plants for Quino checkerspot butterfly.** The final design of the ECO Substation Project through Quino checkerspot butterfly habitat shall maximally avoid and minimize habitat resources used by the species. The applicant shall explore alternate tower locations, reduced road widths, reduced vegetation maintenance, and other design modifications, and it shall obtain agency approval of the final design through this area.

MM BIO-7j **Conduct pre-construction nesting bird surveys and implement appropriate avoidance measures for identified nesting birds.** When not feasible to construct outside of the bird nesting season, the project applicant shall hire a qualified biologist to conduct pre-construction nesting bird surveys to determine the presence/absence of active nests in or adjacent to construction areas. If active nests are identified, appropriate avoidance measures would be identified and

implemented to prevent disturbance to potentially nesting bird(s). If federally or state-listed or fully protected nesting birds are identified, the project proponent shall contact the U.S. Fish and Wildlife Service and/or California Department of Fish and Game to determine the appropriate course of action to avoid disturbance to nesting birds. For golden eagle, depending on the location of the active nest, avoidance may include buffers including viewshed analysis. If the spatial buffer is not a large enough distance to be confident about avoiding disturbance to nesting eagles, a temporal buffer may required that restricts construction during the breeding season. The breeding season is generally defined as period from March through September. For raptors, the breeding season is generally defined as January through August.

Tule Wind Project

Invertebrates

Quino Checkerspot Butterfly

Quino checkerspot butterfly is a federally endangered species found only from western Riverside County, southern San Diego County, and northern Baja California, Mexico (USFWS 2003). This species is found in sparsely vegetated hilltops, ridgelines, and occasionally on rocky outcrops in open chaparral and coastal sage scrub habitat (less than 3,000-foot elevation). This species can be found in a variety of habitats in the project area, as discussed in Section D.2.1.1. Quino checkerspot butterfly was observed in the project area during 2010 surveys (see Figure D.2-9). The Biological Assessment (HDR 2010c) describes permanent impacts to 23.6 acres of Quino checkerspot butterfly habitat within the 1-kilometer (3-foot) movement radius of the 2010 observation, which will occur from installation of the footings of the wind turbines, the operations and maintenance (O&M) building, power lines, and other ancillary facilities. The direct effects of temporary construction impacts will be the loss of 5.2 acres of Quino checkerspot butterfly habitat within the 1-kilometer (3-foot) movement radius of the 2010 observation.

Direct or indirect loss of this species from construction-related dust or vehicle collisions or permanent loss of suitable habitat would be adverse and therefore, Mitigation Measures BIO-1a through BIO-1g, BIO-3a, BIO-4a, and BIO-7b through BIO-7i (these measures provide further clarification and supersede APMs TULE-BIO-12, TULE-BIO-15, and TULE-BIO-18) have been provided to mitigate this impact. Under CEQA, impacts would significant but can be mitigated to a level that is considered less than significant (Class II) with implementation of BIO-1a through BIO-1g, BIO-3a, BIO-4a, and BIO-7b through BIO-7i.

Amphibians

Western Spadefoot Toad

Western spadefoot toad tadpoles were observed in a man-made ephemeral pond on the Tule Wind Project site. The ephemeral pond is not located within the permanent or temporary impact footprint. Direct or indirect loss of this species from vehicle collisions, ground vibration, and construction-related dust or removal of suitable habitat would be adverse and therefore, Mitigation Measures BIO-1a through BIO-1g, BIO-3a, BIO-4a, and BIO-7a through BIO-7f (these measures provide further clarification and supersede APMs TULE-BIO-12, TULE-BIO-15, and TULE-BIO-18) have been provided to mitigate this impact. Under CEQA, impacts would significant but can be mitigated to a level that is considered less than significant (Class II) with implementation of Mitigation Measures BIO-1a through BIO-1g, BIO-3a, BIO-4a, and BIO-7a through BIO-7f.

Reptiles

Barefoot Banded Gecko

Barefoot banded gecko is a state-threatened species. It was not observed during the surveys; however, this species is secretive and is not easily detected. Suitable habitat may exist within its preferred microhabitat of rocky boulders and outcrops along portions of the project area. A habitat assessment on Tule Wind Project area by herpetologist Eric A. Dugan in June of 2010 states that the Tule Wind Project does not contain suitable habitat for the barefoot banded gecko (Appendix N of HDR 2010a). According to the focused habitat assessment, the barefoot banded gecko has only been documented along a narrow zone along the desert slopes and has not been recorded at elevations above 2,300 feet. Since this species is not expected to occur in the Tule Wind Project area, the project would have no direct or indirect impact on the species (No Impact).

Other Special-Status Reptiles

The orange-throated whiptail, coastal western whiptail, northern red-diamond rattlesnake, Blainville's horned lizard, coast patch-nosed snake, rosy boa, and common chuckwalla can be found in a variety of habitats in the project area, as discussed in Section D.2.1.1. Orange-throated whiptail, northern red-diamond rattlesnake, Blainville's horned lizard, coast patch-nosed snake, and common chuckwalla were observed in the project area, and rosy boa has potential to occur in the project area. Direct or indirect loss of these species from vehicle collisions, ground vibration, and construction-related dust or removal of suitable habitat would be adverse and therefore, Mitigation Measures BIO-1a through BIO-1g, BIO-3a, BIO-4a, and BIO-7a through BIO-7f (these measures provide further clarification and supersede APMs TULE-BIO-12, TULE-BIO-15, and TULE-BIO-18) have been provided to mitigate this impact. Under CEQA, impacts

would significant but can be mitigated to a level that is considered less than significant (Class II) with implementation of BIO-1a through BIO-1g, BIO-3a, BIO-4a, and BIO-7a through BIO-7f.

Birds

Golden Eagle

The golden eagle is a CDFG Watch List species and Fully Protected species, and USFWS Birds of Conservation Concern species. There were three observations of golden eagles during the avian survey in fall 2007 and spring 2008 (Tetra Tech EC, Inc. 2009). In spring 2010, Wildlife Research Institute conducted a golden eagle helicopter survey within a 10-mile radius of the proposed Tule Wind Project (WRI 2010). This survey found 10 golden eagle territories, 6 of which were active. Of the six active territories, three nests had golden eagles incubating eggs. The nests with incubating adults are generally described as the Canebrake, Moreno Butte, and Glenn Cliff/Buckman Springs locations. The Canebrake location is less than 0.5 mile west of the northern portion of the Tule Wind Project. The Moreno Butte location is approximately 10 miles southwest of the project. The Glenn Cliff/Buckman Springs location is approximately 8 miles west of the central portion of the project. The nest locations of the other active territories, located at Garnet Mountain, Monument Peak, and Thing Valley, are 10, 7, and 3 miles west of the Tule Wind Project, respectively.

Direct and indirect impacts to this species from construction activities would be adverse for the Canebrake pair and therefore, Mitigation Measures BIO-1a through BIO-1g, BIO-7a through BIO-7h and BIO-7j (these measures provide further clarification and supersede APMs TULE-BIO-12, TULE-BIO-15, and TULE-BIO-18) have been provided to mitigate this impact. Under CEQA, this impact would be significant but can be mitigated to level that is less than significant (Class II) for the other territories, where the distance between the construction activities and the nest site is greater than 1 mile. For the Canebrake pair, if the current nesting location is within 1 mile of the construction activity and the viewshed of the nest also includes the construction area, a temporal restriction may be required in order to avoid disturbance of the nesting pair and mitigate the potential direct and indirect impacts to a level that is not adverse and less than significant under CEQA. Temporal buffers provide additional support to a spatial buffer and have been recommended to encompass all nesting activities and extend at least from the arrival of the adult birds in the nesting areas through the first few weeks of nestling development (Richardson and Miller 1997). Direct removal of suitable foraging habitat for this species would be insignificant relative to the extent of foraging habitat available. However, placement of wind turbines within the zone where golden eagles hunt by soaring or from favored perches may cause a larger acreage of foraging habitat to be avoided by these birds than is affected by the ground disturbance. The potential effect of electrocution or collision for this species is addressed in Impact BIO-10.

California Condor

The California condor is a federally and state-listed endangered species and is also Fully Protected. This species has been reintroduced to a number of locations within North America as described in Section D.2.1. Although the closest area used by the Baja-released condors is approximately 50 miles south of the Tule Wind Project, a female condor did fly from Baja over the Cuyamaca Rancho State Park area. The bird did not remain in the United States for more than a couple of days. However, this indicates that these birds could fly the distance to the project area. Although the habitat in the project area is suitable for a condor to forage within, there are no roosting or nesting opportunities, and nesting locations within the Sierra San Pedro de Martir National Park are approximately 100 miles south of the project area.

Direct and indirect impacts to this species from construction activities would not be adverse. Under CEQA, impacts would be considered less than significant due to the distance of known nests in relation to the Tule Wind Project area (Class III). Direct removal of suitable foraging habitat for this species would be insignificant relative to the foraging range of a California condor. The potential effect of electrocution or collision for this species is addressed in Impact BIO-10.

Other Special-Status Raptors

Cooper's hawk, long-eared owl, burrowing owl, turkey vulture, northern harrier, and prairie falcon can be found in a variety of habitats in the project area, as discussed in Section D.2.1.1. A Cooper's hawk nest was observed in an oak tree during the avian survey and is considered a resident in the area; long-eared owl was observed once in winter 2007; northern harrier was observed in fall 2007 and winter and spring 2008; prairie falcon was observed once during the spring 2008 avian survey; and turkey vultures were observed frequently in the project area (Tetra Tech EC, Inc. 2009). Burrowing owl was not observed but has the potential to occur in the project area. Direct or indirect loss of these species from noise and increased human presence or removal of suitable habitat would be adverse and therefore, Mitigation Measures BIO-1a through BIO-1f, BIO-3a, BIO-4a, BIO-7b through BIO-7e, and BIO-7j (these measures provide further clarification and supersede APMs TULE-BIO-12, TULE-BIO-15, and TULE-BIO-18) have been provided to mitigate this impact. Under CEQA, impacts would significant but can be mitigated to a level that is considered less than significant (Class II) with implementation of Mitigation Measures BIO-1a through BIO-1f, BIO-3a, BIO-4a, BIO-7b through BIO-7e, and BIO-7j.

Southwestern Willow Flycatcher

The southwestern willow flycatcher is a federally and state-listed endangered species. This species has low potential to occur on site; however, the full species of willow flycatcher (*E.*

traillii) could occur during migration in a variety of shrub/tree habitats. There is a small area of suitable habitat in the project area; however, there are no breeding records in the area (Unitt 2004). Direct loss of any subspecies of willow flycatcher, indirect loss of these species from noise and increased human presence, or removal of suitable habitat including stop-over habitat for migrating species would be adverse and therefore, Mitigation Measures BIO-1a through BIO-1g, BIO-3a, BIO-4a, BIO-7b through BIO-7e, and BIO-7j (these measures provide further clarification and supersede APMs TULE-BIO-12, TULE-BIO-15, and TULE-BIO-18) have been provided to mitigate this impact. Under CEQA, impacts would significant but can be mitigated to a level that is considered less than significant (Class II) with implementation of BIO-1a through BIO-1g, BIO-3a, BIO-4a, BIO-7b through BIO-7e, and BIO-7j.

Other Special-Status Songbirds

Tricolored blackbird, Southern California rufous-crowned sparrow, Bell's sage sparrow, Vaux's swift, olive-sided flycatcher, California horned lark, yellow warbler, loggerhead shrike, and gray vireo can be found in a variety of habitats in the project area, as discussed in Section D.2.1.1. Southern California rufous-crowned sparrow, Vaux's swift, olive-sided flycatcher, California horned lark, yellow warbler, and loggerhead shrike were observed in the project area; Bell's sage sparrow and gray vireo have the potential to occur in the project area. Vaux's swift, yellow warbler, and olive-sided flycatcher were likely migrating through the region. Tricolored blackbirds may forage in the project area, but nesting habitat is likely not present. Direct or indirect loss of these species from noise and increased human presence or removal of suitable habitat would be adverse and therefore, Mitigation Measures BIO-1a through BIO-1g, BIO-3a, BIO-4a, BIO-7b through BIO-7e, and BIO-7j (these measures provide further clarification and supersede APMs TULE-BIO-12, TULE-BIO-15, and TULE-BIO-18) have been provided and would mitigate this impact. Under CEQA, impacts would significant but can be mitigated to a level that is considered less than significant (Class II) with implementation of BIO-1a through BIO-1g, BIO-3a, BIO-4a, BIO-7b through BIO-7e, and BIO-7j.

Mammals

Mountain Lion

The mountain lion was observed on site and is found in variety of habitats where its preferred prey, mule deer, is found. Based on the guidelines from the County of San Diego (2009), direct and indirect impacts to Group 2 species are considered significant if they impact the long-term survival of the species. This species was not observed during the surveys, but it has the potential to occur in the project area. Based on the high mobility of the mountain lion, the potential for direct loss of these species is low and would not be adverse. In addition indirect effects of noise and increased human presence on this species would not be considered adverse. Under CEQA,

impacts to the potential loss of these species and indirect effects of noise and increased human presence would be considered less than significant (Class III).

Direct removal of suitable habitat for these species would be adverse and therefore, Mitigation Measures BIO-1a through BIO-1g and BIO-7a through BIO-7e (these measures provide further clarification and supersede APMs TULE-BIO-12, TULE-BIO-15, and TULE-BIO-18) have been provided to mitigate this impact. Under CEQA, impacts would significant but can be mitigated to a level that is considered less than significant (Class II) with implementation of Mitigation Measures BIO-1a through BIO-1g and BIO-7a through BIO-7e. The effects of the Proposed PROJECT on wildlife movement are addressed in Impact BIO-9.

American Badger

The American badger was not observed during the surveys but has potential to occur in the project area in a variety of habitats as described in Section D.2.1.1. Direct or indirect loss of these species from noise, ground vibration, and increased human presence or removal of suitable habitat would be adverse and therefore, Mitigation Measures BIO-1a through BIO-1g, BIO-3a, BIO-4a, and BIO-7a through BIO-7e (these measures provide further clarification and supersede APMs TULE-BIO-12, TULE-BIO-15, and TULE-BIO-18) have been provided to mitigate this impact. Under CEQA, impacts would significant but can be mitigated to a level that is considered less than significant (Class II) with implementation of Mitigation Measures BIO-1a through BIO-1g, BIO-3a, BIO-4a, and BIO-7a through BIO-7e.

Peninsular Bighorn Sheep

Peninsular bighorn sheep is a federally endangered and California state-threatened and Fully Protected species. Given the known locations of Peninsular bighorn sheep (based on annual monitoring conducted by CDFG), the species has not been detected in the project area but is located east of the site in Carrizo Canyon (see Figure D.2-9). No USFWS critical habitat occurs in the project area. Steep, rocky habitat preferred by the species is lacking in the project area. The species is not expected to occur in the project area; therefore, the project is not expected to result in direct or indirect effects on the species Therefore, the Tule Wind Project would not be adverse. Under CEQA, impacts to peninsular bighorn sheep would be considered less than significant (Class III).

Special-Status Bats

Pallid bat and pocketed free-tailed bat can be found in a variety of habitats in the project area, as discussed in Section D.2.1.1. These species were not observed during the surveys but they have moderate potential to forage in the project area. Potential direct loss of this species or removal of suitable habitat would be adverse and therefore, Mitigation Measures BIO-1a through BIO-1g, BIO-3a, BIO-4a, and BIO-7b through BIO-7e (these measures provide further clarification and

supersede APMs TULE-BIO-12, TULE-BIO-15, and TULE-BIO-18) have been provided to mitigate this impact. Under CEQA, impacts would significant but can be mitigated to a level that is considered less than significant (Class II) with implementation of Mitigation Measures BIO-1a through BIO-1g, BIO-3a, BIO-4a, and BIO-7b through BIO-7e.

Special-Status Small Mammals

Dulzura pocket mouse, pallid San Diego pocket mouse, San Diego black-tailed jackrabbit, San Diego desert woodrat, southern grasshopper mouse, and Jacumba little pocket mouse can be found in a variety of habitats in the project area, as discussed in Section D.2.1.1. San Diego black-tailed jackrabbit was observed throughout the project area and Dulzura pocket mouse, pallid San Diego pocket mouse, San Diego desert woodrat, southern grasshopper mouse, and Jacumba little pocket mouse have the potential to occur in the project area. Direct loss of these species or removal of suitable habitat would be adverse and therefore, Mitigation Measures BIO-1a through BIO-1g, BIO-3a, BIO-4a, and BIO-7b through BIO-7e (these measures provide further clarification and supersede APMs TULE-BIO-12, TULE-BIO-15, and TULE-BIO-18) have been provided to mitigate this impact. Under CEQA, impacts would significant but can be mitigated to a level that is considered less than significant (Class II) with implementation of Mitigation Measures BIO-1a through BIO-1g, BIO-3a, BIO-4a, and BIO-7b through BIO-7e.

ESJ Gen-Tie Project

Invertebrates

Quino Checkerspot Butterfly

Quino checkerspot butterfly is a federally endangered species found only from western Riverside County, southern San Diego County, and northern Baja California, Mexico (USFWS 2003). This species is found in sparsely vegetated hilltops, ridgelines, and occasionally on rocky outcrops in open chaparral and coastal sage scrub habitat (less than 3,000-foot elevation). This species can be found in a variety of habitats in the project area, as discussed in Section D.2.1.1. Focused protocol-level surveys were conducted for the Quino checkerspot butterfly in 2008 and 2009 in the project area. Although nectar sources were present throughout the survey area, the survey results were negative for Quino checkerspot butterflies as well as larval host plants (RBC 2008, 2009b). This species was observed on the ECO and Tule Wind project areas and has potential to occur in the ESJ Gen-Tie Project area; however, focused survey were negative (see Figure D.2-9). Therefore, the Proposed PROJECT would have no direct or indirect impact on the species (No Impact). No USFWS critical habitat occurs in the project area.

Reptiles

Barefoot Banded Gecko

Barefoot banded gecko is a state-threatened species. It was not observed during the surveys; however, this species is secretive and is not easily detected. Suitable habitat may exist within their preferred microhabitat of rocky boulders and outcrops along portions of the project area in or near the project area. A habitat assessment performed at the Tule Wind Project area to the northwest of the ESJ Project boundary states that there are no records of barefoot banded geckos above 2,300 feet in elevation (Appendix N of HDR 2010a). Since this species is not expected to occur in the ESJ Gen-Tie Project area, the project would have no direct or indirect impact on the species (No Impact).

Other Special-Status Reptiles

The orange-throated whiptail, coastal western whiptail, northern red-diamond rattlesnake, Blainville's horned lizard, coast patch-nosed snake, rosy boa, and common chuckwalla can be found in a variety of habitats in the project area, as discussed in Section D.2.1.1. None of these species were observed in the project area, but they have potential to occur. Direct or indirect loss of these species from vehicle collisions, ground vibration, and construction-related dust or removal of suitable habitat would be adverse and therefore, Mitigation Measures BIO-1a through BIO-1g, BIO-3a, BIO-4a, and BIO-7a through BIO-7f (these measures these measures provide further clarification and supersede APMs ESJ-BIO-1, ESJ-BIO-5, ESJ-BIO-6, ESJ-BIO-11, and ESJ-BIO-12) have been provided to mitigate this impact. Under CEQA, impacts would significant but can be mitigated to a level that is considered less than significant (Class II) with implementation of Mitigation Measures BIO-1a through BIO-1g, BIO-3a, BIO-4a, and BIO-7a through BIO-7f.

Birds

Golden Eagle

The golden eagle is a CDFG Watch List species and Fully Protected species, and USFWS Birds of Conservation Concern species. This species has the potential to forage in the project area. Based on recent helicopter surveys conducted for the Tule Wind Project (WRI 2010), no active nests are located within 10 miles of the ESJ Project area. The closest active nest is located at Thing Valley and is approximately 20 miles away. Three territories (inactive in 2010 but active within the last 2 to 3 years) are located between 3 and 10 miles from the project site.

Direct and indirect impacts to this species from construction activities would not be adverse due to the distance of known nests in relation to the ESJ Project area, and under CEQA, impacts are less than significant (Class III). No loss of individuals or territories is anticipated. Direct removal of suitable foraging habitat for this species would be insignificant compared to the foraging

range of a golden eagle. The potential effect of electrocution or collision for this species is addressed in Impact BIO-10.

California Condor

The California condor is a federal- and state-listed endangered species and is also Fully Protected. This species has been reintroduced to a number of locations within North America, as described in Section D.2.1. Although the closest area used by the Baja-released condors is approximately 50 miles south of the ESJ Project, a female condor did fly from Baja over the Cuyamaca Rancho State Park area. The bird did not remain in the United States for more than a couple of days. However, this indicates that these birds could fly the distance to the project area. Although the habitat in the project area is suitable for a condor to forage within, there are no roosting or nesting opportunities, and nesting locations within the Sierra San Pedro de Martir National Park are approximately 100 miles south of the project area.

Direct and indirect impacts to this species from construction activities would not be adverse due to the distance of known nests in relation to the ESJ Gen-Tie Project area, and under CEQA, impacts are less than significant (Class III). Direct removal of suitable foraging habitat for this species would be insignificant compared to the foraging range of a California condor. The potential effect of electrocution or collision for this species is addressed in Impact BIO-10.

Other Special-Status Raptors

Cooper's hawk, long-eared owl, burrowing owl, turkey vulture, northern harrier, and prairie falcon can be found in a variety of habitats in the project area, as discussed in Section D.2.1.1. None of these species were observed during the surveys, but they have the potential to occur in the project area. Direct or indirect loss of these species from noise and increased human presence or removal of suitable habitat would be adverse and therefore, Mitigation Measures BIO-1a through BIO-1f, BIO-3a, BIO-4a, BIO-7b through BIO-7e, and BIO-7j (these measures these measures provide further clarification and supersede APMs ESJ-BIO-1, ESJ-BIO-5, ESJ-BIO-6, and ESJ-BIO-10 through ESJ-BIO-12) have been provided to mitigate this impact. Under CEQA, impacts would significant but can be mitigated to a level that is considered less than significant (Class II) with implementation of Mitigation Measures BIO-1a through BIO-1f, BIO-3a, BIO-4a, BIO-7b through BIO-7e, and BIO-7j.

Southwestern Willow Flycatcher

The southwestern willow flycatcher is a federally and state-listed endangered species. There is no suitable habitat in the project area, and there are no breeding records in the area (Unitt 2004). This species was not observed during the 2008 surveys and is not expected to occur in the project area. Therefore, potential direct loss of any subspecies of willow flycatcher or indirect loss of

these species from noise and increased human presence would not be adverse, and under CEQA, impacts would be less than significant (Class III). The removal of vegetation would not result in the loss of habitat for this species (No Impact).

Other Special-Status Songbirds

Tricolored blackbird, Southern California rufous-crowned sparrow, Bell's sage sparrow, Vaux's swift, olive-sided flycatcher, California horned lark, loggerhead shrike, and gray vireo can be found in a variety of habitats in the project area, as discussed in Section D.2.1.1. California horned lark was observed in the project area and Southern California rufous-crowned sparrow, Bell's sage sparrow, loggerhead shrike, and gray vireo have the potential to occur in the project area. Vaux's swift and olive-sided flycatcher could migrate through the project area. Tricolored blackbirds have low potential to forage in the project area, and nesting habitat is not present. Direct or indirect loss of these species from noise and increased human presence or removal of suitable habitat would be adverse and therefore, Mitigation Measures BIO-1a through BIO-1g, BIO-3a, BIO-4a, BIO-7b through BIO-7e, and BIO-7j (these measures provide further clarification and supersede APMs ESJ-BIO-1, ESJ-BIO-5, ESJ-BIO-6, ESJ-BIO-11, and ESJ-BIO-12) have been provided to mitigate this impact. Under CEQA, impacts would significant but can be mitigated to a level that is considered less than significant (Class II) with implementation of Mitigation Measures BIO-1a through BIO-1g, BIO-3a, BIO-4a, BIO-7b through BIO-7e, and BIO-7j.

Mammals

Mountain Lion

The mountain lion is found in variety of habitats where its preferred prey, mule deer, is found. Based on the guidelines from the County of San Diego (2009), direct and indirect impacts to Group 2 species are considered significant if they impact the long-term survival of the species. This species was not observed during the surveys, but it has the potential to occur in the project area. Based on the high mobility of the mountain lion, the potential for direct loss of these species is low and would not be adverse. In addition, indirect effect of noise and increased human presence on this species would not be considered adverse. Under CEQA, impacts to the potential loss of these species and indirect effects of noise and increased human presence would be considered less than significant (Class III).

Direct removal of suitable habitat for these species would be adverse and therefore, Mitigation Measures BIO-1a through BIO-1g, BIO-3a, BIO-4a, and BIO-7a through BIO-7e (these measures provide further clarification and supersede APMs ESJ-BIO-1, ESJ-BIO-5, ESJ-BIO-6, ESJ-BIO-11, and ESJ-BIO-12) have been provided to mitigate this impact. Under CEQA, impacts would significant but can be mitigated to a level that is considered less than significant

(Class II) with implementation of Mitigation Measures BIO-1a through BIO-1g. The effects of the Proposed PROJECT on wildlife movement are addressed in Impact BIO-9.

American Badger

The American badger was not observed during the surveys but has potential to occur in the project area in a variety of habitats, as described in Section D.2.1.1. Direct or indirect loss of these species from noise, ground vibration, and increased human presence or removal of suitable habitat would be adverse and therefore, Mitigation Measures Mitigation Measures BIO-1a through BIO-1g, BIO-3a, BIO-4a, and BIO-7a through BIO-7e (these measures provide further clarification and supersede APMs ESJ-BIO-1, ESJ-BIO-5, ESJ-BIO-6, ESJ-BIO-11, and ESJ-BIO-12) have been provided to mitigate this impact. Under CEQA, impacts would significant but can be mitigated to a level that is considered less than significant (Class II) with implementation of Mitigation Measures BIO-1a through BIO-1g, BIO-3a, BIO-4a, and BIO-7a through BIO-7e.

Peninsular Bighorn Sheep

Peninsular bighorn sheep is a federally endangered and California state-threatened and Fully Protected species. Given the known locations of Peninsular bighorn sheep (based on annual monitoring conducted by CDFG), the species has not been detected in the project area (see Figure D.2-9). Additionally, steep, rocky habitat preferred by the species is lacking in the project area. Therefore, the ESJ Gen-Tie Project would have no direct or indirect impact on the species (No Impact). No USFWS critical habitat occurs in the project area.

Special-Status Bats

Pallid bat and pocketed free-tailed bat can be found in a variety of habitats in the project area, as discussed in Section D.2.1.1. These species were not observed during the surveys, but they have moderate potential to forage in the project area. Potential direct loss of this species or removal of suitable habitat would be adverse and therefore, Mitigation Measures BIO-1a through BIO-1g, BIO-3a, BIO-4a, and BIO-7b through BIO-7e (these measures provide further clarification and supersede APMs ESJ-BIO-1, ESJ-BIO-5, ESJ-BIO-6, ESJ-BIO-11, and ESJ-BIO-12) have been provided to mitigate this impact. Under CEQA, impacts would significant but can be mitigated to a level that is considered less than significant (Class II) with implementation of Mitigation Measures BIO-1a through BIO-1g, BIO-3a, BIO-4a, and BIO-7b through BIO-7e.

Special-Status Small Mammals

Dulzura pocket mouse, pallid San Diego pocket mouse, San Diego black-tailed jackrabbit, San Diego desert woodrat, southern grasshopper mouse, and Jacumba little pocket mouse can be found in a variety of habitats in the project area, as discussed in Section D.2.1.1. San Diego

black-tailed jackrabbit was observed throughout the project area, and Dulzura pocket mouse, pallid San Diego pocket mouse, San Diego desert woodrat, southern grasshopper mouse, and Jacumba little pocket mouse have the potential to occur in the project area. Direct loss of these species or removal of suitable habitat would be adverse and therefore, Mitigation Measures BIO-1a through BIO-1g, BIO-3a, BIO-4a, and BIO-7b through BIO-7e (these measures these measures provide further clarification and supersede APMs ESJ-BIO-1, ESJ-BIO-5, ESJ-BIO-6, ESJ-BIO-11, and ESJ-BIO-12) have been provided to mitigate this impact. Under CEQA, impacts would significant but can be mitigated to a level that is considered less than significant (Class II) with implementation of Mitigation Measures BIO-1a through BIO-1g, BIO-3a, BIO-4a, and BIO-7b through BIO-7e.

Proposed PROJECT

The Proposed PROJECT area is characterized by a diverse assemblage of habitats that support or have the potential to support numerous special-status wildlife species. Construction of the Proposed PROJECT would result in direct impacts to occupied habitat for federally listed species (i.e., Quino checkerspot butterfly). Additionally, the Proposed PROJECT has the potential to result in direct and indirect impacts to numerous other occurring or potentially occurring special-status species and their habitats. Given their locations in and around the McCain Valley, the proposed Campo, Manzanita, and Jordan wind energy projects would result in impacts to a similar suite of special-status wildlife species as the Proposed PROJECT. The presence of these species and the extent of the impacts to these species from these proposed wind projects are not known at this time but will be evaluated under all applicable environmental regulations through a separate environmental review process once sufficient project-level information has been developed. The presence or absence of Quino checkerspot butterfly on the Campo, Manzanita, and Jordan wind energy project sites is unknown at this time so impacts to the species cannot be determined. These wind energy projects have the potential to impact designated critical habitat (see Figure D.2-9) for Quino checkerspot butterfly; therefore, these wind energy projects are anticipated to result in impacts to critical habitat. The direct loss of designated critical habitat for Quino checkerspot butterfly resulting from the Proposed PROJECT would be adverse and therefore, Mitigation Measures BIO-1a through BIO-1g, BIO-3a, BIO-4a, and BIO-7b through BIO-7i have been provided. However, because comparable habitat compensation may not be obtainable as mitigation for project impacts, the identified impact cannot be mitigated and under CEQA, this impact would be significant and cannot be mitigated to a level that is less than significant (Class I).

The direct and indirect impacts to numerous special-status wildlife species resulting from the Proposed PROJECT, including the proposed Campo, Manzanita, and Jordan wind energy projects, would be adverse and therefore, mitigation has been provided. Under CEQA, direct and indirect impacts to numerous special-status wildlife species would be significant but can be

mitigated to a level less than significant (Class II) with implementation of Mitigation Measures BIO-1a through BIO-1g, BIO-3a, BIO-4a, and BIO-7a through BIO-7j. The direct and indirect impacts to several other special-status wildlife species resulting from the Proposed PROJECT, and Campo, Manzanita, and Jordan wind energy projects, would not be adverse and would be less than significant (Class III), under CEQA, or would have no effect (No Impact).

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

ECO Substation Project

Construction of all components of the ECO Substation Project would result in the removal of vegetation and increased human presence and noise that has the potential to cause the loss of nesting birds, which would be a violation of the Migratory Bird Treaty Act. The potential loss of nesting birds resulting from construction activities would be adverse and therefore, Mitigation Measures BIO-1a through BIO-1c, BIO-4a, BIO-7b through BIO-7e, and BIO-7j (these measures provide further clarification and supersede APMs ECO-BIO-21 and ECO-BIO-22) have been provided to mitigate this impact. Under CEQA, impacts would significant but can be mitigated to a level that is considered less than significant (Class II) with implementation of Mitigation Measures BIO-1a through BIO-1c, BIO-4a, BIO-7b through BIO-7e, and BIO-7j.

Tule Wind Project

Construction of the Tule Wind Project would result in the removal of vegetation and increased human presence and noise that has the potential to cause the loss of nesting birds, which would be a violation of the Migratory Bird Treaty Act. The potential loss of nesting birds resulting from construction activities would be adverse and therefore, Mitigation Measures BIO-1a through BIO-1c, BIO-4a, BIO-7b through BIO-7e, and BIO-7j have been provided to mitigate this impact. Under CEQA, potential direct and indirect impacts to nesting birds would be significant but can be mitigated to a level considered less than significant (Class II) with implementation of Mitigation Measures BIO-1a through BIO-1c, BIO-4a, BIO-7b through BIO-7e, and BIO-7j.

ESJ Gen-Tie Project

Construction of the ESJ Gen-Tie Project would result in the removal of vegetation and increased human presence and noise that has the potential to cause the loss of nesting birds, which would be a violation of the Migratory Bird Treaty Act. The potential loss of nesting birds resulting from construction activities would be adverse and therefore, Mitigation Measures BIO-1a through BIO-1c, BIO-4a, BIO-7b through BIO-7e, and BIO-7j have been provided and would mitigate this impact. Under CEQA, impacts would significant but can be mitigated to a level that is considered less than significant (Class II) with implementation of Mitigation Measures BIO-1a through BIO-1c, BIO-4a, BIO-7b through BIO-7e, and BIO-7j.

Proposed PROJECT

Construction of the Proposed PROJECT, including the proposed Campo, Manzanita, and Jordan wind energy projects, would result in the removal of vegetation potentially supporting nesting birds protected by the Migratory Bird Treaty Act. The direct and indirect impacts to nesting birds resulting from the Proposed PROJECT would be adverse and therefore, Mitigation Measures BIO-1a through BIO-1c, BIO-4a, BIO-7b through BIO-7e, and BIO-7j have been provided and would mitigate this impact. Under CEQA, impacts would significant but can be mitigated to a level that is considered less than significant (Class II) with implementation of Mitigation Measures BIO-1a through BIO-1c, BIO-4a, BIO-7b through BIO-7e, and BIO-7j.

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

ECO Substation Project

Currently, the ECO Substation Project component area and the SWPL project component area are largely undeveloped, and wildlife movement through these sites is unconstrained. Regionally, north–south movement of large mammals is constrained by I-8 and the U.S.–Mexico border fence located to the north and south of these project components. There are no known or identified areas of fish movement or native wildlife nursery sites in these project component areas. The County of San Diego's DPLU has modeled the adjacent Tule Wind Project as an important wildlife linkage within the East County, as described previously in Regional Wildlife Corridors. Based on this information, wildlife movement within the ECO Project could occur between the Laguna Mountains to the west and the Peninsular Ranges to the east. However, many of these areas already support roads and recreational uses, such as camping. Construction and operation of the substation would establish a land use impermeable to the movement of ground-dwelling species. Avian and bat species movement would be unconstrained. Although wildlife species may avoid these project components during construction and operation, all wildlife species would generally have unconstrained movement around the facility. Therefore, the ECO Substation and SWPL project components would not have an adverse impact on linkages or wildlife movement corridors. Under CEQA, this impact would be less than significant (Class III). No impact on the movement of fish and native wildlife nursery sites would occur (No Impact).

The 138 kV transmission line project component would span approximately 13.3 miles from the ECO Substation to the Boulevard Substation, as described in the Section B, Project Description, of this EIR/EIS. A majority of this transmission line parallels the existing SWPL transmission line and/or existing roadway through undeveloped native vegetation communities and rural

residential and agricultural land uses. There are no known or identified linkages, wildlife movement corridors, fish movement areas, or native wildlife movement sites in the 138 kV transmission line project area. Given these existing land uses, vehicular use, human presence, and maintenance activities currently occur in the proposed transmission line corridor. The proposed transmission line would not develop structures or facilities that would be impermeable to ground-dwelling, avian, or bat species. The effect of the ECO Substation Project on wildlife movement resulting from electrocution or collision by special-status avian species is addressed in Impact BIO-10. During construction of the proposed transmission line, wildlife species may avoid active construction areas; however, wildlife movement would remain unconstrained around construction areas. During operation and maintenance of the proposed transmission line, wildlife may avoid active human presence and maintenance areas; however, all wildlife species would generally have unconstrained movement around the active operations and maintenance activities. Therefore, the 138 kV transmission line project components would not have an adverse impact on linkages or wildlife movement corridors. Under CEQA, this impact would be less than significant (Class III). No impact on the movement of fish and native wildlife nursery sites would occur (No Impact).

There are no known or identified linkages, wildlife movement corridors, fish movement areas, or native wildlife movement sites in the Boulevard Substation project component area. Construction and operation of the substation would establish a land use impermeable to the movement of ground-dwelling species. Avian and bat species movement would be unconstrained. Although wildlife species may avoid these project components during construction and operation, all wildlife species would generally have unconstrained movement around the facility. Therefore, the Boulevard Substation project components would not have an adverse impact on linkages or wildlife movement corridors. Under CEQA, this impact would be less than significant (Class III). No impact on the movement of fish and native wildlife nursery sites would occur (No Impact).

Tule Wind Project

Currently, wildlife movement through the Tule Wind Project area is relatively unconstrained. Regional north–south movement of wildlife is constrained by I-8 and the U.S.–Mexico border fence. Wildlife species expected to move through the Proposed PROJECT area include mule deer, mountain lion, bobcat, coyote, small mammals, reptiles, and birds. There are no known or identified wildlife movement corridors, areas of fish movement, or native wildlife nursery sites in these project component areas. The County of San Diego's DPLU has modeled the Tule Wind Project as an important wildlife linkage within the East County, as described previously in Regional Wildlife Corridors. It identifies connectivity to the Laguna Mountains to the west, and the Anza-Borrego Desert and Peninsular Ranges to the east. While many of these areas are

undeveloped, they support roads and recreational activities, such as camping. The Tule Wind Project is not expected to impede movement between these areas.

Wildlife may avoid the Tule Wind Project area during construction; however, this impact would be considered temporary, and wildlife movement would be relatively unconstrained around the Tule Wind Project area. Therefore, the Tule Wind Project would not have an adverse impact on linkages or wildlife movement corridors. Under CEQA, this impact would be less than significant (Class III). No impact on the movement of fish and native wildlife nursery sites during construction would occur (No Impact).

The Tule Wind Project would result in the permanent placement and operation of wind turbines, access roads, transmission lines, and support facilities. The access roads, transmission lines, and support facilities would be largely permeable to wildlife movement, including ground-dwelling species and winged wildlife. The human presence at these facilities would be relatively low, and wildlife would be expected to acclimate to these features such that no long-term adverse effects to wildlife movement would be anticipated. The effect of the Tule Wind Project on wildlife movement resulting from electrocution or collision with the transmission lines by special-status avian species is addressed in Impact BIO-10. The wide spacing of the turbine placement and the low level of human presence at the turbines is not expected to preclude wildlife movement. There is evidence that terrestrial wildlife would acclimate to operating wind turbines and move between and around them. The effect of the Tule Wind Project wildlife movement resulting from collision with operating turbines is addressed in Impact BIO-10. Therefore, the Tule Wind Project would not have an adverse impact on linkages or wildlife movement corridors. Under CEQA, this impact would be less than significant (Class III). No impact on the movement of fish and native wildlife nursery sites would occur (No Impact).

ESJ Gen-Tie Project

The ESJ Gen-Tie Project would construct and operate a transmission line less than 1 mile from the U.S.–Mexico border to the ECO Substation. The ESJ Gen-Tie Project area traverses undeveloped native vegetation communities. There are no known or identified linkages, wildlife movement corridors, fish movement areas, or native wildlife movement sites in the ESJ Gen-Tie Project area. The project area currently has very little vehicular use or human presence.

The proposed transmission line would not develop structures or facilities that would be impermeable to ground-dwelling, avian, or bat species. The effect of the Proposed PROJECT on wildlife movement resulting from electrocution or collision by special-status avian species is address in Impact BIO-10. During construction of the proposed transmission line, wildlife species may avoid active construction areas; however, wildlife movement would remain unconstrained around construction areas. During operation and maintenance of the proposed

transmission line, wildlife may avoid active human presence and maintenance areas; however, all wildlife species would generally have unconstrained movement around the active operations and maintenance activities. Therefore, the ESJ Gen-Tie Project would not have an adverse impact on linkages or wildlife movement corridors. Under CEQA, this impact would be less than significant (Class III). No impact on the movement of fish and native wildlife nursery sites (No Impact).

Proposed PROJECT

The Proposed PROJECT area, including the proposed Campo, Manzanita, and Jordan wind energy project areas, encompasses a largely undeveloped landscape characterized by broad valleys surrounded by boulder and chaparral-covered hillsides. For the most part, wildlife movement through the Proposed PROJECT area and the surrounding lands is unconstrained. North–south wildlife movement is constrained by I-8, the U.S.–Mexico border fence, and, to a lesser extent, scattered rural development and property fencing. With the exception of constructed facilities (e.g., proposed substations, O&M building, and turbines), the Proposed PROJECT would be largely permeable to the movement of wildlife. Additionally, wildlife movement is not substantially constrained around the Proposed PROJECT area, including the proposed Campo, Manzanita, and Jordan wind energy projects, since these wind projects typically provide suitable distance between the turbines and the transmission infrastructure. Therefore, the effect of the construction and operation of the Proposed PROJECT on linkages or wildlife movement corridors would not be adverse. Under CEQA, this impact would be less than significant (Class III). The Proposed PROJECT would have no effect on the movement of fish or native wildlife nursery sites (No Impact).

