

## **6 BIOLOGICAL RESOURCES**

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### **6.1 INTRODUCTION**

This chapter describes biological resources in Pacific Gas and Electric Company's (PGandE) Delta Distribution Planning Area Capacity Increase Substation Project (project) area and identifies potential impacts to habitats and species that could result from construction and operation of the project. Although construction could result in potentially significant impacts to botanical resources, wildlife, and aquatic species, these potential impacts will be mitigated to less than significant levels through avoidance of sensitive resources and/or through implementation of the mitigation measures described in Section 6.6 Mitigation Measures.

### **6.2 REGULATORY BACKGROUND**

#### **6.2.1 Federal Regulations**

##### ***6.2.1.1 Federal Endangered Species Act***

The federal Endangered Species Act (FESA) protects plants and wildlife that are listed as endangered or threatened by the U.S. Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service. Section 9 of the FESA prohibits the taking of endangered wildlife, where taking is defined as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in such conduct" (50CFR17.3). For plants, this statute governs removing, possessing, maliciously damaging, or destroying any endangered plant on federal land and removing, cutting, digging-up, damaging, or destroying any endangered plant on non-federal land in knowing violation of state law (16USC1538). Under Section 7 of the FESA, federal agencies are required to consult with the USFWS if their actions, including permit approvals or funding, could adversely affect an endangered plant or wildlife species or its critical habitat. Through consultation and the issuance of a biological opinion, the USFWS may issue an incidental take statement allowing take of the species that is incidental to another authorized activity, provided the action will not jeopardize the continued existence of the species. Section 10 of the FESA provides for issuance of incidental take permits to private parties, provided a habitat conservation plan is developed.

##### ***6.2.1.2 Migratory Bird Treaty Act***

The Migratory Bird Treaty Act (MBTA) implements international treaties devised to protect migratory birds and any of their parts, eggs, and nests from activities such as hunting, pursuing, capturing, killing, selling, and shipping, unless expressly authorized in the regulations or by permit. As authorized by the MBTA, the USFWS issues permits to qualified applicants for the following types of activities: falconry, raptor propagation, scientific collecting, special purposes (rehabilitation, education, migratory game bird propagation, and salvage), take of depredating birds, taxidermy, and waterfowl sale and disposal. The regulations governing migratory bird permits are in 50 Code of Federal Regulations (CFR) part 13 General Permit Procedures and 50 CFR part 21 Migratory Bird Permits. The State of California has incorporated the protection of birds of prey in Sections 3800, 3513, and 3503.5 of the California Department of Fish and Game (CDFG) Code.

### **6.2.1.3 Federal Clean Water Act**

The Clean Water Act's (CWA) purpose is to "restore and maintain the chemical, physical, and biological integrity of the nation's waters." Section 404 of the CWA prohibits the discharge of dredged or fill material into "waters of the United States" without a permit from the U.S. Army Corps of Engineers (ACOE). The definition of waters of the United States includes rivers, streams, estuaries, the territorial seas, ponds, lakes, and wetlands. Wetlands are defined as those 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" (33CFR 328.3 7b). The U.S.

Environmental Protection Agency also has authority over wetlands and may override an ACOE permit. Substantial impacts to wetlands may require an individual permit. Projects that only minimally affect wetlands may meet the conditions of one of the existing Nationwide Permits. A Water Quality Certification or waiver pursuant to Section 401 of the CWA is required for Section 404 permit actions; this certification or waiver is issued by the Regional Water Quality Control Board.

## **6.2.2 State Regulations**

### **6.2.2.1 California Endangered Species Act**

The California Endangered Species Act (CESA) generally parallels the main provisions of the FESA, but unlike its federal counterpart, the CESA applies the take prohibitions to species proposed for listing (called candidates by the State). Section 2080 of the CDFG Code prohibits the taking, possession, purchase, sale, and import or export of endangered, threatened, or candidate species, unless otherwise authorized by permit or in the regulations. Take is defined in Section 86 of the CDFG Code as to "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." The CESA allows for take incidental to otherwise lawful development projects. State lead agencies are required to consult with the CDFG to ensure that any action they undertake is not likely to jeopardize the continued existence of any endangered or threatened species or result in destruction or adverse modification of essential habitat. The CDFG administers the act and authorizes take through Section 2081 agreements (except for designated "fully protected species").

### **6.2.2.2 Fully Protected Species**

The State of California first began to designate species as fully protected prior to the creation of the CESA and FESA. Lists of fully protected species were initially developed to provide protection to those animals that were rare or faced possible extinction, and included fish, amphibians and reptiles, birds, and mammals. Most fully protected species have since been listed as threatened or endangered under the CESA and/or FESA. The regulations that implement the Fully Protected Species Statute (CDFG Code Section 4700) provide that fully protected species may not be taken or possessed at any time. Furthermore, the CDFG prohibits any State agency from issuing incidental take permits for fully protected species, except for necessary scientific research.

### **6.2.2.3 *Native Plant Protection Act***

Regarding listed rare and endangered plant species, CESA defers to the California Native Plant Protection Act (NPPA) of 1977 (CDFG Code Sections 1900-1913), which prohibits importing of rare and endangered plants into California, and the taking and selling of rare and endangered plants. The CESA includes an additional listing category for threatened plants that are not protected under NPPA. In this case, plants listed as rare or endangered under the NPPA are not protected under CESA, but can be protected under CEQA. In addition, plants that are not state-listed, but meet the standards for listing, are also protected under CEQA (Guidelines, Section 15380). In practice, this is generally interpreted to mean that all species on lists 1B and 2 of the California Native Plant Society (CNPS) Inventory potentially qualify for protection under CEQA, and some species on lists 3 and 4 of the CNPS Inventory may qualify for protection under CEQA. List 3 includes plants for which more information is needed on taxonomy or distribution. Some of these are rare and endangered enough to qualify for protection under CEQA. List 4 includes plants of limited distribution that may qualify for protection if their abundance and distribution characteristics are found to meet the standards for listing.