Impact BIO-10: Presence of transmission lines and wind turbines may result in electrocution of, and/or collisions by, listed or sensitive bird or bat species.

ECO Substation Project

The ECO Substation Project would result in the installation of approximately 13.3 miles of 138 kV transmission line with 98 steel towers, as described in Section B. Special-status bird species have the potential to collide with towers and transmission lines resulting in injury or mortality. Additionally, larger special-status birds like raptors have the potential to be electrocuted when wings span between two conductor wires resulting in completion of the electrical circuit (APLIC 2006). Electrocutions can occur under any one of the following three conditions: (1) phase-to-phase contact when a bird that is perched, landing, or taking off from a utility pole cross-arm comes into contact with two conductors completing an electrical circuit; (2) simultaneous contact with energized phase conductors and other equipment; and (3) simultaneous contact with an

energized wire and a grounded wire or other grounded device or neutral wire. Although transmission line systems may be of higher voltage, most electrocutions occur on distribution systems that are at a lower voltage. This is due to the closer spacing of the distribution system wires, which can be 2 to 6 feet apart. With a larger body size and wing span, raptors are able to span that distance. For transmission line systems, the wires are separated by 8 to 30 feet, which is beyond the reach of the larger bird species. Electrocution and/or collision impacts between listed or sensitive bird or bat species and transmission line components would be adverse and therefore, Mitigation Measures BIO-10a and BIO-10b (these measures provide further clarification and supersede APM ECO-BIO-25) have been provided and would mitigate this impact. Under CEQA, impacts would significant but can be mitigated to a level that is considered less than significant (Class II) with implementation of Mitigation Measures BIO-10a and BIO-10b.

MM BIO-10a Design all transmission towers and lines to conform with Avian Power Line Interaction Committee standards. The Proposed PROJECT shall have the minimum clearances between phase conductors or between phase conductors and grounded hardware, as recommended by the Avian Power Line Interaction Committee (2006), which is sufficient to protect even the largest birds that may perch or roost on transmission lines or towers from electrocution.

MM BIO-10b Develop and implement project-specific Avian Protection Plans. Develop and implement an Avian Protection Plan related to wire, transmission tower, and facilities impacts from electrocution and collision of bird species. An Avian Protection Plan shall be developed jointly with the U.S. Fish and Wildlife Service and California Department of Fish and Game and shall provide the framework necessary for implementing a program to reduce bird mortalities and document actions. The Avian Protection Plan shall include the following: corporate policy, training, permit compliance, construction design standards, nest management, avian reporting system, risk assessment methodology, mortality reduction measures, avian enhancement options, quality control, public awareness, and key resources.

Tule Wind Project

The Tule Wind Project would result in the installation of approximately 9.7 miles of 138 kV transmission line with 108 towers, as described in Section B. As described previously for the ECO Substation Project, special-status bird species have the potential to collide with towers and transmission lines and have the potential to be electrocuted by the transmission towers associated with the Tule Wind Project, resulting in injury or mortality. Electrocution and/or collision impacts between listed or sensitive bird or bat species and transmission line components would

be adverse and therefore, Mitigation Measures BIO-10a and BIO-10b (these measures provide further clarification and supersede APM ECO-BIO-25) have been provided and would mitigate this impact. Under CEQA, impacts would significant but can be mitigated to a level that is considered less than significant (Class II) with implementation of Mitigation Measures BIO-10a and BIO-10b.

Wind energy projects also pose the potential risk of bird and bat collision with turbines to resident and migratory species. As described in the California Energy Commission (CEC) and CDFG's *California Guidelines for Reducing Impacts to Birds and Bats from Wind Energy Development* (2007), lead and responsible agencies ~~"m~~make estimates of potential fatalities and risk to individual species and populations to determine the level of impact and to develop avoidance, minimization, and mitigation actions" in order to ~~"c~~omply with CEQA and address other wildlife protection laws." The ~~"p~~re-permitting assessment" level of effort depends on the category of the Proposed PROJECT site. Category 1 (sites with available wind–wildlife data) and Category 2 (sites with little existing information and no indicators of high wildlife impacts) would require a lower level of pre-permitting assessment, whereas Category 3 (project sites with high or uncertain potential for wildlife impacts) and Category 4 (site inappropriate for wind development) would require a higher level of pre-permitting assessment (CEC and CDFG 2007).

The Draft USFWS Wind Turbine Guidelines Advisory Committee Recommendations (Draft USFWS Guidelines) suggests applying a tiered approach to evaluating and minimizing the risk of wildlife impacts from wind energy projects, including preliminary evaluation or screening of potential sites (Tier 1), site characterization (Tier 2), field studies to document site wildlife conditions and predict project impacts (Tier 3), post-construction fatality studies (Tier 4), and other post-construction studies (Tier 5) (USFWS 2009a).

Collision risk is the number of collision fatalities for a species or group of species divided by the number of individuals of that species or group in the zone of risk (area where the species can travel through and be exposed to the collision factor) (USFWS 2009a). USFWS acknowledges that direct, quantitative estimates of individual, group, or population collision risk is difficult and ~~"u~~sually beyond the scope of wind energy project studies due to the difficulties in evaluating these metrics" (2009a); therefore, collision risk estimates are typically qualitative and utilize comparisons among existing wind energy projects and/or design alternatives. USFWS states that the ~~"a~~ssessment of risk should synthesize sufficient data collected at a project to estimate exposure and predict impact for individuals and their habitat for the species of concern, with what is known about the population status of the species, and in communication with the relevant wildlife agency and industry wildlife experts" (2009a).

Consistent with the CEC and CDFG guidelines for a Category 3 site with uncertain potential for wildlife impacts, a number of technical studies were conducted for the site, including avian use studies, nest surveys, and bat studies (Tetra Tech EC, Inc. 2008, 2009; WRI 2010; WEST 2009, 2010b). These studies provide information for Tier 2 (Site Characterization) and Tier 3 (field studies and prediction of project impacts) pursuant to the Draft USFWS Guidelines' tiered approach. These studies employed avian point count stations, raptor nest searches, acoustic bat monitoring, and bat roost searches conducted by qualified biologists utilizing standard survey protocols as described by CEC and CDFG (2007) and USFWS (2009a) to assess the potential collision risk to birds and bats.

During the 2005–2006 and 2007–2008 avian use and flight behavior surveys, over 700 30-minute point count surveys were conducted at 16 locations throughout the Tule Wind Project area. From this data, the encounter rate for species can be determined, which is an estimate of the frequency with which a species is observed at the elevations of the proposed turbine's rotor swept area (RSA). The encounter rate index provides one potential measure of risk to avian species; however, the actual risk to bird species is dependent upon other unmeasured factors, including behavior, visual acuity, and habitat affinities, among others (Tetra Tech EC, Inc. 2008, 2009).

Raptor use of the site was considered moderate (0.58 birds/30 minutes in 2005–2006; 0.98 birds/30 minutes in 2007–2008), and non-raptor use of the site was considered low (11.83 birds/30 minutes in 2005–2006; 8.37 birds/30 minutes in 2007–2008) when compared to other sites with data from similar studies (Tetra Tech EC, Inc. 2008, 2009). Overall, the estimated use of the Tule Wind Project area by raptors is low to moderate compared to other wind energy projects nationwide (Tetra Tech EC, Inc. 2008, 2009; WEST 2010b). High raptor use (greater than 2.0 birds/30 minutes) tends to lead to relatively high raptor mortality (greater than 0.4 birds/megawatt (MW)/year), whereas low raptor use (less than 1.0 bird/30 minutes) tends to lead to relatively low raptor mortality (less than 0.2 birds/MW/year) (Tetra Tech EC, Inc. 2009).

Of the raptor species detected in Tule Wind Project area, red-tailed hawks and turkey vultures had the highest encounter rates. Based solely on the encounter rates, these two raptor species would have the highest risk of collision. All other raptors detected in the project area (i.e., Cooper's hawk, American kestrel (*Falco sparverius*), northern harrier, sharp-shinned hawk (*Accipiter striatus*), golden eagle, prairie falcon, osprey (*Pandion haliaetus*), and an unidentified falcon and raptor) had very low encounter rates and would be at relatively low risk of collision according to these two studies (Tetra Tech EC, Inc. 2008, 2009).

Based on studies of the flight behavior of golden eagles, they are at lower risk than species such as red-tailed hawks because only 15% of their flight behaviors put them in a vulnerable position

to turbine collisions (flying at the height of the rotor plane), and they did not spend significant time within the close proximity (within 50 meters or 164 feet) to the turbines (Thelander et al. 2003). In addition, the collision risk for golden eagles is dependent on avoidance ability, flight behavior and use in the turbine area, and weather. A study by de Lucas et al. (2008) describes certain bird species that have high wing loading for flight (i.e., turkey vulture), which have a resulting lower maneuverability and thus are at a greater risk of collision with objects; however, species with higher maneuverability, such as golden eagle, may be able to use their high-powered flight to avoid collisions with turbines. Although golden eagles are thought to have the same ability to avoid collision with turbines as other raptors, the collision risk is assumed to be proportional to the amount of activity at the turbine rotor height (Madders 2009).

Behavior and collision studies at the Altamont Pass Wind Resources Area have shown that more eagles are killed by collision with turbines when the turbines are located along the slope rather than along the ridgeline (Thelander et al. 2003); however, the landscape and turbine layout at Altamont differ from the Tule Wind Project area. Golden eagles tend to utilize contour hunting along the gentle grassy slopes of the Altamont Pass. Golden eagles near McCain Valley and the desert regions utilize different hunting techniques due to the terrain, which often includes aerial soaring or utilization of preferred perches. Therefore, golden eagle flight behavior at Altamont does not conclusively provide evidence of flight behavior relative to ridgelines and the proposed RSA in the Tule Wind area.

Golden eagles can be sensitive to changes in their environment (e.g., wind farms). Madders (2009) describes a home range use change in a pair of resident golden eagles after a wind farm was constructed in their territory. Madders (2009) also indicates that it is unlikely that golden eagles would nest within the immediate vicinity (i.e., 500 meters or 1,640 feet) of the proposed wind turbines, likely constraining the eagles from occupying nests within their existing territory. Currently, the Canebrake eagle pair is nesting within the 500-meter (1,640-foot) area; thus, if the pair changes its nesting location to avoid the Tule Wind Project area, that territory may be lost from use.

Of the non-raptor species detected in the Tule Wind Project area, white-throated swift (*Aeronautes saxatalis*), common raven, and Vaux's swift had the highest encounter rates. Encounter rates were relatively uniform for white-throated swift and common raven, indicating non-migratory use of the project area; the encounter rates were nearly entirely in fall for Vaux's swift, indicating migratory use of the project area. Based solely on encounter rates, these species would have the highest risk of collision (Tetra Tech EC, Inc. 2008, 2009).

Special-status bird species encounter rate information is provided in more detail below.

- Cooper's hawk had encounter rates of 0.07 for the 1.5 MW RSA elevation range and 0.06 for the 3.0 MW RSA elevation range during fall 2007. During this time, the flight direction was south and southeast for six flying birds. The overall encounter rate for the entire 2007–2008 study for Cooper's hawk was 0.02, and for the 2005–2006 study the encounter rate was 0.01 for both RSA elevation ranges.
- Tricolored blackbird was not observed during the studies.
- Southern California rufous-crowned sparrow was not observed within either RSA elevation range during 2005–2006 surveys. This species had an encounter rate of 0.00 for both 1.5 and 3.0 MW RSA elevation ranges during the 2007–2008 survey. There was no information regarding flight direction given in the 2007–2008 survey.
- Bell's sage sparrow was not observed during the studies.
- Golden eagle was not observed within either RSA elevation range during 2005–2006 surveys. For the 2007–2008 surveys, the overall encounter rate for both RSA elevation ranges was 0.00. During fall 2007, one golden eagle was seen flying in a northwest direction, and in spring 2008 one was seen flying north.
- Long-eared owl was observed incidentally during the studies during the 2007–2008 survey; however, there was no information regarding encounter rates or flight direction.
- Burrowing owl was not observed during the studies.
- Vaux's swift was not observed within either RSA elevation range during 2005–2006 surveys. In fall 2007, this species had an encounter rate of 1.28 for the 3.0 MW RSA elevation range and 1.40 for the 1.5 MW RSA elevation range. This species had the highest encounter rate for both RSA elevation ranges of any species observed during both studies. Vaux's swift was only seen in fall 2007, with 97% of the birds flying south and 3% flying east. The Vaux's swift is listed as a Species of Concern by CDFG due to the impacts to its nesting requirements within its breeding range in the northwestern portion of the state. The requirement of this species is for old growth forest, which has been reduced due to timber harvest. Population-wise, this species is stable, and according to the International Union for Conservation of Nature Red List, its status is of Least Concern. Hence, although this species has the status of Special Concern, the concern is with respect to the breeding range, which is not within the range of this project (Bull and Collins 2007).
- Northern harrier had an encounter rate of 0.01 in the 1.5 MW RSA elevation range during fall 2005 and winter 2005/2006. All other observations of the northern harrier resulted in an encounter rate of 0.00 for both RSA elevation ranges. Flight direction for the northern harrier was southeast in fall 2007, south in winter 2005/2006, and north in spring 2008.

- Olive-sided flycatcher was observed incidentally during the 2007–2008 survey; however, there was no information regarding encounter rates or flight direction.
- Southwestern willow flycatcher was not observed during the studies.
- California horned lark was not observed during the studies. Horned lark was observed with an encounter rate of 0.00 for both 1.5 and 3.0 MW RSA elevation ranges during the 2007–2008 survey. There was no information regarding flight direction given in the 2007–2008 survey.
- Prairie falcon was not seen within either RSA elevation range during 2005–2006 surveys. This species was only seen in spring 2008 and had an encounter rate of 0.01 for both 1.5 and 3.0 MW RSA elevation ranges. The overall encounter rate for this survey was 0.00. The flight direction for the prairie falcon was variable for one individual in spring 2008.
- California condor was not observed during the studies.
- Loggerhead shrike had an encounter rate of 0.00 each time it was seen during both the 2005–2006 and 2007–2008 surveys for both RSA elevation ranges.
- Gray vireo was not observed during the studies.

Collision risk can also be increased from idling turbines, which provides increased perching opportunities for birds in the project area. Although it is not clear that perching would increase the risk of collision, Erickson et al. 2001, suggests that a lack of perching and nesting opportunities may discourage some birds from utilizing these areas. Idling of turbines is a potential adaptive management option that could be employed, if determined appropriate under the adaptive management program as triggered by substantial bird mortality. The adaptive management program will address the potential increase in perching opportunities if turbines are idled.

In terms of raptor nest surveys, red-tailed hawk and Cooper's hawk nests have been detected in the project area. In the golden eagle nest survey for the project area and a 10-mile buffer around the project area, 10 golden eagle territories were identified, including 6 active territories, 3 of which had nests with incubating adults (WRI 2010). The nests with incubating adults are generally located or described as the Canebrake, Moreno Butte, and Glenn Cliff/Buckman Springs locations. The Canebrake location comprises a group of four nests, with the closest nest less than 0.5 mile northwest of a string of turbines in the northern portion of the Tule Project. The Moreno Butte location is approximately 10 miles southwest of the project. The Glenn Cliff/Buckman Springs location is approximately 8 miles west of the central portion of the project. The active territories, located at Garnet Mountain, Monument Peak, and Thing Valley, are 10, 7, and 3 miles west of the Tule Project, respectively. Although golden eagle use of the Tule Wind Project area was very low based on point count surveys, the presence of an active

golden eagle nest at the Canebrake location indicates that golden eagles are using a foraging area in the vicinity of the northern portion of the project area. Therefore, there would be an increased risk of collision for golden eagle in the northern portion of the project area than would be estimated from the bird use data alone. A low risk of collision for golden eagle in the southern portion of the project area would be estimated based on increased distance to active nests and low bird use.

Studies of the breeding population and locations within San Diego County have been conducted over the past 70 years. The population within the county in 1900 was estimated at 108 pairs (Unitt 2004). It remained at approximately this population size for a number of years but has shown a gradual decline since the 1950s and is now estimated at approximately 50 pairs (Unitt 2004; Scott 1985; WEST 2010b). As the population of the species declines within the county, loss of breeding adults becomes of greater concern. Currently only one-third of the nesting territories mapped in 1937 are occupied with the start of the twenty-first century (Unitt 2004). Over the next 30 years, it is estimated that the population may drop to approximately 25 pairs (Unitt 2004). Causes of mortality of the golden eagle are directly or indirectly caused by humans in more than 70% of the recorded deaths. Accidental deaths due to collisions with vehicles, power lines, or other structures are the leading cause of death, followed by electrocution, shooting, and poisoning (Kochert et al. 2002). The population of golden eagles in general is not showing declines throughout its range; however, declines are noted within the western United States and for San Diego County, as previously noted (Kochert et al. 2002). The population of this species typically includes breeding pairs as well as "floater" individuals, individuals that cannot nest because all suitable territories are occupied. Additional information is required for the population within San Diego County in order to determine the magnitude of the effect on the population with the potential loss of a breeding adults if mortality occurred as a result of collision with the proposed turbines. If there continue to be "floaters" present within San Diego County to replace an adult lost due to collision mortality, the effect on the population would be less.

Based on the use data, encounter rate index, nest survey information, and the species' population and regulatory status, the operation of wind turbines proposed by the project would result in an adverse impact to golden eagle and therefore, Mitigation Measures BIO-10a through BIO-10i have been provided. However, the identified impact cannot be mitigated. Under CEQA, the risk of collision to golden eagle in the western portion of the project area, would be significant and cannot be mitigated to a level that is considered less than significant (Class I). The proximity of active golden eagle nests to the proposed turbines in the western portion of the project area makes it probable that an adult or juvenile eagle could collide with the turbines at some point within the lifetime of the project. In the worst case, this western area of the project could become a continuing sink for golden eagles attempting to use nesting sites west of the project area. There

is no established buffer distance from active nests deemed high risk for golden eagle collision with wind turbines, and golden eagle use and foraging areas around active nests are not uniform and will vary from territory to territory. Although territory size and shape is not known for the golden eagle territories around the Tule Wind Project, circular foraging areas with a 4-mile radius around each of the active nest locations shows overlap of potential golden eagle use area with the western half of the proposed turbine strings. The same analysis shows no overlap of potential use areas, and therefore low risk of collision for golden eagles, in the eastern half of the proposed turbine strings.

Based on use data and encounter rate index, the presence of wind turbines would result in a significant risk of collision to Vaux's swift. This impact would be adverse and therefore, Mitigation Measures BIO-10a through BIO-10e and BIO-10g have been provided to mitigate this impact. Under CEQA, this impact would be considered significant but can be mitigated to a level that is less than significant (Class II) with implementation of Mitigation Measures BIO-10a through BIO-10e and BIO-10g. Based on the population status of the Vaux's swift, the potential loss of individuals due to collision with turbines would not result in a significant risk to the population. Based on the species' use data and encounter rate indices, the presence of wind turbines would not result in an adverse impact due to collision to other special-status bird species. Under CEQA, impacts to other special-status bird species would be considered less than significant (Class III). Implementation of these measures would also reduce the risk of collision for other special-status and common bird species.

In terms of bat mortality resulting from collision with wind turbine rotors, tree-roosting, migratory bat species have accounted for the majority of fatalities recorded at existing wind farm sites in North America (Kunz et al. 2007). Data on bat mortality is limited and potentially compromised by difficulties in detecting and identifying carcasses during post-construction searches. The highest numbers of bat fatalities have been reported in late summer and early fall, in the eastern and midwestern United States, and during lower wind speeds (Arnett et al. 2008). No data on bat mortality was available for the southwestern United States (Kunz et al. 2007; Arnett et al. 2008). Data on bat mortality does suggest that post-construction bat mortality is roughly correlated to pre-project bat use at a site (Kunz et al. 2007; WEST 2009).

Bat activity at the Tule Wind Project area was estimated through the use of acoustical monitoring over an approximately 1-year period between 2007 and 2008. Bat use for the Tule Wind Project area was estimated to be approximately 7 bat passes per detector night, which is on the low range of reported bat use from other wind farm sites (2.1 to 38.3 bat passes per detector night) (WEST 2009). The acoustical monitoring did not identify bats to species.

Reported bat fatality rates from post-construction monitoring of existing wind farm sites shows a wide range of fatality rates, from 0 to nearly 40 bat fatalities/MW/year (WEST 2009). Based solely on the correlation between pre-project bat use and post-construction bat mortality, the Tule Wind Project has the potential to result in up to 2.5 bat fatalities/MW/year (WEST 2009).

In addition to bat use information and estimates of fatality rates, the mine shafts known from the Tule Wind Project area were investigated. Seven horizontal mine shafts and three vertical shafts are present within or near the Proposed PROJECT, and these shafts were searched for bat sign. Only one horizontal mine shaft has potential to support bat activity (WEST 2010a).

In terms of special-status bats, pallid bat and pocketed free-tailed bat have the potential to use the Tule Wind Project area. These species are rock, crevice, and cave roosting. The pallid bat and pocketed free-tailed bats do not appear to be migratory species (Zeiner et al. 1990b); hence, they would not be moving through the region in large numbers. Frequencies in the pallid bat range were detected during acoustical monitoring, but pocketed free-tailed bat frequencies were not detected.

Given the detected bat use and the potential for special-status bat species to forage in the Tule Wind Project area, the presence of wind turbines would result in a significant risk of collision to special-status species. This impact would be adverse and therefore, Mitigation Measures BIO-10a through BIO-10e and BIO-10h have been provided to mitigate this impact Under CEQA, risk of collision to special-status species would be significant but can be mitigated to a level that is considered less than significant (Class II) with implementation of Mitigation Measures BIO-10a through BIO-10e and BIO-10h.

MM BIO-10c Design and configure wind turbines to maximally avoid and minimize bird and bat resources. Various design features shall be used to reduce or avoid impacts to bird and bat species. These may include avoiding guy wires, reducing impacts with appropriate turbine layout based on micro-siting decisions that may include such refinements as placing all turbines on the ridgeline and avoiding placement of turbines on slopes and within canyons, placing power lines underground as much as feasible, and reducing foraging resources near turbines.

MM BIO-10d Minimize turbine lighting. Night-lighting may serve as an attractant for birds, especially migrants, which may be attracted to the light and then become unable to leave it. Lighting that attracts birds shall be avoided on the turbines. Lights with short flash duration that emit no light during the off phase shall be used. Lights that have the minimum number of flashes per minute and the briefest flash duration shall be used. Lights on auxiliary buildings near turbines and met towers shall be motion-sensitive rather than constant ~~o~~n" lights. All lighting on

buildings shall be shielded and downcast. To avoid disorienting or attracting birds, Federal Aviation Administration visibility lighting shall employ only strobe, strobe-like, or blinking incandescent lights, preferably with all lights illuminating simultaneously. Minimum intensity, maximum –off-phased" duel strobes are preferred. No steady burning lights shall be used.

MM BIO-10e Conduct post-construction bird and bat species mortality monitoring and reporting pursuant to a monitoring program. Conduct at least 5 years of post-construction bird and bat mortality monitoring. A Post-Construction Monitoring Program shall be developed in accordance with the *California Guidelines for Reducing Impacts to Birds and Bats from Wind Energy Development* (CEC and CDFG 2007) and recommendations from the Wind Turbine Guidelines Advisory Committee (USFWS 2009a) to satisfy Tier 4 and Tier 5 monitoring requirements. This plan shall be reviewed by the permitting agencies prior to project initiation. At a minimum, the plan shall outline the monitoring methods, evaluation methods, threshold criteria for action, and types of management actions to be undertaken. Annual monitoring reports shall be submitted to the wildlife agencies and lead agencies as appropriate.

MM BIO-10f Authorize construction of portions of the project based on the results of behavioral and population studies of local golden eagles. Construction of the Tule Wind project would be authorized in two portions:

1. Construction of the first portion of the project would occur at those turbine locations deemed to present less risk to the eagle populations and would not include turbines on the northwest ridgeline.

2. Construction of the second portion of the project would occur at those turbine locations that show reduced risk to the eagle population following analysis of detailed behavior studies of known eagles in the vicinity of the Tule Wind project. Pending the outcome of eagle behavior studies, all, none or part of the second portion of the project would be authorized and will include the following turbine strings: J1 through J15; K1 through K12; L1 through L11; M1 and M2; N1 through N8; P1 through P5; Q1and Q2.

Construction of turbines in the second portion of the project will only be authorized following detailed behavioral telemetry studies and continued nest monitoring of known eagles in the vicinity of the Tule Wind Project (considered to be within approximately 10 miles of the project). Behavior studies will be used

to determine eagle usage and forage areas, and authorization for construction at each turbine location in the second portion will be at the discretion of the Bureau of Land Management (BLM) or the appropriate land management entity.

The final criteria determining the risk each location presents to eagles will be determined by the BLM or the appropriate land management agency, in consultation with the required resource agencies, tribes, and other relevant permitting entities and will be detailed in the Avian Protection Plan. Criteria will be established related to the proportion of the observed golden eagle use areas (based on the telemetry data) within proposed turbine strings to determine the risk of these turbines on individual eagles in the vicinity. Criteria will also be established related to past and current nest occupancy and productivity (based on past and continued nest monitoring data) for the monitored nests in the project vicinity to determine the risk of the construction of turbines on the eagle population. Turbine locations exceeding the acceptable risk levels to golden eagles based on these final criteria will not be authorized for construction.

MM BIO-10g Monitor golden eagles nests in the area to track productivity. Conduct annual surveys of golden eagle territories within 10 miles of the turbines for a minimum of 10 years. Conduct surveys to determine location of active nest, number of eggs laid and number of young fledged, as described by Pagel et al. 2010. Annual monitoring reports shall be provided to the wildlife agencies and the Bureau of Land Management.

MM BIO-10h Implement an adaptive management program that provides triggers for required operational modifications (seasonality, radar, turbine-specific modifications, and cut-in speed). An adaptive management program shall be prepared and implemented that uses the information provided from the post-construction bird monitoring mitigation measure and the golden eagle nest productivity mitigation measure. If mortality of any golden eagle occurs, regardless of age or gender, the responsible and adjacent turbines will be shut down while the adaptive management program is assessed for its validity and modified to the satisfaction of the resource agencies. This program will be based on monitoring of the active nest locations and eagle activity within 10 miles of the turbines. Measures will include curtailing operation of all or selected turbines during the fledging period of the active nests or potential permanent shutdown of turbines that are closest to active nests until the nest location changes to a farther location (eagles are known to build numerous nests within their territory and use different nest locations each year (Kochert et al. 2002)). Adaptive management

measures will also include prey population control if populations of ground squirrels and rabbit species are noted in proximity (within 50 meters or 164 feet) to the turbine base. The prey population may serve as an attractant to foraging raptors and could result in the collision with the turbines as a result. Other measures (e.g., radar monitoring and turbine modifications) will be implemented as dictated by the monitoring data and as specified by the adaptive management program. Based on the monitoring of bat mortality, the adaptive management program shall have triggers for the implementation of limited and periodic feathering or shut downs of turbines to avoid impacts to bats.

MM BIO-10i Obtain written agency concurrence documenting compliance with regulations governing golden eagle. Prior to project construction, written concurrence from the U.S. Fish and Wildlife Service and California Department of Fish and Game shall be obtained that documents approval of the mitigation measures and adaptive management program related to golden eagle sufficient to provide compliance with the Bald and Golden Eagle Protection Act and the California Fish and Game Code.

ESJ Gen-Tie Project

The ESJ Project would result in the installation of approximately 1 mile of either a 500 or 230 kV transmission line with five towers, as described in Section B. As described previously for the ECO Substation Project, special-status bird species have the potential to collide with towers and transmission lines and have the potential to be electrocuted by the transmission towers associated with the ESJ Project, resulting in injury or mortality. Without implementation of APM ESJ-BIO-13, which specifies that the design of all transmission towers and lines for the ESJ Project would comply with APLIC standards, the project would have the potential to result in a significant impact of electrocution of, and/or collision by, listed or special-status bird or bat species. This impact would be considered adverse and therefore, Mitigation Measures BIO-10a and BIO-10b (these measures provide further clarification and supersede APM ESJ-BIO-13) have been provided to mitigate this impact. Under CEQA, impacts would significant but can be mitigated to a level that is considered less than significant (Class II) with implementation of Mitigation Measures BIO-10a and BIO-10b.

Proposed PROJECT

The Proposed PROJECT would construct approximately 23 miles of 138 kV transmission line, approximately 1 mile of either a 500 or 230 kV transmission line, and other collector lines, which, as described above, would present increased risk of collision and electrocution to bird species, particularly raptors. In addition, the proposed Campo, Manzanita, and Jordan wind

energy projects would have collector lines and transmission lines associated with development of these projects. The project-specific details of these projects are not available at this time but will be evaluated under all applicable environmental regulations once sufficient project-level information has been developed. The risk of electrocution to special-status bird species from transmission lines and towers of the Proposed PROJECT, including the proposed Campo, Manzanita, and Jordan wind energy projects, would be adverse and therefore, Mitigation Measures BIO-10a and BIO-10b have been provided to mitigate this impact. Under CEQA, impacts would be significant but can be mitigated to a level that is considered less than significant (Class II) with implementation of Mitigation Measures BIO-10a and BIO-10b.

The Proposed PROJECT would construct up to 134 1.5 to 3.0 MW wind turbines in McCain Valley, which, as described above, would present increased risk of collision to bird and bat species. In addition, the proposed Campo, Manzanita, and Jordan wind energy projects would add approximately 171 wind turbines in close proximity to the Proposed PROJECT. Given the known bird use and identified nesting birds in the vicinity of the Proposed PROJECT, several special-status bird and bat species have a significant risk of mortality. The risk of mortality due to collision with operating turbines by golden eagles resulting from the Proposed PROJECT (specifically, the Tule Wind Project) would adverse and therefore, Mitigation Measures BIO-10a through BIO-10i have been provided. However, the identified impact cannot be mitigated and under CEQA, the risk of collision to golden eagle in the western portion of the project area, would be significant and cannot be mitigated to a level that is considered less than significant (Class I). Although specific project-level information has not been developed, the Campo, Manzanita, and Jordan wind energy projects would be anticipated to present a similar risk of mortality due to collision with operating turbines for special-status bird and bat species. Based on currently available information, the Campo, Manzanita, and Jordan wind energy project sites are located farther from known active golden eagle nest sites, and these wind energy projects may not result in similar impacts to golden eagles as the Tule Wind Project.

The risk of mortality due to collision with operating turbines by Vaux's swift and special-status bat species would be adverse and therefore, Mitigation Measures BIO-10a through BIO-10e and BIO-10g have been provided to mitigate this impact. Under CEQA, this impact would be considered significant but can be mitigated to a level that is less than significant (Class II) with implementation of Mitigation Measures BIO-10a through BIO-10e and BIO-10g. The risk of mortality due to collision with operating turbines by other special-status bird species resulting from the Proposed PROJECT, including the proposed Campo, Manzanita, and Jordan wind energy projects, would not be adverse, and under CEQA, would be considered less than significant (Class III) or would have no effect (No Impact).

Impact BIO-11: Maintenance activities would result in disturbance to wildlife and could result in wildlife mortality.

ECO Substation Project

Similar to impacts resulting from construction activities (refer to discussion for Impact BIO-6), maintenance activities during the operation of the ECO Substation Project components have the potential to result in disturbance to and mortality of wildlife. The substation site would not have daily operators but would be visited several times a week for routine operations. Routine maintenance activities on the ECO Substation Project component would occur several times a year. Vegetation maintenance would occur as needed to maintain minimum necessary work space around the substation. As shown on Figure B-3, vegetation maintenance would occur around the substation in the area designated as permanent slope and grading impacts. The loss of wildlife habitat resulting from vegetation maintenance is addressed under Impact BIO-1. Periodic vehicular use of the access roads around the substation for maintenance, maintenance activities within the substation facility, and vegetation maintenance around the perimeter of the substation have the potential to disturb or result in the direct mortality of common and special-status wildlife species. Operations and maintenance-related disturbance or direct mortality of special-status wildlife species would adverse and therefore, Mitigation Measures BIO-3a, BIO-4a, BIO-7b through BIO-7d, and BIO-11a have been provided to mitigate this impact. Under CEQA, the disturbance to or direct mortality of special-status wildlife species during maintenance activities would be significant but can be mitigated to a level considered less than significant (Class II) with implementation of Mitigation Measures BIO-3a, BIO-4a, BIO-7b through BIO-7d, and BIO-11a.

MM BIO-11a Conduct maintenance activities resulting in vegetation disturbance outside of the bird nesting season or conduct pre-construction nesting bird surveys. Maintenance activities with the potential to result in direct or indirect habitat disturbance, most notably vegetation management, shall be conducted outside of the bird nesting season to the maximum extent practicable. Where avoidance is not possible, the project proponent shall conduct pre-construction nesting bird surveys to determine the presence/absence of active nests in or adjacent to construction areas. If active nests are identified, appropriate avoidance measures would be identified and implemented to prevent disturbance to the nesting bird(s). If federally or state-listed nesting birds are identified, the project proponent shall contact the U.S. Fish and Wildlife Service and/or California Department of Fish and Game to determine the appropriate course of action.

Operations and maintenance-related disturbance or direct mortality of common wildlife species would not be adverse, and under CEQA, would be less than significant (Class III). The

mitigation measures for Impact BIO-7 that offset operation and maintenance effects to special-status wildlife species will benefit other common wildlife species as well.

Tule Wind Project

Similar to the description of Impact BIO-6 for construction activities, maintenance activities during the operation of the Tule Wind Project have the potential to result in disturbance to and mortality of wildlife. As described in Section B, Project Description, the project would require 12 full-time staff operating out of the O&M Building. Routine maintenance of the turbines would occur twice a year. Staff would visit the substation several times a week for routine operations. Vegetation maintenance would occur as needed to maintain minimum necessary space around turbines and overhead structures. The loss of wildlife habitat resulting from vegetation maintenance has been addressed under Impact BIO-1. Operations and maintenance-related disturbance or direct mortality of special-status wildlife species would be adverse and therefore, Mitigation Measures BIO-3a, BIO-4a, BIO-7b through BIO-7d, and BIO-11a have been provided to mitigate this impact. Under CEQA, the disturbance to or direct mortality of special-status wildlife species during maintenance activities would be significant but can be mitigated to below a level of significance (Class II) with implementation of Mitigation Measures BIO-3a, BIO-4a, BIO-7b through BIO-7d, and BIO-11a.

Operations and maintenance-related disturbance or direct mortality of common wildlife species would not be adverse, and under CEQA, would be less than significant (Class III). The mitigation measures for Impact BIO-7 that offset operation and maintenance effects to special-status wildlife species will benefit other common wildlife species as well.

ESJ Gen-Tie Project

Similar to as described under Impact BIO-6 for construction activities, maintenance activities during the operation of the ESJ Project have the potential to result in disturbance to and mortality of wildlife. As described in the Project Description (Section B of this EIR/EIS) periodic vehicular use of the access roads and maintenance of the transmission lines and towers would occur. Additionally, vegetation maintenance within the transmission line corridor would occur as needed for maintenance work areas and fire safety. The loss of wildlife habitat resulting from vegetation maintenance has been addressed under Impact BIO-1. Regardless of the habitat resources within the ESJ Project area, operations and maintenance activities have the potential to disturb or result in the direct mortality of common and special-status wildlife species using or moving through the project area. Operations and maintenance-related disturbance or direct mortality of special-status wildlife species would be adverse and therefore, Mitigation Measures BIO-3a, BIO-4a, BIO-7b through BIO-7d, and BIO-11a have been provided to mitigate this impact. Under CEQA, impacts would be significant but can be mitigated to below a level of

significance (Class II) with implementation of Mitigation Measures BIO-3a, BIO-4a, BIO-7b through BIO-7d, and BIO-11a.

Operations and maintenance-related disturbance or direct mortality of common wildlife species would not be adverse and would be considered less than significant under CEQA (Class III). The mitigation measures for Impact BIO-7 that offset operation and maintenance effects to special-status wildlife species will benefit other common wildlife species as well.

Proposed PROJECT

Operations and maintenance of the Proposed PROJECT, including the proposed Campo, Manzanita, and Jordan wind energy projects, would result in the removal of vegetation potentially supporting nesting birds protected by the Migratory Bird Treaty Act. The disturbance to or direct mortality of special-status wildlife resulting from maintenance activities of the Proposed PROJECT would be adverse and therefore, Mitigation Measures BIO-3a, BIO-4a, BIO-7b through BIO-7d, and BIO-11a have been provided to mitigate this impact. Under CEQA, impacts would be considered significant but can be mitigated to a level that is less than significant (Class II) with the implementation of Mitigation Measures BIO-3a, BIO-4a, BIO-7b through BIO-7d, and BIO-11a. The disturbance to or direct mortality of common wildlife resulting from maintenance activities of the Proposed PROJECT, including the proposed Campo, Manzanita, and Jordan wind energy projects, would not be adverse and would be considered less than significant under CEQA (Class III).

D.2.4 ECO Substation Project Alternatives

Table D.2-6 summarizes the impacts and classification of the impacts under CEQA that have been identified for the ECO Substation Project alternatives.

Table D.2-6
Biological Resources Impacts Identified for
ECO Substation Alternatives

Impact No.	Description	Classification
	ECO Substation Alternative Site	
ECO-BIO-1	Construction activities would result in temporary and permanent losses of native vegetation.	Class II
ECO-BIO-2	Construction activities would result in substantial adverse effects to jurisdictional waters and wetlands through vegetation removal, placement of fill, erosion, sedimentation, and degradation of water quality.	Class II
ECO-BIO-3	Construction and operation/maintenance activities would result in the introduction of invasive, non-native, or noxious plant species.	Class II
ECO-BIO-4	Construction activities would create dust that would result in degradation of vegetation.	Class II

Table D.2-6 (Continued)

Impact No.	Description	Classification
ECO-BIO-5	Construction activities would result in direct or indirect loss of listed or sensitive plants or a direct loss of habitat for listed or sensitive plants.	Class II
ECO-BIO-6	Construction, including the use of access roads, would result in disturbance to wildlife and result in wildlife mortality.	Class III
ECO-BIO-7	Construction activities would result in direct or indirect loss of listed or sensitive wildlife or a direct loss of habitat for listed or sensitive wildlife.	Class I
ECO-BIO-8	Construction activities would result in a potential loss of nesting birds (violation of the Migratory Bird Treaty Act).	Class II
ECO-BIO-9	Construction or operational activities would adversely affect linkages or wildlife movement corridors, the movement of fish, and/or native wildlife nursery sites.	Class III
ECO-BIO-10	Presence of transmission lines and wind turbines may result in electrocution of, and/or collisions by, listed or sensitive bird or bat species.	Class II
ECO-BIO-11	Maintenance activities would result in disturbance to wildlife and could result in wildlife mortality.	Class II
ECO Partial Underground 138 kV Transmission Route Alternative		
ECO-BIO-1	Construction activities would result in temporary and permanent losses of native vegetation.	Class II
ECO-BIO-2	Construction activities would result in substantial adverse effects to jurisdictional waters and wetlands through vegetation removal, placement of fill, erosion, sedimentation, and degradation of water quality.	Class II
ECO-BIO-3	Construction and operation/maintenance activities would result in the introduction of invasive, non-native, or noxious plant species.	Class II
ECO-BIO-4	Construction activities would create dust that would result in degradation of vegetation.	Class II
ECO-BIO-5	Construction activities would result in direct or indirect loss of listed or sensitive plants or a direct loss of habitat for listed or sensitive plants.	Class II
ECO-BIO-6	Construction, including the use of access roads, would result in disturbance to wildlife and result in wildlife mortality.	Class III
ECO-BIO-7	Construction activities would result in direct or indirect loss of listed or sensitive wildlife or a direct loss of habitat for listed or sensitive wildlife.	Class I
ECO-BIO-8	Construction activities would result in a potential loss of nesting birds (violation of the Migratory Bird Treaty Act).	Class II
ECO-BIO-9	Construction or operational activities would adversely affect linkages or wildlife movement corridors, the movement of fish, and/or native wildlife nursery sites.	Class III
ECO-BIO-10	Presence of transmission lines and wind turbines may result in electrocution of, and/or collisions by, listed or sensitive bird or bat species.	Class II
ECO-BIO-11	Maintenance activities would result in disturbance to wildlife and could result in wildlife mortality.	Class II
ECO Highway 80 138 kV Transmission Route Alternative		
ECO-BIO-1	Construction activities would result in temporary and permanent losses of native vegetation.	Class II
ECO-BIO-2	Construction activities would result in adverse effects to jurisdictional waters and wetlands through vegetation removal, placement of fill, erosion, sedimentation, and degradation of water quality.	Class II
ECO-BIO-3	Construction and operation/maintenance activities would result in the introduction of invasive, non-native, or noxious plant species.	Class II

Table D.2-6 (Continued)

Impact No.	Description	Classification
ECO-BIO-4	Construction activities would create dust that would result in degradation of vegetation.	Class II
ECO-BIO-5	Construction activities would result in direct or indirect loss of listed or sensitive plants or a direct loss of habitat for listed or sensitive plants.	Class II
ECO-BIO-6	Construction, including the use of access roads, would result in disturbance to wildlife and result in wildlife mortality.	Class III
ECO-BIO-7	Construction activities would result in direct or indirect loss of listed or sensitive wildlife or a direct loss of habitat for listed or sensitive wildlife.	Class I
ECO-BIO-8	Construction activities would result in a potential loss of nesting birds (violation of the Migratory Bird Treaty Act).	Class II
ECO-BIO-9	Construction or operational activities would adversely affect linkages or wildlife movement corridors, the movement of fish, and/or native wildlife nursery sites.	Class III
ECO-BIO-10	Presence of transmission lines and wind turbines may result in electrocution of, and/or collisions by, listed or sensitive bird or bat species.	Class II
ECO-BIO-11	Maintenance activities would result in disturbance to wildlife and could result in wildlife mortality.	Class II
ECO Highway 80 Underground 138 kV Transmission Route Alternative		
ECO-BIO-1	Construction activities would result in temporary and permanent losses of native vegetation.	Class II
ECO-BIO-2	Construction activities would result in substantial adverse effects to jurisdictional waters and wetlands through vegetation removal, placement of fill, erosion, sedimentation, and degradation of water quality.	Class II
ECO-BIO-3	Construction and operation/maintenance activities would result in the introduction of invasive, non-native, or noxious plant species.	Class II
ECO-BIO-4	Construction activities would create dust that would result in degradation of vegetation.	Class II
ECO-BIO-5	Construction activities would result in direct or indirect loss of listed or sensitive plants or a direct loss of habitat for listed or sensitive plants.	Class II
ECO-BIO-6	Construction, including the use of access roads, would result in disturbance to wildlife and result in wildlife mortality.	Class III
ECO-BIO-7	Construction activities would result in direct or indirect loss of listed or sensitive wildlife or a direct loss of habitat for listed or sensitive wildlife.	Class I
ECO-BIO-8	Construction activities would result in a potential loss of nesting birds (violation of the Migratory Bird Treaty Act).	Class II
ECO-BIO-9	Construction or operational activities would adversely affect linkages or wildlife movement corridors, the movement of fish, and/or native wildlife nursery sites.	Class III
ECO-BIO-10	Presence of transmission lines and wind turbines may result in electrocution of, and/or collisions by, listed or sensitive bird or bat species.	Class II
ECO-BIO-11	Maintenance activities would result in disturbance to wildlife and could result in wildlife mortality.	Class II

D.2.4.1 ECO Substation Alternative Site

This alternative would not affect the impact conclusions resulting from the implementation of the proposed Tule Wind and ESJ Gen-Tie projects as discussed in Section D.2.3.3.

Environmental Setting/Affected Environment

Section D.2.1.2 describes the environmental setting for the proposed ECO Substation Project. Because this alternative would only shift the proposed ECO Substation site 700 feet to the east (see Figure C-1), the biological resources setting would be the same as described in Section D.2.1.2. This alternative would also include extending the SWPL Loop-In (two additional structures required), 138 kV (one additional pole (108a)—total length of 13.4 miles), and 12 kV distribution transmission lines. Figure C-3 depicts the ECO Substation Alternative Site improvements as proposed.

Environmental Impacts/Environmental Effects

Direct and Indirect (*Note: cumulative effects are addressed in Section F of this EIR/EIS*)

Impact BIO-1: The temporary and permanent impacts to native vegetation communities under this alternative would be largely the same as those assessed in Section D.2.3.3 for the ECO Substation Project. The temporary and permanent impacts to native vegetation communities are summarized in Table D.2-7. A total of 26.0 acres of temporary impact to native vegetation communities would result from this alternative, including 14.4 acres of Peninsular juniper woodland and scrub and 11.6 acres of Sonoran mixed woody succulent scrub. A total of 131.1 acres of permanent impact to native vegetation communities would result from the ECO Substation Alternative Site, including 12.2 acres of chamise chaparral/redshank chaparral, 64.5 acres of Peninsular juniper woodland and scrub, 2.8 acres of shadscale scrub, and 51.6 acres of Sonoran mixed woody succulent scrub.

Table D.2-7
Native Vegetation Communities Impact Acreage for the
ECO Substation Alternative Site

Native Vegetation Community	Temporary Impact Acreage	Permanent Impact Acreage	ECO Substation Alternative Site Total Impact Acreage
Chamise chaparral/redshank chaparral	—	12.2	12.2
Emergent wetland	—	—	—
Open coast live oak woodland	—	—	—
Peninsular juniper woodland and scrub	14.4	64.5	78.9
Shadscale scrub	—	2.8	2.8
Sonoran mixed woody succulent scrub	11.6	51.6	63.2
Southern willow scrub/mulefat scrub	—	—	—
Total	**26.0**	**131.1**	**157.1**

Source: Insignia Environmental 2010a.

Direct and indirect impacts to sensitive natural communities would remain unchanged under this alternative relative to the ECO Substation Project. Temporary and permanent impacts to sensitive natural communities from the ECO Substation Alternative Site would be adverse and therefore, Mitigation Measures BIO-1a through BIO-1g have been provided and would mitigate this impact. Under CEQA, impacts would be considered significant but can be mitigated to a level that is considered less than significant (Class II) with implementation of Mitigation Measures BIO-1a through BIO-1g.

Impact BIO-2: The impacts to jurisdictional resources under this alternative would be largely the same as that assessed in Section D.2.3.3 for the ECO Substation Project. The ECO Substation Project component would result in impacts to desert swale features that would be regulated by the ACOE and RWQCB as non-wetland waters of the U.S. and by CDFG as unvegetated streambeds. Impacts to jurisdictional waters from the 138 kV transmission line project component would remain unchanged under this alternative. Permanent impacts to jurisdictional waters and wetlands resulting from this alternative would be adverse and therefore, Mitigation Measures BIO-1a through BIO-1d, BIO-1f, BIO-1g, and BIO-2a through BIO-2c have been provided and would mitigated this impact. Under CEQA, impacts would be considered significant but can be mitigated to a level that is less than significant (Class II) with implementation of Mitigation Measures BIO-1a through BIO-1d, BIO-1f, BIO-1g, and BIO-2a through BIO-2c.

Impact BIO-3: The impact of this alternative on the introduction of invasive, non-native, or noxious plant species would be the same as that assessed in Section D.2.3.3 for the ECO Substation Project. The impact of this alternative on the introduction of invasive, non-native, or noxious plant species would be adverse and therefore, Mitigation Measures BIO-1a through BIO-1d, BIO-1f, BIO-1g, and BIO-3a have been provided to mitigate this impact. Under CEQA, impacts would significant but can be mitigated to a level that is considered less than significant (Class II) with implementation of Mitigation Measures BIO-1a through BIO-1d, BIO-1f, BIO-1g, and BIO-3a.

Impact BIO-4: The impact of this alternative on the generation of construction dust resulting in the degradation of vegetation would be the same as that assessed in Section D.2.3.3 for the ECO Substation Project. The impact of this alternative on the generation of construction dust resulting in the degradation of vegetation would be adverse and therefore, Mitigation Measure BIO-4a has been provided to mitigate this impact. Under CEQA, impacts would be considered significant but can be mitigated to a level that is less than significant (Class II) with implementation of Mitigation Measure BIO-4a.

Impact BIO-5: The impact of this alternative on the loss of listed or sensitive plants or their habitat would be the same as that assessed in Section D.2.3.3 for the ECO Substation Project. Although the disturbance footprint for the substation under this alternative would be shifted 700 feet east, this modification does not change the anticipated impact to known or potentially occurring special-status plant species. The direct removal of special-status plant species, the indirect loss of special-status plant species from construction-related dust or trampling, and the direct removal of suitable habitat for special-status plant species would be adverse and therefore, Mitigation Measures BIO-1a through BIO-1g, BIO-3a, BIO-4a, and BIO-5a through BIO-5b have been provided to mitigate this impact. Under CEQA, impacts would significant but can be mitigated to a level that is considered less than significant (Class II) with implementation of Mitigation Measures BIO-1a through BIO-1g, BIO-3a, BIO-4a, and BIO-5a through BIO-5b.

Impact BIO-6: The impact of this alternative on construction disturbance to wildlife and wildlife mortality would be the same as that assessed in Section D.2.3.3 for the ECO Substation Project. Except where such construction-related disturbance or direct mortality affects special-status wildlife, which is addressed under Impact BIO-7, the construction-related impact of this alternative on wildlife disturbance and direct mortality, would not be adverse and would be considered less than significant under CEQA (Class III).

Impact BIO-7: The impact of this alternative on the loss of listed or sensitive wildlife or their habitat would be the same as that assessed in Section D.2.3.3 for the ECO Substation Project. Although the disturbance footprint for the substation under this alternative would be shifted 700 feet east, this modification does not change the anticipated impact to known or potentially occurring special-status wildlife species and their habitats. Similar to the proposed ECO Substation Project impacts would be adverse and therefore, Mitigation Measures BIO-1a through BIO-1g, BIO-3a, BIO-4a, BIO-7a through BIO-7f, and BIO-7j have been provided to mitigate this impact. Under CEQA, impacts would be significant but can be mitigated to a level that is considered less than significant (Class II) with implementation of Mitigation Measures BIO-1a through BIO-1g, BIO-3a, BIO-4a, BIO-7a through BIO-7f, and BIO-7j.

Similar to the proposed ECO Substation project, identified impacts to USFWS critical habitat for Quino checkerspot butterfly under this alternative would be adverse and therefore, Mitigation Measures BIO-1a through BIO-1g, BIO-3a, BIO-4a, and BIO-7b through BIO-7i have been provided. However, because comparable habitat compensation may not be obtainable as mitigation for project impacts, the identified impact cannot be mitigated and under CEQA, this impact would be considered significant and cannot be mitigated to a level that is less than significant (Class I).

Direct or indirect loss of this species from construction related dust or vehicle collisions associated with this alternative would be the same as under the proposed ECO Substation Project. Impacts would be adverse and therefore, Mitigation Measures BIO-1a through BIO-1g, BIO-3a, BIO-4a, and BIO-7b through BIO-7i have been provided to mitigate this impact. Under CEQA, impacts would be significant but can be mitigated to a level that is considered less than significant (Class II) with implementation of Mitigation Measures BIO-1a through BIO-1g, BIO-3a, BIO-4a, and BIO-7b through BIO-7i.

Impact BIO-8: The potential loss of nesting birds resulting from construction activities would remain unchanged under this alternative relative to the ECO Substation Project. Impacts would be adverse and therefore, Mitigation Measures BIO-1a through BIO-1c, BIO-4a, BIO-7b through BIO-7e, and BIO-7j have been provided to mitigate this impact. Under CEQA, impacts would be considered significant but can be mitigated to a level that is less than significant (Class II) with implementation of mitigation Measures BIO-1a through BIO-1c, BIO-4a, BIO-7b through BIO-7e, and BIO-7j.

Impact BIO-9: The impact of this alternative on linkages or wildlife movement corridors, the movement of fish, and/or native wildlife nursery sites would be the same as that assessed in Section D.2.3.3 for the ECO Substation Project. Identified impacts on linkages or wildlife movement corridors would not be adverse. Under CEQA, impacts would be considered less than significant (Class III). This alternative would have no impact on the movement of fish and native wildlife nursery sites (No Impact).

Impact BIO-10: The impact of this alternative on the electrocution of and/or collision by listed or sensitive bird or bat species would be the same as that assessed in Section D.2.3.3 for the ECO Substation Project. Identified impacts would be adverse and therefore, Mitigation Measure BIO-10a and BIO-10b have been provided to mitigate this impact. Under CEQA, impacts would be considered significant but can be mitigated to a level that is considered less than significant (Class II) with implementation of Mitigation Measure BIO-10a and BIO-10b.

Impact BIO-11: The impact of this alternative on operations and maintenance-related disturbance to wildlife and wildlife mortality would be the same as that assessed in Section D.2.3.3 for the ECO Substation Project. Operations and maintenance-related disturbances or direct mortality of special-status wildlife species would be adverse and therefore, Mitigation Measures BIO-3a, BIO-4a, BIO-7b through BIO-7d, and BIO-11a have been provided to mitigate this impact. Under CEQA, impacts would be considered significant but can be mitigated to a level that is less than significant (Class II) with implementation of Mitigation Measures BIO-3a, BIO-4a, BIO-7b through BIO-7d, and BIO-11a.

Similar to the proposed ECO Substation Project, operation and maintenance-related disturbances or direct mortality of common wildlife species would not be adverse and under CEQA, impacts would be considered less than significant (Class III).

D.2.4.2 ECO Partial Underground 138 kV Transmission Route Alternative

This alternative would not affect the impact conclusions resulting from the implementation of the proposed Tule Wind and ESJ Gen-Tie projects as discussed in Section D.2.3.3.

Environmental Setting/Affected Environment

With the exception of the undergrounding of the proposed 138 kV transmission line between MP 9 and the rebuilt Boulevard Substation, components of this alternative would the same as those identified for the ECO Substation Project as presented in Section B of this EIR/EIS. Under this alternative, the proposed 138 kV transmission line would be installed underground from MP 9 to the rebuilt Boulevard Substation (instead of on overhead transmission poles) along the same route as the proposed ECO Substation Project. Since this alternative would follow the same route as the proposed ECO Substation Project, the existing biological resources within the project component areas of this alternative would be the same as those identified in Section D.2.1.2.

Environmental Impacts/Environmental Effects

Direct and Indirect (*Note: cumulative effects are addressed in Section F of this EIR/EIS*)

Impact BIO-1: The temporary and permanent impacts to native vegetation communities under this alternative would be greater than that assessed in Section D.2.3.3 for the ECO Substation Project due to increased ground disturbance associated with the undergrounding of a portion of the transmission line. Impacts to sensitive natural communities would remain unchanged under this alternative relative to the ECO Substation Project. Therefore, impacts to sensitive natural communities from the ECO Partial Underground 138 kV Transmission Route Alternative would be adverse and Mitigation Measures BIO-1a through BIO-1g have been provided to mitigate this impact. Under CEQA, impacts to native vegetation communities are significant but can be mitigated to a level that is considered less than significant (Class II) with implementation of Mitigation Measures BIO-1a through BIO-1g.

Impact BIO-2: The impacts to jurisdictional resources under this alternative would be greater than that assessed in Section D.2.3.3 for the ECO Substation Project due to increased ground disturbance associated with the undergrounding of a portion of the transmission line. Permanent impacts to jurisdictional waters and wetlands resulting from this alternative would be adverse and therefore, similar to the proposed ECO Substation Project, Mitigation Measures BIO-1a through BIO-1d, BIO-1f, BIO-1g, and BIO-2a through BIO-2c have been provided to mitigate this impact. Under CEQA, impacts would be significant but can be mitigated to a level that is

considered less than significant (Class II) with implementation of Mitigation Measures BIO-1a through BIO-1d, BIO-1f, BIO-1g, and BIO-2a through BIO-2c.

Impact BIO-3: The impact of this alternative on the introduction of invasive, non-native, or noxious plant species would be greater than that assessed in Section D.2.3.3 for the ECO Substation Project due to increased ground disturbance associated with the undergrounding of a portion of the transmission line. However, similar to the proposed ECO Substation Project, the impact of this alternative on the introduction of invasive, non-native, or noxious plant species would be adverse and therefore, Mitigation Measures BIO-1a through BIO-1d, BIO-1f, BIO-1g, and BIO-3a have been provided to mitigate this impact. Under CEQA, impacts would significant but can be mitigated to a level that is considered less than significant (Class II) with implementation of Mitigation Measures BIO-1a through BIO-1d, BIO-1f, BIO-1g, and BIO-3a.

Impact BIO-4: The impact of this alternative on the generation of construction dust resulting in the degradation of vegetation would be greater than that assessed in Section D.2.3.3 for the ECO Substation Project due to increased ground disturbance associated with the undergrounding of a portion of the transmission line. The impact of this alternative on the generation of construction dust resulting in the degradation of vegetation would be adverse and therefore, Mitigation Measure BIO-4a has been provided and would mitigate this impact. Under CEQA, impacts would be significant but can be mitigated to a level that is less than significant (Class II) with implementation of Mitigation Measures BIO-4a.

Impact BIO-5: The impact of this alternative on the loss of listed or sensitive plants or their habitat would be greater than that assessed in Section D.2.3.3 for the ECO Substation Project due to increased ground disturbance associated with the undergrounding of a portion of the transmission line. The direct removal of special-status plant species, the indirect loss of special-status plant species from construction-related dust or trampling, and the direct removal of suitable habitat for special-status plant species would be adverse and therefore, Mitigation Measures BIO-1a through BIO-1g, BIO-3a, BIO-4a, and BIO-5a through BIO-5b have been provided to mitigate this impact. Under CEQA, impacts would be significant but can be mitigated to a level that is less than significant (Class II) with implementation of Mitigation Measures BIO-1a through BIO-1g, BIO-3a, BIO-4a, and BIO-5a through BIO-5b.

Impact BIO-6: The impact of this alternative on construction disturbance to wildlife and wildlife mortality would be greater than that assessed in Section D.2.3.3 for the ECO Substation Project due to increased ground disturbance associated with the undergrounding of a portion of the transmission line. Except where such construction-related disturbance or direct mortality affects special-status wildlife, which is addressed under Impact BIO-7, the construction-related

impact of this alternative on wildlife disturbance and direct mortality would not be adverse. Under CEQA, impacts would be considered be less than significant (Class III).

Impact BIO-7: The impact of this alternative on the loss of listed or sensitive wildlife or their habitat would be greater than that assessed in Section D.2.3.3 for the ECO Substation Project due to increased ground disturbance associated with the undergrounding of a portion of the transmission line. The direct loss of designated critical habitat for Quino checkerspot butterfly resulting from this alternative would be adverse and therefore, Mitigation Measures BIO-1a through BIO-1g, BIO-3a, BIO-4a, and BIO-7b through BIO-7i have been provided. However, the identified impact cannot be mitigated. Under CEQA, impacts would be significant and cannot be mitigated to a level that is considered less than significant (Class I). The direct and indirect impacts to numerous special-status wildlife species resulting from this alternative would be adverse and therefore, Mitigation Measures Mitigation Measures BIO-1a through BIO-1g, BIO-3a, BIO-4a, and BIO-7b through BIO-7i and BIO-7j have been provided to mitigate this impact. Under CEQA, direct and indirect impacts to special-status species and their suitable habitats (excluding designated critical habitat for Quino checkerspot butterfly) would be significant but can be mitigated to a level that is considered less than significant (Class II) with implementation of BIO-1a through BIO-1g, BIO-3a, BIO-4a, and BIO-7b through BIO-7i and BIO-7j. The direct and indirect impacts to several other special-status wildlife species resulting from this alternative would not be adverse, and under CEQA, impacts would be less than significant (Class III) or would have no effect (No Impact).

Impact BIO-8: The potential loss of nesting birds resulting from construction activities would be greater under this alternative relative to the ECO Substation Project due to increased ground disturbance associated with the undergrounding of a portion of the transmission line. Identified impacts would be adverse and therefore, Mitigation Measures BIO-1a through BIO-1c, BIO-4a, BIO-7b through BIO-7e and BIO-7j have been provided to mitigate this impact. Under CEQA, impacts would significant but can be mitigated to a level that is considered less than significant (Class II) with implementation of BIO-1a through BIO-1c, BIO-4a, BIO-7b through BIO-7e and BIO-7j.

Impact BIO-9: The impact of this alternative on linkages or wildlife movement corridors, the movement of fish, and/or native wildlife nursery sites would be the same as that assessed in Section D.2.3.3 for the ECO Substation Project. Identified impact on linkages or wildlife movement corridors would not be adverse. Under CEQA, impacts would be considered less than significant (Class III). No impacts on the movement of fish and native wildlife nursery sites (No Impact) would occur under this alternative.

Impact BIO-10: The impact of this alternative on the electrocution of and/or collision by listed or sensitive bird or bat species would less than that assessed in Section D.2.3.3 for the ECO Substation Project due to the reduction in overhead transmission line in a portion of the project area. Identified impacts would be adverse (due to the remaining transmission line component) and therefore, Mitigation Measures BIO-10a and BIO-10b have been provided to mitigate this impact. Under CEQA, impacts would significant but can be mitigated to a level that is considered less than significant (Class II) with implementation of Mitigation Measures BIO-10a and BIO-10b.

Impact BIO-11: The impact of this alternative on operations and maintenance-related disturbance to wildlife and wildlife mortality would be less than that assessed in Section D.2.3.3 for the ECO Substation Project due to the reduction in overhead transmission line requiring maintenance activities. Operations and maintenance-related disturbance or direct mortality of special-status wildlife species would be adverse and therefore, Mitigation Measures BIO-3a, BIO-4a, BIO-7b through BIO-7d, and BIO-11a have been provided to mitigate this impact. Under CEQA, impacts would significant but can be mitigated to a level that is considered less than significant (Class II) with implementation of Mitigation Measures BIO-3a, BIO-4a, BIO-7b through BIO-7d, and BIO-11a.

The operation and maintenance related disturbance or direct mortality of common wildlife species would not be adverse. Under CEQA, impacts would be considered less than significant (Class III).

D.2.4.3 ECO Highway 80 138 kV Transmission Route Alternative

This alternative would not affect the impact conclusions resulting from the implementation of the proposed Tule Wind and ESJ Gen-Tie projects as discussed in Section D.2.3.3.

Environmental Setting/Affected Environment

With the exception of the Old Highway 80 138 kV transmission line route alternative, the biological resources within the project component areas of this alternative would be the same as those identified for the proposed ECO Substation Project in Section D.2.1.2. From the intersection of the SWPL transmission line and Old Highway 80, this alternative would expand and use an existing utility ROW and overbuild an existing distribution line for approximately 4.8 miles along Old Highway 80 to the rebuilt Boulevard Substation. Total length of this alternate 138 kV transmission line would be 10.6 miles, compared with the proposed 13.3-mile-long 138 kV transmission line. Based on an aerial assessment and existing information pertaining to this alternate route, the southern portion of the route would be characterized as Sonoran mixed woody succulent scrub and the middle portion of the alternative alignment would be

characterized as chamise chaparral/redshank chaparral. In the northern portion of the alternate alignment, the south side of Old Highway 80 would be characterized as chamise chaparral/redshank chaparral on steep, rocky slopes, and the north side of Old Highway 80 would be characterized by a wide floodplain area associated with a drainage, which likely supports non-native grassland and potentially southern willow scrub and/or mulefat scrub communities. Scattered coast live oaks occur throughout the alternate route.

Environmental Impacts/Environmental Effects

Direct and Indirect (*Note: cumulative effects are addressed in Section F of this EIR/EIS*)

Impact BIO-1: The temporary and permanent impacts to native vegetation communities under this alternative would potentially be less than that assessed in Section D.2.3.3 for the ECO Substation Project due to the shorter distance of transmission line (approximately 2.7 miles shorter than the 138 kV transmission line proposed for the ECO Substation Project). However, difficult construction techniques and potentially greater impacts to sensitive natural communities may be necessary to implement this alternate route. In the northern section of this alternate alignment, impacts to chaparral communities would be greater due to difficult construction and access on the steep, rocky south side of Old Highway 80 (i.e., greater temporary construction impacts to vegetation communities resulting from difficult access), and impacts to sensitive natural communities (i.e., riparian wetlands) would be greater due to the adjacent floodplain on the north side of Old Highway 80 because the floodplain is adjacent to the highway.

Temporary and permanent impacts to native vegetation communities and sensitive natural communities would be adverse and therefore, Mitigation Measures BIO-1a through BIO-1g have been provided to mitigate this impact. Under CEQA, impacts would be significant but can be mitigated to a level that is considered less than significant (Class II) with implementation of Mitigation Measures BIO-1a through BIO-1g.

Impact BIO-2: Similar to that assessed in Section D.2.3.3 for the ECO Substation Project, the alternate transmission line would traverse several drainages. In the northern portion of the alternate alignment on the north side of Old Highway 80, a wide floodplain area associated with Walker Creek occurs that likely supports jurisdictional non-wetland waters and wetland features.

Although this alignment is approximately 2.7 miles shorter than the 138 kV transmission line proposed for the ECO Substation Project, impacts to jurisdictional resources may be unavoidable and would be greater due to the adjacent floodplain on the north side of Old Highway 80. Permanent impacts to jurisdictional waters and wetlands resulting from this alternative would be adverse and therefore, Mitigation Measures BIO-1a through BIO-1d, BIO-1f, BIO-1g, and BIO-2a through BIO-2c have been provided to mitigate this impact. Under CEQA, impacts would significant but can be mitigated to a level that is considered less than significant (Class II) with

implementation of Mitigation Measures BIO-1a through BIO-1d, BIO-1f, BIO-1g, and BIO-2a through BIO-2c.

Impact BIO-3: The impact of this alternative on the introduction of invasive, non-native, or noxious plant species would be the same as that assessed in Section D.2.3.3 for the ECO Substation Project. The impact of this alternative on the introduction of invasive, non-native, or noxious plant species would be adverse and therefore, Mitigation Measures BIO-1a through BIO-1d, BIO-1f, BIO-1g, and BIO-3a have been provided to mitigate this impact. Under CEQA, impacts would be significant but can be mitigated to below a level that is considered significant (Class II) with implementation of Mitigation Measures BIO-1a through BIO-1d, BIO-1f, BIO-1g, and BIO-3a.

Impact BIO-4: The impact of this alternative on the generation of construction dust resulting in the degradation of vegetation would be the same as that assessed in Section D.2.3.3 for the ECO Substation Project. The impact of this alternative on the generation of construction dust resulting in the degradation of vegetation would be adverse and therefore, Mitigation Measure BIO-4a has been provided and would mitigate this impact. Under CEQA, impacts would be significant but can be mitigated to a level that is considered less than significant (Class II) with implementation of Mitigation Measure BIO-4a.

Impact BIO-5: Given the location of the alternate route, the same suite of special-status plant species has the potential to occur in the area. The impact of this alternative on the loss of listed or sensitive plants or their habitat would be largely the same as that assessed in Section D.2.3.3 for the ECO Substation Project. The direct removal of special-status plant species, the indirect loss of special-status plant species from construction-related dust or trampling, and the direct removal of suitable habitat for special-status plant species would be adverse and therefore, Mitigation Measures BIO-1a through BIO-1g, BIO-3a, BIO-4a, and BIO-5a through BIO-5b have been provided and would mitigate this impact. Under CEQA, impacts would be significant but can be mitigated to below a level of significance (Class II) with implementation of Mitigation Measures BIO-1a through BIO-1g, BIO-3a, BIO-4a, and BIO-5a through BIO-5b.

Impact BIO-6: Construction disturbance to wildlife and wildlife mortality under this alternative would potentially be less than that assessed in Section D.2.3.3 for the ECO Substation Project due to the shorter distance of transmission line (this alignment is approximately 2.7 miles shorter than the 138 kV transmission line proposed for the ECO Substation Project). However, difficult construction techniques and potentially greater impacts to wetland-associated species would be greater due to the adjacent floodplain on the north side of Old Highway 80.

Except where such construction-related disturbance or direct mortality affects special-status wildlife, which is addressed under Impact BIO-7, the construction-related impact of this

alternative on wildlife disturbance and direct mortality would not be adverse. Under CEQA, impacts would be considered less than significant (Class III).

Impact BIO-7: Given the location of the alternate route, the same suite of special-status wildlife species has the potential to occur in the area, with the exception of potentially greater suitable habitat for special-status aquatic and riparian bird species in the riparian habitats adjacent to Old Highway 80 in the northern section of this alternate route. The impact of this alternative on the loss of listed or sensitive wildlife or their habitat would be greater than that assessed in Section D.2.3.3 for the ECO Substation Project due to the proximity of this alternative to riparian species.

The direct loss of designated critical habitat for Quino checkerspot butterfly resulting from this alternative would be adverse and therefore, Mitigation Measures BIO-1a through BIO-1g, BIO-3a, BIO-4a, and BIO-7b through BIO-7i have been provided. However, the identified impact cannot be mitigated. Under CEQA, impacts would be significant and cannot be mitigated to a level that is considered less than significant (Class I). The direct and indirect impacts to numerous special-status wildlife species resulting from this alternative would be adverse and therefore, Mitigation Measures Mitigation Measures BIO-1a through BIO-1g, BIO-3a, BIO-4a, and BIO-7b through BIO-7i and BIO-7j have been provided to mitigate this impact. Under CEQA, direct and indirect impacts to special-status species and their suitable habitats (excluding designated critical habitat for Quino checkerspot butterfly) would be significant but can be mitigated to a level that is considered less than significant (Class II) with implementation of BIO-1a through BIO-1g, BIO-3a, BIO-4a, and BIO-7b through BIO-7i and BIO-7j. The direct and indirect impacts to several other special-status wildlife species resulting from this alternative would not be adverse, and under CEQA, impacts would be less than significant (Class III) or would have no effect (No Impact).

Impact BIO-8: The potential loss of nesting birds resulting from construction activities would remain unchanged under this alternative relative to the ECO Substation Project. Impacts would be adverse and therefore, Mitigation Measures BIO-1a through BIO-1c, BIO-4a, BIO-7b through BIO-7e, and BIO-7j have been provided to mitigate this impact. Under CEQA, impacts would be significant but can be mitigated to a level that is considered less than significant (Class II) with implementation of Mitigation Measures BIO-1a through BIO-1c, BIO-4a, BIO-7b through BIO-7e, and BIO-7j.

Impact BIO-9: The impact of this alternative on linkages or wildlife movement corridors, the movement of fish, and/or native wildlife nursery sites would be the same as that assessed in Section D.2.3.3 for the ECO Substation Project. Identified impacts on linkages or wildlife movement corridors would not be adverse and under CEQA, impacts would be considered less

than significant (Class III). No impact (No Impact) on the movement of fish and native wildlife nursery sites would occur under this alternative.

Impact BIO-10: The impact of this alternative on the electrocution of and/or collision by listed or sensitive bird or bat species would less than that assessed in Section D.2.3.3 for the ECO Substation Project due to the reduction in overhead transmission line. However, similar to the proposed EOC Substation Project, identified impacts would be adverse and Mitigation Measures BIO-10a and BIO-10b have been provided to mitigate this impact. Under CEQA, impacts would significant but can be mitigated to a level that is considered less than significant (Class II) with implementation of Mitigation Measures BIO-10a and BIO-10b.

Impact BIO-11: The impact of this alternative on operations and maintenance-related disturbance to wildlife and wildlife mortality would be less than that assessed in Section D.2.3.3 for the ECO Substation Project due to the reduction in overhead transmission line requiring maintenance activities. Operations and maintenance-related disturbance or direct mortality of special-status wildlife species would be adverse and therefore, Mitigation Measures BIO-3a, BIO-4a, BIO-7b through BIO-7d, and BIO-11a have been provided to mitigate this impact. Under CEQA, impacts would significant but can be mitigated to a level that is considered less than significant (Class II) with implementation of Mitigation Measures BIO-3a, BIO-4a, BIO-7b through BIO-7d, and BIO-11a. The operation and maintenance relative disturbance or direct mortality of common wildlife species would not be adverse and under CEQA, impacts would be considered less than significant (Class III).

D.2.4.4 ECO Highway 80 Underground 138 kV Transmission Route Alternative

This alternative would not affect the impact conclusions resulting from the implementation of the proposed Tule Wind and ESJ Gen-Tie projects as discussed in Section D.2.3.3.

Environmental Setting/Affected Environment

With the exception of the Old Highway 80 underground 138 kV transmission line route alternative, the biological resources within the project component areas of this alternative would be the same as those identified for the proposed ECO Substation Project in Section D.2.1.2. From the intersection of the SWPL transmission line and Old Highway 80, this alternative would expand and use an existing utility ROW and overbuild an existing distribution line for approximately 4.8 miles along Highway 80 to the rebuilt Boulevard Substation.

The environmental setting adjacent to the affected segment of Old Highway 80 associated with this alternative would be the same as previously identified for the ECO Highway 80 138 kV Transmission Route Alternative in Section D.2.4.3.

Environmental Impacts/Environmental Effects

Direct and Indirect (*Note: cumulative effects are addressed in Section F of this EIR/EIS*)

Impact BIO-1: Although this alignment is approximately 2.7 miles shorter than the 138 kV transmission line proposed for the ECO Substation Project, the temporary and permanent impacts to native vegetation communities under this alternative would be greater than that assessed in Section D.2.3.3 for the ECO Substation Project due to the increased construction area associated with undergrounding and difficult construction techniques and potentially greater impacts to sensitive natural communities in the northern portion of this alternate route. Temporary and permanent impacts to native vegetation communities and sensitive natural communities would be adverse and therefore, Mitigation Measures BIO-1a through BIO-1g have been provided to mitigate this impact. Under CEQA, impacts would significant but can be mitigated to a level that is considered less than significant (Class II) with implementation of Mitigation Measures BIO-1a through BIO-1g.

Impact BIO-2: Similar to that assessed in Section D.2.3.3 for the ECO Substation Project, the alternate transmission line would traverse several drainages. In the northern portion of the alternate alignment on the north side of Old Highway 80, a wide floodplain area associated with a drainage occurs that likely supports jurisdictional non-wetland waters and wetland features.

Although this alignment is approximately 2.7 miles shorter than the 138 kV transmission line proposed for the ECO Substation Project, undergrounding-related construction activities would result in greater impact to jurisdictional resources than that assessed in Section D.2.3.3 for the ECO Substation Project. In the northern section of this alternate alignment, impacts to jurisdictional resources may be unavoidable and would be greater due to the adjacent floodplain on the north side of Old Highway 80. Permanent impacts to jurisdictional waters and wetlands resulting from this alternative would be adverse and therefore, Mitigation Measures BIO-1a through BIO-1d, BIO-1f, BIO-1g, and BIO-2a through BIO-2c have been provided to mitigate this impact. Under CEQA, impacts would significant but can be mitigated to a level that is considered less than significant (Class II) with implementation of Mitigation Measures BIO-1a through BIO-1d, BIO-1f, BIO-1g, and BIO-2a through BIO-2c.

Impact BIO-3: The impact of this alternative on the introduction of invasive, non-native, or noxious plant species would be greater than that assessed in Section D.2.3.3 for the ECO Substation Project due to increased ground disturbance. Similar to the proposed ECO Substation Project the impact of this alternative on the introduction of invasive, non-native, or noxious plant species would be adverse and therefore, Mitigation Measures BIO-1a through BIO-1d, BIO-1f, BIO-1g, and BIO-3a have been provided to mitigate this impact. Under CEQA, impacts would

significant but can be mitigated to a level that is considered less than significant (Class II) with implementation of Mitigation Measures BIO-1a through BIO-1d, BIO-1f, BIO-1g, and BIO-3a.

Impact BIO-4: The impact of this alternative on the generation of construction dust resulting in the degradation of vegetation would be greater than that assessed in Section D.2.3.3 for the ECO Substation Project due to increased ground disturbance associated with the undergrounding of a portion of the transmission line. The impact of this alternative on the generation of construction dust resulting in the degradation of vegetation would be adverse and therefore, Mitigation Measure BIO-4a has been provided to would mitigate this impact. Under CEQA, impacts would be significant but can be mitigated to a level that is less than significant (Class II) with implementation of Mitigation Measures BIO-4a.

Impact BIO-5: Given the location of the alternate route, the same suite of special-status plant species has the potential to occur in the area. The impact of this alternative on the loss of listed or sensitive plants or their habitat would be greater than that assessed in Section D.2.3.3 for the ECO Substation Project due to increased ground disturbance. The direct removal of special-status plant species, the indirect loss of special-status plant species from construction-related dust or trampling, and the direct removal of suitable habitat for special-status plant species would be adverse and therefore, Mitigation Measures BIO-1a through BIO-1g, BIO-3a, BIO-4a, and BIO-5a through BIO-5b have been provided to mitigate this impact. Under CEQA, impacts would be significant but can be mitigated to below a level of significance (Class II) with implementation of BIO-1a through BIO-1g, BIO-3a, BIO-4a, and BIO-5a through BIO-5b.

Impact BIO-6: Although this alignment is approximately 2.7 miles shorter than the 138 kV transmission line proposed for the ECO Substation Project, construction disturbance to wildlife and wildlife mortality under this alternative would potentially be greater than that assessed in Section D.2.3.3 for the ECO Substation Project due to increased ground disturbance, difficult construction techniques, and potentially greater impacts to wetland species along this alternate route. Except where such construction-related disturbance or direct mortality affects special-status wildlife, which is addressed under Impact BIO-7, the construction-related impact of this alternative on wildlife disturbance and direct mortality, would not be adverse and under CEQA, would be less than significant (Class III).

Impact BIO-7: Given the location of the alternate route, the same suite of special-status wildlife species has the potential to occur in the area, with the exception of potentially greater suitable habitat for special-status aquatic and riparian bird species in the riparian habitats adjacent to Old Highway 80 in the northern section of this alternate route. The impact of this alternative on the loss of listed or sensitive wildlife or their habitat would be greater than that assessed in Section D.2.3.3 for the ECO Substation Project.

The direct loss of designated critical habitat for Quino checkerspot butterfly resulting from this alternative would be adverse and therefore, Mitigation Measures BIO-1a through BIO-1g, BIO-3a, BIO-4a, and BIO-7b through BIO-7i have been provided. However, the identified impact cannot be mitigated. Under CEQA, impacts would be significant and cannot be mitigated to a level that is considered less than significant (Class I). The direct and indirect impacts to numerous special-status wildlife species resulting from this alternative would be adverse and therefore, Mitigation Measures Mitigation Measures BIO-1a through BIO-1g, BIO-3a, BIO-4a, and BIO-7b through BIO-7i and BIO-7j have been provided to mitigate this impact. Under CEQA, direct and indirect impacts to special-status species and their suitable habitats (excluding designated critical habitat for Quino checkerspot butterfly) would be significant but can be mitigated to a level that is considered less than significant (Class II) with implementation of BIO-1a through BIO-1g, BIO-3a, BIO-4a, and BIO-7b through BIO-7i and BIO-7j. The direct and indirect impacts to several other special-status wildlife species resulting from this alternative would not be adverse, and under CEQA, impacts would be less than significant (Class III) or would have no effect (No Impact).

Impact BIO-8: The potential loss of nesting birds resulting from construction activities would remain unchanged under this alternative relative to the ECO Substation Project and would be adverse and therefore, Mitigation Measures BIO-1a through BIO-1c, BIO-4a, BIO-7b through BIO-7e, and BIO-7j have been provided to mitigate this impact. Under CEQA, impacts would be considered a significant impact but can be mitigated to a level that is less than significant (Class II) with implementation of Mitigation Measures BIO-1a through BIO-1c, BIO-4a, BIO-7b through BIO-7e, and BIO-7j.

Impact BIO-9: The impact of this alternative on linkages or wildlife movement corridors, the movement of fish, and/or native wildlife nursery sites would be the same as that assessed in Section D.2.3.3 for the ECO Substation Project. Identified impacts on linkages or wildlife movement corridors would not be adverse and under CEQA, impacts would be considered less than significant (Class III). No impact (No Impact) on the movement of fish and native wildlife nursery sites would occur under this alternative.

Impact BIO-10: The impact of this alternative on the electrocution of and/or collision by listed or sensitive bird or bat species would less than that assessed in Section D.2.3.3 for the ECO Substation Project due to the reduction in overhead transmission line. However, identified impacts would remain adverse and therefore, Mitigation Measure BIO-10a and BIO-10b have been provided to mitigate this impact. Under CEQA, impacts would be considered significant but can be mitigated to a level that is less than significant (Class II) with implementation of Mitigation Measure BIO-10a and BIO-10b.

Impact BIO-11: The impact of this alternative on operations and maintenance-related disturbance to wildlife and wildlife mortality would be less than that assessed in Section D.2.3.3 for the ECO Substation Project due to the reduction in overhead transmission line requiring maintenance activities. Operations and maintenance-related disturbance or direct mortality of special-status wildlife species would be adverse and therefore, Mitigation Measures BIO-3a, BIO-4a, BIO-7b through BIO-7d, and BIO-11a have been provided to mitigate this impact. Under CEQA, impacts would significant but can be mitigated to a level that is considered less than significant (Class II) with implementation of Mitigation Measures BIO-3a, BIO-4a, BIO-7b through BIO-7d, and BIO-11a.