### **6.2.2.4 *California Lake and Streambed Alteration Agreement***

Sections 1600 through 1616 of the CDFG Code require that a Lake and Streambed Alteration Program Notification Package be submitted to the CDFG for “any activity that may substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake.” The CDFG reviews the proposed actions and, if necessary, submits to the applicant a proposal for measures to protect affected fish and wildlife resources. The final proposal on which the CDFG and the applicant agree is the Lake and Streambed Alteration Agreement. Often, projects that require a Lake and Streambed Alteration Agreement also require a permit from the ACOE under Section 404 of the CWA. In these instances, the conditions of the Section 404 permit and the Lake and Streambed Alteration Agreement may overlap.

## **6.3 METHODOLOGY**

### **6.3.1 Overview**

Site visits were performed in 2003 and 2004 to identify sensitive resources within the project area. The visits included walking the substation site, new transmission loop right-of-way, and the access road. On January 7, 2004, Jones & Stokes biologists performed a reconnaissance-level survey of the site to determine the potential for special-status wildlife species to occur within the project area. PGandE biologists surveyed the area for special-status plant species in the spring and summer of 2003 and again in the spring and fall of 2004. All areas will be surveyed again immediately prior to construction to determine the presence or absence of special-status plants and wildlife.

### **6.3.2 Survey Methods**

#### **6.3.2.1 *Habitat Types***

Habitat types in the project area were mapped using color aerial photographs taken in September 2002, and are based on reconnaissance-level field surveys conducted on foot between July 2003 and November 2004. Habitat designations follow Holland (1986). A wetland delineation of the PGandE Delta Distribution Planning Area Capacity Increase Substation Project

site will be conducted prior to construction. The methodology for this survey will follow protocols developed by the ACOE (1987).

#### **6.3.2.2 *Special-Status Plant Species***

A literature review was conducted to determine if any special-status plant species may exist within the project area. Species lists reviewed included those published by the USFWS (2003), CDFG (2004), and California Native Plant Society (2004).

Surveys will be conducted prior to construction to determine presence or absence of special-status plant species within the project area and access road. All plants encountered will be identified to the extent necessary to determine their status as rare, threatened, or endangered. Voucher specimens for verification will be collected in accordance with government collecting regulations. Multiple surveys will be required in most areas to locate all potential special-status plant species during appropriate phenological periods. Survey protocol will follow Nelson (2001). The project boundaries will be surveyed on foot in a meandering fashion to visually assess all areas of potential disturbance. Where possible, field visits will also be made to known locations of special-status plant species in the vicinity of the project to obtain additional taxonomic and habitat information.

The locations of all special-status plant species observed within the project area will be clearly designated on U.S. Geological Survey (USGS) 7.5-minute topographic maps. Photographs showing diagnostic floral characteristics, growth forms, and habitat characteristics will be taken of any special-status plant species observed within the project area.

#### **6.3.2.3 *Special-Status Wildlife Species***

Habitat assessments were conducted in 2003 and 2004 to assess potential impacts for special-status wildlife species within the project area. Certain species warranted more intensive studies:

- California red-legged frog (*Rana aurora draytonii*),
- California tiger salamander (*Ambystoma californiense*),
- Western burrowing owl (*Athene cunicularia hypugea*), and
- San Joaquin kit fox (*Vulpes macrotis mutica*).

#### **6.3.2.4 *Special-Status Vertebrate Species Survey Methods***

Special-status habitat assessment surveys of the project site were conducted by PGandE and Jones & Stokes biologists. Before conducting the surveys, the California Natural Diversity Data Base (CNDDDB) was reviewed for the records of special-status vertebrates potentially occurring in the project area and literature sources were consulted. A species list containing federal special-status species was requested from the USFWS office in Sacramento, as well.

On January 7, 2004, a Jones & Stokes biologist conducted a reconnaissance-level survey by walking the site. Habitat for various listed species was observed, recorded, and measured, if necessary.

### **6.3.2.5 *Special-Status Invertebrate Survey Methods***

The project area historically supported, and continues to support, numerous special-status terrestrial and aquatic invertebrate taxa. Surveys for special-status crustaceans were conducted by Jones & Stokes.

On February 4, 2004, a Jones & Stokes aquatic biologist surveyed the project area to determine presence of suitable habitat for special-status aquatic invertebrates. The site was walked in its entirety and features were recorded, including topography, hydrology, and vegetation patterns, for the evidence of seasonal wetlands, vernal pools, and puddles that could provide habitat. Additional information recorded for each wetland or pool included maximum area, maximum depth, water temperature, turbidity level, dominant vegetation, and notes on land use or disturbance.

Richard Arnold, Ph.D. an entomologist, visited the site on February 22, 2004, to determine the presence of suitable habitat for special-status invertebrate terrestrial species. The site was walked in its entirety. Twenty-three special-status terrestrial invertebrates, whose historical or present-day geographic ranges include the general vicinity of the project area, were placed on the master list of species, including one snail.

### **6.3.2.6 *Site-Assessment Methods for CRLF and CTS***

Initially, a Jones & Stokes biologist examined topographic maps and identified potentially suitable habitat for California red-legged frog (CRLF) and California tiger salamander (CTS) within the project area. A Jones & Stokes biologist then conducted a site visit on March 19, 2004 to determine if suitable habitat for special-status amphibians is present within the project area. Jones & Stokes also conducted a CNDDDB records search for information on species occurrence in the project area.

The site assessment was based on habitat requirements described in the USFWS's February 18, 1997 guidance on site assessment and field surveys for CRLF (USFWS, 1997) and revised survey protocol for CTS (CDFG, 1999). To evaluate habitat suitability, biologists assessed the project's potential to support breeding or foraging CRLF and CTS, to provide refuge, and to support dispersal movements. Areas evaluated for aquatic suitability included stock ponds, reservoirs, and creeks.

Suitable habitat areas were identified on USGS 7.5-minute topographic maps. Suitable habitat was categorized as breeding and dispersal habitat or dispersal habitat based on the attributes of the site. The quality of the breeding habitat was evaluated in relation to its similarity to the habitat associated with known CRLF habitat. Representative photographs of survey areas were taken.

## **6.4 EXISTING CONDITIONS**

The project area will encompass approximately 5 acres, not including the transmission line loop right-of-way to connect the feeder lines from the existing transmission lines to the substation, access road, and pull sites and laydown areas.

The project area is located within the City of Antioch and the substation site is owned in fee by PGandE. It will be accessed via a road that begins at Heidorn Ranch Road. The project area is being used to farm hay and is disked at the minimum once per year. The site is generally flat and is located approximately 0.5 mile beyond the current end of Hillcrest Avenue. Sand Creek is located immediately north of the substation site. A new, steel-reinforced concrete bridge will be required over Sand Creek for transporting equipment to the site for construction and for access to the project area. Sand Creek, as it passes near the project site, contains sycamore and oak trees that may provide nesting habitat for various avian species.

#### **6.4.1 Habitat Types**

Habitat types present within the project area include agricultural, emergent wetland, and developed lands.

##### **6.4.1.1 Agricultural Lands**

The current agricultural land use in the project area includes hay fields.

##### **6.4.1.2 Emergent Wetland**

This habitat type is characterized by perennial, emergent monocots up to 15 feet in height. Common cattail (*Typha latifolia*) is the dominant species. Within the project area, this emergent wetland occurs where the access road to the substation site crosses Sand Creek.

##### **6.4.1.3 Developed Lands**

Portions of the project area are developed and are essentially devoid of natural vegetation. This habitat type is present along an existing access road that starts at the end of Heidorn Ranch Road. A section of this existing road will be improved as part of the access road needed to enter the project area.

#### **6.4.2 Special-Status Plant Species**

Based on the literature review, 10 special-status plant species were identified that could occur within the project area. Five of these species are considered to have high to moderate potential to occur. Information on these species is summarized in Table 6-1.

#### **6.4.3 Special-Status Wildlife Species**

Special-status wildlife species that could occur in the project area were identified based on literature review, searches of the CNDDDB, consultations with experts, and field surveys. Information on these species is summarized in Table 6-2. Only species that are federally or state-listed as threatened or endangered or listed as candidates for listing, and that are considered to have a low, moderate, or high potential to occur or be affected by the project are listed in Table 6-2. Attachment 6-A includes a list of other special-status species that were identified in an initial target species list of special-status wildlife but that were determined to have no potential to occur because suitable habitat for these species does not occur within the project area.

**Table 6-1: Sensitive Plant Species Potentially Occurring in the Project Area**

Species Common Name <i>Scientific Name</i>	Listing Status <sup>1</sup>	Habitat Requirements and Potential to Occur within the Project Area
Mt. Diablo manzanita <i>Arctostaphylos auriculata</i>	1B	Low potential to occur in the project area. Occurs on sedimentary sandstone substrates in chaparral at elevations of 135 to 650 meters. Last observed in Mt. Diablo area in 1985. Identification period is January to March.
Brittlescale <i>Atriplex depressa</i>	1B	High potential to occur in the project area. Occurs on alkaline and clay soils in annual grassland, chenopod scrub, and alkali meadows at elevations of 1 to 320 meters. Recently observed in the Brentwood area approximately 0.5 mile southwest of the project area. Identification period is May to October.
San Joaquin saltbush <i>Atriplex joaquiniana</i>	1B	High potential to occur in the project area. Occurs on alkaline soils in annual grassland, chenopod scrub, and alkali meadows at elevations of 1 to 320 meters. Last observed in the Brentwood area in 1989. Identification period is April to October.
Big tarplant <i>Blepharizonia plumosa</i> ssp. <i>plumosa</i>	1B	Moderate potential to occur in the project area. Occurs on dry hills and plains in annual grassland at elevations of 30 to 505 meters. Last observed in the Brentwood area in 1998 near Deer Valley and Empire Mine roads. Identification period is July to October.
Mt. Diablo buckwheat <i>Eriogonum truncatum</i>	1A	Low potential to occur in the project area. Occurs on sandy soils in annual grassland, chaparral, and coastal scrub at elevations of 105 to 600 meters. Last observed in 1940 and is presumed extinct. Identification period is April to November.
Round-leaved filaree <i>Erodium macrophyllum</i>	2	Moderate potential to occur in the project area. Occurs on clay soils in annual grassland and foothill woodland at elevations of 15 to 1,500 meters. Last observed in Brentwood area in 1941 approximately 1.5 miles southwest of the project area. Identification period March to May.
Diamond-petaled California poppy <i>Eschscholzia rhombipetala</i>	1B	Low potential to occur in the project area. Occurs on alkaline, clay soils in annual grasslands at elevations of 0 to 975 meters. Last observed in the Brentwood area in 1889. Identification period is March to April.
Brewer's western flax <i>Hesperolinon breweri</i>	1B	Low potential to occur in the project area. Occurs on serpentine soils in annual grassland, chaparral, and foothill woodland at elevations of 30 to 900 meters. Last observed in the Brentwood area in 1885. Identification period is May to June.

Species Common Name <i>Scientific Name</i>	Listing Status <sup>1</sup>	Habitat Requirements and Potential to Occur within the Project Area
Contra Costa goldfields <i>Lasthenia conjugens</i>	FE, 1B	Low potential to occur in the project area. Generally occurs in wetlands in annual grassland, foothill woodland, and vernal pools at elevations of 0 to 470 meters. Suitable habitat is marginal. Last observed in the Brentwood area in 1921. Identification period is March to June.
Showy madia <i>Madia radiata</i>	1B	Moderate potential to occur in the project area. Occurs in annual grassland, foothill woodland, and chenopod scrub at elevations of 25 to 900 meters. Last observed in the Brentwood area in 1941 approximately 0.5 mile northwest of the project area. Identification period is March to May.

<sup>1</sup> Status:

**U.S. Fish and Wildlife Service**

FE            Endangered

**California Department of Fish and Game**

SE            Endangered

**California Native Plant Society**

1A            Plant presumed extinct in California

1B            Plants rare and endangered in California and elsewhere

2             Plants rare, threatened, or endangered in California but more common elsewhere



**Table 6-2: Special-Status Wildlife Species Potentially Occurring in the Project Area**

Species Common Name <i>Scientific Name</i>	Listing Status <sup>1</sup>	Habitat Requirements and Potential to Occur within the Project Area
<b><i>Invertebrates</i></b>		
Molestan blister beetle <i>Lytta molesta</i>	FSC	Moderate potential to occur in the project area. Inhabits grassland, primarily from the San Joaquin Valley and Brentwood. Food plant present at the site. The nearest records for this species to the project site are from Brentwood and the hills 3 miles southwest of Brentwood.
Callippe silverspot butterfly <i>Speyeria callippe callippe</i>	FE	Low potential to occur in the project area. Inhabits grasslands with hilltops and <i>Viola pedunculata</i> . Potentially at the site. However, no suitable habitat exists for its larval food plant <i>Viola pedunculata</i> due to agricultural use.
Bridges' Coast Range shoulderband snail <i>Helminthoglypta nickliniana bridgesi</i>	FSC	Moderate potential to occur in the project area. Recently observed in grassland-covered hills with a sparse cover of oaks and other trees at a nearby location in eastern Contra Costa County. Habitat at the project area is very similar to that where the snail was recently observed.
<b><i>Fish</i></b>		
River lamprey <i>Lampetra ayresi</i>	FSC	Low potential to occur in the project area. Adults may be at present blocked from moving upstream by an existing drop structure located on Marsh Creek between Oakley and Brentwood.
Pacific lamprey <i>Lampetra tridentata</i>	FSC	Low potential to occur in the project area. Adults may be at present blocked from moving upstream by an existing drop structure located on Marsh Creek between Oakley and Brentwood.