Operation and maintenance related disturbance or direct mortality of common wildlife species would not be adverse and under CEQA, would be considered less than significant (Class III).

D.2.5 Tule Wind Project Alternatives

Table D.2-8 summarizes the impacts and classification of the impacts under CEQA that have been identified for the Tule Wind Project alternatives.

Table D.2-8
Biological Resources Impacts Identified for
Tule Wind Project Alternatives

Impact No.	Description	Classification
Tule Wind Alternative 1, Gen-Tie Route 2 with Collector Substation/O&M Facility on Rough Acres Ranch		
TULE-BIO-1	Construction activities would result in temporary and permanent losses of native vegetation.	Class II
TULE-BIO-2	Construction activities would result in substantial adverse effects to jurisdictional waters and wetlands through vegetation removal, placement of fill, erosion, sedimentation, and degradation of water quality.	Class II
TULE-BIO-3	Construction and operation/maintenance activities would result in the introduction of invasive, non-native, or noxious plant species.	Class II
TULE-BIO-4	Construction activities would create dust that would result in degradation of vegetation.	Class II
TULE-BIO-5	Construction activities would result in direct or indirect loss of listed or sensitive plants or a direct loss of habitat for listed or sensitive plants.	Class II
TULE-BIO-6	Construction, including the use of access roads, would result in disturbance to wildlife and result in wildlife mortality.	Class III
TULE-BIO-7	Construction activities would result in direct or indirect loss of listed or sensitive wildlife or a direct loss of habitat for listed or sensitive wildlife.	Class II
TULE-BIO-8	Construction activities would result in a potential loss of nesting birds (violation of the Migratory Bird Treaty Act).	Class II
TULE-BIO-9	Construction or operational activities would adversely affect linkages or wildlife movement corridors, the movement of fish, and/or native wildlife nursery sites.	Class III
TULE-BIO-10	Presence of transmission lines and wind turbines may result in electrocution of, and/or collisions by, listed or sensitive bird or bat species.	Class I

Table D.2-8 (Continued)

Impact No.	Description	Classification
TULE-BIO-11	Maintenance activities would result in disturbance to wildlife and could result in wildlife mortality.	Class II
Tule Wind Alternative 2, Gen-Tie Route 2 Underground with Collector Substation/O&M Facility on Rough Acres Ranch		
TULE-BIO-1	Construction activities would result in temporary and permanent losses of native vegetation.	Class II
TULE-BIO-2	Construction activities would result in substantial adverse effects to jurisdictional waters and wetlands through vegetation removal, placement of fill, erosion, sedimentation, and degradation of water quality.	Class II
TULE-BIO-3	Construction and operation/maintenance activities would result in the introduction of invasive, non-native, or noxious plant species.	Class II
TULE-BIO-4	Construction activities would create dust that would result in degradation of vegetation.	Class II
TULE-BIO-5	Construction activities would result in direct or indirect loss of listed or sensitive plants or a direct loss of habitat for listed or sensitive plants.	Class II
TULE-BIO-6	Construction, including the use of access roads, would result in disturbance to wildlife and result in wildlife mortality.	Class III
TULE-BIO-7	Construction activities would result in direct or indirect loss of listed or sensitive wildlife or a direct loss of habitat for listed or sensitive wildlife.	Class II
TULE-BIO-8	Construction activities would result in a potential loss of nesting birds (violation of the Migratory Bird Treaty Act).	Class II
TULE-BIO-9	Construction or operational activities would adversely affect linkages or wildlife movement corridors, the movement of fish, and/or native wildlife nursery sites.	Class III
TULE-BIO-10	Presence of transmission lines and wind turbines may result in electrocution of, and/or collisions by, listed or sensitive bird or bat species.	Class I
TULE-BIO-11	Maintenance activities would result in disturbance to wildlife and could result in wildlife mortality.	Class II
Tule Wind Alternative 3, Gen-Tie Route 3 with Collector Substation/O&M Facility on Rough Acres Ranch		
TULE-BIO-1	Construction activities would result in temporary and permanent losses of native vegetation.	Class II
TULE-BIO-2	Construction activities would result in substantial adverse effects to jurisdictional waters and wetlands through vegetation removal, placement of fill, erosion, sedimentation, and degradation of water quality.	Class II
TULE-BIO-3	Construction and operation/maintenance activities would result in the introduction of invasive, non-native, or noxious plant species.	Class II
TULE-BIO-4	Construction activities would create dust that would result in degradation of vegetation.	Class II
TULE-BIO-5	Construction activities would result in direct or indirect loss of listed or sensitive plants or a direct loss of habitat for listed or sensitive plants.	Class II
TULE-BIO-6	Construction, including the use of access roads, would result in disturbance to wildlife and result in wildlife mortality.	Class III
TULE-BIO-7	Construction activities would result in direct or indirect loss of listed or sensitive wildlife or a direct loss of habitat for listed or sensitive wildlife.	Class II
TULE-BIO-8	Construction activities would result in a potential loss of nesting birds (violation of the Migratory Bird Treaty Act).	Class II
TULE-BIO-9	Construction or operational activities would adversely affect linkages or wildlife movement corridors, the movement of fish, and/or native wildlife nursery sites.	Class III

Table D.2-8 (Continued)

Impact No.	Description	Classification
TULE-BIO-10	Presence of transmission lines and wind turbines may result in electrocution of, and/or collisions by, listed or sensitive bird or bat species.	Class I
TULE-BIO-11	Maintenance activities would result in disturbance to wildlife and could result in wildlife mortality.	Class II
Tule Wind Alternative 4, Gen-Tie Route 3 Underground with Collector Substation/O&M Facility on Rough Acres Ranch.		
TULE-BIO-1	Construction activities would result in temporary and permanent losses of native vegetation.	Class II
TULE-BIO-2	Construction activities would result in substantial adverse effects to jurisdictional waters and wetlands through vegetation removal, placement of fill, erosion, sedimentation, and degradation of water quality.	Class II
TULE-BIO-3	Construction and operation/maintenance activities would result in the introduction of invasive, non-native, or noxious plant species.	Class II
TULE-BIO-4	Construction activities would create dust that would result in degradation of vegetation.	Class II
TULE-BIO-5	Construction activities would result in direct or indirect loss of listed or sensitive plants or a direct loss of habitat for listed or sensitive plants.	Class II
TULE-BIO-6	Construction, including the use of access roads, would result in disturbance to wildlife and result in wildlife mortality.	Class III
TULE-BIO-7	Construction activities would result in direct or indirect loss of listed or sensitive wildlife or a direct loss of habitat for listed or sensitive wildlife.	Class II
TULE-BIO-8	Construction activities would result in a potential loss of nesting birds (violation of the Migratory Bird Treaty Act).	Class II
TULE-BIO-9	Construction or operational activities would adversely affect linkages or wildlife movement corridors, the movement of fish, and/or native wildlife nursery sites.	Class III
TULE-BIO-10	Presence of transmission lines and wind turbines may result in electrocution of, and/or collisions by, listed or sensitive bird or bat species.	Class I
TULE-BIO-11	Maintenance activities would result in disturbance to wildlife and could result in wildlife mortality.	Class II
Tule Wind Alternative 5, Reduction in Turbines		
TULE-BIO-1	Construction activities would result in temporary and permanent losses of native vegetation.	Class II
TULE-BIO-2	Construction activities would result in substantial adverse effects to jurisdictional waters and wetlands through vegetation removal, placement of fill, erosion, sedimentation, and degradation of water quality.	Class II
TULE-BIO-3	Construction and operation/maintenance activities would result in the introduction of invasive, non-native, or noxious plant species.	Class II
TULE-BIO-4	Construction activities would create dust that would result in degradation of vegetation.	Class II
TULE-BIO-5	Construction activities would result in direct or indirect loss of listed or sensitive plants or a direct loss of habitat for listed or sensitive plants.	Class II
TULE-BIO-6	Construction, including the use of access roads, would result in disturbance to wildlife and result in wildlife mortality.	Class III
TULE-BIO-7	Construction activities would result in direct or indirect loss of listed or sensitive wildlife or a direct loss of habitat for listed or sensitive wildlife.	Class II
TULE-BIO-8	Construction activities would result in a potential loss of nesting birds (violation of the Migratory Bird Treaty Act).	Class II
TULE-BIO-9	Construction or operational activities would adversely affect linkages or wildlife movement corridors, the movement of fish, and/or native wildlife nursery sites.	Class III

Table D.2-8 (Continued)

Impact No.	Description	Classification
TULE-BIO-10	Presence of transmission lines and wind turbines may result in electrocution of, and/or collisions by, listed or sensitive bird or bat species.	Class I
TULE-BIO-11	Maintenance activities would result in disturbance to wildlife and could result in wildlife mortality.	Class II

D.2.5.1 Tule Wind Alternative 1, Gen-Tie Route 2 with Collector Substation/O&M Facility on Rough Acres Ranch

This alternative would not affect the impact conclusions resulting from the implementation of the proposed ECO Substation and ESJ Gen-Tie projects as discussed in Section D.2.3.3.

Environmental Setting/Affected Environment

Under this alternative, the Tule Wind Project's collector substation and O&M facility would be relocated from BLM-administered land to land on Rough Acres Ranch. Proposed turbines would be located in the same location as identified in the proposed Tule Wind Project. The relocation of the collector substation and O&M facility to Rough Acres Ranch would result in a shorter proposed 138 kV transmission line route and a longer overhead cable collector system. Upon exiting the alternate collector substation site, the alternate 138 kV transmission line would travel east for approximately 2,000 feet, traversing Rough Acres Ranch land and BLM land. At this point the alternative gen-tie would then turn south and follow the same route to the rebuilt Boulevard Substation as the proposed Tule Wind Project 138 kV transmission line. This alternative would extend the overhead collector cable system from its end point in the proposed Tule Wind Project (near proposed turbine R5) to the relocated collector substation.

Environmental Impacts/Environmental Effects

Direct and Indirect (*Note: cumulative effects are addressed in Section F of this EIR/EIS*)

Impact BIO-1: The temporary and permanent impacts to native vegetation communities under this alternative would be slightly greater than that assessed in Section D.2.3.3 for the Tule Wind Project. The temporary and permanent impacts to native vegetation communities are summarized in Table D.2-9. A total of 223.0 acres of temporary impact to native vegetation communities would result from this alternative, and a total of 484.9 acres of permanent impact to native vegetation communities would result from this alternative.

Table D.2-9
Native Vegetation Communities Impact Acreage for the Tule Alternative
Gen-Tie Route 2 with Collector Substation/O&M Facility on Rough Acres Ranch

Native Vegetation Community	Temporary Impact Acreage	Permanent Impact Acreage	Tule Alternate Gen-Tie Route 2 Impact Acreage
Big sagebrush scrub	7.3	1.5	8.8
Chamise chaparral	13.5	22.4	35.9
Closed coast live oak woodland	0.5	0.0	0.5
Montane buckwheat scrub	8.1	12.2	20.3
Mulefat scrub	0.0	0.0	0.0
Non-native grassland	2.8	1.6	4.4
Non-vegetated channel	0.1	0.0	0.2
Northern mixed chaparral	21.0	93.4	114.4
Open coast live oak woodland	1.1	0.8	1.9
Redshank chaparral	3.5	5.2	8.7
Scrub oak chaparral	28.5	65.1	93.5
Semi-desert chaparral	84.6	148.6	233.2
Southern north slope chaparral	3.7	5.8	9.5
Southern riparian woodland	0.0	0.0	0.0
Southern willow scrub	0.1	0.0	0.1
Unsurveyed area	0.0	24.0	24.0
Upper Sonoran manzanita chaparral	10.3	43.0	53.3
Upper Sonoran subshrub scrub	37.9	61.4	99.2
Total	**223.0**	**484.9**	**707.92**

Source: HDR 2010a

Impacts to sensitive natural communities would remain unchanged under this alternative relative to the Tule Wind Project. Direct and indirect impacts to sensitive natural communities from this alternative would be adverse and Mitigation Measures BIO-1a through BIO-1g have been provided to mitigate this impact. Under CEQA, impacts would be considered significant but can be mitigated to a level that is less than significant (Class II) with implementation of Mitigation Measures BIO-1a through BIO-1g.

Impact BIO-2: As with the proposed Tule Wind Project, numerous dry washes, swales, and wetland features occur in the study area for this alternative. These features have the potential to be subject to the jurisdiction of the ACOE, CDFG, and/or RWQCB. Impacts to jurisdictional resources would be slightly higher than that assessed in Section D.2.3.3 for the Tule Wind Project. No impact to ACOE jurisdictional wetlands would result from this alternative. This alternative would result in a total of 0.43 acre of impact (0.30 acre of temporary impact; 0.13 acre of permanent impact) to ACOE and RWQCB non-wetland waters of the U.S. The Tule Wind Project would result in a total of 0.76 acre of impact (0.54 acre of temporary impact; 0.22

acre of permanent impact) to CDFG jurisdictional features. Therefore, similar to the proposed Tule Wind Project, impacts would be adverse and Mitigation Measures BIO-1a through BIO-1d, BIO-1f, BIO-1g, and BIO-2a through BIO-2c have been provided to mitigate this impact. Under CEQA, impacts would be significant but can be mitigated to a level that is less than significant (Class II) with implementation of Mitigation Measures BIO-1a through BIO-1d, BIO-1f, BIO-1g, and BIO-2a through BIO-2c.

Impact BIO-3: The impact of this alternative on the introduction of invasive, non-native, or noxious plant species would be the same as that assessed in Section D.2.3.3 for the Tule Wind Project. The impact of this alternative on the introduction of invasive, non-native, or noxious plant species would be adverse and therefore, Mitigation Measures BIO-1a through BIO-1d, BIO-1f, BIO-1g, and BIO-3a have been provided to mitigate this impact. Under CEQA, impacts would be significant but can be mitigated to a level that is less than significant (Class II) with implementation of Mitigation Measures BIO-1a through BIO-1d, BIO-1f, BIO-1g, and BIO-3a.

Impact BIO-4: The impact of this alternative on the generation of construction dust resulting in the degradation of vegetation would be the same as that assessed in Section D.2.3.3 for the Tule Project. The impact of this alternative on the generation of construction dust resulting in the degradation of vegetation would be adverse and therefore, Mitigation Measure BIO-4a has been provided to mitigate this impact. Under CEQA, impacts would be considered significant but can be mitigated to a level that is less than significant (Class II) with implementation of Mitigation Measure BIO-4a.

Impact BIO-5: The impact of this alternative on the loss of listed or sensitive plants or their habitat would be greater than that assessed in Section D.2.3.3 for the Tule Wind Project due to increased impact to native habitats. Given the location of this alternative, the same suite of special-status plant species has the potential to occur in the area. The direct removal of special-status plant species, the indirect loss of special-status plant species from construction-related dust or trampling, and the direct removal of suitable habitat for special-status plant species would be adverse and therefore, Mitigation Measures BIO-1a through BIO-1g, BIO-3a, BIO-4a, and BIO-5a through BIO-5b have been provided to mitigate this impact. Under CEQA, impacts would be considered significant but can be mitigated to a level that is less than significant (Class II) with implementation of Mitigation Measures BIO-1a through BIO-1g, BIO-3a, BIO-4a, and BIO-5a through BIO-5b.

Impact BIO-6: The impact of this alternative on construction disturbance to wildlife and wildlife mortality would be the same as that assessed in Section D.2.3.3 for the Tule Wind Project. Except where such construction-related disturbance or direct mortality affects special-status wildlife, which is addressed under Impact BIO-7, the construction-related impact of this

alternative on wildlife disturbance and direct mortality, would not be adverse and under CEQA, would be less than significant (Class III).

Impact BIO-7: The impact of this alternative on the loss of listed or sensitive wildlife or their habitat would be greater than that assessed in Section D.2.3.3 for the Tule Wind Project due to increased impact to native habitats. Given the location of this alternative, the same suite of special-status wildlife species has the potential to occur in the area. The direct and indirect impacts to numerous special-status wildlife species resulting from this alternative would be adverse and therefore, Mitigation Measures BIO-1a through BIO-1g, BIO-3a, BIO-4a, and BIO-7a through BIO-7j have been provided to mitigate this impact. Under CEQA, impacts would significant but can be mitigated to a level that is considered less than significant (Class II) with implementation of Mitigation Measures BIO-1a through BIO-1g, BIO-3a, BIO-4a, and BIO-7a through BIO-7j. The direct and indirect impacts to several other special-status wildlife species resulting from this alternative would not be adverse and under CEQA, impacts would be less than significant (Class III) or would have no effect (No Impact).

Impact BIO-8: The potential loss of nesting birds resulting from construction activities would remain unchanged under this alternative relative to the Tule Wind Project and would be adverse and therefore, Mitigation Measures BIO-1a through BIO-1c, BIO-4a, BIO-7b through BIO-7e, and BIO-7j have been provided to mitigate this impact. Under CEQA, impacts would be considered significant but can be mitigated to a level that is less than significant (Class II) with implementation of Mitigation Measures BIO-1a through BIO-1c, BIO-4a, BIO-7b through BIO-7e, and BIO-7j.

Impact BIO-9: The impact of this alternative on linkages or wildlife movement corridors, the movement of fish, and/or native wildlife nursery sites would be the same as that assessed in Section D.2.3.3 for the Tule Wind Project. Identified impacts on linkages or wildlife movement corridors would not be adverse and under CEQA, impacts would be considered less than significant (Class III). No impact (No Impact) on the movement of fish and native wildlife nursery sites would occur under this alternative.

Impact BIO-10: The risk of electrocution to special-status bird species from transmission lines and towers under this alternative would be less than that assessed in Section D.2.3.3 for the Tule Wind Project due to the reduced overhead transmission line. However, the electrocution risk would remain adverse and therefore, Mitigation Measures BIO-10a through BIO-10b have been provided to mitigate this impact. Under CEQA, impacts would significant but can be mitigated to a level that is considered less than significant (Class II) with implementation of Mitigation Measures BIO-10a through BIO-10b. Similar to the proposed Tule Wind Project, the risk of mortality due to collision with operating turbines by golden eagle resulting from this alternative

would be adverse and therefore, Mitigation Measures BIO-10a through BIO-10i have been provided. However, the identified impact cannot be mitigated and under CEQA, impacts would be considered significant and cannot be mitigated to a level that is considered less than significant (Class I).

The risk of mortality due to collision with operating turbines by Vaux's swift and special-status bat species would be adverse and therefore, Mitigation Measures BIO-10a through BIO-10e, BIO-10h, and BIO-10i have been provided. Under CEQA, impacts would be significant but can be mitigated to a level that is less than significant (Class II) with implementation of Mitigation Measures BIO-10a through BIO-10e, BIO-10h, and BIO-10i. The risk of mortality due to collision with operating turbines by other special-status bird species resulting from this alternative would not be adverse and under CEQA, would be less than significant (Class III) or would have no effect (No Impact).

Impact BIO-11: The impact of this alternative on operations and maintenance-related disturbance to wildlife and wildlife mortality would be less than that assessed in Section D.2.3.3 for the Tule Wind Project due to the reduction in overhead transmission line requiring maintenance activities. Operations and maintenance-related disturbance or direct mortality of special-status wildlife species would be adverse and therefore, Mitigation Measures BIO-3a, BIO-4a, BIO-7b through BIO-7d, and BIO-11a have been provided to mitigate this impact. Under CEQA, impacts would be significant but can be mitigated to below a level of significance (Class II) with implementation of Mitigation Measures BIO-3a, BIO-4a, BIO-7b through BIO-7d, and BIO-11a. Operation and maintenance related disturbance or direct mortality of common wildlife species would not be adverse and under CEQA, would be less than significant (Class III).

D.2.5.2 Tule Wind Alternative 2, Gen-Tie Route 2 Underground with Collector Substation/O&M Facility on Rough Acres Ranch

This alternative would not affect the impact conclusions resulting from the implementation of the proposed ECO Substation and ESJ Gen-Tie projects as discussed in Section D.2.3.3.

Environmental Setting/Affected Environment

Section D.2.5.1 describes the existing biological resources setting associated with the relocation of the collector substation and O&M facility to Rough Acres Ranch, and the subsequent shortened 138 kV transmission line route and extended collector cable system. Because this alternative would only underground the alternate 138 kV transmission line, the existing biological resources setting would be the same as described in Section D.2.5.1.

Environmental Impacts/Environmental Effects

Direct and Indirect (*Note: cumulative effects are addressed in Section F of this EIR/EIS*)

Impact BIO-1: The temporary and permanent impacts to native vegetation communities would be similar to those assessed under Section D.2.5.1, except that undergrounding of the gen-tie transmission line would result in greater impacts due to increased ground disturbance. Therefore, this alternative would result in greater temporary and permanent impacts than that assessed in Section D.2.3.3 for the Tule Wind Project. No design information was available for the undergrounding of this line; therefore, a detailed impact analysis was not possible.

Impacts to sensitive natural communities would be similar under this alternative relative to the Tule Wind Project. Therefore, impacts to sensitive natural communities from this alternative would be adverse and Mitigation Measures BIO-1a through BIO-1g have been provided to mitigate this impact. Under CEQA, impacts would be significant but can be mitigated to a level that is considered less than significant (Class II) with implementation of Mitigation Measures BIO-1a through BIO-1g.

Impact BIO-2: The impacts to jurisdictional resources would be similar to those assessed under Section D.2.5.1, except that undergrounding of the gen-tie transmission line would result in greater impacts due to increased ground disturbance. Therefore, this alternative would result in greater impact to jurisdictional resources than that assessed in Section D.2.3.3 for the Tule Wind Project. Impacts to jurisdictional waters and wetlands from the Tule Wind Project would be adverse and therefore, Mitigation Measures BIO-1a through BIO-1d, BIO-1f, BIO-1g, and BIO-2a through BIO-2c have been provided to mitigate this impact. Under CEQA, impacts would be significant but can be mitigated to a level that is less than significant (Class II) with implementation of Mitigation Measures BIO-1a through BIO-1d, BIO-1f, BIO-1g, and BIO-2a through BIO-2c.

Impact BIO-3: The impact of this alternative on the introduction of invasive, non-native, or noxious plant species would be greater than that assessed in Section D.2.3.3 for the Tule Wind Project due to increased ground disturbance associated with the undergrounding of the transmission line. The impact of this alternative on the introduction of invasive, non-native, or noxious plant species would be adverse and therefore, Mitigation Measures BIO-1a through BIO-1d, BIO-1f, BIO-1g, and BIO-3a have been provided to mitigate this impact. Under CEQA, impacts would be significant but can be mitigated to a level that is considered less than significant (Class II) with implementation of Mitigation Measures BIO-1a through BIO-1d, BIO-1f, BIO-1g, and BIO-3a.

Impact BIO-4: The impact of this alternative on the generation of construction dust resulting in the degradation of vegetation would be greater than that assessed in Section D.2.3.3 for the Tule

Wind Project due to increased ground disturbance associated with the undergrounding of the transmission line. The impact of this alternative on the generation of construction dust resulting in the degradation of vegetation would be adverse and therefore, Mitigation Measure BIO-4a has been provided to mitigate this impact. Under CEQA, impacts would be significant but can be mitigated to below a level of significance (Class II) with implementation of Mitigation Measure BIO-4a.

Impact BIO-5: The impact of this alternative on the loss of listed or sensitive plants or their habitat would be greater than that assessed in Section D.2.3.3 for the Tule Wind Project due to increased ground disturbance associated with the undergrounding of the transmission line. Given the location of this alternative, the same suite of special-status plant species has the potential to occur in the area. The direct removal of special-status plant species, the indirect loss of special-status plant species from construction-related dust or trampling, and the direct removal of suitable habitat for special-status plant species would be adverse and therefore, Mitigation Measures BIO-1a through BIO-1g, BIO-3a, BIO-4a, and BIO-5a through BIO-5b have been provided to mitigate this impact. Under CEQA, impacts would significant but can be mitigated to a level that is considered less than significant (Class II) with implementation of Mitigation Measures BIO-1a through BIO-1g, BIO-3a, BIO-4a, and BIO-5a through BIO-5b.

Impact BIO-6: The impact of this alternative on construction disturbance to wildlife and wildlife mortality would be the same as that assessed in Section D.2.3.3 for the Tule Wind Project. Except where such construction-related disturbance or direct mortality affects special-status wildlife, which is addressed under Impact BIO-7, the construction-related impact of this alternative on wildlife disturbance and direct mortality, would not be adverse and under CEQA, would be less than significant (Class III).

Impact BIO-7: The impact of this alternative on the loss of listed or sensitive wildlife or their habitat would be greater than that assessed in Section D.2.3.3 for the Tule Wind Project due to increased ground disturbance associated with the undergrounding of the transmission line. Given the location of this alternative, the same suite of special-status wildlife species has the potential to occur in the area. The direct and indirect impacts to numerous special-status wildlife species resulting from this alternative would be adverse and therefore, Mitigation Measures BIO-1a through BIO-1g, BIO-3a, BIO-4a, and BIO-7a through BIO-7j have been provided to mitigate this impact. Under CEQA, impacts would significant but can be mitigated to a level that is considered less than significant (Class II) with implementation of Mitigation Measures BIO-1a through BIO-1g, BIO-3a, BIO-4a, and BIO-7a through BIO-7j. The direct and indirect impacts to several other special-status wildlife species resulting from this alternative would not be adverse and under CEQA, impacts would be less than significant (Class III) or would have no effect (No Impact).

Impact BIO-8: The potential loss of nesting birds resulting from construction activities would remain unchanged under this alternative relative to the Tule Wind Project and would be adverse and therefore, Mitigation Measures BIO-1a through BIO-1c, BIO-4a, BIO-7b through BIO-7e, and BIO-7j have been provided to mitigate this impact. Under CEQA, impacts would be significant but can be mitigated to below a level of significance (Class II) with implementation of Mitigation Measures BIO-1a through BIO-1c, BIO-4a, BIO-7b through BIO-7e, and BIO-7j.

Impact BIO-9: The impact of this alternative on linkages or wildlife movement corridors, the movement of fish, and/or native wildlife nursery sites would be the same as that assessed in Section D.2.3.3 for the Tule Wind Project. Identified impacts on linkages or wildlife movement corridors would not be adverse. Under CEQA, impacts would be considered less than significant (Class III). No impact (No Impact) on the movement of fish and native wildlife nursery sites would occur under this alternative.

Impact BIO-10: The risk of electrocution to special-status bird species from transmission lines and towers under this alternative would be less than that assessed in Section D.2.3.3 for the Tule Wind Project due to the reduced overhead transmission line. However, the electrocution risk would remain adverse and therefore, Mitigation Measures BIO-10a through BIO-10b have been provided to mitigate this impact. Under CEQA, impacts would significant but can be mitigated to a level that is considered less than significant (Class II) with implementation of Mitigation Measures BIO-10a through BIO-10b. Similar to the proposed Tule Wind Project, the risk of mortality due to collision with operating turbines by golden eagle resulting from this alternative would be adverse and therefore, Mitigation Measures BIO-10a through BIO-10i have been provided. However, the identified impact cannot be mitigated and under CEQA, impacts would be considered significant and cannot be mitigated to a level that is considered less than significant (Class I).

The risk of mortality due to collision with operating turbines by Vaux's swift and special-status bat species would be adverse and therefore, Mitigation Measures BIO-10a through BIO-10e, BIO-10h, and BIO-10i have been provided. Under CEQA, impacts would be significant but can be mitigated to a level that is less than significant (Class II) with implementation of Mitigation Measures BIO-10a through BIO-10e, BIO-10h, and BIO-10i. The risk of mortality due to collision with operating turbines by other special-status bird species resulting from this alternative would not be adverse and under CEQA, would be less than significant (Class III) or would have no effect (No Impact).

Impact BIO-11: The impact of this alternative on operations and maintenance-related disturbance to wildlife and wildlife mortality would be less than that assessed in Section D.2.3.3 for the Tule Wind Project due to the reduction in overhead transmission line requiring maintenance activities.

Operations and maintenance-related disturbance or direct mortality of special-status wildlife species would be adverse and therefore, Mitigation Measures BIO-3a, BIO-4a, BIO-7b through BIO-7d, and BIO-11a have been provided to mitigate this impact. Under CEQA, impacts would be significant but can be mitigated to below a level of significance (Class II) with implementation of BIO-3a, BIO-4a, BIO-7b through BIO-7d, and BIO-11a.Operation and maintenance related disturbance or direct mortality of common wildlife species would not be adverse and under CEQA, would be considered less than significant (Class III).

D.2.5.3 Tule Wind Alternative 3, Gen-Tie Route 3 with Collector Substation/O&M Facility on Rough Acres Ranch

This alternative would not affect the impact conclusions resulting from the implementation of the proposed ECO Substation and ESJ Gen-Tie projects as discussed in Section D.2.3.3.

Environmental Setting/Affected Environment

Under this alternative, the Tule Wind Project's collector substation and O&M facility would be relocated from BLM-administered land to land on Rough Acres Ranch. Proposed turbines would be located in the same location as identified in the proposed Tule Wind Project. The relocation of the collector substation and O&M facility to Rough Acres Ranch would result in a shorter proposed 138 kV transmission line route (approximately 5.4 miles) and a longer overhead cable collector system. Upon exiting the alternate collector substation site, the alternate 138 kV transmission line would travel north for approximately 0.15 mile before travelling in a western direction to Ribbonwood Road. At Ribbonwood Road the alternate gen-tie line would turn south primarily adjacent to Ribbonwood Road and would cross I-8 prior to entering the community of Boulevard. At the Ribbonwood Road/Old Highway 80 intersection, the alternate gen-tie line would turn east and would follow Old Highway 80 to the rebuilt Boulevard Substation. In addition, this alternative would extend the overhead collector cable system from its end point in the proposed Tule Wind Project (near proposed turbine R5) to the relocated collector substation.

Environmental Impacts/Environmental Effects

Direct and Indirect (*Note: cumulative effects are addressed in Section F of this EIR/EIS*)

Impact BIO-1: The temporary and permanent impacts to native vegetation communities under this alternative would be slightly greater than that assessed in Section D.2.3.3 for the Tule Wind Project. The temporary and permanent impacts to native vegetation communities are summarized in Table D.2-10. A total of 224.8 acres of temporary impact to native vegetation communities would result from this alternative, and a total of 484.9 acres of permanent impact to native vegetation communities would result from this alternative.

Table D.2-10
Native Vegetation Communities Impact Acreage for the
Tule Alternative Gen-Tie Route 3 with Collector Substation/
O&M Facility on Rough Acres Ranch

Native Vegetation Community	Temporary Impact Acreage	Permanent Impact Acreage	Tule Alternate Gen-Tie Route 3 Impact Acreage
Big sagebrush scrub	8.5	1.5	10.0
Chamise chaparral	14.4	22.4	36.8
Closed coast live oak woodland	1.62	0.0	1.62
Montane buckwheat scrub	7.9	12.2	20.1
Mulefat scrub	0.0	0.0	0.0
Non-native grassland	0.5	1.5	2.1
Non-vegetated channel	0.1	0.0	0.2
Northern mixed chaparral	21.0	93.4	114.4
Open coast live oak woodland	1.4	0.8	2.2
Redshank chaparral	4.2	5.2	9.4
Scrub oak chaparral	28.3	65.1	93.4
Semi-desert chaparral	81.4	148.5	229.9
Southern north slope chaparral	3.7	5.8	9.5
Southern riparian woodland	0.0	0.0	0.0
Southern willow scrub	0.2	0.0	0.2
Unsurveyed area	2.3	24.0	26.3
Upper Sonoran manzanita chaparral	10.3	43.0	53.3
Upper Sonoran subshrub scrub	39.1	61.4	100.4
Total	**224.8**	**484.9**	**709.8**

Source: HDR 2010a

Impacts to sensitive natural communities would remain unchanged under this alternative relative to the Tule Wind Project. Therefore, impacts to sensitive natural communities from this alternative would be adverse and Mitigation Measures BIO-1a through BIO-1g have been provided to mitigate this impact. Under CEQA, impacts would significant but can be mitigated to a level that is considered less than significant (Class II) with implementation of Mitigation Measures BIO-1a through BIO-1g.

Impact BIO-2: As with the proposed Tule Wind Project, numerous dry washes, swales, and wetland features occur in the study area for this alternative. These features have the potential to be subject to the jurisdiction of the ACOE, CDFG, and/or RWQCB. Impacts to jurisdictional resources would be higher than that assessed in Section D.2.3.3 for the Tule Wind Project. No impact to ACOE jurisdictional wetlands would result from this alternative. This alternative would result in a total of 0.44 acre of impact (0.13 acre of temporary impact; 0.31 acre of

permanent impact) to ACOE and RWQCB non-wetland waters of the U.S. The Tule Wind Project would result in a total of 1.34 acres of impact (1.12 acres of temporary impact; 0.22 acre of permanent impact) to CDFG jurisdictional features. Similar to the proposed Tule Wind Project, impacts to jurisdictional waters and wetlands from this alternative would be adverse and therefore, Mitigation Measures BIO-1a through BIO-1d, BIO-1f, BIO-1g, and BIO-2a through BIO-2c have been provided to mitigate this impact. Under CEQA, impacts would be significant but can be mitigated to a level that is considered less than significant (Class II) with implementation of Mitigation Measures BIO-1a through BIO-1d, BIO-1f, BIO-1g, and BIO-2a through BIO-2c.

Impact BIO-3: The impact of this alternative on the introduction of invasive, non-native, or noxious plant species would be the same as that assessed in Section D.2.3.3 for the Tule Wind Project. The impact of this alternative on the introduction of invasive, non-native, or noxious plant species would be adverse and therefore, Mitigation Measures BIO-1a through BIO-1d, BIO-1f, BIO-1g, and BIO-3a have been provided to mitigate this impact. Under CEQA, impacts would be considered significant but can be mitigated to a level that is less than significant (Class II) with implementation of Mitigation Measures BIO-1a through BIO-1d, BIO-1f, BIO-1g, and BIO-3a.

Impact BIO-4: The impact of this alternative on the generation of construction dust resulting in the degradation of vegetation would be the same as that assessed in Section D.2.3.3 for the Tule Project. The impact of this alternative on the generation of construction dust resulting in the degradation of vegetation would be adverse and therefore, Mitigation Measure BIO-4a has been provided to mitigate this impact. Under CEQA, impacts would be significant but can be mitigated to below a level of significance (Class II) with implementation of Mitigation Measure BIO-4a.

Impact BIO-5: The impact of this alternative on the loss of listed or sensitive plants or their habitat would be greater than that assessed in Section D.2.3.3 for the Tule Wind Project due to increased impact to native habitats. Given the location of this alternative, the same suite of special-status plant species has the potential to occur in the area. The direct removal of special-status plant species, the indirect loss of special-status plant species from construction-related dust or trampling, and the direct removal of suitable habitat for special-status plant species would be adverse and therefore, Mitigation Measures BIO-1a through BIO-1g, BIO-3a, BIO-4a, and BIO-5a through BIO-5b have been provided to mitigate this impact. Under CEQA, impacts would significant but can be mitigated to a level that is considered less than significant (Class II) with implementation of Mitigation Measures BIO-1a through BIO-1g, BIO-3a, BIO-4a, and BIO-5a through BIO-5b.

Impact BIO-6: The impact of this alternative on construction disturbance to wildlife and wildlife mortality would be the same as that assessed in Section D.2.3.3 for the Tule Wind Project. Except where such construction-related disturbance or direct mortality affects special-status wildlife, which is addressed under Impact BIO-7, the construction-related impact of this alternative on wildlife disturbance and direct mortality, would not be adverse and under CEQA, would be considered less than significant (Class III).

Impact BIO-7: The impact of this alternative on the loss of listed or sensitive wildlife or their habitat would be greater than that assessed in Section D.2.3.3 for the Tule Wind Project due to increased impact to native habitats. Given the location of this alternative, the same suite of special-status wildlife species has the potential to occur in the area. The direct and indirect impacts to numerous special-status wildlife species resulting from this alternative would be adverse and therefore, Mitigation Measures BIO-1a through BIO-1g, BIO-3a, BIO-4a, and BIO-7a through BIO-7j have been provided to mitigate this impact. Under CEQA, impacts would significant but can be mitigated to a level that is considered less than significant (Class II) with implementation of Mitigation Measures BIO-1a through BIO-1g, BIO-3a, BIO-4a, and BIO-7a through BIO-7j. The direct and indirect impacts to several other special-status wildlife species resulting from this alternative would not be adverse and under CEQA, impacts would be less than significant (Class III) or would have no effect (No Impact).

Impact BIO-8: The potential loss of nesting birds resulting from construction activities would remain unchanged under this alternative relative to the Tule Wind Project and would be adverse and therefore, Mitigation Measures BIO-1a through BIO-1c, BIO-4a, BIO-7b through BIO-7e and BIO-7j have been provided to mitigate this impact. Under CEQA, impacts would be significant but can be mitigated to below a level of significance (Class II) with implementation of Mitigation Measures BIO-1a through BIO-1c, BIO-4a, BIO-7b through BIO-7e and BIO-7j.

Impact BIO-9: The impact of this alternative on linkages or wildlife movement corridors, the movement of fish, and/or native wildlife nursery sites would be the same as that assessed in Section D.2.3.3 for the Tule Wind Project. Identified impacts on linkages or wildlife movement corridors would not be adverse and under CEQA, impacts would be considered less than significant (Class III). No impact (No Impact) on the movement of fish and native wildlife nursery sites would occur under this alternative.

Impact BIO-10: The risk of electrocution to special-status bird species from transmission lines and towers under this alternative would be less than that assessed in Section D.2.3.3 for the Tule Wind Project due to the reduced overhead transmission line. However, the electrocution risk would remain adverse and therefore, Mitigation Measures BIO-10a through BIO-10b have been provided to mitigate this impact. Under CEQA, impacts would significant but can be mitigated to

a level that is considered less than significant (Class II) with implementation of Mitigation Measures BIO-10a through BIO-10b. Similar to the proposed Tule Wind Project, the risk of mortality due to collision with operating turbines by golden eagle resulting from this alternative would be adverse and therefore, Mitigation Measures BIO-10a through BIO-10i have been provided. However, the identified impact cannot be mitigated and under CEQA, impacts would be considered significant and cannot be mitigated to a level that is considered less than significant (Class I).

The risk of mortality due to collision with operating turbines by Vaux's swift and special-status bat species would be adverse and therefore, Mitigation Measures BIO-10a through BIO-10e, BIO-10h, and BIO-10i have been provided. Under CEQA, impacts would be significant but can be mitigated to a level that is less than significant (Class II) with implementation of Mitigation Measures BIO-10a through BIO-10e, BIO-10h, and BIO-10i. The risk of mortality due to collision with operating turbines by other special-status bird species resulting from this alternative would not be adverse and under CEQA, would be less than significant (Class III) or would have no effect (No Impact).

Impact BIO-11: The impact of this alternative on operations and maintenance-related disturbance to wildlife and wildlife mortality would be less than that assessed in Section D.2.3.3 for the Tule Wind Project due to the reduction in overhead transmission line requiring maintenance activities. Operations and maintenance-related disturbance or direct mortality of special-status wildlife species would be adverse and therefore, Mitigation Measures BIO-3a, BIO-4a, BIO-7b through BIO-7d, and BIO-11a have been provided to mitigate this impact. Under CEQA, impact would be significant but can be mitigated to below a level of significance (Class II) with implementation of Mitigation Measures BIO-3a, BIO-4a, BIO-7b through BIO-7d, and BIO-11a.

Operation and maintenance related disturbance or direct mortality of common wildlife species would not be adverse and under CEQA, would be considered less than significant (Class III).

D.2.5.4 Tule Wind Alternative 4, Gen-Tie Route 3 Underground with Collector Substation/O&M Facility on Rough Acres Ranch

This alternative would not affect the impact conclusions resulting from the implementation of the proposed ECO Substation and ESJ Gen-Tie projects as discussed in Section D.2.3.3.

Environmental Setting/Affected Environment

Section D.2.5.3 describes the existing biological resources setting associated with the Tule Wind Alternative Gen-Tie Route 3 with Collector Substation/O&M Facility of Rough Acres Ranch.

Because this alternative would only underground the 138 kV transmission line, the existing biological resources setting would be the same as described in Section D.2.5.3.

Environmental Impacts/Environmental Effects

Direct and Indirect (*Note: cumulative effects are addressed in Section F of this EIR/EIS*)

Impact BIO-1: The temporary and permanent impacts to native vegetation communities would be similar to those assessed under Section D.2.5.3, except that undergrounding of the gen-tie transmission line would result in greater impacts due to increased ground disturbance. Therefore, this alternative would result in greater temporary and permanent impacts than that assessed in Section D.2.3.3 for the Tule Wind Project. No design information was available for the undergrounding of this line; therefore, a detailed impact analysis was not possible.

Impacts to sensitive natural communities would be similar under this alternative relative to the Tule Wind Project. Therefore, impact to sensitive natural communities from this alternative would remain adverse and Mitigation Measures BIO-1a through BIO-1g have been provided to mitigate this impact. Under CEQA, impacts would be significant but can be mitigated to a level that is less than significant (Class II) with implementation of Mitigation Measures BIO-1a through BIO-1g.

Impact BIO-2: The impacts to jurisdictional resources would be similar to those assessed under Section D.2.5.3, except that undergrounding of the gen-tie transmission line would result in greater impacts due to increased ground disturbance. Therefore, this alternative would result in greater impact to jurisdictional resources than that assessed in Section D.2.3.3 for the Tule Wind Project. No design information was available for the undergrounding of this line; therefore, a detailed impact analysis was not possible. Impacts to jurisdictional waters and wetlands from the Tule Wind Project would be adverse and therefore, Mitigation Measures BIO-1a through BIO-1d, BIO-1f, BIO-1g, and BIO-2a through BIO-2c have been provided to mitigate this impact. Under CEQA, impacts would be significant but can be mitigated to a level that is less than significant (Class II) with implementation of Mitigation Measures BIO-1a through BIO-1d, BIO-1f, BIO-1g, and BIO-2a through BIO-2c.

Impact BIO-3: The impact of this alternative on the introduction of invasive, non-native, or noxious plant species would be greater than that assessed in Section D.2.3.3 for the Tule Wind Project due to increased ground disturbance associated with the undergrounding of the transmission line. Similar to the proposed Tule Wind Project, the impact of this alternative on the introduction of invasive, non-native, or noxious plant species would be adverse and therefore, Mitigation Measures BIO-1a through BIO-1d, BIO-1f, BIO-1g, and BIO-3a have been provided and would mitigate this impact. Under CEQA, impacts would be significant but can be mitigated

to a level that is considered less than significant (Class II) with implementation of Mitigation Measures BIO-1a through BIO-1d, BIO-1f, BIO-1g, and BIO-3a.

Impact BIO-4: The impact of this alternative on the generation of construction dust resulting in the degradation of vegetation would be greater than that assessed in Section D.2.3.3 for the Tule Wind Project due to increased ground disturbance associated with the undergrounding of the transmission line. The impact of this alternative on the generation of construction dust resulting in the degradation of vegetation would be adverse and therefore, Mitigation Measure BIO-4a has been provided to mitigate this impact. Under CEQA, impacts would be significant but can be mitigated to below a level of significance (Class II) with implementation of Mitigation Measure BIO-4a.

Impact BIO-5: The impact of this alternative on the loss of listed or sensitive plants or their habitat would be greater than that assessed in Section D.2.3.3 for the Tule Wind Project due to increased ground disturbance associated with the undergrounding of the transmission line. Given the location of this alternative, the same suite of special-status plant species has the potential to occur in the area. The direct removal of special-status plant species, the indirect loss of special-status plant species from construction-related dust or trampling, and the direct removal of suitable habitat for special-status plant species would be adverse and therefore, Mitigation Measures BIO-1a through BIO-1g, BIO-3a, BIO-4a, and BIO-5a through BIO-5b have been provided to mitigate this impact. Under CEQA, impacts would be significant but can be mitigated to below a level of significance (Class II) with implementation of Mitigation Measures BIO-1a through BIO-1g, BIO-3a, BIO-4a, and BIO-5a through BIO-5b.

Impact BIO-6: The impact of this alternative on construction disturbance to wildlife and wildlife mortality would be the same as that assessed in Section D.2.3.3 for the Tule Wind Project. Except where such construction-related disturbance or direct mortality affects special-status wildlife, which is addressed under Impact BIO-7, the construction-related impact of this alternative on wildlife disturbance and direct mortality would not be adverse and under CEQA, would be considered less than significant (Class III).

Impact BIO-7: The impact of this alternative on the loss of listed or sensitive wildlife or their habitat would be greater than that assessed in Section D.2.3.3 for the Tule Wind Project due to increased ground disturbance associated with the undergrounding of the transmission line. Given the location of this alternative, the same suite of special-status wildlife species has the potential to occur in the area. The direct and indirect impacts to numerous special-status wildlife species resulting from this alternative would be adverse and therefore, Mitigation Measures BIO-1a through BIO-1g, BIO-3a, BIO-4a, and BIO-7a through BIO-7j have been provided to mitigate this impact. Under CEQA, impacts would significant but can be mitigated to a level that is

considered less than significant (Class II) with implementation of Mitigation Measures BIO-1a through BIO-1g, BIO-3a, BIO-4a, and BIO-7a through BIO-7j. The direct and indirect impacts to several other special-status wildlife species resulting from this alternative would not be adverse and under CEQA, impacts would be less than significant (Class III) or would have no effect (No Impact).

Impact BIO-8: The potential loss of nesting birds resulting from construction activities would remain unchanged under this alternative relative to the Tule Wind Project and would adverse and therefore, Mitigation Measures BIO-1a through BIO-1c, BIO-4a, BIO-7b through BIO-7e and BIO-7j have been provided to mitigate this impact. Under CEQA, impacts would be significant but can be mitigated to below a level of significance (Class II) with implementation of Mitigation Measures BIO-1a through BIO-1c, BIO-4a, BIO-7b through BIO-7e and BIO-7j.

Impact BIO-9: The impact of this alternative on linkages or wildlife movement corridors, the movement of fish, and/or native wildlife nursery sites would be the same as that assessed in Section D.2.3.3 for the Tule Wind Project. Identified impacts on linkages or wildlife movement corridors would not be adverse and under CEQA, impacts would be less than significant (Class III). No impact (No Impact) on the movement of fish and native wildlife nursery sites would occur under this alternative.

Impact BIO-10: The risk of electrocution to special-status bird species from transmission lines and towers under this alternative would be less than that assessed in Section D.2.3.3 for the Tule Wind Project due to the reduced overhead transmission line. However, the electrocution risk would remain adverse and therefore, Mitigation Measures BIO-10a through BIO-10b have been provided to mitigate this impact. Under CEQA, impacts would significant but can be mitigated to a level that is considered less than significant (Class II) with implementation of Mitigation Measures BIO-10a through BIO-10b. Similar to the proposed Tule Wind Project, the risk of mortality due to collision with operating turbines by golden eagle resulting from this alternative would be adverse and therefore, Mitigation Measures BIO-10a through BIO-10i have been provided. However, the identified impact cannot be mitigated and under CEQA, impacts would be considered significant and cannot be mitigated to a level that is considered less than significant (Class I).

The risk of mortality due to collision with operating turbines by Vaux's swift and special-status bat species would be adverse and therefore, Mitigation Measures BIO-10a through BIO-10e, BIO-10h, and BIO-10i have been provided. Under CEQA, impacts would be significant but can be mitigated to a level that is less than significant (Class II) with implementation of Mitigation Measures BIO-10a through BIO-10e, BIO-10h, and BIO-10i. The risk of mortality due to collision with operating turbines by other special-status bird species resulting from this

alternative would not be adverse and under CEQA, would be less than significant (Class III) or would have no effect (No Impact).

Impact BIO-11: The impact of this alternative on operations and maintenance-related disturbance to wildlife and wildlife mortality would be less than that assessed in Section D.2.3.3 for the Tule Wind Project due to the reduction in overhead transmission line requiring maintenance activities. Operations and maintenance-related disturbance or direct mortality of special-status wildlife species would be adverse and therefore, Mitigation Measures BIO-3a, BIO-4a, BIO-7b through BIO-7d, and BIO-11a have been provided to mitigate this impact. Under CEQA, impacts would be significant but can be mitigated to below a level of significance (Class II) with implementation of Mitigation Measures BIO-3a, BIO-4a, BIO-7b through BIO-7d, and BIO-11a.

Operation and maintenance related disturbance or direct mortality of common wildlife species would not be adverse and under CEQA, would be considered less than significant (Class III).

D.2.5.5 Tule Wind Alternative 5, Reduction in Turbines

This alternative would not affect the impact conclusions resulting from the implementation of the proposed ECO Substation and ESJ Gen-Tie projects as discussed in Section D.2.3.3.

Environmental Setting/Affected Environment

Under this alternative, the existing biological resources setting would be the same as described in Section D.2.13. The description of the Tule Wind Project would be the same as described in Section B with the exception that this alternative would remove specific turbine locations. The proposed action would erect 11 turbines adjacent to the BLM In-Ko-Pah Mountains ACEC (R1 through R10 and R13) and 51 turbines adjacent to wilderness areas on the western side of the project site (see Figure C-2). Under this alternative, 62 turbines would be removed (J1 through J15; K1 through K12; L1 through L11; M1 and M2; N1 through N8; P1 through P5; Q1 and Q2, R1 through R10, and R13). Therefore, with the exception of removed turbines, the existing biological resources setting for this alternative would be similar to that identified for the proposed Tule Wind Project in Section D.2.1.3.

Environmental Impacts/Environmental Effects

Direct and Indirect (*Note: cumulative effects are addressed in Section F of this EIR/EIS*)

Impact BIO-1: The temporary and permanent impacts to native vegetation communities under this alternative would be less than that assessed in Section D.2.3.3 for the Tule Wind Project due to the reduction in impacts from the removal of 62 turbines and the impacts associated with these project features. Temporary and permanent impacts to these native vegetation communities

would be adverse. Impacts to sensitive natural communities would be the same or less under this alternative relative to the Tule Wind Project. Although impacts would be reduced under this alternative, impacts to sensitive natural communities from this alternative would be adverse and therefore, Mitigation Measures BIO-1a through BIO-1g have been provided to mitigate this impact. Under CEQA, impacts would be significant but can be mitigated to a level that is considered less than significant (Class II) with implementation of Mitigation Measures BIO-1a through BIO-1g.

Impact BIO-2: The impacts to jurisdictional resources would be less than that assessed under Section D.2.3.3 for the Tule Wind Project due to reduction in impacts resulting from fewer turbines under this alternative. Impacts to jurisdictional waters and wetlands from this alternative would remain adverse and therefore, Mitigation Measures BIO-1a through BIO-1d, BIO-1f, BIO-1g and BIO-2a through BIO-2c have been provided to mitigate this impact. Under CEQA, impacts would be significant but can be mitigated to a level that is less than significant (Class II) with implementation of Mitigation Measures BIO-1a through BIO-1d, BIO-1f, BIO-1g and BIO-2a through BIO-2c.

Impact BIO-3: The impact of this alternative on the introduction of invasive, non-native, or noxious plant species would be less than that assessed in Section D.2.3.3 for the Tule Wind Project, due to a reduced area of construction and operation/maintenance resulting from fewer turbines. The impact of this alternative on the introduction of invasive, non-native, or noxious plant species would remain adverse and therefore, Mitigation Measures BIO-1a through BIO-1d, BIO-1f, BIO-1g, and BIO-3a have been provided to mitigate this impact. Under CEQA, impacts would be significant but can be mitigated to a level that is considered less than significant (Class II) with implementation of Mitigation Measures BIO-1a through BIO-1d, BIO-1f, BIO-1g, and BIO-3a.

Impact BIO-4: The impact of this alternative on the generation of construction dust resulting in the degradation of vegetation would be less than that assessed in Section D.2.3.3 for the Tule Wind Project due to reduced extent of ground disturbance from the construction of fewer turbines. The impact of this alternative on the generation of construction dust resulting in the degradation of vegetation would remain adverse and therefore, Mitigation Measure BIO-4a has been provided to mitigate this impact. Under CEQA, impacts would be significant but can be mitigated to below a level of significance (Class II) with implementation of Mitigation Measure BIO-4a.

Impact BIO-5: The impact of this alternative on the loss of listed or sensitive plants or their habitat would be less than that assessed in Section D.2.3.3 for the Tule Wind Project due to reduced ground disturbance associated with the fewer turbines. The direct removal of special-

status plant species, the indirect loss of special-status plant species from construction-related dust or trampling, and the direct removal of suitable habitat for special-status plant species would remain adverse and therefore, Mitigation Measures BIO-1a through BIO-1g, BIO-3a, BIO-4a, and BIO-5a through BIO-5b have been provided to mitigate this impact. Under CEQA, impacts would be significant but can be mitigated to below a level of significance (Class II) with implementation of BIO-1a through BIO-1g, BIO-3a, BIO-4a, and BIO-5a through BIO-5b.

Impact BIO-6: The impact of this alternative on construction disturbance to wildlife and wildlife mortality would be less than that assessed in Section D.2.3.3 for the Tule Wind Project due to the reduced construction area associated with fewer turbines. Except where such construction-related disturbance or direct mortality affects special-status wildlife, which is addressed under Impact BIO-7, the construction-related impact of this alternative on wildlife disturbance and direct mortality would not be adverse. Under CEQA, impacts would remain less than significant (Class III).

Impact BIO-7: The impact of this alternative on the loss of listed or sensitive wildlife or their habitat would be less than that assessed in Section D.2.3.3 for the Tule Wind Project due to reduced construction area associated with fewer turbines. The direct and indirect impact to numerous special-status wildlife species resulting from this alternative would remain adverse and therefore, Mitigation Measures BIO-1a through BIO-1g, BIO-3a, BIO-4a, and BIO-7a through BIO-7j have been provided to mitigate this impact. Under CEQA, impacts would significant but can be mitigated to a level that is considered less than significant (Class II) with implementation of Mitigation Measures BIO-1a through BIO-1g, BIO-3a, BIO-4a, and BIO-7a through BIO-7j. The direct and indirect impacts to several other special-status wildlife species resulting from this alternative would not be adverse and under CEQA, impacts would be less than significant (Class III) or would have no effect (No Impact).

Impact BIO-8: The potential loss of nesting birds resulting from construction activities would be reduced under this alternative relative to the Tule Wind Project but would remain adverse and therefore, Mitigation Measures BIO-1a through BIO-1c, BIO-4a, BIO-7b through BIO-7e, and BIO-7j have been provided to mitigate this impact. Under CEQA, impacts would be significant but can be mitigated to below a level of significance (Class II) with implementation of Mitigation Measures BIO-1a through BIO-1c, BIO-4a, BIO-7b through BIO-7e, and BIO-7j.

Impact BIO-9: The impact of this alternative on linkages or wildlife movement corridors, the movement of fish, and/or native wildlife nursery sites would be less than that assessed in Section D.2.3.3 for the Tule Wind Project due to the reduced number of turbines. Identified impacts linkages or wildlife movement corridors would not be adverse and under CEQA, impacts would

be considered less than significant (Class III). No impact (No Impact) on the movement of fish and native wildlife nursery sites would occur under this alternative.

Impact BIO-10: The risk of electrocution to special-status bird species from transmission lines and towers under this alternative would be the same as that assessed in Section D.2.3.3 for the Tule Wind Project. The electrocution risk would remain adverse and therefore, Mitigation Measures BIO-10a through BIO-10b have been provided to mitigate this impact. Under CEQA, impacts would significant but can be mitigated to a level that is considered less than significant (Class II) with implementation of Mitigation Measures BIO-10a through BIO-10b. The risk of collision to special-status bird and bat species would be reduced under this alternative as compared to the Tule Wind Project due to the reduction in the overall number of turbines and the removal of turbines within areas considered high risk for golden eagle turbine collision in the western portion of the Tule Wind Project area. Turbines removed under this alternative include the turbines presenting high risk of collision for golden eagles based on topography, landforms, and distance to known active nests. Removed turbines were those turbines along the entire western ridgeline east of the known active golden eagle territories within the potential use areas of these eagles. Turbines removed under this alternative would exceed the nest buffer recommendations provided in a number of studies of nesting golden eagles (Scott 1985, Richardson and Miller 1997, Kochert et al. 1999, Suter and Joness 1981, NJ Department of Environmental Protection 2009). In addition to the benefit of the nest buffer provided by this alternative, the viewshed of the closest eagle nest does not include the proposed turbines under this alternative, and this provides additional protection for the nesting eagles (Camp et al. 1997).

All turbines considered high risk for golden eagle collision would be removed under this alternative and this would substantially reduce the risk of golden eagle mortality; however the risk of mortality due to collision with operating turbines by golden eagle remains adverse and therefore, Mitigation Measures BIO-10a through BIO-10i have been provided. However, the identified impact cannot be mitigated and under CEQA, impacts of golden eagle collision from this alternative would be significant and cannot be mitigated to a level that is considered less than significant (Class I). This is due to the fact that although the turbines presenting high risk of golden eagle collision would be removed, the remaining turbines would continue to present risk, albeit substantially reduced, of golden eagle collision. Without additional pair-specific behavior and golden eagle population studies, the risk of this alternative to golden eagles cannot be determined.

Similar to the proposed Tule Wind Project, the risk of mortality due to collision with operating turbines by Vaux's swift and special-status bat species would be adverse and therefore, Mitigation Measures BIO-10a through BIO-10e, BIO-10h, and BIO-10i have been provided. Under CEQA, impacts would be significant but can be mitigated to a level that is less than

significant (Class II) with implementation of Mitigation Measures BIO-10a through BIO-10e, BIO-10h, and BIO-10

The risk of mortality due to collision with operating turbines by other special-status bird species resulting from this alternative would not be adverse and under CEQA, would be considered less than significant (Class III) or would have no effect (No Impact).

Impact BIO-11: The impact of this alternative on operations and maintenance-related disturbance to wildlife and wildlife mortality would be less than that assessed in Section D.2.3.3 for the Tule Wind Project due to the reduction in facilities requiring maintenance activities. Operations and maintenance-related disturbance or direct mortality of special-status wildlife species would remain adverse and therefore, Mitigation Measures BIO-3a, BIO-4a, BIO-7b through BIO-7d, and BIO-11a have been provided to mitigate this impact. Under CEQA, impacts would be significant but can be mitigated to below a level of significance (Class II) with implementation of Mitigation Measures BIO-3a, BIO-4a, BIO-7b through BIO-7d, and BIO-11a.

Operation and maintenance related disturbance or direct mortality of common wildlife species would not be adverse and under CEQA, would be considered less than significant (Class III).

D.2.6 ESJ Gen-Tie Project Alternatives

Table D.2-11 summarizes the impacts and classification of the impacts under CEQA that have been identified for the ESJ Gen-Tie Project alternatives.

Table D.2-11
Biological Resource Impacts Identified for
ESJ Gen-Tie Project Alternatives

Impact No.	Description	Classification
ESJ 230 kV Gen-Tie Underground Alternative		
ESJ-BIO-1	Construction activities would result in temporary and permanent losses of native vegetation.	Class II
ESJ-BIO-2	Construction activities would result in substantial adverse effects to jurisdictional waters and wetlands through vegetation removal, placement of fill, erosion, sedimentation, and degradation of water quality.	No Impact
ESJ-BIO-3	Construction and operation/maintenance activities would result in the introduction of invasive, non-native, or noxious plant species.	Class II
ESJ-BIO-4	Construction activities would create dust that would result in degradation of vegetation.	Class II
ESJ-BIO-5	Construction activities would result in direct or indirect loss of listed or sensitive plants or a direct loss of habitat for listed or sensitive plants.	Class II
ESJ-BIO-6	Construction, including the use of access roads, would result in disturbance to wildlife and result in wildlife mortality.	Class III
ESJ-BIO-7	Construction activities would result in direct or indirect loss of listed or sensitive wildlife or a	Class II

Table D.2-11 (Continued)

Impact No.	Description	Classification
	direct loss of habitat for listed or sensitive wildlife.	
ESJ-BIO-8	Construction activities would result in a potential loss of nesting birds (violation of the Migratory Bird Treaty Act).	Class II
ESJ-BIO-9	Construction or operational activities would adversely affect linkages or wildlife movement corridors, the movement of fish, and/or native wildlife nursery sites.	Class III
ESJ-BIO-10	Presence of transmission lines and wind turbines may result in electrocution of, and/or collisions by, listed or sensitive bird or bat species.	No Impact
ESJ-BIO-11	Maintenance activities would result in disturbance to wildlife and could result in wildlife mortality.	Class III
ESJ Gen-Tie Overhead Alternative Alignment		
ESJ-BIO-1	Construction activities would result in temporary and permanent losses of native vegetation.	Class II
ESJ-BIO-2	Construction activities would result in substantial adverse effects to jurisdictional waters and wetlands through vegetation removal, placement of fill, erosion, sedimentation, and degradation of water quality.	No Impact
ESJ-BIO-3	Construction and operation/maintenance activities would result in the introduction of invasive, non-native, or noxious plant species.	Class II
ESJ-BIO-4	Construction activities would create dust that would result in degradation of vegetation.	Class II
ESJ-BIO-5	Construction activities would result in direct or indirect loss of listed or sensitive plants or a direct loss of habitat for listed or sensitive plants.	Class II
ESJ-BIO-6	Construction, including the use of access roads, would result in disturbance to wildlife and result in wildlife mortality.	Class III
ESJ-BIO-7	Construction activities would result in direct or indirect loss of listed or sensitive wildlife or a direct loss of habitat for listed or sensitive wildlife.	Class II
ESJ-BIO-8	Construction activities would result in a potential loss of nesting birds (violation of the Migratory Bird Treaty Act).	Class II
ESJ-BIO-9	Construction or operational activities would adversely affect linkages or wildlife movement corridors, the movement of fish, and/or native wildlife nursery sites.	Class III
ESJ-BIO-10	Presence of transmission lines and wind turbines may result in electrocution of, and/or collisions by, listed or sensitive bird or bat species.	Class II
ESJ-BIO-11	Maintenance activities would result in disturbance to wildlife and could result in wildlife mortality.	Class II
ESJ Gen-Tie Underground Alternative Alignment		
ESJ-BIO-1	Construction activities would result in temporary and permanent losses of native vegetation.	Class II
ESJ-BIO-2	Construction activities would result in substantial adverse effects to jurisdictional waters and wetlands through vegetation removal, placement of fill, erosion, sedimentation, and degradation of water quality.	No Impact
ESJ-BIO-3	Construction and operation/maintenance activities would result in the introduction of invasive, non-native, or noxious plant species.	Class II
ESJ-BIO-4	Construction activities would create dust that would result in degradation of vegetation.	Class II
ESJ-BIO-5	Construction activities would result in direct or indirect loss of listed or sensitive plants or a direct loss of habitat for listed or sensitive plants.	Class II
ESJ-BIO-6	Construction, including the use of access roads, would result in disturbance to wildlife and	Class III

Table D.2-11 (Continued)

Impact No.	Description	Classification
	result in wildlife mortality.	
ESJ-BIO-7	Construction activities would result in direct or indirect loss of listed or sensitive wildlife or a direct loss of habitat for listed or sensitive wildlife.	Class II
ESJ-BIO-8	Construction activities would result in a potential loss of nesting birds (violation of the Migratory Bird Treaty Act).	Class II
ESJ-BIO-9	Construction or operational activities would adversely affect linkages or wildlife movement corridors, the movement of fish, and/or native wildlife nursery sites.	Class III
ESJ-BIO-10	Presence of transmission lines and wind turbines may result in electrocution of, and/or collisions by, listed or sensitive bird or bat species.	No Impact
ESJ-BIO-11	Maintenance activities would result in disturbance to wildlife and could result in wildlife mortality.	Class III

D.2.6.1 ESJ 230 kV Gen-Tie Underground Alternative

This alternative would not affect the impact conclusions resulting from the implementation of the proposed ECO Substation and Tule Wind projects as discussed in Section D.2.3.3.

Environmental Setting/Affected Environment

Section D.2.1.4 describes the existing biological resources setting associated with the ESJ Gen-Tie Project, which considers both a 500 kV gen-tie and a 230 kV gen-tie option. Because this alternative would select and construct the 230 kV gen-tie underground, the existing biological resources setting would be the same as described in Section D.2.1.4.

Environmental Impacts/Environmental Effects

Direct and Indirect (*Note: cumulative effects are addressed in Section F of this EIR/EIS*)

Impact BIO-1: The proposed ESJ Project assessed in Section D.2.3.3 assessed the impacts of both the 500 kV and 230 kV optional routes; however, only one alignment would ultimately be built. Under this alternative, the 230 kV route would be undergrounded, which would result in greater impacts to vegetation communities due to increased ground disturbance. This alternative would impact the same vegetation communities as the ESJ Project, including Peninsular juniper woodland and scrub and Sonoran mixed woody succulent scrub. Therefore, the temporary and permanent impacts to vegetation communities under this alternative would be greater than that for the ESJ Project. Temporary and permanent impacts to these native vegetation communities would be adverse and therefore, Mitigation Measures BIO-1a through BIO-1g have been provided to mitigate this impact. Under CEQA, impacts would be significant but can be mitigated to a level that is considered less than significant (Class II) with implementation of Mitigation Measures BIO-1a through BIO-1g.

No sensitive natural communities occur on the site of this alternative; therefore, no impact to sensitive natural communities would result from this alternative (No Impact).

Impact BIO-2: The impact of this alternative on jurisdictional resources would be the same as that assessed in Section D.2.3.3 for the ESJ Project. There are no waters or wetland features subject to the jurisdiction of the ACOE, RWQCB, or CDFG in the area of this alternative. No impact to jurisdictional waters and wetlands would result from this alternative (No Impact).

Impact BIO-3: The impact of this alternative on the introduction of invasive, non-native, or noxious plant species would be greater than that assessed in Section D.2.3.3 for the ESJ Project due to increased ground disturbance associated with the undergrounding of the transmission line. The impact of this alternative on the introduction of invasive, non-native, or noxious plant species would be adverse and therefore, Mitigation Measures BIO-1a through BIO-1d, BIO-1f, BIO-1g, and BIO-3a have been provided to mitigate this impact. Under CEQA, impacts would be significant but can be mitigated to a level that is considered less than significant (Class II) with implementation of Mitigation Measures BIO-1a through BIO-1d, BIO-1f, BIO-1g, and BIO-3a.

Impact BIO-4: The impact of this alternative on the generation of construction dust resulting in the degradation of vegetation would be greater than that assessed in Section D.2.3.3 for the ESJ Project due to increased ground disturbance associated with the undergrounding of the transmission line. The impact of this alternative on the generation of construction dust resulting in the degradation of vegetation would be adverse and therefore, Mitigation Measure BIO-4a has been provided to mitigate this impact. Under CEQA, impacts would be significant but can be mitigated to a level that is considered less than significant (Class II) with implementation of Mitigation Measure BIO-4a.

Impact BIO-5: The impact of this alternative on the loss of listed or sensitive plants or their habitat would be greater than that assessed in Section D.2.3.3 for the ESJ Project due to increased ground disturbance associated with the undergrounding the transmission line. The suite of potentially occurring special-status plant species is the same as that assessed for the ESJ Project. The direct removal of special-status plant species, the indirect loss of special-status plant species from construction-related dust or trampling, and the direct removal of suitable habitat for special-status plant species would be adverse and therefore, Mitigation Measures BIO-1a through BIO-1g, BIO-3a, BIO-4a, and BIO-5a through BIO-5b have been provided to mitigate this impact. Under CEQA, impacts would be significant but can be mitigated to below a level of significance (Class II) with implementation of Mitigation Measures BIO-1a through BIO-1g, BIO-3a, BIO-4a, and BIO-5a through BIO-5b.

Impact BIO-6: The impact of this alternative on construction disturbance to wildlife and wildlife mortality would be greater than that assessed in Section D.2.3.3 for the ESJ Project due to increased ground disturbance associated with the undergrounding the transmission line. Except where such construction-related disturbance or direct mortality affects special-status wildlife, which is addressed under Impact BIO-7, the construction-related impact of this alternative on wildlife disturbance and direct mortality would not be adverse and under CEQA, would be considered less than significant (Class III).

Impact BIO-7: The impact of this alternative on the loss of listed or sensitive wildlife or their habitat would be greater than that assessed in Section D.2.3.3 for the Tule Wind Project due to increased ground disturbance. The suite of potentially occurring special-status wildlife species is the same as that assessed for the ESJ Project. The direct and indirect impacts to numerous special-status wildlife species resulting from this alternative would be adverse and therefore, Mitigation Measures BIO-1a through BIO-1g, BIO-3a, BIO-4a, BIO-7a through BIO-7h, and BIO-7j have been provided to mitigate this impact. Under CEQA, impacts would be significant but can be mitigated to below a level of significance (Class II) with implementation of Mitigation Measures BIO-1a through BIO-1g, BIO-3a, BIO-4a, BIO-7a through BIO-7h. The direct and indirect impacts to several other special-status wildlife species resulting from this alternative would not be adverse and under CEQA, would be less than significant (Class III) or would have no effect (No Impact).

Impact BIO-8: The potential loss of nesting birds resulting from construction activities would remain unchanged under this alternative relative to the ESJ Project and would be adverse and therefore, Mitigation Measures BIO-1a through BIO-1c, BIO-4a, BIO-7b through BIO-7e, and BIO-7j have been provided to mitigate this impact. Under CEQA, impacts would be significant but can be mitigated to below a level of significance (Class II) with implementation of BIO-1a through BIO-1c, BIO-4a, BIO-7b through BIO-7e.

Impact BIO-9: The impact of this alternative on linkages or wildlife movement corridors, the movement of fish, and/or native wildlife nursery sites would be the same as that assessed in Section D.2.3.3 for the ESJ Project. Identified impacts on linkages or wildlife movement corridors would not be adverse and under CEQA, impacts would be considered less than significant (Class III). No impact (No Impact) on the movement of fish and native wildlife nursery sites would occur under this alternative.

Impact BIO-10: The impact of this alternative on the electrocution of and/or collision by listed or sensitive bird or bat species would be significantly less than that assessed in Section D.2.3.3 for the ESJ Project due to the complete undergrounding of the transmission line. This alternative

would have no impact of electrocution of, and/or collision by, listed or sensitive bird or bat species (No Impact).

Impact BIO-11: The impact of this alternative on operations and maintenance-related disturbance to wildlife and wildlife mortality would be significantly less than that assessed in Section D.2.3.3 for the ESJ Project due to the complete undergrounding of the transmission line. Operations and maintenance-related disturbance or direct mortality of special-status and common wildlife species would not be adverse and under CEQA, would be considered less than significant (Class III).

D.2.6.2 ESJ Gen-Tie Overhead Alternative Alignment

This alternative would not affect the impact conclusions resulting from the implementation of the proposed Tule Wind Project as discussed in Section D.2.3.3. This alternative assumes the implementation of the ECO Substation Alternative Site and that the biological resource impacts identified in Section D.2.4.1 (ECO Substation Alternative Site) would occur.

Environmental Setting/Affected Environment

Section D.2.1.4 describes the existing biological resources setting associated with the ESJ Gen-Tie Project, which considers both a 500 kV gen-tie and a 230 kV gen-tie option.

This alternative would provide a connection of either the 230 or 500 kV gen-tie options with the ECO Substation Alternative Site that is proposed 700 feet east of the existing location. Similar to the project described in Section B of this EIR/EIS, this alternative would consist of either a single-circuit 500 kV line or a double-circuit 230 kV line supported on either five 150-foot steel lattice towers or five 170-foot steel monopoles. The existing biological resources setting would be largely the same as described in Section D.2.1.4 except that the project would be constructed 700 feet to the east.

Environmental Impacts/Environmental Effects

Direct and Indirect (*Note: cumulative effects are addressed in Section F of this EIR/EIS*)

Impact BIO-1: The temporary and permanent impacts to native vegetation communities under this alternative would be largely the same as that assessed in Section D.2.3.3 for the ESJ Project. For the purposes of impact analysis, the impacts of two potential alignments were assessed to address the 500 and 230 kV options. The maximum impact from property access routes was assumed in this analysis. A total of 6.7 to 7.4 acres of permanent impact to native vegetation communities would result from the ESJ Project, including 2.4 acres of Peninsular juniper woodland and scrub and 4.3 to 4.9 acres of Sonoran mixed woody succulent scrub.

Temporary and permanent impacts to these native vegetation communities would be adverse and therefore, Mitigation Measures BIO-1a through BIO-1e have been provided to mitigate this impact. Under CEQA, permanent impacts to native vegetation communities are significant but can be mitigated to a level that is considered less than significant (Class II) with implementation of Mitigation Measures BIO-1a through BIO-1e. No sensitive natural communities occur on the site of this alternative; therefore, no impact to sensitive natural communities would result from this alternative (No Impact).

Impact BIO-2: The impact of this alternative on jurisdictional resources would be the same as that assessed in Section D.2.3.3 for the ESJ Project. There are no waters or wetland features subject to the jurisdiction of the ACOE, RWQCB, or CDFG in the area of this alternative. No impact to jurisdictional waters and wetlands would result from this alternative (No Impact).

Impact BIO-3: The impact of this alternative on the introduction of invasive, non-native, or noxious plant species would be the same as that assessed in Section D.2.3.3 for the ESJ Project. The impact of this alternative on the introduction of invasive, non-native, or noxious plant species would be adverse and therefore, Mitigation Measures BIO-1a through BIO-1d, BIO-1f, BIO-1g, and BIO-3a have been provided and would mitigate this impact. Under CEQA, impacts would be significant but can be mitigated to a level that is considered less than significant (Class II) with implementation of Mitigation Measures BIO-1a through BIO-1d, BIO-1f, BIO-1g, and BIO-3a.

Impact BIO-4: The impact of this alternative on the generation of construction dust resulting in the degradation of vegetation would be the same as that assessed in Section D.2.3.3 for the ESJ Project. The impact of this alternative on the generation of construction dust resulting in the degradation of vegetation would be adverse and therefore, Mitigation Measure BIO-4a has been provided and would mitigate this impact. Under CEQA, impacts would be significant but can be mitigated to a level that is considered less than significant (Class II) with implementation of Mitigation Measure BIO-4a.

Impact BIO-5: The impact of this alternative on the loss of listed or sensitive plants or their habitat would be the same as that assessed in Section D.2.3.3 for the ESJ Project. Although the disturbance footprint for the transmission line under this alternative would be shifted 700 feet east, this modification does not change the anticipated impact to known or potentially occurring special-status plant species. The direct removal of special-status plant species, the indirect loss of special-status plant species from construction-related dust or trampling, and the direct removal of suitable habitat for special-status plant species would be adverse and therefore, Mitigation Measures BIO-1a through BIO-1g, BIO-3a, BIO-4a, and BIO-5a through BIO-5b have been provided to mitigate this impact. Under CEQA, impacts would significant but can be mitigated to

a level that is considered less than significant (Class II) with implementation of Mitigation Measures BIO-1a through BIO-1g, BIO-3a, BIO-4a, and BIO-5a through BIO-5b.

Impact BIO-6: The impact of this alternative on construction disturbance to wildlife and wildlife mortality would be the same as that assessed in Section D.2.3.3 for the ESJ Project. Except where such construction-related disturbance or direct mortality affects special-status wildlife, which is addressed under Impact BIO-7, the construction-related impact of this alternative on wildlife disturbance and direct mortality would not be adverse and under CEQA, would be less than significant (Class III).

Impact BIO-7: The impact of this alternative on the loss of listed or sensitive wildlife or their habitat would be the same as that assessed in Section D.2.3.3 for the ESJ Project. Although the disturbance footprint for the transmission line under this alternative would be shifted 700 feet east, this modification does not change the anticipated impact to known or potentially occurring special-status plant species. The direct and indirect impacts to numerous special-status wildlife species resulting from this alternative would be adverse and therefore, Mitigation Measures BIO-1a through BIO-1g, BIO-3a, BIO-4a, BIO-7a through BIO-7h, and BIO-7j have been provided to mitigate this impact. Under CEQA, impacts would be significant but can be mitigated to below a level of significance (Class II) with implementation of Mitigation Measures BIO-1a through BIO-1g, BIO-3a, BIO-4a, BIO-7a through BIO-7h, and BIO-7j. Similar to the proposed ESJ Gen-Tie Project, the direct and indirect impacts to several other special-status wildlife species resulting from this alternative would not be adverse and under CEQA, would be less than significant (Class III) or would have no effect (No Impact).

Impact BIO-8: The potential loss of nesting birds resulting from construction activities would remain unchanged under this alternative relative to the ESJ Project and would be adverse and therefore, Mitigation Measures BIO-1a through BIO-1c, BIO-4a, BIO-7b through BIO-7e, and BIO-7j have been provided to mitigate this impact. Under CEQA, impacts would be significant but can be mitigated to below a level of significance (Class II) with implementation of Mitigation Measures BIO-1a through BIO-1c, BIO-4a, BIO-7b through BIO-7e, and BIO-7j.

Impact BIO-9: The impact of this alternative on linkages or wildlife movement corridors, the movement of fish, and/or native wildlife nursery sites would be the same as that assessed in Section D.2.3.3 for the ESJ Project. Identified impacts on linkages or wildlife movement corridors would not be adverse and under CEQA, impacts would be considered less than significant (Class III). No impact (No Impact) on the movement of fish and native wildlife nursery sites would occur under this alternative.

Impact BIO-10: Presence of transmission lines and wind turbines may result in electrocution of, and/or collisions by, listed or sensitive bird or bat species.

The impact of this alternative on the electrocution of and/or collision by listed or sensitive bird or bat species would be the same as that assessed in Section D.2.3.3 for the ESJ Project. This alternative would have the potential to result in a significant impact of electrocution of, and/or collision by, listed or sensitive bird or bat species. Identified impacts would be adverse and therefore, Mitigation Measures BIO-10a and BIO-10b have been provided to mitigate this impact. Under CEQA, impacts would be significant but can be mitigated to below a level of significance (Class II) with implementation of Mitigation Measures BIO-10a and BIO-10b.

Impact BIO-11: The impact of this alternative on operations and maintenance-related disturbance to wildlife and wildlife mortality would be the same as that assessed in Section D.2.3.3 for the ECO Substation Project. Operations and maintenance-related disturbance or direct mortality of special-status wildlife species would be adverse and therefore, Mitigation Measures BIO-3a, BIO-4a, BIO-7b through BIO-7d, and BIO-11a have been provided to mitigate this impact. Under CEQA, impacts would be mitigated to below a level of significance (Class II) with implementation of Mitigation Measures BIO-3a, BIO-4a, BIO-7b through BIO-7d, and BIO-11a. Operation and maintenance-related disturbance or direct mortality of common wildlife species would not be adverse and under CEQA, would be considered less than significant (Class III).

D.2.6.3 ESJ Gen-Tie Underground Alternative Alignment

This alternative would not affect the impact conclusions resulting from the implementation of the proposed Tule Wind Project as discussed in Section D.2.3.3. This alternative assumes the implementation of the ECO Substation Alternative Site and that the biological resource impacts identified in Section D.2.4.1 (ECO Substation Alternative Site) would occur.

Environmental Setting/Affected Environment

Section D.2.1.4 describes the existing biological resources setting associated with the ESJ Gen-Tie Project, which considers both a 500 kV gen-tie and a 230 kV gen-tie option. Under this alternative, the 230 kV gen-tie line would be placed underground rather than aboveground to connect with the ECO Substation Alternative Site. Because this alternative would select and construct the 230 kV gen-tie underground, the existing biological resources setting would be largely the same as described in Section D.2.1.4, except that the project would be constructed 700 feet to the east.

Environmental Impacts/Environmental Effects

Direct and Indirect (*Note: cumulative effects are addressed in Section F of this EIR/EIS*)

Impact BIO-1: Under this alternative, the 230 kV route would be undergrounded to the ECO Substation Alternative Site, which would result in greater impacts to vegetation communities due

to increased ground disturbance. This alternative would impact the same vegetation communities as the ESJ Project, including Peninsular juniper woodland and scrub and Sonoran mixed woody succulent scrub. Therefore, the temporary and permanent impacts to vegetation communities under this alternative would be greater than that for the ESJ Project. Temporary and permanent impacts to these native vegetation communities would be adverse and therefore, Mitigation Measures BIO-1a through BIO-1e have been provided to mitigate this impact. Under CEQA, impacts would be significant but can be mitigated to a level that is considered less than significant (Class II) with implementation of Mitigation Measures BIO-1a through BIO-1e. No sensitive natural communities occur on the site of this alternative; therefore, no impact to sensitive natural communities would result from this alternative (No Impact).

Impact BIO-2: The impact of this alternative on jurisdictional resources would be the same as that assessed in Section D.2.3.3 for the ESJ Project. There are no waters or wetland features subject to the jurisdiction of the ACOE, RWQCB, or CDFG in the area of this alternative. No impact to jurisdictional waters and wetlands would result from this alternative (No Impact).