Species Common Name <i>Scientific Name</i>	Listing Status <sup>1</sup>	Habitat Requirements and Potential to Occur within the Project Area
<b><i>Amphibians/Reptiles</i></b>		
California red-legged frog <i>Rana aurora draytonii</i>	FT/CSC	High potential to occur in the project area. Inhabits lowlands and foothills in or near permanent sources of deep water with dense, shrubby, or emergent riparian vegetation. No occurrences have been recorded in the project area; however, potential breeding habitat exists within Sand Creek and Dry Creek near access road crossing.
California tiger salamander <i>Ambystoma californiense</i>	FT/CSC	Moderate potential to occur in the project area. Inhabits valley foothill grasslands and open woodlands, usually within 1 mile of water. Breeds in ponds and temporary rain pools. Observations have been reported within 1.5 miles of the study area.
Foothill yellow-legged frog <i>Rana boylei</i>	FSC/CSC	Low potential to occur in the project area. Inhabits partly shaded, shallow streams and riffles with a rocky substrate in a variety of habitats.
Western spadefoot toad <i>Spea hammondi</i>	FSC/CSC	Low potential to occur in the project area. Inhabits foothill grasslands, open chaparral, and pine-oak woodlands near washes and floodplains of rivers. Breeds January to May in streams and temporary pools.
Western pond turtle <i>Clemmys marmorata</i>	CSC	Moderate potential to occur in the project area. Inhabits open, slow-moving water in rivers and creeks in central California. Requires exposed rocks and logs for basking. Suitable habitat exists within and along Sand Creek. The species was observed approximately 2 miles from project area during surveys conducted in 2002.
<b><i>Birds</i></b>		
Ferruginous hawk <i>Buteo regalis</i>	FSC/CSC/ MNBMC	Moderate potential to occur in the project area. Inhabits grassland, rangeland, and farmland from October to March. Although none was observed during surveys, there is suitable foraging habitat on-site.
Golden Eagle <i>Aquila chrysaetos</i>	CSC/CFP	Moderate potential to occur in the project area. Requires open areas, such as grasslands and shrub habitats, to forage. Nesting takes place from late January through August in nests built on cliffs and large trees in open areas. Very little suitable habitat at Sand Creek.
American peregrine falcon <i>Falco peregrinus anatum</i>	FD/SE/ MNBMC/ CFP	Moderate potential to occur in the project area. Nests on cliffs and ledges, winters in open areas near water. Suitable nesting habitat present approximately 2.5 miles west of the project site.

Species Common Name <i>Scientific Name</i>	Listing Status <sup>1</sup>	Habitat Requirements and Potential to Occur within the Project Area
Northern harrier <i>Circus cyaneus</i>	CSC	Moderate potential to occur in the project area. Inhabits grasslands, marshes, and patchy coastal scrub. Has been observed foraging on-site during previous surveys, and breeding habitat does exist within the project area.
Swainson's hawk <i>Buteo swainsoni</i>	ST	High potential to occur in the project area. Nests in stands with few trees in riparian areas and oak savannah. Requires adjacent suitable foraging habitat, such as grasslands or grain fields supporting rodent populations. Suitable foraging and breeding habitat present surrounding and within project area.
Prairie falcon <i>Falco mexicanus</i>	FSC/CSC	High potential to occur in the project area. Inhabits grasslands and alpine meadows, but usually associated with perennial grasslands specifically, as well as rangelands and savannahs, agricultural fields, and desert scrub. Suitable foraging and breeding habitat present surrounding and within the project area.
Western burrowing owl <i>Athene cunicularia hypugaea</i>	FSC/CSC/ MNBMC	High potential to occur in the project area. Inhabits open country, including deserts, golf courses, utility stations, and agricultural areas. Burrow sites located in open, dry annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation. Suitable breeding habitat surrounding and within the project area.
White-tailed kite <i>Elanus leucurus</i>	FSC/CFP/ MNBMC	High potential to occur in the project area. Nests in rolling foothills/valley margins with scattered oaks and river bottomlands or marshes next to deciduous woodlands, from February to October. Suitable breeding and foraging habitat around the project area.
Mountain plover <i>Charadrius montanus</i>	FPT/CSC	Low potential to occur in the project area. Summers on dry prairies and short-grass plains; winters on plowed agricultural fields. No suitable breeding habitat present.
Alameda song sparrow (South Bay) <i>Melospiza melodia pusillula</i>	FSC/CSC	Low potential to occur in the project area. Occurs only along the southern and eastern fringes of San Francisco Bay. No suitable habitat present.
Allen's hummingbird <i>Selasphorus sasin</i>	FSC/ MNBMC	Moderate potential to occur in the project area. Inhabits oak and riparian woodland, eucalyptus, and gardens. Suitable nesting habitat along Sand Creek.
Bell's sage sparrow <i>Amphispiza belli belli</i>	FSC/CSC/ MNBMC	Low potential to occur in the project area. Inhabits dense chaparral. Requires extensive areas of either arid chaparral and/or chamise. No suitable habitat present.

Species Common Name <i>Scientific Name</i>	Listing Status <sup>1</sup>	Habitat Requirements and Potential to Occur within the Project Area
California thrasher <i>Toxostoma redivivum</i>	FSC	Low potential to occur in the project area. Inhabits chaparral. No suitable habitat present.
Costa's hummingbird <i>Calypte costae</i>	FSC	Low potential to occur in the project area. A summer resident of dry coastal sage scrub and chaparral hillsides in the Santa Lucia Mountains. Suitable habitat for nesting is marginal along Sand Creek.
Greater sandhill crane <i>Grus Canadensis tabida</i>	ST/CFP	Low potential to occur in the project area. Breeds in wetlands and feeds in different habitat types, such as meadows, irrigated pastures, grain fields, bogs, fens, marshes, and nearby fields. May be seen foraging in agricultural areas, but not a likely breeder near the site.
Lawrence's goldfinch <i>Carduelis lawrencei</i>	FSC/ MNBMC	Low potential to occur in the project area. Inhabits oak woodland and chaparral. Nests in dense stands of shrubs and oaks. No suitable habitat.
Lewis' woodpecker <i>Melanerpes lewis</i>	FSC	Low potential to occur in the project area. Inhabits oak savannah habitats and deciduous and coniferous forest. Usually found in open, deciduous habitats with an understory, as well as coniferous patches of forest. May be seen along riparian corridor at Sand Creek, but an unlikely breeder.
Suisun song sparrow <i>Melospiza melodia maxillaries</i>	FSC/CSC	Low potential to occur in the project area. Resides in brackish-water marshes surrounding Suisun bay. Inhabits cattails, tules, and other sedges. No suitable habitat and outside range.
Vaux's swift <i>Chaetura vauxi</i>	FSC/CSC/ MNBMC	Low potential to occur in the project area. Nesting usually occurs in redwood canyons. No suitable nesting habitat.
Bank swallow <i>Riparia riparia</i>	FSC/ST	Moderate potential to occur in the project area. A colonial nester, primarily in riparian and other lowland habitats west of the desert. Requires vertical banks/cliffs with fine-textured sandy soils near streams, rivers, lakes, or ocean to dig nesting hole. May be seen nesting along riparian corridor of Sand Creek.
California black rail <i>Laterallus jamaicensis coturniculus</i>	FSC/ST/ CFP/ MNBMC	Low potential to occur in the project area. Inhabits wetlands in open grasslands, grazed pastures, or oak savannas.
Little willow flycatcher <i>Empidonax traillii brewsteri</i>	FSC/SE	Low potential to occur in the project area. Inhabits alder thickets and willow thickets used for breeding. The riparian area of Sand Creek contains few or no oaks to provide suitable habitat for this species.

Species Common Name <i>Scientific Name</i>	Listing Status <sup>1</sup>	Habitat Requirements and Potential to Occur within the Project Area
Loggerhead shrike <i>Lanius ludovicianus</i>	FSC/CSC/ MNBMC	Moderate potential to occur in the project area. Inhabits farmland, pastures, annual grasslands, and salt marsh with elevated perches. The nesting season extends from March through July. May be seen perching and foraging within the project area.
Long-billed curlew <i>Numenius americanus</i>	FSC/CSC/ MNBMC	Low potential to occur in the project area. Inhabits estuaries, grasslands and farmlands, especially if shallowly flooded. No suitable habitat present.
Nuttall's woodpecker <i>Picoides nuttallii</i>	FSC	Moderate potential to occur in the project area. Inhabits riparian and oak habitats in the Central Valley. Forages in oak and riparian deciduous habitats. Suitable nesting habitat present along riparian area of Sand Creek.
Oak titmouse <i>Baeolophus inornatus</i>	SLC	Moderate potential to occur in the project area. Inhabits woodlands, oak savannah, open broad-leaved evergreen forests, and riparian woodlands. Suitable nesting habitat present.
Olive-sided flycatcher <i>Contopus cooperi</i>	FSC/ MNBMC	Low potential to occur in the project area. Inhabits forest and woodlands with tall trees. Suitable nesting habitat present.
Red knot <i>Calidris canutus</i>	FSC/ST	Low potential to occur in the project area. Inhabits coastal and estuarine habitats, such as sand or mud flats. May occur in the Central Valley during migration. Does not breed within California. No suitable habitat.
Red-breasted sapsucker <i>Sphyrapicus ruber</i>	FSC	Low potential to occur in the project area. Nesting preferences include montaine riparian and hardwood-coniferous forest. Not within its normal range.
Rufous hummingbird <i>Selasphorus rufus</i>	FSC/ MNBMC	Low potential to occur in the project area. Breeds in northern California in coniferous forests, but inhabits riparian areas, chaparral, and other various habitats containing nectar-producing flowers throughout the year. Suitable nesting habitat present.
Saltmarsh common yellowthroat <i>Geothlypis trichas sinuosa</i>	FSC	Low potential to occur in the project area. Breeds in overgrown fields, hedgerow, woodland margin, freshwater, and salt marsh. Uncommon to fairly rare migrant in brushy habitats and tall weedy vegetation, especially near water.
Tricolored blackbird <i>Agelaius tricolor</i>	FSC/CSC/ MNBMC	Moderate potential to occur in the project area. Inhabits marshes, meadows, and farmlands. Nests near emergent wetlands with dense cattails or tules, thickets of willow. Suitable nesting habitat present.