Impact BIO-3: The impact of this alternative on the introduction of invasive, non-native, or noxious plant species would be greater than that assessed in Section D.2.3.3 for the ESJ Project due to increased ground disturbance associated with the undergrounding of the transmission line. The impact of this alternative on the introduction of invasive, non-native, or noxious plant species would be adverse and therefore, Mitigation Measures BIO-1a through BIO-1d, BIO-1f, BIO-1g, and BIO-3a have been provided and would mitigate this impact. Under CEQA, impacts would be significant but can be mitigated to a level that is considered less than significant (Class II) with implementation of Mitigation Measures BIO-1a through BIO-1d, BIO-1f, BIO-1g, and BIO-3a.

Impact BIO-4: The impact of this alternative on the generation of construction dust resulting in the degradation of vegetation would be greater than that assessed in Section D.2.3.3 for the ESJ Project due to increased ground disturbance associated with the undergrounding of the transmission line. The impact of this alternative on the generation of construction dust resulting in the degradation of vegetation would be adverse and therefore, Mitigation Measure BIO-4a has been provided and would mitigate this impact. Under CEQA, impacts would be significant but can be mitigated to a level that is considered less than significant (Class II) with implementation of Mitigation Measure BIO-4a.

Impact BIO-5: The impact of this alternative on the loss of listed or sensitive plants or their habitat would be greater than that assessed in Section D.2.3.3 for the ESJ Project due to increased ground disturbance associated with the undergrounding the transmission line. The suite of potentially occurring special-status plant species is the same as that assessed for the ESJ

Project. The direct removal of special-status plant species, the indirect loss of special-status plant species from construction-related dust or trampling, and the direct removal of suitable habitat for special-status plant species would be adverse and therefore, Mitigation Measures BIO-1a through BIO-1g, BIO-3a, BIO-4a, and BIO-5a through BIO-5b have been provided to mitigate this impact. Under CEQA, impacts would be significant but can be mitigated to below a level of significance (Class II) with implementation of Mitigation Measures BIO-1a through BIO-1g, BIO-3a, BIO-4a, and BIO-5a through BIO-5b.

Impact BIO-6: The impact of this alternative on construction disturbance to wildlife and wildlife mortality would be greater than that assessed in Section D.2.3.3 for the ESJ Project due to increased ground disturbance associated with the undergrounding the transmission line. Except where such construction-related disturbance or direct mortality affects special-status wildlife, which is addressed under Impact BIO-7, the construction-related impact of this alternative on wildlife disturbance and direct mortality would not be adverse and under CEQA, would be considered less than significant (Class III).

Impact BIO-7: The impact of this alternative on the loss of listed or sensitive wildlife or their habitat would be greater than that assessed in Section D.2.3.3 for the ESJ Gen-Tie Project due to increased ground disturbance. The suite of potentially occurring special-status wildlife species is the same as that assessed for the ESJ Project. The direct and indirect impacts to numerous special-status wildlife species resulting from this alternative would be adverse and therefore, Mitigation Measures BIO-1a through BIO-1g, BIO-3a, BIO-4a, BIO-7a through BIO-7h, and BIO-7j have been provided to mitigate this impact. Under CEQA, impacts would be significant but can be mitigated to below a level of significance (Class II) with implementation of Mitigation Measures BIO-1a through BIO-1g, BIO-3a, BIO-4a, BIO-7a through BIO-7h. Similar to the proposed ESJ Gen-Tie Project, the direct and indirect impacts to several other special-status wildlife species resulting from this alternative would not be adverse and under CEQA, would be considered less than significant (Class III) or would have no effect (No Impact).

Impact BIO-8: The potential loss of nesting birds resulting from construction activities would remain unchanged under this alternative relative to the ESJ Project and would be adverse and therefore, Mitigation Measures BIO-1a through BIO-1c, BIO-4a, BIO-7b through BIO-7e and BIO-7j have been provided to mitigate this impact. Under CEQA, impacts would be significant but can be mitigated to below a level of significance (Class II) with implementation of Mitigation Measures BIO-1a through BIO-1c, BIO-4a, BIO-7b through BIO-7e and BIO-7j.

Impact BIO-9: The impact of this alternative on linkages or wildlife movement corridors, the movement of fish, and/or native wildlife nursery sites would be the same as that assessed in Section D.2.3.3 for the ESJ Project. Identified impacts on linkages or wildlife movement

corridors would not be adverse and under CEQA, would be considered less than significant (Class III). No impact on the movement of fish and native wildlife nursery sites would occur under this alternative.

Impact BIO-10: The impact of this alternative on the electrocution of and/or collision by listed or sensitive bird or bat species would be significantly less than that assessed in Section D.2.3.3 for the ESJ Project due to the complete undergrounding of the transmission line. This alternative would have no impact of electrocution of, and/or collision by, listed or sensitive bird or bat species (No Impact).

Impact BIO-11: The impact of this alternative on operations and maintenance-related disturbance to wildlife and wildlife mortality would be significantly less than that assessed in Section D.2.3.3 for the ESJ Project due to the complete undergrounding of the transmission line. Operations and maintenance-related disturbance or direct mortality of special-status and common wildlife species would not be adverse and under CEQA, would be considered less than significant (Class III).

D.2.7 No Project/No Action Alternatives

D.2.7.1 No Project Alternative 1– No ECO Substation, Tule Wind, ESJ Gen-Tie, Campo, Manzanita, or Jordan Wind Energy Projects

Environmental Impacts/Environmental Effects

Impacts BIO-1 through BIO-11: Under the No Project Alternative 1, the ECO Substation, Tule Wind, and ESJ Gen-Tie, as well as the Campo, Manzanita, and Jordan wind energy projects, would not be built, and the existing conditions would remain at these sites.

Biological resources impacts resulting from the Proposed PROJECT would not occur.

D.2.7.2 No Project Alternative 2 – No ECO Substation Project

Environmental Impacts/Environmental Effects

Impacts BIO-1 through BIO-11: Under the No Project Alternative 2, the ECO Substation Project would not be built and the Tule Wind Project and ESJ Gen-Tie Project would be constructed. Under the No Project Alternative 2, SDG&E would likely upgrade an existing substation or construct an entirely new substation in order to interconnect planned renewable energy generation in southeastern San Diego County. Biological resources impacts resulting from other interconnection upgrades and transmission options could be similar to those identified for the ECO Substation Project and would vary depending on location of facility upgrades and transmission options.

The Tule Wind and ESJ Gen-Tie projects would be constructed and would interconnect with an existing substation or with a new substation expected to be proposed by SDG&E. Impacts associated with the Tule Wind and ESJ Gen-Tie projects would be expected to be similar to those described in Section D.2.3.3 but could vary depending on the point of interconnection and the resulting gen-tie route and length of the Tule Wind and ESJ Gen-Tie projects.

D.2.7.3 No Project Alternative 3 – No Tule Wind Project

Environmental Impacts/Environmental Effects

Impacts BIO-1 through BIO-11: Under the No Project Alternative 3, the Tule Wind Project would not be built and the existing conditions on the project site would remain. The construction and operations and maintenance-related impacts to biological resources would be reduced when compared to the Proposed PROJECT. Under No Project Alternative 3, the risk of special-status bird and bat collision with turbines (Impact BIO-10) would be eliminated altogether. Additionally, the magnitude of the impacts to biological resources would be reduced due to the reduction in construction and operations and maintenance activities; however, the significance of all other biological impacts (Impact BIO-1 through BIO-9 and BIO-11) would remain the same as the Proposed PROJECT.

D.2.7.4 No Project Alternative 4 – No ESJ Gen-Tie Project

Environmental Impacts/Environmental Effects

Impacts BIO-1 through BIO-11: Under the No Project Alternative 4, the ESJ Gen-Tie Project would not be built and the existing conditions on the project site would remain. Construction and operations related biological resources impacts associated with the ECO Substation and Tule Wind projects would occur under this alternative. If the ESJ Gen-Tie Project were not constructed, it is likely that an alternative gen-tie line would be constructed. The impacts associated with this gen-tie would be expected to be similar to those described in Section D.2.3.3 but could vary depending on length of gen-tie line and the location pursued. The magnitude of the impacts to biological resources would be reduced due to the reduction in construction and operations and maintenance activities; however, the significance of all biological impacts (Impacts BIO-1 through BIO-11) would remain the same as the Proposed PROJECT.

D.2.8 Mitigation Monitoring, Compliance, and Reporting

Table D.2-12 presents the mitigation monitoring, compliance, and reporting program for biological resources for the ECO Substation, Tule Wind, and ESJ Gen-Tie projects. Section D.2.9 provides the residual impacts.

The proposed Campo, Manzanita, and Jordan wind energy projects would require preparation of a mitigation monitoring, compliance, and reporting program following project-specific environmental review and evaluation under all applicable environmental regulations once sufficient project-level information has been developed.

Table D.2-12
Mitigation Monitoring, Compliance, and Reporting – ECO Substation, Tule Wind, and ESJ Gen-Tie Projects–Biological Resources

ECO Substation Project	
Mitigation Measure	**BIO-1a. Confine all construction and construction-related activities to the minimum necessary area as defined by the final engineering plans.** All construction areas, access to construction areas, and construction-related activities shall be strictly limited to the areas identified on the final engineering plans. The limits of the approved work space shall be delineated with orange construction fencing that shall be maintained throughout the construction period. An environmental monitor shall complete regular observations to ensure that all work is completed within the approved work limits, and in the event any work occurs beyond the approved limits, it shall be reported. During and after construction, entrances to access roads shall be gated to prevent the unauthorized use of these construction access roads by the general public. Signs prohibiting unauthorized use of the access roads shall be posted on these gates.
Location	All areas disturbed by construction activities.
Monitoring/Reporting Action	CPUC/ BLM to review final engineering plans and verify in the field that approved work limits are clearly delineated on the final engineering plans. An environmental monitor to ensure proper installation and maintenance of construction fencing and signage during construction. Environmental monitor to report to CPUC whether any work occurred outside of the approved work limits.
Effectiveness Criteria	Field verification that delineated construction areas correspond with final plans.
Responsible Agency	BLM and CPUC
Timing	Confirm implementation prior to any vegetation clearing or ground disturbance activities and throughout the construction period.
Mitigation Measure	**BIO-1b. Conduct contractor training for all construction staff.** Prior to construction, all developer, contractor, and subcontractor personnel shall receive training regarding the appropriate work practices necessary to implement the mitigation measures and comply with environmental regulations, including plant and wildlife species avoidance, impact minimization, and best management practices. Sign-in sheets and hard hat decals shall be provided that document contractor training has been completed for construction personnel.
Location	All areas disturbed by construction activities
Monitoring/Reporting Action	CPUC environmental monitor shall oversee construction monitoring to ensure biological impacts are avoided or minimized, and ensure that appropriate work practices necessary to implement the mitigation measures are implemented.
Effectiveness Criteria	Successful avoidance of unforeseen impacts and compliance with APMs and mitigation measures.
Responsible Agency	BLM and CPUC
Timing	Prior to and during construction.
Mitigation Measure	**BIO-1c. Conduct biological construction monitoring.** An authorized biological monitor must be present at the construction sites during all ground disturbing and vegetation removal activities. The monitor shall survey the construction sites and surrounding areas for

Table D.2-12 (Continued)

	compliance with all environmental specifications. Weekly biological construction monitoring reports shall be prepared and submitted to the appropriate permitting and responsible agencies through the duration of the ground disturbing and vegetation removal construction phase. Monthly biological construction monitoring reports shall be prepared and submitted through the duration of project construction to document compliance with environmental requirements.
Location	All areas disturbed by construction activities.
Monitoring/Reporting Action	Weekly/Monthly biological construction monitoring reports submitted to BLM and CPUC.
Effectiveness Criteria	Identification of issues and solutions through regular monitoring and reporting. The qualifications of the qualified biologist shall be approved by BLM and CPUC.
Responsible Agency	BLM and CPUC
Timing	Weekly biological monitoring during ground disturbance and vegetation removal activities; Monthly biological monitoring for the remaining duration of construction.
Mitigation Measure	**BIO-1d. Restore all temporary construction areas pursuant to a Habitat Restoration Plan.** All temporary work areas not subject to long-term use or ongoing vegetation maintenance shall be revegetated with native species characteristic of the adjacent native vegetation communities in accordance with a Habitat Restoration Plan. A habitat restoration specialist will be designated and approved by the California Public Utilities Commission and Bureau of Land Management and will determine the most appropriate method of restoration. Restoration techniques may include: hydroseeding, hand-seeding, imprinting, and soil and plant salvage. Any salvage and relocation of species considered desert native plants shall be conducted in compliance with the California Desert Native Plant Act. The Habitat Restoration Plan shall include success criteria and monitoring specifications and shall be approved by the permitting agencies prior to construction of the project. At the completion of project construction, all construction materials shall be completely removed from the site. All temporary construction access roads shall be permanently closed and restored. Topsoil located in areas to be restoration would be conserved and stockpiled during the excavation process for use in the restoration. Wherever possible, vegetation would be left in place to avoid excessive root damage to allow for natural recruitment following construction. Temporary impacts shall be restored sufficient to compensate for the impact to the satisfaction of the CPUC or BLM (depending on the location of the impact). If restoration of temporary impact areas is not possible to the satisfaction of the CPUC or BLM, the temporary impact shall be considered a permanent impact and compensated accordingly (see MM BIO-1e).
Location	All areas disturbed by construction activities.
Monitoring/Reporting Action	BLM and CPUC shall review habitat restoration plans, habitat acquisition plans, and long-term habitat management plans, and ensure their implementation. BLM/CPUC biological monitor shall confirm that proposed habitat restoration mitigation plans are implemented.
Effectiveness Criteria	Habitat restoration plans are implemented and meet success criteria. Long-term habitat management is provided for all mitigation sites.
Responsible Agency	BLM and CPUC
Timing	Plan submitted to CPUC /BLM for review 90 days prior to ground disturbance activities. Restoration will be initiated at earliest opportunity upon completion of soil-disturbing activities.
Mitigation Measure	**BIO-1e. Provide habitat compensation or restoration for permanent impacts to native vegetation communities.** Permanent impact to all native vegetation communities shall be compensated through a combination habitat compensation and habitat restoration at a minimum of a 1:1 ratio or as required by the permitting agencies. Habitat compensation shall

Table D.2-12 (Continued)

	be accomplished through agency-approved land preservation or mitigation fee payment for the purpose of habitat compensation of lands supporting comparable habitats to those lands impacted by the Proposed PROJECT. Land preservation or mitigation fee payment for habitat compensation must be completed within 18 months of permit issuance. Habitat restoration may be appropriate as compensation for permanent impacts provided that restoration is demonstrated to be feasible and the restoration effort is implemented pursuant to a Habitat Restoration Plan, which includes success criteria and monitoring specifications as described above for Mitigation Measure BIO-1d. The Habitat Restoration Plan shall be approved by the permitting agencies prior to construction of the project. All habitat compensation and restoration used as mitigation for the Proposed PROJECT on public lands shall be located in areas designated for resource protection and management. All habitat compensation and restoration used as mitigation for the Proposed PROJECT on private lands shall include long-term management and legal protection assurances.
Location	On the ECO Substation Project site or on to-be-identified mitigation parcels.
Monitoring/Reporting Action	Habitat restoration plans are implemented and meet success criteria. Long-term habitat management is provided for all mitigation sites.
Effectiveness Criteria	For habitat preservation, it shall meet the minimum compensation standards on an acre-for-acre, in-kind basis or as otherwise required by the agencies. For habitat restoration, the habitat restoration plan shall specify success criteria. Long-term management assurances and legal protection mechanisms shall satisfy agency requirements.
Responsible Agency	BLM and CPUC
Timing	Habitat mitigation lands shall be identified and approved within 1 year of the initiation of project construction. Long-term management and legal protection for mitigation lands shall be in place no later than 18 months after the initiation of project construction. Habitat restoration plan(s), if applicable, shall submitted be to CPUC/ BLM for review within 1 year of the initiation of project construction. Restoration, if applicable, shall be initiated no later than 18 months after the initiation of project construction.
Mitigation Measure	**BIO-1f. Implement fire prevention best management practices during construction and operation activities.** Fire prevention best management practices shall be implemented during construction and operation of the project as specified by the Construction Fire Prevention/Protection Plan (to be developed as required under Mitigation Measure FF-1) and Wildland Fire Prevention and Fire Safety Electric Standard Practice Operation and Maintenance Plan (to be revised as required under Mitigation Measure FF-2).
Location	All areas disturbed by construction activities.
Monitoring/Reporting Action	CPUC and BLM will review SDG&E's Construction Fire Prevention/Protection Plan and ensure its implementation.
Effectiveness Criteria	Implementation of the plan. Limit work during Red Flag Warnings and Very High PAL. Provide evidence of coordination with applicable fire authorities.
Responsible Agency	BLM and CPUC
Timing	Plan effective throughout construction.
Mitigation Measure	**BIO-1g. Prepare and implement a Stormwater Pollution Prevention Plan.** Prepare a Stormwater Pollution Prevention Plan pursuant to the specifications described in Mitigation Measure HYD-1.
Location	All areas disturbed by construction activities
Monitoring/Reporting Action	BLM and CPUC will review SDG&E's SWPPP and ensure its implementation.
Effectiveness Criteria	Construction and BMPs in place during construction, and kept operating as long as needed.

Table D.2-12 (Continued)

	Mitigation measure is effective if water quality near the project is maintained.
Responsible Agency	BLM and CPUC
Timing	Prior to and during construction.
Mitigation Measure	**BIO-2a. Limit temporary and permanent impacts to jurisdictional features to the minimum necessary as defined by the final engineering plans.** Obtain and implement the terms and conditions of agency permit(s) for unavoidable impacts to jurisdictional wetlands and waters. All construction areas, access to construction areas, and construction-related activities shall be strictly limited to the areas within the approved work limits identified on the final engineering plans. The limits of construction shall be delineated with orange construction fencing and maintained throughout construction to avoid and minimize impacts to jurisdictional resources. The project applicant shall obtain applicable permits and provide evidence of permit approval, which may include but not be limited to a Clean Water Act Section 404 Permit, a Clean Water Act Section 401 water quality certification, and a Section 1602 streambed alteration agreement with the U.S. Army Corps of Engineers, Regional Water Quality Control Board, and California Department of Fish and Game for impacts to jurisdictional features prior to project construction. The terms and conditions of these authorizations shall be implemented.
Location	All areas disturbed by construction activities.
Monitoring/Reporting Action	BLM/CPUC to review final engineering plans. Third party monitors to verify proper installation of construction fencing and signage. SDG&E provide evidence that applicable permits have been obtained. CPUC/ BLM to document compliance two weeks prior to ground disturbance activities.
Effectiveness Criteria	Field verification that delineated construction areas correspond with final plans. Documentation of permit compliance to be provided to CPUC and BLM.
Responsible Agency	BLM and CPUC
Timing	Prior to any vegetation clearing or ground disturbance activities.
Mitigation Measure	**BIO-2b. Implement habitat creation and/or restoration pursuant to a wetland mitigation plan to ensure no net loss of jurisdictional waters and wetlands.** Temporary and permanent impacts to all jurisdictional resources shall be compensated through a combination habitat creation (i.e., establishment) and habitat restoration at a minimum of a 1:1 ratio or as required by the permitting agencies. The creation/restoration effort shall be implemented pursuant to a Habitat Restoration Plan, which shall include success criteria and monitoring specifications and shall be approved by the permitting agencies prior to construction of the project. A habitat restoration specialist will be designated and approved by the permitting agencies and will determine the most appropriate method of restoration. Restoration techniques may include hydroseeding, hand-seeding, imprinting, and soil and plant salvage. Temporary impacts shall be restored sufficient to compensate for the impact to the satisfaction of the CPUC or BLM (depending on the location of the impact). If restoration of temporary impact areas is not possible to the satisfaction of the CPUC or BLM, the temporary impact shall be considered a permanent impact and compensated accordingly. All habitat creation and restoration used as mitigation for the Proposed ECO Substation Project on public lands shall be located in areas designated for resource protection and management. All habitat creation and restoration used as mitigation for the project on private lands shall include long-term management and legal protection assurances.
Location	Identified habitat creation and/or restoration areas on the ECO Substation Project site or at off-site mitigation parcel(s)
Monitoring/Reporting Action	Habitat restoration plans are implemented and meet success criteria. Long-term habitat

Table D.2-12 (Continued)

	management is provided for all mitigation sites.
Effectiveness Criteria	The habitat restoration plan shall specify success criteria. Long-term management assurances and legal protection mechanisms shall satisfy agency requirements.
Responsible Agency	BLM and CPUC
Timing	If off-site mitigation lands are utilized, they shall be identified and approved within 1 year of the initiation of project construction. Long-term management and legal protection for mitigation lands shall be in place no later than 18 months after the initiation of project construction. Habitat restoration plan(s) shall be submitted to CPUC/ BLM for review within 1 year of the initiation of project construction. Restoration shall be initiated no later than 18 months after the initiation of project construction.
Mitigation Measure	**BIO-2c. Where drainage crossings are unavoidable, construct access roads at right angles to drainages.** Unless not possible due to existing landforms or site constraints, access roads shall be built perpendicular to drainages to minimize the impacts to these resources and prevent impacts along the length of jurisdictional features.
Location	All drainage crossing in the ECO Substation Project area.
Monitoring/Reporting Action	CPUC/BLM to review final engineering plans to ensure measure is implemented to the extent feasible.
Effectiveness Criteria	Ensure access roads are built perpendicular to drainages to the extent feasible.
Responsible Agency	BLM and CPUC
Timing	Prior to and during construction.
Mitigation Measure	**BIO-3a. Prepare and implement a Noxious Weeds and Invasive Species Control Plan.** A Noxious Weeds and Invasive Species Control Plan shall be prepared and reviewed by the California Public Utilities Commission/Bureau of Land Management and applicable permitting agencies. The plan shall be implemented during all phases of project construction and operation. The plan shall include best management practices to avoid and minimize the direct or indirect effect of the establishment and spread of invasive plant species during construction. Implementation of specific protective measures shall be required during construction, such as cleaning vehicles prior to off-road use, using weed-free imported soil/material, restricted vegetation removal and requiring topsoil storage. Development and implementation of weed management procedures shall be used to monitor and control the spread of weed populations along the construction access and transmission line right-of-ways. Vehicles used in transmission line construction shall be cleaned prior to operation off of maintained roads. Existing vegetation shall be cleared only from areas scheduled for immediate construction work and only for the width needed for active construction activities. Noxious weed management shall be conducted annually to prevent the establishment and spread of invasive plant species. This shall include weed abatement efforts, targeted at plants listed as invasive exotics by the California Exotic Plant Pest Council in their most recent “A” or “Red Alert” list. Pesticide use should be limited to non-persistent pesticides and should only be applied in accordance with label and application permit directions and restrictions for terrestrial and aquatic applications.
Location	Entire project area.
Monitoring/Reporting Action	BLM and CPUC to verify that plan has been submitted and is implemented. Evidence provided to BLM/CPUC that the plan has been reviewed by applicable permitting agencies.
Effectiveness Criteria	Noxious Weeds and Invasive Species Control Plan prepared and successfully implemented.
Responsible Agency	BLM/CPUC
Timing	Plan submitted to BLM, CPUC and applicable permitting agencies for review 90 days prior to initiation of project construction. Plan shall be implemented throughout construction and

Table D.2-12 (Continued)

	throughout operations.
Mitigation Measure	**BIO-4a. Prepare and implement a Dust Control Plan.** The project proponent shall (a) pave, apply water three times daily, or apply (non-toxic) soil stabilizers on all unpaved access roads, parking areas, and staging areas if construction activity causes persistent visible emissions of fugitive dust beyond the work area; (b) pre-water sites for 48 hours in advance of clearing; (c) reduce the amount of disturbed area where feasible; (d) spray all dirt stock-pile areas daily as needed; (e) cover loads in haul trucks or maintain at least 6 inches of free-board when traveling on public roads; (f) pre-moisten, prior to transport, import and export dirt, sand, or loose materials; (g) sweep streets daily (with water sweepers) if visible soil material is carried onto adjacent public streets or wash trucks and equipment before entering public streets; (h) plant vegetative ground cover in disturbed areas as soon as possible following construction; (i) apply chemical soil stabilizers or apply water to form and maintain a crust on inactive construction areas (disturbed lands that are unused for 14 consecutive days); and (j) prepare and file with the San Diego Air Pollution Control District, Bureau of Land Management and California Public Utilities Commission a Dust Control Plan that describes how these measures would be implemented and monitored at all locations of the project. This plan shall be developed consistent with the requirements of Mitigation Measure AQ-1.
Location	All construction areas including staging areas.
Monitoring/Reporting Action	Review Dust Control Plan. Verify local air district concurrence with the Plan. Inspect activities for dust control.
Effectiveness Criteria	Dust emissions are reduced. Effectiveness can be monitored by monitoring implementation of the control measures.
Responsible Agency	BLM and CPUC
Timing	Plan submitted to BLM and CPUC for review 90 days prior to initiation of project construction. Evidence shall also be provided that SDG&E has submitted the plan for review to SDPACD. Plan shall be implemented throughout construction.
Mitigation Measure	**BIO-5a. Install fencing or flagging around identified special-status plant species populations in the construction areas.** Prior to the start of construction, a qualified biologist shall conduct focused surveys during the appropriate blooming period for special-status plant species for all construction areas. All of the special-status plant locations shall be recorded using a Global Positioning System (GPS), which will be used to site the avoidance fencing/flagging. Special-status plant species shall be avoided to the maximum extent possible by all construction activities. The boundaries of all special-status plant species to be avoided shall be delineated in the field with clearly visible fencing or flagging. The fencing/flagging shall be maintained for the duration of project construction activities.
Location	All areas disturbed by construction activities.
Monitoring/Reporting Action	BLM/CPUC monitor to ensure construction fencing has been installed at necessary locations based on the results of the focused surveys for special-status plant species. The results of the focused surveys for special-status plan species are to be provided to CPUC/BLM by a qualified biologist within 48 hours of completing the survey.
Effectiveness Criteria	Field verification that delineated plant populations are consistent with baseline data and focused surveys. The qualifications of the qualified biologist shall be approved by the CPUC.
Responsible Agency	BLM and CPUC
Timing	Prior to any vegetation clearing or ground disturbance activities.
Mitigation Measure	**BIO-5b. Implement special-status plant species compensation.** Impacts to special-status plant species shall be maximally avoided. Where impacts to special-status plant species are unavoidable, the impact shall be quantified and compensated through off-site land

Table D.2-12 (Continued)

	preservation and/or plant salvage and relocation. Where off-site land preservation is biologically preferred, the land shall contain comparable special-status plant resources as the impacted lands and shall include long-term management and legal protection assurances to the satisfaction of the CPUC or BLM. Land preservation must be completed within 18 months of permit issuance. Where salvage and relocation is demonstrated to be feasible and biologically preferred, it shall be conducted pursuant to an agency-approved plan that details the methods for salvage, stockpiling, and replanting, as well as the characteristics of the receiver sites. Any salvage and relocation plans shall be approved by the permitting agencies prior to project construction. Any salvage and relocation of species considered desert native plants shall be conducted in compliance with the California Desert Native Plant Act. Success criteria and monitoring shall also be included in the plan. If salvage and relocation is not possible to the satisfaction of the CPUC or BLM, off-site land preservation shall be required.
Location	All areas disturbed by construction activities.
Monitoring/Reporting Action	BLM and CPUC shall review habitat restoration plans, habitat acquisition plans, and long-term habitat management plans, and ensure their implementation. CPUC/BLM biological monitor shall confirm that proposed habitat restoration mitigation plans are implemented.
Effectiveness Criteria	For habitat preservation, it shall meet the minimum compensation standards on an acre-for-acre or population basis or as otherwise required by the agencies. For salvage and relocation, the agency approved plan shall specify success criteria. Long-term management assurances and legal protection mechanisms shall satisfy agency requirements.
Responsible Agency	BLM and CPUC
Timing	Habitat mitigation lands shall be identified and approved within 1 year of the initiation of project construction. Long-term management and legal protection for mitigation lands shall be in place no later than 18 months after the initiation of project construction. Salvage and relocation plan(s), if applicable, shall submitted be to CPUC/ BLM for review 90 days prior to the initiation of project construction. Salvage and relocation, if applicable, shall be initiated during project construction.
Mitigation Measure	**BIO-7a. Cover and/or provide escape routes for wildlife from excavated areas and monitor these areas daily.** All steep trenches and excavations during construction shall be inspected twice daily (i.e., morning and evening) by a qualified biologist to monitor for wildlife entrapment. Large/steep excavations shall be covered and/or fenced nightly to prevent wildlife entrapment. Excavations shall provide an earthen ramp to allow for a wildlife escape route.
Location	All construction excavations and trenches
Monitoring/Reporting Action	Verification of measure implementation shall be provided to CPUC/ BLM by biological construction monitor. CPUC/BLM monitor to verify measure is being implemented during construction.
Effectiveness Criteria	Biological construction monitoring observations, reporting, and coordination/communication with construction personnel.
Responsible Agency	BLM and CPUC
Timing	During all subsurface construction activities.
Mitigation Measure	**BIO-7b. Enforce speed limits in and around all construction areas.** Vehicles shall not exceed 25 miles per hour on any gravel roads accessing the construction site or 20 miles per hour on the construction site.
Location	All construction areas and accessways of the ECO Substation Project area.
Monitoring/Reporting Action	Verification of establishment and enforcement mechanisms shall be provided to BLM/CPUC. BLM/CPUC to ensure speed limits are reduced to within permitted limits during construction.

Table D.2-12 (Continued)

Effectiveness Criteria	Contractor training and biological construction monitoring oversight and field observations.
Responsible Agency	BLM and CPUC
Timing	During all construction activities.
Mitigation Measure	**BIO-7c. Minimize night construction lighting adjacent to native habitats.** Lighting of construction areas at night shall be the minimum necessary for personnel safety and shall be low illumination, selectively placed, and directed/shielded appropriately to minimize lighting in adjacent native habitats.
Location	All construction areas adjacent to native vegetation
Monitoring/Reporting Action	Verification of night lighting specifications to be provided to BLM/CPUC. The specifications shall include light placement, illumination, and direction light will be oriented. BLM/CPUC environmental monitors to verify that night lighting adjacent to native habitats is minimized.
Effectiveness Criteria	BLM/CPUC to ensure that commitments have been incorporated into construction contract specifications. An environmental monitor to inspect periodically to ensure correct placement of lighting to prevent night lighting impacts to sensitive habitats.
Responsible Agency	BLM and CPUC
Timing	During construction.
Mitigation Measure	**BIO-7d. Prohibit littering and remove trash from construction areas daily.** Littering shall not be allowed by the project personnel. All food-related trash and garbage shall be removed from the construction sites on a daily basis.
Location	All construction areas
Monitoring/Reporting Action	Verification littering and trash control measures have been included in the project contractor specifications and is presented as part of the environmental awareness training. Documentation of compliance with this measure shall be provided to BLM/CPUC throughout construction.
Effectiveness Criteria	BLM/CPUC to ensure that commitments have been incorporated into construction contract specifications. An environmental monitor to inspect periodically to ensure measures are being implemented to remove litter and trash from the construction area on a daily basis
Responsible Agency	BLM and CPUC
Timing	During construction.
Mitigation Measure	**BIO-7e. Prohibit the harm, harassment, collection of, or feeding of wildlife.** Project personnel shall not harm, harass, collect, or feed wildlife. No pets shall be allowed in the construction areas.
Location	All construction areas
Monitoring/Reporting Action	Verification that appropriate measures have been included in the project contractor specifications and are presented as part of the environmental awareness training. Documentation of compliance with this measure shall be provided to BLM/CPUC throughout construction.
Effectiveness Criteria	BLM/CPUC to ensure that commitments have been incorporated into construction contract specifications. BLM/CPUC to inspect periodically to ensure measures are being implemented.
Responsible Agency	BLM and CPUC
Timing	During construction.

Table D.2-12 (Continued)

Mitigation Measure	**BIO-7f. Obtain and implement the terms of agency permit(s) with jurisdiction federal or state listed species.** If determined necessary, the applicant shall obtain a biological opinion through Section 7 consultation between the Bureau of Land Management and U.S. Fish and Wildlife Service for impacts to federally listed wildlife species and a Section 2081 permit (or consistency determination) from the California Department of Fish and Game for impacts to state listed wildlife species resulting from this project, if applicable. The terms and conditions included in these authorizations shall be implemented, which may include seasonal restrictions, relocation, monitoring/reporting specifications, and/or habitat compensation through restoration or acquisition of suitable habitat.
Location	Terms and conditions of permits may apply anywhere within the ECO Substation Project site or on off-site mitigation parcels, but would mostly relate to the occupied Quino checkerspot butterfly habitat areas and the designated critical habitat for Quino checkerspot butterfly.
Monitoring/Reporting Action	Issued Section 7 biological opinion to be provided to CPUC/ BLM to document compliance.
Effectiveness Criteria	Biological construction monitoring and reporting to provide documentation of permit compliance. Criteria for effectiveness to be identified in permit.
Responsible Agency	BLM and CPUC
Timing	Prior to any vegetation clearing or ground disturbance activities in or around suitable Quino checkerspot butterfly habitat or designated Quino checkerspot butterfly critical habitat.
Mitigation Measure	**BIO-7g. Conduct protocol surveys for Quino checkerspot butterfly within 1 year prior to project construction activities in occupied habitat.** SDG&E shall conduct pre-construction protocol surveys for Quino checkerspot butterfly within 1 year prior to construction activities in any area known to support the species. Surveys shall be conducted by a qualified, permitted biologist in accordance with the most currently accepted protocol survey method. Results shall be reported to the U.S. Fish and Wildlife Service within 45 days of the completion of the survey.
Location	Occupied Quino checkerspot butterfly habitat along the 138 kV transmission line project component of the ECO Substation Project area.
Monitoring/Reporting Action	Submittal of 45-day report to USFWS, CPUC, and BLM.
Effectiveness Criteria	Surveys to be conducted pursuant to accepted protocol survey method by qualified, permitted biologist.
Responsible Agency	BLM and CPUC
Timing	Within 1 year of the initiation of project construction in occupied habitat.
Mitigation Measure	**BIO-7h. Provide compensation for temporary and permanent impacts to Quino checkerspot butterfly habitat through conservation and/or restoration.** Temporary and permanent impact to Quino checkerspot butterfly shall be compensated through a combination of habitat compensation and habitat restoration at a minimum of a 2:1 mitigation ratio for non-critical habitat and a minimum of a 3:1 mitigation ratio for critical habitat, or as required by the permitting agencies. Habitat compensation shall be accomplished through agency-approved land preservation or mitigation fee payment for the purpose of habitat compensation of lands supporting Quino checkerspot butterfly. Land preservation or mitigation fee payment for habitat compensation must be completed within 18 months of permit issuance. Habitat restoration may be appropriate as habitat compensation provided that the restoration effort is demonstrated to be feasible and implemented pursuant to a Habitat Restoration Plan, which shall include success criteria and monitoring specifications and shall be approved by the permitting agencies prior to project construction. All habitat compensation and restoration used as mitigation for the Proposed PROJECT on public lands shall be located in areas designated for resource protection and management. All habitat compensation and restoration used as mitigation for the Proposed PROJECT on

Table D.2-12 (Continued)

	private lands shall include long-term management and legal protection assurances.
Location	On the ECO Substation Project site or on to-be-identified mitigation parcels.
Monitoring/Reporting Action	CPUC/ BLM/USFWS to verify that habitat preservation and/or habitat restoration has been identified and implemented.
Effectiveness Criteria	For habitat preservation, it shall meet the minimum compensation standards on an acre-for-acre basis or as otherwise required by the agencies. For habitat restoration, the habitat restoration plan shall specify success criteria. Long-term management assurances and legal protection mechanisms shall satisfy agency requirements.
Responsible Agency	BLM and CPUC
Timing	Habitat mitigation lands shall be identified and approved within 1 year of the initiation of project construction. Long-term management and legal protection for mitigation lands shall be in place no later than 18 months after the initiation of project construction. Habitat restoration plan(s), if applicable, shall be submitted to CPUC/BLM for review within 1 year of the initiation of project construction. Restoration, if applicable, shall be initiated no later than 18 months after the initiation of project construction.
Mitigation Measure	**BIO-7i. Final design of transmission towers and access roads through Quino checkerspot butterfly critical habitat shall maximally avoid host plants for Quino checkerspot butterfly.** The final design of the ECO Project through Quino checkerspot butterfly habitat shall maximally avoid and minimize habitat resources used by the species. SDG&E shall explore alternate tower locations, reduced road widths, reduced vegetation maintenance, and other design modifications and obtain agency approval of the final design through this area.
Location	Occupied Quino checkerspot butterfly habitat along the 138 kV transmission line project component of the ECO Substation Project area.
Monitoring/Reporting Action	BLM/CPUC to approve final engineering plans to ensure impacts to critical habitat areas were avoided to the maximum extent feasible.
Effectiveness Criteria	Ensure final design maximizes avoidance of critical habitat to the extent feasible.
Responsible Agency	BLM and CPUC
Timing	Prior to any vegetation clearing or ground disturbance activities.
Mitigation Measure	**BIO-7j. Conduct pre-construction nesting bird surveys and implement appropriate avoidance measures for identified nesting birds.** When not feasible to construct outside of the bird nesting season, the project proponent shall hire a qualified biologist to conduct pre-construction nesting bird surveys to determine the presence/absence of active nests in or adjacent to construction areas. If active nests are identified, appropriate avoidance measures would be identified and implemented to prevent disturbance to potentially nesting bird(s). If federally or state-listed or fully protected nesting birds are identified, SDG&E shall contact the U.S. Fish and Wildlife Service and/or California Department of Fish and Game to determine the appropriate course of action to avoid disturbance to nesting birds. For golden eagle, depending on the location of the active nest, avoidance may include buffers including viewshed analysis. If the spatial buffer is not a large enough distance to be confident about avoiding disturbance to nesting eagles, a temporal buffer may be required that restricts construction during the breeding season. The breeding season is generally defined as period from March through September. For raptors, the breeding season is generally defined as January through August.
Location	In and around any construction activity.
Monitoring/Reporting Action	Pre-construction nesting bird survey reports to be provided to CPUC/ /BLM 72 hours prior to construction.