Species Common Name <i>Scientific Name</i>	Listing Status <sup>1</sup>	Habitat Requirements and Potential to Occur within the Project Area
Whimbrel <i>Numenius phaeopus</i>	FSC	Low potential to occur in the project area. Inland inhabitants prefer flooded fields, wet meadows, croplands, and the margins of riparian habitats for foraging. Typically found near the coastline during breeding season. Not a likely visitor and not expected to breed in the project area.
White-faced ibis <i>Plegadis chihi</i>	FSC/CSC/ MNBMC	Low potential to occur in the project area. Feeds on fresh emergent wetland and wet meadows and croplands. Nests in emergent freshwater wetlands. No longer breeds in California.
Aleutian Canada goose <i>Branta Canadensis leucopareia</i>	FD	Low potential to occur in the project area. Inhabits fresh emergent wetlands and grasslands, crops, pastures, and meadows. The Central Valley is the main wintering ground. Is not expected to breed within the project area.
<i>Allen's hummingbird</i> <i>Selasphorus sasin</i>	FSC	Moderate potential to occur in the project area. Inhabits coastal sage scrub, mixed coastal forests, soft chaparral, riparian woodlands, canyons and ravines, oak woodlands, and suburban parks. Active nests are found from February through July. May occur along Sand Creek within 200 feet of the project site.
<b>Mammals</b>		
San Joaquin kit fox <i>Vulpes macrotis mutica</i>	FE/ST	Moderate potential to occur in the project area. Inhabits annual grasslands or grassy open stages with scattered shrubby vegetation. Needs loose-textured sandy solids for burrowing, and a suitable prey base. Has not been documented to occur in this area since 1992.
San Joaquin pocket mouse <i>Perognathus inornatus</i>	FSC	Moderate potential to occur in the project area. Inhabits grasslands and blue oak savannas in friable soils. May be found in the project area, but unlikely due to current land use practices.
Yuma myotis bat <i>Myotis yumanensis</i>	FSC/CSC	Moderate potential to occur in the project area. Inhabits open forests and oak woodlands that are near a reliable source of water. Young are born in May and June. May be observed near Sand Creek. May use the project area for roosting and foraging.
Fringed myotis bat <i>Myotis thysanodes</i>	FSC	Moderate potential to occur in the project area. Frequents a wide range of habitats, including valley foothill hardwood and conifer hardwood areas. May be observed near Sand Creek.
Greater western mastiff-bat <i>Eumops perotis californicus</i>	FSC	Low potential to occur in the project area. Roosts in caves, buildings, crevices in cliffs, trees, and in tunnels in northern California. Project area is not within normal range.
Long-eared myotis bat <i>Myotis evotis</i>	FSC	Moderate potential to occur in the project area. Inhabits brush, woodland, and forested areas up to about 2,700 meters in elevation. May be observed near Sand Creek.

Species Common Name <i>Scientific Name</i>	Listing Status <sup>1</sup>	Habitat Requirements and Potential to Occur within the Project Area
Long-legged myotis bat <i>Myotis volans</i>	FSC	Moderate potential to occur in the project area. Inhabits chaparral, coastal scrub, and young forest and woodland. Roosts in crevices, buildings, and snags and under bark. May be observed near Sand Creek.
Small-footed myotis bat <i>Myotis ciliolabrum</i>	FSC	Low potential to occur in the project area. Inhabits forested areas containing caves, mines, and crevices in rocks or old buildings. May be observed foraging near the project area.
Pacific western big-eared bat <i>Corynorhinus (plecotus) townsendii townsendii</i>	FSC/CSC	Low potential to occur in the project area. Roosts in caves, mines, tunnels, and buildings. May be observed foraging near the project area.
Pallid Bat <i>Antrozous pallidus</i>	CSC	Low potential to occur in the project area. Inhabits grasslands and open woodlands. Roosts in crevices, buildings, and hollow trees. May be observed foraging near the project area.
San Francisco dusky-footed woodrat <i>Neotoma fuscipes annectens</i>	FSC/CSC	Moderate potential to occur in the project area. Inhabits heavy chaparral, streamside thickets, deciduous, or mixed woods. May be observed near the project area, but unlikely due to current land use practices.

<sup>1</sup>Status:

**U.S. Fish and Wildlife Service**

- FE Endangered
- FPT Federally Proposed Threatened
- FT Threatened
- FSC Federal Species of Concern: Former category 2 candidate; might be declining or in need of concentrated conservation actions to prevent decline; designation carries no legal protection (except under the California Environmental Quality Act) and does not mean the species will be proposed for listing
- FD Federally De-listed; to be monitored for five years
- SLC Species of Local Concern

**California Department of Fish and Game**

- CFP California Fully Protected species: May not be taken or possessed without a permit from the California Fish and Game Commission
- CSC California Special Concern species: Vulnerable to extinction in California due to declining population levels, limited range, or other threats
- ST State-listed as Threatened
- SE State-listed as Endangered
- MNBMC Migratory Non-Game Bird of Management Concern

## **6.5 IMPACTS**

The methodology used for determining standards of significance for biological resources was derived from Appendix G of the California Environmental Quality Act (CEQA) Guidelines. Impacts to biological resources could occur as a result of project construction, operation, and maintenance.

### **6.5.1 Significance Criteria**

A project is considered to have potentially significant biological impacts if it will:

- have a substantial adverse effect, either directly or through habitat modifications, on any species identified as threatened or endangered, or as a candidate, sensitive, or special-status species (including MBTA species) in local or regional plans, policies, or regulations, or by the CDFG or USFWS;
- have a substantial adverse effect on any riparian habitat or other sensitive natural community (e.g., serpentine grassland) identified in local or regional plans, policies, regulations, or by the CDFG or USFWS;
- have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the CWA (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means; or
- interfere substantially with the movement of any 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 any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance;
- result in the introduction or spread of a noxious weed or substantially increase the dispersal and spread of existing populations of noxious weeds such that an existing plant community or wildlife habitat is substantially degraded; or
- conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other governmental habitat conservation plan.



Significant impacts to biological resources are not limited to projects affecting only federally or state-listed endangered species. A species that is not listed will also be considered rare or endangered if it can be shown to meet the following criteria (CEQA Guidelines 15380):

- its survival and reproduction in the wild are in immediate jeopardy from one or more causes,
- it exists in such small numbers throughout all or a significant portion of its range that it may become endangered if its environment worsens, or
- it is likely to become endangered within the foreseeable future throughout all or a significant portion of its range.

## **6.5.2 Construction, Operation, and Maintenance**

Impacts to biological resources resulting from the construction of project facilities (substation and towers), access road, and staging areas depend primarily on the proximity and quality of the habitat, the presence of special-status species, the presence of breeding habitat, and the effectiveness of measures instituted to protect these resources from exposure to project activities. Impacts to biological resources due to construction of the substation and installation of the feeder lines, as well as operation and other project elements, are less than significant with incorporation of the mitigation measures provided in Section 6.6 Mitigation Measures.

## **6.5.3 Habitat Types**

### ***6.5.3.1 Agricultural Lands***

Construction of the overhead transmission line loop connecting the substation to the grid will result in the approximate permanent loss of less than 0.01 acre of agricultural cropland. This impact will be less than significant.

The loss of approximately 5.1 acres of agricultural lands will result from the construction of the substation. The associated access road will permanently impact an approximate 0.44 additional acre of agricultural cropland. Agricultural lands are common throughout the region and the loss of a small amount of this land will be considered less than significant.