Table D.2-12 (Continued)

Effectiveness Criteria	Site-specific avoidance measures, as necessary, to be identified in the survey report. In the event federal or state listed nesting birds are identified, SDG&E shall provide documentation of the recommendations that were provided by the USFWS and/or CDFG.
Responsible Agency	BLM and CPUC
Timing	Prior to construction during the nesting season.
Mitigation Measure	**BIO-10a. Design all transmission towers and lines to conform with Avian Power Line Interaction Committee standards.** The Proposed Project shall have the minimum clearances between phase conductors or between phase conductors and grounded hardware, as recommended by the Avian Power Line Interaction Committee (2006), which is sufficient to protect even the largest birds that may perch or roost on transmission lines or towers from electrocution.
Location	All areas of the ECO Substation Project site containing transmission towers and lines.
Monitoring/Reporting Action	BLM/CPUC to review final engineering plans.
Effectiveness Criteria	Ensure the final engineering design meets the effectiveness criteria documented by APLIC (2006)
Responsible Agency	BLM and CPUC
Timing	Prior to construction.
Mitigation Measure	**BIO-10b. Develop and implement project-specific Avian Protection Plans**. Develop and implement an Avian Protection Plan related to wire, transmission tower, and facilities impacts from electrocution and collision of bird species. An Avian Protection Plan shall be developed jointly with the U.S. Fish and Wildlife Service and California Department of Fish and Game and shall provide the framework necessary for implementing a program to reduce bird mortalities and document actions. The Avian Protection Plan shall include the following: corporate policy, training, permit compliance, construction design standards, nest management, avian reporting system, risk assessment methodology, mortality reduction measures, avian enhancement options, quality control, public awareness, and key resources.
Location	All ECO Substation Project areas.
Monitoring/Reporting Action	BLM/CPUC to verify that plan has been submitted and is being implemented.
Effectiveness Criteria	Plan shall identify criteria to determine effectiveness.
Responsible Agency	BLM and CPUC
Timing	Plan that has been prepared jointly with USFWS shall be submitted to BLM/CPUC for review 90 days prior to initiation of project construction. Plan shall be implemented throughout project construction and operation.
Mitigation Measure	**BIO-11a. Conduct maintenance activities resulting in vegetation disturbance outside of the bird nesting season or conduct pre-construction nesting bird surveys.** Maintenance activities with the potential to result in direct or indirect habitat disturbance, most notably vegetation management, shall be conducted outside of the bird nesting season to the maximum extent practicable. Where avoidance is not possible, the project proponent shall conduct pre-construction nesting bird surveys consistent with the requirements of the NCCP to determine the presence/absence of active nests in or adjacent to construction areas. If active nests are identified, appropriate avoidance measures would be identified and implemented to prevent disturbance to the nesting bird(s). If federal or state listed nesting birds are identified, the project proponent shall contact the U.S. Fish and Wildlife Service and/or California Department of Fish and Game to determine the appropriate course of action.
Location	All operations and maintenance areas associated with the substation site and transmission corridors.
Monitoring/Reporting Action	Pre-construction nesting bird survey reports to be completed 72-hours prior to completing

Table D.2-12 (Continued)

	maintenance activities that result in vegetation disturbance consistent with the requirements of the NCCP.
Effectiveness Criteria	Site-specific avoidance measures, as necessary, to be identified in the survey report.
Responsible Agency	BLM and CPUC
Timing	72 hours prior to maintenance activities during the nesting season.
Tule Wind Project	
Mitigation Measure	**BIO-1a Confine all construction and construction-related activities to the minimum necessary area as defined by the final engineering plans.** All construction areas, access to construction areas, and construction-related activities shall be strictly limited to the areas identified on the final engineering plans. The limits of the approved work space shall be delineated with orange construction fencing that shall be maintained throughout the construction period. An environmental monitor shall complete regular observations to ensure that all work is completed within the approved work limits, and in the event any work occurs beyond the approved limits, it shall be reported. During and after construction, entrances to access roads shall be gated to prevent the unauthorized use of these construction access roads by the general public. Signs prohibiting unauthorized use of the access roads shall be posted on these gates
Location	All areas disturbed by construction activities.
Monitoring/Reporting Action	BLM/San Diego County/CSLC/BIA/BIA/Ewiiaapaayp Band of Kumeyaay Indians to review final engineering plans and verify in the field that approved work limits are clearly delineated on the final engineering plans. An environmental monitor to ensure proper installation and maintenance of construction fencing and signage during construction. Environmental monitor to report to appropriate agency (BLM, San Diego County, CSLC, BIA, or the Ewiiaapaayp Band of Kumeyaay Indians) whether any work occurred outside of the approved work limits.
Effectiveness Criteria	Field verification that delineated construction areas correspond with final plans.
Responsible Agency	BLM/San Diego County/CSLC/BIA/Ewiiaapaayp Band of Kumeyaay Indians
Timing	Confirm implementation prior to any vegetation clearing or ground disturbance activities and throughout the construction period.
Mitigation Measure	**BIO-1b. Conduct contractor training for all construction staff.** Prior to construction, all developer, contractor, and subcontractor personnel shall receive training regarding the appropriate work practices necessary to implement the mitigation measures and comply with environmental regulations, including plant and wildlife species avoidance, impact minimization, and best management practices. Sign-in sheets and hard hat decals shall be provided that document contractor training has been completed for construction personnel.
Location	All areas disturbed by construction activities.
Monitoring/Reporting Action	A third-party environmental monitor shall oversee construction monitoring to ensure biological impacts are avoided or minimized, and ensure that appropriate work practices necessary to implement the mitigation measures are implemented.
Effectiveness Criteria	Successful avoidance of unforeseen impacts and compliance with APMs and mitigation measures.
Responsible Agency	BLM/San Diego County/CSLC/BIA/Ewiiaapaayp Band of Kumeyaay Indians
Timing	Prior to and during construction.
Mitigation Measure	**BIO-1c. Conduct biological construction monitoring.** An authorized biological monitor must be present at the construction sites during all ground disturbing and vegetation removal activities. The monitor shall survey the construction sites and surrounding areas for compliance with all environmental specifications. Weekly biological construction monitoring reports shall be prepared and submitted to the appropriate permitting and responsible

Table D.2-12 (Continued)

	agencies through the duration of the ground disturbing and vegetation removal construction phase. Monthly biological construction monitoring reports shall be prepared and submitted through the duration of project construction to document compliance with environmental requirements.
Location	All areas disturbed during construction activities.
Monitoring/Reporting Action	Weekly/Monthly biological construction monitoring reports submitted to BLM, San Diego County, CSLC BIA, and/or the Ewiiaapaayp Band of Kumeyaay Indians, depending on the jurisdiction where the construction activities are being completed.
Effectiveness Criteria	Identification of issues and solutions through regular monitoring and reporting. The qualifications of the qualified biologist shall be approved by BLM, San Diego County, CSLC, BIA, and/or the Ewiiaapaayp Band of Kumeyaay Indians, depending on the jurisdiction where the construction activities are being completed.
Responsible Agency	BLM/San Diego County/CSLC/BIA/Ewiiaapaayp Band of Kumeyaay Indians
Timing	Weekly biological monitoring during ground disturbance and vegetation removal activities; Monthly biological monitoring for the remaining duration of construction.
Mitigation Measure	**BIO-1d. Restore all temporary construction areas pursuant to a Habitat Restoration Plan.** All temporary work areas not subject to long-term use or ongoing vegetation maintenance shall be revegetated with native species characteristic of the adjacent native vegetation communities in accordance with a Habitat Restoration Plan. A habitat restoration specialist will be designated and approved by the BLM and County of San Diego and will determine the most appropriate method of restoration. Restoration techniques may include the following: hydroseeding, hand-seeding, imprinting, and soil and plant salvage. Any salvage and relocation of species considered desert native plants shall be conducted in compliance with the California Desert Native Plant Act. The Habitat Restoration Plan shall include success criteria and monitoring specifications and shall be approved by the permitting agencies prior to construction of the project. At the completion of project construction, all construction materials shall be completely removed from the site. All temporary construction access roads shall be permanently closed and restored. Topsoil located in areas to be restored will be conserved and stockpiled during the excavation process for use in the restoration. Wherever possible, vegetation would be left in place to avoid excessive root damage to allow for natural recruitment following construction. Temporary impacts shall be restored sufficient to compensate for the impact to the satisfaction of the BLM or County (depending on the location of the impact). If restoration of temporary impact areas is not possible to the satisfaction of the BLM or County, the temporary impact shall be considered a permanent impact and compensated accordingly (see MM BIO-1e).
Location	All areas disturbed by construction activities.
Monitoring/Reporting Action	BLM, San Diego County, CSLC, BIA, and/or the Ewiiaapaayp Band of Kumeyaay Indians, depending on the jurisdiction where the construction activities are being completed, shall review habitat restoration plans, habitat acquisition plans, and long-term habitat management plans, and ensure their implementation. BLM, San Diego County, CSLC, BIA, and/or the Ewiiaapaayp Band of Kumeyaay Indians biological monitor shall confirm that proposed habitat restoration mitigation plans are implemented.
Effectiveness Criteria	Habitat restoration plans are implemented and meet success criteria. Long-term habitat management is provided for all mitigation sites.
Responsible Agency	BLM/San Diego County/CSLC/BIA/Ewiiaapaayp Band of Kumeyaay Indians
Timing	Plan submitted to BLM, San Diego County, CSLC, BIA, and/or the Ewiiaapaayp Band of Kumeyaay Indians, depending on the jurisdiction where the construction activities are being

Table D.2-12 (Continued)

	completed, for review 90 days prior to ground disturbance activities. Restoration will be initiated at earliest opportunity upon completion of soil-disturbing activities.
Mitigation Measure	**BIO-1e. Provide habitat compensation or restoration for permanent impacts to native vegetation communities.** Permanent impact to all native vegetation communities shall be compensated through a combination habitat compensation and habitat restoration at a minimum of a 1:1 ratio or as required by the permitting agencies. Habitat compensation shall be accomplished through agency-approved land preservation or mitigation fee payment for the purpose of habitat compensation of lands supporting comparable habitats to those lands impacted by the Proposed PROJECT. Land preservation or mitigation fee payment for habitat compensation must be completed within 18 months of permit issuance. Habitat restoration may be appropriate as compensation for permanent impacts provided that restoration is demonstrated to be feasible and the restoration effort is implemented pursuant to a Habitat Restoration Plan, which includes success criteria and monitoring specifications as described above for Mitigation Measure BIO-1d. The Habitat Restoration Plan shall be approved by the permitting agencies prior to construction of the project. All habitat compensation and restoration used as mitigation for the Proposed Project on public lands shall be located in areas designated for resource protection and management. All habitat compensation and restoration used as mitigation for the Proposed Project on private lands shall include long-term management and legal protection assurances.
Location	On the Tule Wind Project site or on to-be-identified mitigation parcels.
Monitoring/Reporting Action	Habitat restoration plans are implemented and meet success criteria. Long-term habitat management is provided for all mitigation sites.
Effectiveness Criteria	For habitat preservation, it shall meet the minimum compensation standards on an acre-for-acre, in-kind basis or as otherwise required by the agencies. For habitat restoration, the habitat restoration plan shall specify success criteria. Long-term management assurances and legal protection mechanisms shall satisfy agency requirements.
Responsible Agency	BLM/San Diego County/CSLC/BIA/Ewiiaapaayp Band of Kumeyaay Indians
Timing	Habitat mitigation lands shall be identified and approved within 1 year of the initiation of project construction. Long-term management and legal protection for mitigation lands shall be in place no later than 18 months after the initiation of project construction. Habitat restoration plan(s), if applicable, shall submitted be to BLM, San Diego County, CSLC, BIA, and/or the Ewiiaapaayp Band of Kumeyaay Indians, depending on the jurisdiction where the construction activities are being completed, for review within 1 year of the initiation of project construction. Restoration, if applicable, shall be initiated no later than 18 months after the initiation of project construction.
Mitigation Measure	**BIO-1f. Implement fire prevention best management practices during construction and operation activities.** Fire prevention best management practices shall be implemented during construction and operation of the project as specified by the Construction Fire Prevention/Protection Plan (to be developed as required under Mitigation Measure FF-1) and Wildland Fire Prevention and Fire Safety Electric Standard Practice Operation and Maintenance Plan (to be revised as required under Mitigation Measure FF-2).
Location	All areas disturbed by construction activities.
Monitoring/Reporting Action	BLM, San Diego County, CSLC, BIA, and/or the Ewiiaapaayp Band of Kumeyaay Indians, depending on the jurisdiction where the construction activities are being completed, will review Construction Fire Prevention/Protection Plan and ensure its implementation.
Effectiveness Criteria	Limit work during Red Flag Warnings and Very High PAL. Coordination with fire authority.
Responsible Agency	BLM/San Diego County/CSLC/BIA/Ewiiaapaayp Band of Kumeyaay Indians

Table D.2-12 (Continued)

Timing	Plan effective throughout construction.
Mitigation Measure	**BIO-1g. Prepare and implement a Stormwater Pollution Prevention Plan.** Prepare a Stormwater Pollution Prevention Plan pursuant to the specifications described in Mitigation Measure HYD-1.
Location	All areas disturbed by construction activities.
Monitoring/Reporting Action	BLM, San Diego County, CSLC, BIA, and/or the Ewiiaapaayp Band of Kumeyaay Indians, depending on the jurisdiction where the construction activities are being completed, will review a SWPPP that has been prepared for the proposed construction activities and ensure its implementation.
Effectiveness Criteria	Construction and BMPs in place during construction, and kept operating as long as needed. Mitigation measure is effective if water quality near the project is maintained.
Responsible Agency	BLM/San Diego County/CSLC/BIA/Ewiiaapaayp Band of Kumeyaay Indians
Timing	Prior to and during construction.
Mitigation Measure	**BIO-2a. Limit temporary and permanent impacts to jurisdictional features to the minimum necessary as defined by the final engineering plans.** Obtain and implement the terms and conditions of agency permit(s) for unavoidable impacts to jurisdictional wetlands and waters. All construction areas, access to construction areas, and construction-related activities shall be strictly limited to the areas within the approved work limits identified on the final engineering plans. The limits of construction shall be delineated with orange construction fencing and maintained throughout construction to avoid and minimize impacts to jurisdictional resources. The project applicant shall obtain applicable permits and provide evidence of permit approval, which may include but not be limited to a Clean Water Act Section 404 Permit, a Clean Water Act Section 401 water quality certification, and a Section 1602 streambed alteration agreement with the U.S. Army Corps of Engineers, Regional Water Quality Control Board, and California Department of Fish and Game for impacts to jurisdictional features prior to project construction. The terms and conditions of these authorizations shall be implemented.
Location	All areas disturbed by construction activities
Monitoring/Reporting Action	BLM, San Diego County, CSLC, BIA, and/or the Ewiiaapaayp Band of Kumeyaay Indians, depending on the jurisdiction where the construction activities are being completed, to final engineering plans. Third party monitors to verify proper installation of construction fencing and signage. Issued Section 404 permit, Section 401 water quality certification, and Section 1602 streambed alteration agreement to be provided to BLM, San Diego County, CSLC, BIA, and/or the Ewiiaapaayp Band of Kumeyaay Indians, depending on the jurisdiction where the construction activities are being completed, to document compliance two weeks prior to ground disturbance activities.
Effectiveness Criteria	Field verification that delineated construction areas correspond with final plans. Documentation of permit compliance to be provided to BLM, San Diego County, CSLC, BIA, and/or the Ewiiaapaayp Band of Kumeyaay Indians, depending on the jurisdiction where the construction activities are being completed.
Responsible Agency	BLM/San Diego County/CSLC/BIA/Ewiiaapaayp Band of Kumeyaay Indians
Timing	Prior to any vegetation clearing or ground disturbance activities
Mitigation Measure	**BIO-2b. Implement habitat creation and/or restoration pursuant to a wetland mitigation plan to ensure no net loss of jurisdictional waters and wetlands.** Temporary and permanent impacts to all jurisdictional resources shall be compensated through a combination habitat creation (i.e., establishment) and habitat restoration at a minimum of a 1:1 ratio or as required by the permitting agencies. The creation/restoration effort shall be implemented pursuant to a Habitat Restoration Plan, which shall include success criteria and monitoring specifications and shall be approved by the permitting agencies prior to construction of the project. A habitat restoration

Table D.2-12 (Continued)

	specialist will be designated and approved by the permitting agencies and will determine the most appropriate method of restoration. Restoration techniques may include hydroseeding, hand-seeding, imprinting, and soil and plant salvage. Temporary impacts shall be restored sufficient to compensate for the impact to the satisfaction of the BLM or County (depending on the location of the impact). If restoration of temporary impact areas is not possible to the satisfaction of the BLM or County, the temporary impact shall be considered a permanent impact and compensated accordingly. All habitat creation and restoration used as mitigation for the Proposed Project on public lands shall be located in areas designated for resource protection and management. All habitat creation and restoration used as mitigation for the Proposed Project on private lands shall include long-term management and legal protection assurances.
Location	Identified habitat creation and/or restoration areas on the Tule Wind Project site or at off-site mitigation parcel(s)
Monitoring/Reporting Action	Habitat restoration plans are implemented and meet success criteria. Long-term habitat management is provided for all mitigation sites.
Effectiveness Criteria	The habitat restoration plan shall specify success criteria. Long-term management assurances and legal protection mechanisms shall satisfy agency requirements.
Responsible Agency	BLM/San Diego County/CSLC/BIA/Ewiiaapaayp Band of Kumeyaay Indians
Timing	If off-site mitigation lands are utilized, they shall be identified and approved within 1 year of the initiation of project construction. Long-term management and legal protection for mitigation lands shall be in place no later than 18 months after the initiation of project construction. Habitat restoration plan(s) shall be submitted to BLM, San Diego County, CSLC, BIA, and/or the Ewiiaapaayp Band of Kumeyaay Indians, depending on the jurisdiction where the construction activities are being completed, for review within 1 year of the initiation of project construction. Restoration shall be initiated no later than 18 months after the initiation of project construction.
Mitigation Measure	**BIO-2c. Where drainage crossings are unavoidable, construct access roads at right angles to drainages.** Unless not possible due to existing landforms or site constraints, access roads shall be built perpendicular to drainages to minimize the impacts to these resources and prevent impacts along the length of jurisdictional features.
Location	All drainage crossing in the Tule Wind Project area.
Monitoring/Reporting Action	BLM, San Diego County, CSLC and/or the Ewiiaapaayp Band of Kumeyaay Indians, depending on the jurisdiction where the construction activities are being completed, to final engineering plans to ensure measure is implemented to the extent feasible
Effectiveness Criteria	Ensure access roads are built perpendicular to drainages to the extent feasible.
Responsible Agency	BLM/San Diego County/CSLC/BIA/Ewiiaapaayp Band of Kumeyaay Indians
Timing	Prior to and during construction.
Mitigation Measure	**BIO-3a. Prepare and implement a Noxious Weeds and Invasive Species Control Plan.** A Noxious Weeds and Invasive Species Control Plan shall be prepared and reviewed by the California Public Utilities Commission/Bureau of Land Management and applicable permitting agencies. The plan shall be implemented during all phases of project construction and operation. The plan shall include best management practices to avoid and minimize the direct or indirect effect of the establishment and spread of invasive plant species during construction. Implementation of specific protective measures shall be required during construction, such as cleaning vehicles prior to off-road use, using weed-free imported soil/material, restricted vegetation removal and requiring topsoil storage. Development and implementation of weed management procedures shall be used to monitor and control the spread of weed populations along the construction access and transmission line right-of-ways. Vehicles used in transmission line construction shall be cleaned prior to operation off

Table D.2-12 (Continued)

	of maintained roads. Existing vegetation shall be cleared only from areas scheduled for immediate construction work and only for the width needed for active construction activities. Noxious weed management shall be conducted annually to prevent the establishment and spread of invasive plant species. This shall include weed abatement efforts, targeted at plants listed as invasive exotics by the California Exotic Plant Pest Council in their most recent "A" or "Red Alert" list. Pesticide use should be limited to non-persistent pesticides and should only be applied in accordance with label and application permit directions and restrictions for terrestrial and aquatic applications.
Location	All Tule Wind Project areas.
Monitoring/Reporting Action	BLM, San Diego County, CSLC, BIA, and/or the Ewiiaapaayp Band of Kumeyaay Indians, depending on the jurisdiction where the construction activities are being completed, to verify that plan has been submitted and is implemented.
Effectiveness Criteria	Noxious Weeds and Invasive Species Control Plan prepared and successfully implemented.
Responsible Agency	BLM/San Diego County/CSLC/BIA/Ewiiaapaayp Band of Kumeyaay Indians and ROW land-holding agencies.
Timing	Plan submitted to BLM, San Diego County, CSLC, BIA, and/or the Ewiiaapaayp Band of Kumeyaay Indians, depending on the jurisdiction where the construction activities are being completed, for review 90 days prior to initiation of project construction. Plan shall be implemented throughout construction and throughout operations.
Mitigation Measure	**BIO-4a. Prepare and implement a Dust Control Plan.** Pacific Wind Development shall: (a) pave, apply water three times daily, or apply (non-toxic) soil stabilizers on all unpaved access roads, parking areas, and staging areas if construction activity causes persistent visible emissions of fugitive dust beyond the work area; (b) pre-water sites for 48 hours in advance of clearing; (c) reduce the amount of disturbed area where feasible; (d) spray all dirt stock-pile areas daily as needed; (e) cover loads in haul trucks or maintain at least 6 inches of free-board when traveling on public roads; (f) pre-moisten, prior to transport, import and export dirt, sand, or loose materials; (g) sweep streets daily (with water sweepers) if visible soil material is carried onto adjacent public streets or wash trucks and equipment before entering public streets; (h) plant vegetative ground cover in disturbed areas as soon as possible following construction; (i) apply chemical soil stabilizers or apply water to form and maintain a crust on inactive construction areas (disturbed lands that are unused for 14 consecutive days); and (j) prepare and file with the San Diego Air Pollution Control District, San Diego County, and Bureau of Land Management a Dust Control Plan that describes how these measures would be implemented and monitored at all locations of the project. This plan shall be developed consistent with the requirements of Mitigation Measure AQ-1.
Location	All construction areas including staging areas.
Monitoring/Reporting Action	Review Dust Control Plan. Verify local air district concurrence with the Plan. Inspect activities for dust control.
Effectiveness Criteria	Dust emissions are reduced. Effectiveness can be monitored by monitoring implementation of the control measures.
Responsible Agency	BLM/San Diego County/CSLC/BIA/Ewiiaapaayp Band of Kumeyaay Indians
Timing	Plan submitted to SDAPCD, BLM, San Diego County, CSLC, BIA, and/or the Ewiiaapaayp Band of Kumeyaay Indians, depending on the jurisdiction where the construction activities are being completed, for review 90 days prior to initiation of project construction. Plan shall be implemented throughout construction.
Mitigation Measure	**BIO-5a. Install fencing or flagging around identified special-status plant species populations in the construction areas.** Prior to the start of construction, a qualified biologist shall conduct focused surveys during the appropriate blooming period for special-

Table D.2-12 (Continued)

	status plant species for all construction areas. All of the special-status plant locations shall be recorded using a Global Positioning System (GPS), which will be used to site the avoidance fencing/flagging. Special-status plant species shall be avoided to the maximum extent possible by all construction activities. The boundaries of all special-status plant species to be avoided shall be delineated in the field with clearly visible fencing or flagging. The fencing/flagging shall be maintained for the duration of project construction activities.
Location	All areas disturbed by construction activities.
Monitoring/Reporting Action	BLM, San Diego County, CSLC, BIA, and/or the Ewiiaapaayp Band of Kumeyaay Indians monitor, depending on the jurisdiction where the construction activities are being completed to ensure verification of proper installation of construction fencing has been installed at necessary locations based on the results of the focused surveys for special-status plant species. The results of the focused surveys for special-status plan species are shall to be provided to BLM, San Diego County, CSLC, BIA, and/or the Ewiiaapaayp Band of Kumeyaay Indians, depending on the jurisdiction where the construction activities are being completed, by a qualified biologist within 48 hours of completing the survey.
Effectiveness Criteria	Field verification that delineated plant populations are consistent with baseline data and focused surveys. The qualifications of the qualified biologist shall be approved by BLM/San Diego County.
Responsible Agency	BLM/San Diego County/CSLC/BIA/Ewiiaapaayp Band of Kumeyaay Indians
Timing	Prior to any vegetation clearing or ground disturbance activities.
Mitigation Measure	**BIO-5b. Implement special-status plant species compensation.** Impacts to special-status plant species shall be maximally avoided. Where impacts to special-status plant species are unavoidable, the impact shall be quantified and compensated through plant salvage and relocation or through off-site land preservation. Where salvage and relocation is feasible and biologically preferred, it shall be conducted pursuant to an agency-approved plan that details the methods for salvage, stockpiling, and replanting and the characteristics of the receiver sites. Any salvage and relocation of species considered desert native plants shall be conducted in compliance with the California Desert Native Plant Act. Success criteria and monitoring shall also be included in the plan. Where off-site land preservation is biologically preferred, it shall be implemented pursuant to an agency approved plan that describes the mitigation land resources and the long-term management and legal protection assurances.
Location	All areas disturbed by construction activities.
Monitoring/Reporting Action	BLM, San Diego County, CSLC, BIA, and/or the Ewiiaapaayp Band of Kumeyaay Indians, depending on the jurisdiction where the construction activities are being completed, shall review habitat restoration plans, habitat acquisition plans, and long-term habitat management plans, and ensure their implementation. BLM, San Diego County, CSLC, BIA, and/or the Ewiiaapaayp Band of Kumeyaay Indians, depending on the jurisdiction where the construction activities are being completed, biological monitor shall confirm that proposed habitat restoration mitigation plans are implemented.
Effectiveness Criteria	For habitat preservation, it shall meet the minimum compensation standards on an acre-for-acre or population basis or as otherwise required by the agencies. For salvage and relocation, the plan shall specify success criteria. Long-term management assurances and legal protection mechanisms shall satisfy agency requirements.
Responsible Agency	BLM/San Diego County/CSLC/BIA/Ewiiaapaayp Band of Kumeyaay Indians
Timing	Habitat mitigation lands shall be identified and approved within 1 year of the initiation of project construction. Long-term management and legal protection for mitigation lands shall be in place no later than 18 months after the initiation of project construction. Salvage and relocation plan(s), if applicable, shall submitted be to BLM, San Diego County, CSLC, BIA,

Table D.2-12 (Continued)

	and/or the Ewiiaapaayp Band of Kumeyaay Indians, depending on the jurisdiction where the construction activities are being completed, for review 90 days prior to the initiation of project construction. Salvage and relocation, if applicable, shall be initiated during project construction.
Mitigation Measure	**BIO-7a. Cover and/or provide escape routes for wildlife from excavated areas and monitor these areas daily.** All steep trenches and excavations during construction shall be inspected twice daily (i.e., morning and evening) by a qualified biologist to monitor for wildlife entrapment. Large/steep excavations shall be covered and/or fenced nightly to prevent wildlife entrapment. Excavations shall provide an earthen ramp to allow for a wildlife escape route.
Location	All construction with excavations and trenches
Monitoring/Reporting Action	Verification of measure implementation shall be provided to BLM, San Diego County, CSLC, BIA, and/or the Ewiiaapaayp Band of Kumeyaay Indians, depending on the jurisdiction where the construction activities are being completed, by biological construction monitor. A biological monitor to verify measure is being implemented during construction.
Effectiveness Criteria	Biological construction monitoring observations, reporting, and coordination/communication with construction personnel.
Responsible Agency	BLM/San Diego County/CSLC/BIA/Ewiiaapaayp Band of Kumeyaay Indians
Timing	During all subsurface construction activities.
Mitigation Measure	**BIO-7b. Enforce speed limits in and around all construction areas.** Vehicles shall not exceed 25 miles per hour on any gravel roads accessing the construction site or 20 miles per hour on the construction site.
Location	All construction areas and accessways of the Tule Wind Project area.
Monitoring/Reporting Action	Verification of establishment and enforcement mechanisms shall be provided to BLM, San Diego County, CSLC, BIA, and/or the Ewiiaapaayp Band of Kumeyaay Indians, depending on the jurisdiction where the construction activities are being completed, to ensure speed limits are reduced to within permitted limits during construction.
Effectiveness Criteria	Contractor training and biological construction monitoring oversight and field observations.
Responsible Agency	BLM/San Diego County/CSLC/BIA/Ewiiaapaayp Band of Kumeyaay Indians
Timing	During all construction activities.
Mitigation Measure	**BIO-7c. Minimize night construction lighting adjacent to native habitats.** Lighting of construction areas at night shall be the minimum necessary for personnel safety and shall be low illumination, selectively placed, and directed/shielded appropriately to minimize lighting in adjacent native habitats.
Location	All construction areas adjacent to native vegetation
Monitoring/Reporting Action	Verification of night lighting specifications to be provided to BLM, San Diego County, CSLC, BIA, and/or the Ewiiaapaayp Band of Kumeyaay Indians, depending on the jurisdiction where the construction activities are being completed. The specifications shall include light placement, illumination, and direction light will be oriented. Environmental monitors to verify that night lighting adjacent to native habitats is minimized.
Effectiveness Criteria	BLM/San Diego County/CSLC/BIA, Ewiiaapaayp Band of Kumeyaay Indians to ensure that commitments have been incorporated into construction contract specifications. An environmental monitor to inspect periodically to ensure correct placement of lighting to prevent night lighting impacts to sensitive habitats.
Responsible Agency	BLM/San Diego County/CSLC/BIA/Ewiiaapaayp Band of Kumeyaay Indians
Timing	During construction.
Mitigation Measure	**BIO-7d. Prohibit littering and remove trash from construction areas daily.** Littering shall

Table D.2-12 (Continued)

	not be allowed by the project personnel. All food-related trash and garbage shall be removed from the construction sites on a daily basis.
Location	All construction areas in the Tule Wind Project area.
Monitoring/Reporting Action	Verification littering and trash control measures have been included in the project contractor specifications and is presented as part of the environmental awareness training. Documentation of compliance with this measure shall be provided to BLM, San Diego County, CSLC, BIA, and/or the Ewiiaapaayp Band of Kumeyaay Indians, depending on the jurisdiction where the construction activities are being completed, throughout construction.
Effectiveness Criteria	BLM/San Diego County to ensure that commitments have been incorporated into construction contract specifications. An environmental monitor to inspect periodically to ensure measures are being implemented to remove litter and trash from the construction area on a daily basis.
Responsible Agency	BLM/San Diego County/CSLC/BIA/Ewiiaapaayp Band of Kumeyaay Indians
Timing	During construction.
Mitigation Measure	**BIO-7e. Prohibit the harm, harassment, collection of, or feeding of wildlife.** Project personnel shall not harm, harass, collect, or feed wildlife. No pets shall be allowed in the construction areas.
Location	All construction areas.
Monitoring/Reporting Action	Verification that appropriate measures have been included in the project contractor specifications and are presented as part of the environmental awareness training. Documentation of compliance with this measure shall be provided to BLM, San Diego County, CSLC, BIA, and/or the Ewiiaapaayp Band of Kumeyaay Indians, depending on the jurisdiction where the construction activities are being completed, throughout construction.
Effectiveness Criteria	BLM, San Diego County, CSLC, BIA, and/or the Ewiiaapaayp Band of Kumeyaay Indians depending on the jurisdiction where the construction activities are being completed, to ensure that commitments have been incorporated into construction contract specifications. BLM/San Diego County/CSLC/BIA/Ewiiaapaayp Band of Kumeyaay Indians to inspect periodically to ensure measures are being implemented.
Responsible Agency	BLM/San Diego County/CSLC/BIA/Ewiiaapaayp Band of Kumeyaay Indians
Timing	During construction.
Mitigation Measure	**BIO-7f. Obtain and implement the terms of agency permit(s) with jurisdiction federal or state listed species.** If determined necessary, the applicant shall obtain a biological opinion through Section 7 consultation between the Bureau of Land Management and U.S. Fish and Wildlife Service for impacts to federally listed wildlife species and a Section 2081 permit (or consistency determination) from the California Department of Fish and Game for impacts to state listed wildlife species resulting from this project. The terms and conditions included in these authorizations shall be implemented, which may include seasonal restrictions, relocation, monitoring/reporting specifications, and/or habitat compensation through restoration or acquisition of suitable habitat.
Location	Terms and conditions of permits may apply anywhere within the Tule Wind Project site or on off-site mitigation parcels, but would mostly relate to the occupied Quino checkerspot butterfly habitat areas.
Monitoring/Reporting Action	Issued Section 7 biological opinion to be provided to BLM, San Diego County, CSLC, BIA, and/or the Ewiiaapaayp Band of Kumeyaay Indians, depending on the jurisdiction where the construction activities are being completed, to document compliance.
Effectiveness Criteria	Biological construction monitoring and reporting to provide documentation of permit compliance. Criteria for effectiveness to be identified in permit.

Table D.2-12 (Continued)

Responsible Agency	BLM/San Diego County/CSLC/BIA/Ewiiaapaayp Band of Kumeyaay Indians
Timing	Prior to any vegetation clearing or ground disturbance activities in or around suitable Quino checkerspot butterfly habitat.
Mitigation Measure	**BIO-7g. Conduct protocol surveys for Quino checkerspot butterfly within 1 year prior to project construction activities in occupied habitat.** Pacific Wind Development shall conduct pre-construction protocol surveys for Quino checkerspot butterfly within 1 year prior to construction activities in any area known to support the species. Surveys shall be conducted by a qualified, permitted biologist in accordance with the most currently accepted protocol survey method. Results shall be reported to the U.S. Fish and Wildlife Service within 45 days of the completion of the survey.
Location	Occupied Quino checkerspot butterfly habitat on the Tule Wind Project area.
Monitoring/Reporting Action	Submittal of 45-day report to USFWS, BLM, San Diego County, CSLC, BIA, and/or the Ewiiaapaayp Band of Kumeyaay Indians, depending on the jurisdiction where the construction activities are being completed.
Effectiveness Criteria	Surveys to be conducted pursuant to accepted protocol survey method by qualified, permitted biologist.
Responsible Agency	BLM/San Diego County/CSLC/BIA/Ewiiaapaayp Band of Kumeyaay Indians
Timing	Within 1 year of the initiation of project construction in occupied habitat.
Mitigation Measure	**BIO-7h. Provide compensation for temporary and permanent impacts to Quino checkerspot butterfly habitat through conservation and/or restoration.** Temporary and permanent impact to Quino checkerspot butterfly shall be compensated through a combination of habitat compensation and habitat restoration at a minimum of a 2:1 mitigation ratio for non-critical habitat and a minimum of a 3:1 mitigation ratio for critical habitat, or as required by the permitting agencies. Habitat compensation shall be accomplished through agency-approved land preservation or mitigation fee payment for the purpose of habitat compensation of lands supporting Quino checkerspot butterfly. Land preservation or mitigation fee payment for habitat compensation must be completed within 18 months of permit issuance. Habitat restoration may be appropriate as habitat compensation provided that the restoration effort is demonstrated to be feasible and implemented pursuant to a Habitat Restoration Plan, which shall include success criteria and monitoring specifications and shall be approved by the permitting agencies prior to project construction. All habitat compensation and restoration used as mitigation for the Proposed Project on public lands shall be located in areas designated for resource protection and management. All habitat compensation and restoration used as mitigation for the Proposed Project on private lands shall include long-term management and legal protection assurances.
Location	On the Tule Wind Project site or on to-be-identified mitigation parcels.
Monitoring/Reporting Action	BLM, San Diego County, CSLC, BIA, and/or the Ewiiaapaayp Band of Kumeyaay Indians, depending on the jurisdiction where the construction activities are being completed, to verify that habitat preservation and/or habitat restoration has been identified and implemented.
Effectiveness Criteria	For habitat preservation, it shall meet the minimum compensation standards on an acre-for-acre basis or as otherwise required by the agencies. For habitat restoration, the agency approved habitat restoration plan shall specify success criteria. Long-term management assurances and legal protection mechanisms shall satisfy agency requirements.
Responsible Agency	BLM/San Diego County/CSLC/BIA/Ewiiaapaayp Band of Kumeyaay Indians
Timing	Habitat mitigation lands shall be identified and approved within 1 year of the initiation of project construction. Long-term management and legal protection for mitigation lands shall be in place no later than 18 months after the initiation of project construction. Habitat restoration plan(s), if applicable, shall submitted be to BLM, San Diego County, CSLC, BIA,

Table D.2-12 (Continued)

	and/or the Ewiiaapaayp Band of Kumeyaay Indians, depending on the jurisdiction where the construction activities are being completed, for review within 1 year of the initiation of project construction. Restoration, if applicable, shall be initiated no later than 18 months after the initiation of project construction.
Mitigation Measure	**BIO-7j. Conduct pre-construction nesting bird surveys and implement appropriate avoidance measures for identified nesting birds.** When not feasible to construct outside of the bird nesting season, the project proponent shall hire a qualified biologist to conduct pre-construction nesting bird surveys to determine the presence/absence of active nests in or adjacent to construction areas. If active nests are identified, appropriate avoidance measures would be identified and implemented to prevent disturbance to potentially nesting bird(s). If federally or state-listed or fully protected nesting birds are identified, Pacific Wind Development shall contact the U.S. Fish and Wildlife Service and/or California Department of Fish and Game to determine the appropriate course of action to avoid disturbance to nesting birds. For golden eagle, depending on the location of the active nest, avoidance may include buffers including viewshed analysis. If the spatial buffer is not a large enough distance to be confident about avoiding disturbance to nesting eagles, a temporal buffer may be required that restricts construction during the breeding season. The breeding season is generally defined as period from March through September. For raptors, the breeding season is generally defined as January through August.
Location	In and around any construction activity.
Monitoring/Reporting Action	Pre-construction nesting bird survey reports to be provided to BLM, San Diego County, CSLC, BIA, and/or the Ewiiaapaayp Band of Kumeyaay Indians, depending on the jurisdiction where the construction activities are being completed, 72 hours prior to construction.
Effectiveness Criteria	Site-specific avoidance measures, as necessary, to be identified in the survey report. In the event federal or state listed nesting birds are identified, Pacific Wind Development shall provide documentation of the recommendations that were provided by the USFWS and/or CDFG.
Responsible Agency	BLM/San Diego County/CSLC/BIA/Ewiiaapaayp Band of Kumeyaay Indians
Timing	Prior to construction during the nesting season.
Mitigation Measure	**BIO-10a. Design all transmission towers and lines to conform with Avian Power Line Interaction Committee standards.** The Proposed Project shall have the minimum clearances between phase conductors or between phase conductors and grounded hardware, as recommended by the Avian Power Line Interaction Committee (2006), which is sufficient to protect even the largest birds that may perch or roost on transmission lines or towers from electrocution.
Location	All areas of the Tule Wind Project site containing transmission towers and lines.
Monitoring/Reporting Action	BLM, San Diego County, CSLC, BIA, and/or the Ewiiaapaayp Band of Kumeyaay Indians, depending on the jurisdiction where the construction activities are being completed, to confirm final engineering plans.
Effectiveness Criteria	Ensure the final engineering design meets the effectiveness criteria documented by APLIC (2006)
Responsible Agency	BLM/San Diego County/CSLC/BIA/Ewiiaapaayp Band of Kumeyaay Indians
Timing	Prior to construction.
Mitigation Measure	**BIO-10b. Develop and implement project-specific Avian Protection Plans**. Develop and implement an Avian Protection Plan related to wire, transmission tower, and facilities impacts from electrocution and collision of bird species. An Avian Protection Plan shall be developed jointly with the U.S. Fish and Wildlife Service and California Department of Fish

Table D.2-12 (Continued)

	and Game and shall provide the framework necessary for implementing a program to reduce bird mortalities and document actions. The Avian Protection Plan shall include the following: corporate policy, training, permit compliance, construction design standards, nest management, avian reporting system, risk assessment methodology, mortality reduction measures, avian enhancement options, quality control, public awareness, and key resources.
Location	All Tule Wind Project areas.
Monitoring/Reporting Action	BLM, San Diego County, CSLC, BIA, and/or the Ewiiaapaayp Band of Kumeyaay Indians, depending on the jurisdiction where the construction activities are being completed, to verify that plan has been submitted and is implemented.
Effectiveness Criteria	Plan shall identify criteria to determine effectiveness
Responsible Agency	BLM/San Diego County/CSLC/BIA/Ewiiaapaayp Band of Kumeyaay Indians
Timing	Plan that has been prepared jointly with USFWS shall be submitted to BLM/San Diego County for review 90 days prior to initiation of project construction. Plan shall be implemented throughout project construction and operation.
Mitigation Measure	**BIO-10c. Design and configure wind turbines to maximally avoid and minimize bird and bat resources.** Various design features shall be used to reduce or avoid impacts to bird and bat species. These may include avoiding guy wires, reducing impacts with appropriate turbine layout based on micro-siting decisions that may include such refinements as placing all turbines on the ridgeline and avoiding placement of turbines on slopes and within canyons, placing power lines underground as much as feasible, and reducing foraging resources near turbines.
Location	All areas of the Tule Wind Project site containing turbines.
Monitoring/Reporting Action	BLM, San Diego County, CSLC, BIA, and/or the Ewiiaapaayp Band of Kumeyaay Indians, depending on the jurisdiction where the construction activities are being completed, to final engineering plans.
Effectiveness Criteria	Final turbine plans shall include design and configuration rationale.
Responsible Agency	BLM/San Diego County/CSLC/BIA/Ewiiaapaayp Band of Kumeyaay Indians
Timing	Prior to construction.
Mitigation Measure	**BIO-10d. Minimize turbine lighting.** Night-lighting may serve as an attractant for birds especially migrants, which may be attracted to the light and then become unable to leave it. Lighting that attracts birds shall be avoided on the turbines. Lights with short flash duration that emit no light during the off phase shall be used. Lights that have the minimum number of flashes per minute and the briefest flash duration shall be used. Lights on auxiliary buildings near turbines and met towers shall be motion-sensitive rather than constant “on” lights. All lighting on buildings shall be shielded and downcast. To avoid disorienting or attracting birds, Federal Aviation Administration visibility lighting shall employ only strobe, strobe-like, or blinking incandescent lights, preferably with all lights illuminating simultaneously. Minimum intensity, maximum “off-phased” duel strobes are preferred. No steady burning lights shall be used.
Location	All areas of the Tule Wind Project site containing turbines.
Monitoring/Reporting Action	BLM, San Diego County, CSLC, BIA, and/or the Ewiiaapaayp Band of Kumeyaay Indians, depending on the jurisdiction where the construction activities are being completed, to review final engineering plans.
Effectiveness Criteria	Final turbine plans shall include lighting rationale.
Responsible Agency	BLM/ San Diego County/CSLC/BIA/Ewiiaapaayp Band of Kumeyaay Indians
Timing	Prior to construction.