### ***6.5.3.2 Emergent Wetland***

The permanent loss of approximately 0.04 acre of emergent wetland will occur where the access road to the site crosses Sand Creek. This impact will be considered less than significant with the implementation of the mitigation measures in Section 6.6 Mitigation Measures.

### ***6.5.3.3 Developed Lands***

The associated access road will permanently impact approximately 0.38 acre of developed lands. This impact will be less than significant.

#### **6.5.4 General Wildlife**

Direct mortality of general wildlife species could occur during construction as a result of increased vehicular and foot traffic, use of heavy construction equipment, grading and excavation for tower footings, pulling of transmission lines, and other project activities. In addition, a limited amount of wildlife habitat will be temporarily lost due to construction, while approximately 5.03 acres will be permanently lost due to the construction of the substation and its access road, and tower footings for the connection of the existing transmission line into the substation.

Some wildlife species are expected to leave the immediate vicinity of the project area once construction starts and will instead use the substantial amount of nearby unaffected habitat. As a result, only a minimal amount of direct mortality is expected to occur. Impacts to general wildlife populations will be temporary and less than significant. Therefore, no mitigation is required.

##### ***6.5.4.1 Nesting Passerines***

Noise and activity associated with substation construction could cause disturbance to other avian species that are not designated as special-status species. These include migratory waterfowl, shorebirds, and other birds common to the area. Work performed near foraging habitat could cause some birds to disperse, but this would be a temporary and less than significant impact. Construction activity also has the potential to cause nest abandonment if nests are present. Species covered under the MBTA are protected, and nest abandonment may be a significant impact. Mitigation measures to minimize impacts to nesting passerines are included in Section 6.6 Mitigation Measures.

##### ***6.5.4.2 Bird Electrocutions***

Electrocutions only occur when a bird simultaneously contacts two conductors of different phases or a conductor and the ground. This happens most frequently when a bird attempts to perch on a structure with insufficient clearance between these elements. On a 230 kilovolt (kV) transmission line, all clearances between conductors or between conductors and the ground are sufficient to protect even the largest birds. As a result, there will be no impacts.

Although the non-energized metal structures in a substation are grounded, birds and climbing animals can be electrocuted by reaching energized conductors from grounded equipment. Several recent surveys report on bird and animal-caused substation outages in the United States. These surveys focus on problems that wildlife cause to substations, but indicate that most problems in substations are caused by tree squirrels, raccoons, domestic cats, and birds, especially starlings, blackbirds, and pigeons. Raptors are rarely electrocuted at substations, other than an occasional hawk or owl attempting to roost or feed on the equipment. In a qualitative survey of animal-caused outages at PGandE substations, squirrels, raccoons, and birds were identified as the primary pests. Electrocutions of wildlife as a result of the project will be very rare.

#### **6.5.4.3 Bird Collisions**

Bird collisions with manmade structures have been reported in scientific literature for over a century. A number of bird collision studies have been done at transmission lines, which indicate that the primary factor in determining the number of birds colliding with a transmission line is the number of birds flying through the area.

It is impossible to predict the magnitude of bird mortality from the transmission line without extensive information on bird species and movements in the project vicinity. It is generally expected that collision mortality is greatest where the movements of susceptible species are the greatest. The number of raptors utilizing the annual grassland habitat is not large and there are no significant features other than Sand Creek to draw a significant number of avian species to the project area. The placement and visibility of the line will decrease the amount of collision mortality. Impacts will be less than significant. Mitigation, therefore, is not required.

#### **6.5.5 Special-Status Plant Species**

If special-status plant species are determined to be present based on surveys that will be conducted in 2005, impacts from construction of the substation could be potentially significant. Implementation of the mitigation measures described in Section 6.6 Mitigation Measures will reduce any such impacts to less than significant levels.

#### **6.5.6 Special-Status Wildlife Species**

A summary of impacts to known or potentially occurring special-status wildlife species as a result of project construction and substation operation is provided below. A detailed assessment of mitigation measures for these impacts is provided in Section 6.6 Mitigation Measures.

Due to the potentially close proximity to the project area of three threatened or endangered wildlife species (CRLF, CTS, and San Joaquin kit fox) and the burrowing owl, consultation with the USFWS and CDFG pursuant to the FESA and CESA will be required.

##### **6.5.6.1 California Red-Legged Frog**

Construction activities that affect drainages, migration corridors, and aestivation habitat may disturb or remove habitat occupied by or potentially occupied by this frog species. Some temporary impacts to Sand Creek (potential CRLF breeding habitat) may occur from the construction of a bridge across this drainage. Instream construction activities for the access road over Sand Creek could result in the loss of eggs, tadpoles, and adults, and may introduce contaminants into the waterways. The permanent loss of aestivation habitat may occur as a result of construction of the substation, access road, and tower footings. The temporary loss of aestivation habitat may occur in temporary work areas. Removal of or disturbance to aestivation and breeding habitat may be considered a potentially significant impact. Implementation of mitigation measures included in Section 6.6 Mitigation Measures will reduce these impacts to less than significant levels.

#### **6.5.6.2 California Tiger Salamander**

Construction activities that affect drainages and aestivation habitat may disturb or remove habitat occupied by or potentially occupied by this salamander species. The permanent loss of aestivation habitat may occur as a result of substation construction and the installation of the access road. Removal of or disturbance to aestivation and breeding habitat may be considered a potentially significant impact. Implementation of mitigation measures included in Section 6.6 Mitigation Measures will reduce these impacts to less than significant levels.

#### **6.5.6.3 Western Pond Turtle**

Construction activities near the drainage crossing may disturb or remove habitat occupied or potentially occupied by western pond turtle (*Clemmys marmorata*). Instream construction activities for the access road could result in the loss of adults, and may introduce contaminants into the waterways. However, the protection measures instituted to protect aquatic habitats for CRLF and CTS will also protect western pond turtle, resulting in less than significant level of impacts. Mitigation measures to protect these species are included in Section 6.6 Mitigation Measures.

#### **6.5.6.4 Burrowing Owl**

Suitable habitat is present for the burrowing owl within the project site. Noise and activity associated with construction of the substation during the non-nesting season could disturb burrowing owls and cause them to temporarily avoid the construction area. This will be a less than significant impact.