Table D.2-12 (Continued)

Mitigation Measure	**BIO-10e. Conduct post-construction bird and bat species mortality monitoring and reporting pursuant to an approved monitoring program.** Conduct at least 5 years of post-construction bird and bat mortality monitoring. A Post-Construction Monitoring Program shall be developed in accordance with the *California Guidelines for Reducing Impacts to Birds and Bats from Wind Energy Development* (CEC and CDFG 2007) and recommendations from the Wind Turbine Guidelines Advisory Committee (USFWS 2009a) to satisfy Tier 4 and Tier 5 monitoring requirements. This plan shall be reviewed by the permitting agencies prior to project initiation. At a minimum, the plan shall outline the monitoring methods, evaluation methods, threshold criteria for action, and types of management actions to be undertaken. Annual monitoring reports shall be submitted to the wildlife agencies, BLM, San Diego County, and BIA.
Location	In and around all turbine strings.
Monitoring/Reporting Action	Monitoring reports submitted to BLM, San Diego County, CSLC, BIA, and/or the Ewiiaapaayp Band of Kumeyaay Indians, depending on the jurisdiction where the construction activities are being completed, annually for 5 years.
Effectiveness Criteria	Annual monitoring reports and data to feed into adaptive management program that will establish effectiveness criteria.
Responsible Agency	BLM/San Diego County/CSLC/BIA/Ewiiaapaayp Band of Kumeyaay Indians
Timing	For the first 5 years of turbine operation.
Mitigation Measure	**BIO-10f Authorize construction of portions of the project based on the results of behavioral and population studies of local golden eagles.** Construction of the Tule Wind project would be authorized in two portions: 1) Construction of the first portion of the project would occur at those turbine locations deemed to present less risk to the eagle populations and would not include turbines on the northwest ridgeline. 2) Construction of the second portion of the project would occur at those turbine locations that show reduced risk to the eagle population following analysis of detailed behavior studies of known eagles in the vicinity of the Tule Wind project. Pending the outcome of eagle behavior studies, all, none or part of the second portion of the project would be authorized and will include the following turbine strings: J1 through J15; K1 through K12; L1 through L11; M1and M2; N1 through N8; P1 through P5; Q1and Q2. Construction of turbines in the second portion of the project will only be authorized following detailed behavioral telemetry studies and continued nest monitoring of known eagles in the vicinity of the Tule Wind Project (considered to be within approximately 10 miles of the project). Behavior studies will be used to determine eagle usage and forage areas, and authorization for construction at each turbine location in the second portion will be at the discretion of the BLM or the appropriate land management entity. The final criteria determining the risk each location presents to eagles will be determined by the BLM or the appropriate land management agency, in consultation with the required resource agencies, tribes and other relevant permitting entities and will be detailed in the Avian Protection Plan. Criteria will be established related to the proportion of the observed golden eagle use areas (based on the telemetry data) within proposed turbine strings to determine the risk of these turbines on individual eagles in the vicinity. Criteria will also be established related to past and current nest occupancy and productivity (based on past and continued nest monitoring data) for the monitored nests in the project vicinity to determine the risk of the construction of turbines on the eagle population. Turbine locations exceeding the acceptable risk levels to golden eagles based on these final criteria will not be authorized

Table D.2-12 (Continued)

	for construction.
Location	All turbine strings.
Monitoring/Reporting Action	Studies submitted to BLM, San Diego County, CSLC, BIA, and/or the Ewiiaapaayp Band of Kumeyaay Indians, depending on the jurisdiction where the construction activities are being completed.
Effectiveness Criteria	Studies will be conducted and the results evaluated against criteria to determine risk of turbines in the second portion of the project on golden eagles and the local eagle population.
Responsible Agency	BLM/San Diego County/CSLC/BIA/Ewiiaapaayp Band of Kumeyaay Indians
Timing	Prior to constructing turbines on the western ridgeline.
Mitigation Measure	**BIO-10g. Monitor golden eagles nests in the area to track productivity.** Conduct annual surveys of golden eagle territories within 10 miles of the turbines for a minimum of 10 years. Conduct surveys to determine location of active nest, number of eggs laid and number of young fledged, as described by Pagel et al. 2010. Annual monitoring reports shall be provided to the wildlife agencies, BIA, and the Bureau of Land Management.
Location	In golden eagle territories within 10 miles of any turbine.
Monitoring/Reporting Action	Annual survey reports submitted to BLM/San Diego County/CSLC/BIA/Ewiiaapaayp Band of Kumeyaay Indians/USFWS/CDFG.
Effectiveness Criteria	Annual surveys to monitor project effects and data to feed into adaptive management program that will establish effectiveness criteria.
Responsible Agency	BLM/ San Diego County/CSLC/BIA/Ewiiaapaayp Band of Kumeyaay Indians
Timing	For the first 5 years of turbine operation.
Mitigation Measure	**BIO-10h. Implement an adaptive management program that provides triggers for required operational modifications (seasonality, radar, turbine-specific modifications, cut-in speed).** An adaptive management program shall be prepared and implemented that uses the information provided from the post-construction bird monitoring mitigation measure and the golden eagle nest productivity mitigation measure. If mortality of any golden eagle occurs, regardless of age or gender, the responsible and adjacent turbines will be shut down while the adaptive management program is assessed for its validity and modified to the satisfaction of the resource agencies. This program will be based on monitoring of the active nest locations and eagle activity within 10 miles of the turbines. Measures will include curtailing operation of all or selected turbines during the fledging period of the active nests or potential permanent shutdown of turbines that are closest to active nests until the nest location changes to a farther location (eagles are known to build numerous nests within their territory and use different nest locations each year (Kochert et al. 2002)). Adaptive management measures will also include prey population control if populations of ground squirrels and rabbit species are noted in proximity (within 50 meters or 164 feet) to the turbine base. The prey population may serve as an attractant to foraging raptors and could result in the collision with the turbines as a result. Other measures (e.g., radar monitoring and turbine modifications) will be implemented as dictated by the monitoring data and as specified by the adaptive management program. Based on the monitoring of bat mortality, the adaptive management program shall have triggers for the implementation of limited and periodic feathering or shut downs of turbines to avoid impacts to bats.
Location	In and around all turbine strings
Monitoring/Reporting Action	Adaptive management program to be approved by BLM/San Diego County/CSLC/BIA/ Ewiiaapaayp Band of Kumeyaay Indians/USFWS/CDFG.
Effectiveness Criteria	Adaptive management program to establish criteria
Responsible Agency	BLM/San Diego County/CSLC/BIA/Ewiiaapaayp Band of Kumeyaay Indians

Table D.2-12 (Continued)

Timing	Adaptive management program to be developed and approved prior to operating turbines. Adaptive management program to be implemented for the entire period of turbine operations.
Mitigation Measure	**BIO-10i. Obtain written agency concurrence documenting compliance with regulations governing golden eagle.** Prior to project construction, written concurrence from the USFWS and CDFG shall be obtained that documents approval of the mitigation measures and adaptive management program related to golden eagle sufficient to provide compliance with the Bald and Golden Eagle Protection Act and the California Fish and Game Code.
Location	Regulatory compliance pertains to the entire Tule Wind Project.
Monitoring/Reporting Action	Written agency concurrence of compliance to be provided by USFWS/CDFG to BLM, San Diego County, CSLC, BIA, and/or the Ewiiaapaayp Band of Kumeyaay Indians, depending on the jurisdiction where the construction activities are being completed.
Effectiveness Criteria	Agency concurrence.
Responsible Agency	BLM/San Diego County/CSLC/BIA/Ewiiaapaayp Band of Kumeyaay Indians
Timing	Prior to operating turbines.
Mitigation Measure	**BIO-11a. Conduct maintenance activities resulting in vegetation disturbance outside of the bird nesting season or conduct pre-construction nesting bird surveys.** Maintenance activities with the potential to result in direct or indirect habitat disturbance, most notably vegetation management, shall be conducted outside of the bird nesting season to the maximum extent practicable. Where avoidance is not possible, the project proponent shall conduct pre-construction nesting bird surveys to determine the presence/absence of active nests in or adjacent to construction areas. If active nests are identified, appropriate avoidance measures would be identified and implemented to prevent disturbance to the nesting bird(s). If federal or state listed nesting birds are identified, the project proponent shall contact the U.S. Fish and Wildlife Service and/or California Department of Fish and Game to determine the appropriate course of action.
Location	All operations and maintenance areas of the Tule Wind Project site.
Monitoring/Reporting Action	Pre-construction nesting bird survey reports to be completed 72 hours prior to maintenance activities resulting in vegetation disturbance.
Effectiveness Criteria	Site-specific avoidance measures, as necessary, to be identified in the survey report.
Responsible Agency	BLM/San Diego County/CSLC/BIA/Ewiiaapaayp Band of Kumeyaay Indians
Timing	72 hours prior to maintenance activities during the nesting season.
APM	**TULE-BIO-1. Management of Temporary Stockpiles.** Temporary stockpiles outside the channels or debris basins will be stabilized by compacting or other measures if present at the work site from 1 December to 1 April. Silt fences, berms, or other methods will be used to prevent sediments from being eroded from the temporary stockpile into the adjacent drainage. Temporary stockpiles may be placed in channel bottoms or debris basins if they are located on barren soil or areas with non-native weeds, and are not placed in such a manner that they are exposed to flowing water. No temporary stockpiles will be placed on the channel bed or banks during the period of 1 December to 1 April for more than the duration of the sediment removal work. Permanent stockpiles will be located landward of the 100-year floodplain to the maximum extent feasible.
Location	All construction areas.
Monitoring/Reporting Action	BLM/San Diego County/CSLC/BIA/BIA/Ewiiaapaayp Band of Kumeyaay Indians to review final engineering plans and verify in the field that specification are included and implemented, depending on the jurisdiction where the construction activities are being completed.

Table D.2-12 (Continued)

Effectiveness Criteria	Field verification that measures are implemented corresponding with final plans.
Responsible Agency	BLM/San Diego County/CSLC/BIA/Ewiiaapaayp Band of Kumeyaay Indians
Timing	Confirm implementation throughout the construction period.
APM	**TULE-BIO-5. Concrete Wash-Out Protocols.** Iberdrola Renewables will implement appropriate waste management practices during on site concrete repair operations. Waste management practices will be applied to the stockpiling of concrete, curing and finishing of concrete as well as to concrete wash-out operations. Waste management practices will be adequate to ensure that fluids associated with the curing, finishing and wash-out of concrete will not be discharged to the channel or basin. Concrete wastes will be stockpiled separately from sediment and protected by erosion control measures so that concrete dust and debris are not discharged to the channel or basin. The appropriate waste management practices based on considerations of flow velocities, site conditions, availability of erosion control materials and construction costs will be used
Location	All areas involving construction with concrete.
Monitoring/Reporting Action	BLM/San Diego County/CSLC/BIA/BIA/Ewiiaapaayp Band of Kumeyaay Indians to review final engineering plans and verify in the field that specification are included and implemented.
Effectiveness Criteria	Field verification that measures are implemented corresponding with final plans.
Responsible Agency	BLM/San Diego County/CSLC/BIA/Ewiiaapaayp Band of Kumeyaay Indians
Timing	Confirm implementation throughout the construction period.
APM	**TULE-BIO-6. Management of Fuels and Avoidance of Spills and Leaks.** All fuels, waste oils, and solvents will be collected and stored in tanks or drums within a secondary containment area consisting of an impervious floor and bermed sidewalls capable of holding the volume of the largest container stored within. Iberdrola Renewables will ensure that all equipment operating in or near a drainage, or in a basin, is in good working condition, and free of leaks. All vehicles will have drip pans during storage to contain minor spills and drips. No refueling or storage will take place within 100 feet (30.5 meters) of a drainage channel or structure. Spill containment materials must be on site or readily available for any equipment maintenance or refueling that occurs adjacent to a drainage. In addition, all maintenance crews working with heavy equipment will be trained in spill containment and response.
Location	All construction areas.
Monitoring/Reporting Action	BLM/San Diego County/CSLC/BIA/BIA/Ewiiaapaayp Band of Kumeyaay Indians to review final engineering plans and verify in the field that specification are included and implemented, depending on the jurisdiction where the construction activities are being completed.
Effectiveness Criteria	Field verification that measures are implemented corresponding with final plans.
Responsible Agency	BLM/San Diego County/CSLC/BIA/Ewiiaapaayp Band of Kumeyaay Indians
Timing	Confirm implementation throughout the construction period.
APM	**TULE-BIO-7. Prevention of Erosion and Sedimentation.** Design measure such as straw waddles, silt fencing, aggregate materials, wetting compounds, and revegetation of native plant species will be implemented to decrease erosion and sedimentation.
Location	All construction areas.
Monitoring/Reporting Action	BLM/San Diego County/CSLC/BIA/BIA/Ewiiaapaayp Band of Kumeyaay Indians to review final engineering plans and verify in the field that specification are included and implemented, depending on the jurisdiction where the construction activities are being completed.
Effectiveness Criteria	Field verification that measures are implemented corresponding with final plans.

Table D.2-12 (Continued)

Responsible Agency	BLM/San Diego County/CSLC/BIA/Ewiiaapaayp Band of Kumeyaay Indians
Timing	Confirm implementation throughout the construction period.
APM	**TULE-BIO-8. Work Cessation during Heavy Rains.** All work will cease during heavy rains, and will not resume until conditions are suitable for the movement of equipment and materials.
Location	All construction areas.
Monitoring/Reporting Action	BLM/San Diego County/CSLC/BIA/BIA/Ewiiaapaayp Band of Kumeyaay Indians to review final engineering plans and verify in the field that specification are included and implemented, depending on the jurisdiction where the construction activities are being completed.
Effectiveness Criteria	Field verification that measures are implemented corresponding with final plans.
Responsible Agency	BLM/San Diego County/CSLC/BIA/Ewiiaapaayp Band of Kumeyaay Indians
Timing	Confirm implementation throughout the construction period.
APM	**TULE-BIO-19**. Apply soil stabilizers to construction areas not being utilized and stabilize disturbed areas if subsequent construction is delayed.
Location	All construction areas.
Monitoring/Reporting Action	BLM/San Diego County/CSLC/BIA/BIA/Ewiiaapaayp Band of Kumeyaay Indians to review final engineering plans and verify in the field that specification are included and implemented, depending on the jurisdiction where the construction activities are being completed.
Effectiveness Criteria	Field verification that measures are implemented corresponding with final plans.
Responsible Agency	BLM/San Diego County/CSLC/BIA/Ewiiaapaayp Band of Kumeyaay Indians
Timing	Confirm implementation throughout the construction period.
APM	**TULE-BIO-20.** Replace ground cover in disturbed areas as soon as feasible.
Location	All construction areas.
Monitoring/Reporting Action	BLM/San Diego County/CSLC/BIA/BIA/Ewiiaapaayp Band of Kumeyaay Indians to review final engineering plans and verify in the field that specification are included and implemented, depending on the jurisdiction where the construction activities are being completed.
Effectiveness Criteria	Field verification that measures are implemented corresponding with final plans.
Responsible Agency	BLM/San Diego County/CSLC/BIA/Ewiiaapaayp Band of Kumeyaay Indians
Timing	Confirm implementation throughout the construction period.
ESJ Gen-Tie Project	
Mitigation Measure	**BIO-1a. Confine all construction and construction-related activities to the minimum necessary area as defined by the final engineering plans.** All construction areas, access to construction areas, and construction-related activities shall be strictly limited to the areas identified on the final engineering plans. The limits of the approved work space shall be delineated with orange construction fencing that shall be maintained throughout the construction period. An environmental monitor shall complete regular observations to ensure that all work is completed within the approved work limits, and in the event any work occurs beyond the approved limits, it shall be reported. During and after construction, entrances to access roads shall be gated to prevent the unauthorized use of these construction access roads by the general public. Signs prohibiting unauthorized use of the access roads shall be posted on these gates.
Location	All areas disturbed by construction activities.
Monitoring/Reporting Action	San Diego County to review final engineering plans and verify in the field that approved work limits are clearly delineated on the final engineering plans. An environmental monitor to

Table D.2-12 (Continued)

	ensure proper installation and maintenance of construction fencing and signage during construction. Environmental monitor to report to the County of San Diego whether any work occurred outside of the approved work limits.
Effectiveness Criteria	Field verification that delineated construction areas correspond with final plans.
Responsible Agency	County of San Diego
Timing	Confirm implementation prior to any vegetation clearing or ground disturbance activities and throughout the construction period
Mitigation Measure	**BIO-1b. Conduct contractor training for all construction staff.** Prior to construction, all developer, contractor, and subcontractor personnel shall receive training regarding the appropriate work practices necessary to implement the mitigation measures and comply with environmental regulations, including plant and wildlife species avoidance, impact minimization, and best management practices. Sign-in sheets and hard hat decals shall be provided that document contractor training has been completed for construction personnel.
Location	All areas disturbed by construction activities.
Monitoring/Reporting Action	Documentation of completion of environmental training by construction personnel shall be provided to San Diego County.
Effectiveness Criteria	Successful avoidance of unforeseen impacts and compliance with APMs and mitigation measures.
Responsible Agency	County of San Diego
Timing	Prior to and during any construction.
Mitigation Measure	**BIO-1c. Conduct biological construction monitoring.** An authorized biological monitor must be present at the construction sites during all ground disturbing and vegetation removal activities. The monitor shall survey the construction sites and surrounding areas for compliance with all environmental specifications. Weekly biological construction monitoring reports shall be prepared and submitted to the appropriate permitting and responsible agencies through the duration of the ground disturbing and vegetation removal construction phase. Monthly biological construction monitoring reports shall be prepared and submitted through the duration of project construction to document compliance with environmental requirements.
Location	All areas disturbed by construction activities.
Monitoring/Reporting Action	Weekly/Monthly biological construction monitoring reports submitted to San Diego County.
Effectiveness Criteria	Identification of issues and solutions through regular monitoring and reporting. The qualifications of the qualified biologist shall be approved by the County of San Diego.
Responsible Agency	County of San Diego
Timing	Weekly biological monitoring during ground disturbance and vegetation removal activities; Monthly biological monitoring for the remaining duration of construction.
Mitigation Measure	**BIO-1e. Provide habitat compensation or restoration for permanent impacts to native vegetation communities.** Permanent impact to all native vegetation communities shall be compensated through a combination habitat compensation and habitat restoration at a minimum of a 1:1 ratio or as required by the permitting agencies. Habitat compensation shall be accomplished through agency-approved land preservation or mitigation fee payment for the purpose of habitat compensation of lands supporting comparable habitats to those lands impacted by the Proposed PROJECT. Land preservation or mitigation fee payment for habitat compensation must be completed within 18 months of permit issuance. Habitat restoration may be appropriate as compensation for permanent impacts provided that restoration is demonstrated to be feasible and the restoration effort is implemented pursuant to a Habitat Restoration Plan, which includes success criteria and monitoring specifications

Table D.2-12 (Continued)

	as described above for Mitigation Measure BIO-1d. The Habitat Restoration Plan shall be approved by the permitting agencies prior to construction of the project. All habitat compensation and restoration used as mitigation for the Proposed Project on public lands shall be located in areas designated for resource protection and management. All habitat compensation and restoration used as mitigation for the Proposed Project on private lands shall include long-term management and legal protection assurances.
Location	On the ESJ Project site or on to-be-identified mitigation parcels.
Monitoring/Reporting Action	Habitat restoration plans are implemented and meet success criteria. Long-term habitat management is provided for all mitigation sites.
Effectiveness Criteria	For habitat preservation, it shall meet the minimum compensation standards on an acre-for-acre, in-kind basis or as otherwise required by the agencies. For habitat restoration, the habitat restoration plan shall specify success criteria. Long-term management assurances and legal protection mechanisms shall satisfy agency requirements.
Responsible Agency	County of San Diego
Timing	Habitat mitigation lands shall be identified and approved within 1 year of the initiation of project construction. Long-term management and legal protection for mitigation lands shall be in place no later than 18 months after the initiation of project construction. Habitat restoration plan(s), if applicable, shall submitted be to San Diego County for review within 1 year of the initiation of project construction. Restoration, if applicable, shall be initiated no later than 18 months after the initiation of project construction.
Mitigation Measure	**BIO-1f Implement fire prevention best management practices during construction and operation activities.** Fire prevention best management practices shall be implemented during construction and operation of the project as specified by the Construction Fire Prevention/Protection Plan (to be developed as required under Mitigation Measure FF-1) and Wildland Fire Prevention and Fire Safety Electric Standard Practice Operation and Maintenance Plan (to be revised as required under Mitigation Measure FF-2).
Location	All areas disturbed by construction activities.
Monitoring/Reporting Action	Rural Fire Protection District, CAL FIRE, San Diego County, USFS will review Construction Fire Prevention/Protection Plan and ensure its implementation.
Effectiveness Criteria	Implementation of the plan. Quarterly updates to agencies. Limit work during Red Flag Warnings and Very High PAL. Coordination with fire authority.
Responsible Agency	County of San Diego
Timing	Minimum 90 days prior to ground disturbance activities for draft of Construction Fire Prevention/Protection Plan. Minimum 30 days prior to ground disturbance activities for final plan. Plan effective throughout construction.
Mitigation Measure	**BIO-1g. Prepare and implement a Stormwater Pollution Prevention Plan.** Prepare a Stormwater Pollution Prevention Plan pursuant to the specifications described in Mitigation Measure HYD-1.
Location	All areas disturbed by construction activities.
Monitoring/Reporting Action	County of San Diego will review the SWPPP and ensure its implementation.
Effectiveness Criteria	Construction and BMPs in place during construction, and kept operating as long as needed. Mitigation measure is effective if water quality near the project is maintained.
Responsible Agency	County of San Diego
Timing	Prior to and during construction.

Table D.2-12 (Continued)

Mitigation Measure	**BIO-3a. Prepare and implement a Noxious Weeds and Invasive Species Control Plan.** A Noxious Weeds and Invasive Species Control Plan shall be prepared and reviewed by San Diego County and applicable permitting agencies. The plan shall be implemented during all phases of project construction and operation. The plan shall include best management practices to avoid and minimize the direct or indirect effect of the establishment and spread of invasive plant species during construction. Implementation of specific protective measures shall be required during construction, such as cleaning vehicles prior to off-road use, using weed-free imported soil/material, restricted vegetation removal and requiring topsoil storage. Development and implementation of weed management procedures shall be used to monitor and control the spread of weed populations along the construction access and transmission line right-of-ways. Vehicles used in transmission line construction shall be cleaned prior to operation off of maintained roads. Existing vegetation shall be cleared only from areas scheduled for immediate construction work and only for the width needed for active construction activities. Noxious weed management shall be conducted annually to prevent the establishment and spread of invasive plant species. This shall include weed abatement efforts, targeted at plants listed as invasive exotics by the California Exotic Plant Pest Council in their most recent "A" or "Red Alert" list. Pesticide use should be limited to non-persistent pesticides and should only be applied in accordance with label and application permit directions and restrictions for terrestrial and aquatic applications.
Location	Entire project area.
Monitoring/Reporting Action	San Diego County to verify that plan has been submitted and is implemented.
Effectiveness Criteria	Noxious Weeds and Invasive Species Control Plan prepared and successfully implemented
Responsible Agency	County of San Diego
Timing	Plan submitted to San Diego County for review 90 days prior to initiation of project construction. Plan shall be implemented throughout construction and throughout operations.
Mitigation Measure	**BIO-4a. Prepare and implement a Dust Control Plan.** Energia Sierra Juarez U.S. Transmission, LLC, shall: (a) pave, apply water three times daily, or apply (non-toxic) soil stabilizers on all unpaved access roads, parking areas, and staging areas if construction activity causes persistent visible emissions of fugitive dust beyond the work area; (b) pre-water sites for 48 hours in advance of clearing; (c) reduce the amount of disturbed area where feasible; (d) spray all dirt stock-pile areas daily as needed; (e) cover loads in haul trucks or maintain at least 6 inches of free-board when traveling on public roads; (f) pre-moisten, prior to transport, import and export dirt, sand, or loose materials; (g) sweep streets daily (with water sweepers) if visible soil material is carried onto adjacent public streets or wash trucks and equipment before entering public streets; (h) plant vegetative ground cover in disturbed areas as soon as possible following construction; (i) apply chemical soil stabilizers or apply water to form and maintain a crust on inactive construction areas (disturbed lands that are unused for 14 consecutive days); and (j) prepare and file with the San Diego Air Pollution Control District and County of San Diego a Dust Control Plan that describes how these measures would be implemented and monitored at all locations of the project. This plan shall be developed consistent with the requirements of Mitigation Measure AQ-1.
Location	All construction areas including staging areas.
Monitoring/Reporting Action	Review Dust Control Plan. Verify local air district concurrence with the Plan. Inspect activities for dust control.
Effectiveness Criteria	Dust emissions are reduced. Effectiveness can be monitored by monitoring implementation of the control measures.
Responsible Agency	County of San Diego

Table D.2-12 (Continued)

Timing	Plan submitted to San Diego County for review 90 days prior to initiation of project construction. Plan shall be implemented throughout construction.
Mitigation Measure	**BIO-5a. Install fencing or flagging around identified special-status plant species populations in the construction areas.** Prior to the start of construction, a qualified biologist shall conduct focused surveys during the appropriate blooming period for special-status plant species for all construction areas. All of the special-status plant locations shall be recorded using a Global Positioning System (GPS), which will be used to site the avoidance fencing/flagging. Special-status plant species shall be avoided to the maximum extent possible by all construction activities. The boundaries of all special-status plant species to be avoided shall be delineated in the field with clearly visible fencing or flagging. The fencing/flagging shall be maintained for the duration of project construction activities.
Location	All areas disturbed by construction activities.
Monitoring/Reporting Action	Verification of proper installation of construction fencing shall be provided to San Diego County by a qualified biologist.
Effectiveness Criteria	Field verification that delineated plant populations are consistent with baseline data.
Responsible Agency	County of San Diego
Timing	Prior to any vegetation clearing or ground disturbance activities.
Mitigation Measure	**BIO-5b. Implement special-status plant species compensation.** Impacts to special-status plant species shall be maximally avoided. Where impacts to special-status plant species are unavoidable, the impact shall be quantified and compensated through off-site land preservation and/or plant salvage and relocation. Where off-site land preservation is biologically preferred, the land shall contain comparable special-status plant resources as the impacted lands and shall include long-term management and legal protection assurances to the satisfaction of the County of San Diego. Land preservation must be completed within 18 months of permit issuance. Where salvage and relocation is demonstrated to be feasible and biologically preferred, it shall be conducted pursuant to an agency-approved plan that details the methods for salvage, stockpiling, and replanting, as well as the characteristics of the receiver sites. Any salvage and relocation plans shall be approved by the permitting agencies prior to project construction. Any salvage and relocation of species considered desert native plants shall be conducted in compliance with the California Desert Native Plant Act. Success criteria and monitoring shall also be included in the plan. If salvage and relocation is not possible to the satisfaction of the County of San Diego, off-site land preservation shall be required.
Location	All areas disturbed by construction activities.
Monitoring/Reporting Action	County of San Diego shall review habitat restoration plans, habitat acquisition plans, and long-term habitat management plans, and ensure their implementation. A biological monitor shall confirm that proposed habitat restoration mitigation plans are implemented.
Effectiveness Criteria	For habitat preservation, it shall meet the minimum compensation standards on an acre-for-acre or population basis or as otherwise required by the agencies. For salvage and relocation, the agency approved plan shall specify success criteria. Long-term management assurances and legal protection mechanisms shall satisfy agency requirements.
Responsible Agency	County of San Diego
Timing	Habitat mitigation lands shall be identified and approved within 1 year of the initiation of project construction. Long-term management and legal protection for mitigation lands shall be in place no later than 18 months after the initiation of project construction. Salvage and relocation plan(s), if applicable, shall submitted be to San Diego County for review 90 days prior to the initiation of project construction. Salvage and relocation, if applicable, shall be initiated during project construction.

Table D.2-12 (Continued)

Mitigation Measure	**BIO-7a. Cover and/or provide escape routes for wildlife from excavated areas and monitor these areas daily.** All steep trenches and excavations during construction shall be inspected twice daily (i.e., morning and evening) by a qualified biologist to monitor for wildlife entrapment. Large/steep excavations shall be covered and/or fenced nightly to prevent wildlife entrapment. Excavations shall provide an earthen ramp to allow for a wildlife escape route.
Location	All construction excavations and trenches
Monitoring/Reporting Action	Verification of measure implementation shall be provided to San Diego County by biological construction monitor. A biological monitor to verify measure is being implemented during construction.
Effectiveness Criteria	Biological construction monitoring observations, reporting, and coordination/communication with construction personnel.
Responsible Agency	County of San Diego
Timing	During all subsurface construction activities.
Mitigation Measure	**BIO-7b. Enforce speed limits in and around all construction areas.** Vehicles shall not exceed 25 miles per hour on any gravel roads accessing the construction site or 20 miles per hour on the construction site.
Location	All construction areas and accessways of the ESJ Project area.
Monitoring/Reporting Action	Verification of establishment and enforcement mechanisms shall be provided to San Diego County. An environmental monitor to ensure speed limits are reduced to within permitted limits during construction.
Effectiveness Criteria	Contractor training and biological construction monitoring oversight and field observations.
Responsible Agency	County of San Diego
Timing	During all construction activities.
Mitigation Measure	**BIO-7c. Minimize night construction lighting adjacent to native habitats.** Lighting of construction areas at night shall be the minimum necessary for personnel safety and shall be low illumination, selectively placed, and directed/shielded appropriately to minimize lighting in adjacent native habitats.
Location	All construction areas adjacent to native vegetation.
Monitoring/Reporting Action	Verification of night lighting specifications to be provided to San Diego County. The specifications shall include light placement, illumination, and direction light will be oriented. Environmental monitors shall verify that night lighting adjacent to native habitats is minimized.
Effectiveness Criteria	County of San Diego to ensure that commitments have been incorporated into construction contract specifications. An environmental monitor to inspect periodically to ensure correct placement of lighting to prevent night lighting impacts to sensitive habitats.
Responsible Agency	County of San Diego
Timing	During construction.
Mitigation Measure	**BIO-7d. Prohibit littering and remove trash from construction areas daily.** Littering shall not be allowed by the project personnel. All food-related trash and garbage shall be removed from the construction sites on a daily basis.
Location	All construction areas.
Monitoring/Reporting Action	Verification littering and trash control measures have been included in the project contractor specifications and is presented as part of the environmental awareness training. Documentation of compliance with this measure shall be provided to County of San Diego throughout construction.

Table D.2-12 (Continued)

Effectiveness Criteria	County of San Diego to ensure that commitments have been incorporated into construction contract specifications. An environmental monitor to inspect periodically to ensure measures are being implemented to remove litter and trash from the construction area on a daily basis.
Responsible Agency	County of San Diego
Timing	During construction.
Mitigation Measure	**BIO-7e. Prohibit the harm, harassment, collection of, or feeding of wildlife.** Project personnel shall not harm, harass, collect, or feed wildlife. No pets shall be allowed in the construction areas.
Location	All construction areas.
Monitoring/Reporting Action	Verification that appropriate measures have been included in the project contractor specifications and are presented as part of the environmental awareness training. Documentation of compliance with this measure shall be provided to County of San Diego throughout construction.
Effectiveness Criteria	County of San Diego to ensure that commitments have been incorporated into construction contract specifications. An environmental monitor to inspect periodically to ensure measures is being implemented.
Responsible Agency	County of San Diego
Timing	During construction.
Mitigation Measure	**BIO-7j. Conduct pre-construction nesting bird surveys and implement appropriate avoidance measures for identified nesting birds.** When not feasible to construct outside of the bird nesting season, the project proponent shall hire a qualified biologist to conduct pre-construction nesting bird surveys to determine the presence/absence of active nests in or adjacent to construction areas. If active nests are identified, appropriate avoidance measures would be identified and implemented to prevent disturbance to potentially nesting bird(s). If federally or state-listed or fully protected nesting birds are identified, Energia Sierra Juarez U.S. Transmission, LLC, shall contact the U.S. Fish and Wildlife Service and/or California Department of Fish and Game to determine the appropriate course of action to avoid disturbance to nesting birds. For golden eagle, depending on the location of the active nest, avoidance may include buffers including viewshed analysis. If the spatial buffer is not a large enough distance to be confident about avoiding disturbance to nesting eagles, a temporal buffer may be required that restricts construction during the breeding season. The breeding season is generally defined as period from March through September. For raptors, the breeding season is generally defined as January through August.
Location	In and around the entire ESJ Project area.
Monitoring/Reporting Action	Pre-construction nesting bird survey reports to be provided to San Diego County
Effectiveness Criteria	Site-specific avoidance measures, as necessary, to be identified in the survey report.
Responsible Agency	County of San Diego
Timing	Prior to construction during the nesting season.
Mitigation Measure	**BIO-10a. Design all transmission towers and lines to conform with Avian Power Line Interaction Committee standards.** The Proposed Project shall have the minimum clearances between phase conductors or between phase conductors and grounded hardware, as recommended by the Avian Power Line Interaction Committee (2006), which is sufficient to protect even the largest birds that may perch or roost on transmission lines or towers from electrocution.
Location	All transmission towers and lines.
Monitoring/Reporting Action	San Diego County to review final engineering plans.
Effectiveness Criteria	Ensure the final engineering design meets the effectiveness documented by APLIC (2006)

Table D.2-12 (Continued)

Responsible Agency	County of San Diego
Timing	Prior to construction.
Mitigation Measure	**BIO-10b. Develop and implement project-specific Avian Protection Plans**. Develop and implement an Avian Protection Plan related to wire, transmission tower, and facilities impacts from electrocution and collision of bird species. An Avian Protection Plan shall be developed jointly with the U.S. Fish and Wildlife Service and California Department of Fish and Game and shall provide the framework necessary for implementing a program to reduce bird mortalities and document actions. The Avian Protection Plan shall include the following: corporate policy, training, permit compliance, construction design standards, nest management, avian reporting system, risk assessment methodology, mortality reduction measures, avian enhancement options, quality control, public awareness, and key resources.
Location	All ESJ Project areas.
Monitoring/Reporting Action	San Diego County to verify that plan has been submitted and is implemented.
Effectiveness Criteria	Plan shall identify criteria to determine effectiveness.
Responsible Agency	County of San Diego
Timing	Plan that has been prepared jointly with USFWS shall be submitted to San Diego County for review 90 days prior to initiation of project construction. Plan shall be implemented throughout project construction and operation.
Mitigation Measure	**BIO-11a. Conduct maintenance activities resulting in vegetation disturbance outside of the bird nesting season or conduct pre-construction nesting bird surveys.** Maintenance activities with the potential to result in direct or indirect habitat disturbance, most notably vegetation management, shall be conducted outside of the bird nesting season to the maximum extent practicable. Where avoidance is not possible, the project proponent shall conduct pre-construction nesting bird surveys to determine the presence/absence of active nests in or adjacent to construction areas. If active nests are identified, appropriate avoidance measures would be identified and implemented to prevent disturbance to the nesting bird(s). If federal or state listed nesting birds are identified, the project proponent shall contact the U.S. Fish and Wildlife Service and/or California Department of Fish and Game to determine the appropriate course of action.
Location	All operations and maintenance areas of the ESJ Project site.
Monitoring/Reporting Action	Pre-construction nesting bird survey reports to be provided to San Diego County
Effectiveness Criteria	Site-specific avoidance measures, as necessary, to be identified in the survey report.
Responsible Agency	County of San Diego
Timing	72 hours prior to maintenance activities during the nesting season.

D.2.9 Residual Effects

With the exception of the residual effects described in Table D.2-13, implementation of the avoidance, minimization, and mitigation measures identified in Section D.2 would mitigate permanent, temporary, and indirect impacts to biological resources, and under CEQA impacts would be mitigated to a level that is considered to be less than significant. Under CEQA, the impacts identified below would be residually significant and cannot be mitigated to a level that is less than significant.

Table D.2-13
Significant and Unmitigable Impacts – ECO Substation Project

ECO Substation – Class I Impacts		
Impact No.	***Description***	***Status after Mitigation***
ECO-BIO-7	Construction activities would result in direct or indirect loss of listed or sensitive wildlife or a direct loss of habitat for listed or sensitive wildlife.	The 138 kV transmission line would cross USFWS designated critical habitat for Quino checkerspot butterfly between approximate MP 4.0 and Old Highway 80. Because comparable habitat compensation may not be obtainable as mitigation for project impacts, there is no feasible mitigation that could effectively reduce impacts to designated critical habitat such that the impact would be reduced to a level that is less than significant.
Tule Wind – Class I Impacts		
TULE-BIO-10	Presence of transmission lines and wind turbines may result in electrocution of, and/or collisions by, listed or sensitive bird or bat species.	Based on the use data, encounter rate index, nest survey information, and the species' population and regulatory status, the operation of wind turbines proposed by the project would result in significant and unmitigable impacts to golden eagles. In the absence of data demonstrating low risk of collision with turbines for golden eagles in the Tule Wind Project area, there is no feasible mitigation that would reduce this impact to below a level of significance.

ECO-BIO-7. Feasible alternatives are not available to reduce this impact to below a level of significance. The ECO Partial Underground 138 kV Transmission Route Alternative would underground the 138 kV transmission line between MP 9 and the rebuilt Boulevard Substation and the ECO Highway 80 Underground 138 kV Transmission Route Alternative would underground the transmission line from the SWPL/Old Highway 80 intersection north along Old Highway 80 to the Boulevard Substation. Both of these alternatives (and all other alternatives) would construct and operate an aboveground transmission line through USFWS designated critical Quino checkerspot butterfly habitat between approximate MP 4.0 and Old Highway 80. Although avoidance, minimization, and compensatory mitigation would be implemented, comparable habitat compensation may not be obtainable (the species is found in sparsely vegetated hilltops, ridgelines, and occasionally on rocky outcrops in open chaparral and coastal sage scrub habitat in western Riverside County, southern San Diego County, and northern Baja California, Mexico), and therefore mitigation has not been identified that would sufficiently offset the loss of critical habitat for Quino checkerspot butterfly. There is no feasible mitigation to reduce this anticipated impact to a level that is below a level of significance under CEQA.

TULE-BIO-10. Feasible alternatives are not available to reduce this impact to below a level of significance. Although the Tule Reduction in Turbines Alternative would remove all turbines

considered high risk for golden eagle collision, the risk of mortality due to collision would remain adverse. While avoidance, minimization, and mitigation measures would be implemented, the operation of remaining turbines would pose a significant and unmitigable risk of collision for golden eagles, in the absence of data demonstrating low risk, due to the proximity of known active nests near the project site. In addition, all other alternatives would construct and operate 134 turbines in the McCain Valley area and therefore impacts associated with golden eagle mortality due to collision with turbines would remain significant and unmitigable. There is no feasible mitigation to reduce this anticipated impact to a level that is below a level of significance under CEQA.

D.2.10 References

14 CCR 783 et seq. Regulations for Implementation of the California Endangered Species Act (CESA).

14 CCR 15000–15387 and Appendix A–L. Guidelines for Implementation of the California Environmental Quality Act, as amended.

16 U.S.C. 661 et seq. Fish and Wildlife Coordination Act (FWCA).

16 U.S.C. 668–668d. Bald and Golden Eagle Protection Act. June 8, 1940, as amended 1959, 1962, 1972, and 1978.

16 U.S.C. 703–712. Migratory Bird Treaty Act of 1918 (MBTA). July 3, 1918, as amended 1936, 1960, 1968, 1969, 1974, 1978, 1986, and 1989.

16 U.S.C. 1531 et seq. Federal Endangered Species Act (FESA) of 1973.

33 U.S.C. 1251 et seq. Federal Water Pollution Control Act (Clean Water Act).

40 CFR 1500–1518. Title 40: Protection of Environment; Chapter V: Council on Environmental Quality.

42 U.S.C. 4321 et seq. National Environmental Policy Act (NEPA) of 1969.

43 U.S.C. 1701–1782. Federal Land and Management Act of 1976, as amended.

63 FR 13134–13150. Final rule: —Endangered and Threatened Wildlife and Plants; Endangered Status for the Peninsular Ranges Population Segment of the Desert Bighorn Sheep in Southern California.” March 18, 1998.

74 FR 17288–17365. Final rule: "Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for Peninsular Bighorn Sheep and Determination of a Distinct Population Segment of Desert Bighorn Sheep (*Ovis canadensis nelsoni*)." April 14, 2009.

74 FR 28776–28862. Final rule: "Endangered and Threatened Wildlife and Plants; Revised Designation of Critical Habitat for the Quino Checkerspot Butterfly (*Euphydryas editha quino*)." June 17, 2009.

74 FR 46836–46879. Final rule: "Eagle Permits; Take Necessary To Protect Interests in Particular Localities." September 11, 2009.

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