Impacts to burrowing owls resulting from the project could occur if burrowing owls move into the construction zone during nesting season (late February through August), prior to the start of construction, or during construction. There is the potential for individual owls, their young, and their eggs to be destroyed or their nests abandoned. This could be a significant impact, absent mitigation. Loss of nesting habitat could also be considered a significant impact if tower or substation sites are occupied by burrowing owls. Loss of foraging habitat may be considered a less than significant level of impact because of the vast amount of non-native grassland habitat present in the area. Mitigation measures to reduce potentially significant impacts to burrowing owls to less than significant levels are included in Section 6.6 Mitigation Measures.

#### **6.5.6.5 Tricolored Blackbird**

Habitat is sparse for breeding tricolored blackbirds (*Agelaius tricolor*) along Sand Creek, adjacent to the substation site, and at the access road bridge crossing on Sand Creek. The transmission line will not span any such habitat and will, therefore, not directly impact habitat. If nesting or breeding tricolored blackbirds are interrupted and the activity results in nest abandonment, the consequence may be considered a significant impact. Noise and activity associated with construction of transmission towers during the non-nesting season could disturb tricolored blackbirds and cause them to temporarily avoid the construction area. Mitigation measures to reduce any potentially significant impacts to tricolored blackbirds to less than significant impact levels are included in Section 6.6 Mitigation Measures.

#### **6.5.6.6 Raptors**

Noise and activity associated with project construction during the non-nesting season could disturb raptors and cause them to temporarily avoid the construction area. This would be a less than significant impact. Sensitive raptor species could abandon nesting attempts if disturbed during the breeding season during construction. This could be a potentially significant impact. The permanent loss of foraging habitat is expected to be a less than significant impact because of the extensive grassland habitat throughout the project area and surrounding vicinity. Mitigation measures to reduce potentially significant impacts to raptors to less than significant levels are included in Section 6.6 Mitigation Measures.

#### **6.5.6.7 San Joaquin Kit Fox**

While direct impacts to San Joaquin kit fox (kit fox) can be avoided, construction-related disturbances will have a direct negative effect upon kit fox habitat. Direct project effects on the kit fox may be significant if breeding and denning is interrupted by construction. A permanent loss of breeding and foraging habitat could occur as a result of project construction. The impact is considered potentially significant because of the rapid reduction in suitable kit fox habitat due to urbanization of the Central Valley and the Tri-Valley area. While a literature review reveals that intensive surveys for the kit fox have failed to detect denning sites and few observations have been made west of Vasco Road, increased traffic and human presence in the area could adversely impact the kit fox, a potentially significant impact. Construction will not impact access of the kit fox to, or limit its movements to and from, remnant suitable habitat. The project site is located in an area considered unsuitable for kit fox denning due to the current land use. Mitigation measures to reduce potentially significant impacts to kit fox to less than significant levels are included in Section 6.6 Mitigation Measures.

#### **6.5.6.8 San Joaquin Pocket Mouse**

Significant impacts to the San Joaquin pocket mouse could occur if breeding and nesting is interrupted by construction. Habitat is suitable for this species within the work area. Mitigation measures to minimize potentially significant impacts to San Joaquin pocket mouse to less than significant levels are included in Section 6.6 Mitigation Measures.

#### **6.5.6.9 Bats**

There is suitable habitat for bats in large-diameter sycamores, oaks, and other trees in the area. Impacts to special-status bat species include the potential for destruction of individual bats, if present, which would be a potentially significant impact. Construction noise could cause bats to abandon their roosts and could result in reproductive failure, which would also be a significant impact. Mitigation measures to minimize potentially significant impacts to bats to less than significant levels are included in Section 6.6 Mitigation Measures.

#### **6.5.6.10 Predation**

The possibility of adding a new tower may increase predation by raptors on sensitive species by providing an additional perch site. However, due to the low quality of the riparian and upland habitat, this is considered a less than significant impact.

## 6.6 MITIGATION MEASURES

The following mitigation measures are recommended to avoid or minimize anticipated impacts to biological resources from project development:

- An ongoing endangered species/sensitive habitat education program for construction crews will be conducted by a qualified biologist(s) prior to the commencement of the project and during construction activities. Sessions will include discussion of the FESA and CESA, the consequences of noncompliance with these acts, and identification and values of sensitive species and wetland habitats.
- An educational brochure will be produced for construction crews working on the project. Color photos of threatened and endangered species (kit fox, burrowing owl, Swainson's hawk, CRLF, and CTS) will be included, as well as a discussion of protective measures agreed to by PGandE and the resource agencies.
- Vehicles will be confined to existing roads or approved routes. In sensitive areas the speed limit will be 15 miles per hour.
- A biological monitor will be on-site during any construction activity in sensitive habitat.
- Photo documentation of all sensitive habitat before and after construction will occur and be part of the project report due to the resource agencies no later than 90 days following completion of construction.
- Diligent efforts by PGandE will be used to protect the existing plant community and to keep temporary impacts to a minimum. However, if they occur, temporary impacts to habitat will be addressed through a revegetation/restoration plan prepared in conjunction with the resource agencies.
- If appropriate, anti-perch devices will be applied to the horizontal surfaces of new tower structures to inhibit raptor perching and nesting.
- The biological monitor will document monitoring activities in a daily project report and all daily reports will be summarized in a written report within 90 days of completion of construction.
- Trash dumping, firearms, and pets will be prohibited in the project area.

## **6.6.1 Habitat Types**

### **6.6.1.1 Emergent Wetland**

- A wetland delineation per the ACOE Wetlands Delineation Manual will be conducted prior to construction. The delineation will use a three-parameter approach that includes an examination of vegetation, soils, and hydrology to determine the presence of wetlands. A wetland report will be prepared and submitted to the ACOE for verification. Through this process, final calculations of wetland area present in the project area will be obtained for project permitting.
- Wetlands and aquatic resources will be denoted as environmentally sensitive areas and will be avoided during construction to the degree practicable. The permanent loss of emergent and/or seasonal wetlands resulting from project construction will be mitigated at a minimum ratio of 1:1 through:
  - the purchase, restoration, and protection of severely degraded similar wetlands in the vicinity of the project;
  - the creation of new emergent and/or seasonal wetland from upland habitat within the vicinity of the project; and/or
  - the purchase from a mitigation bank of similar wetlands in the vicinity of the project.

## **6.6.2 Special-Status Plant Species**

Following the completion of all special-status plant surveys, PGandE will modify the project to avoid impacts to special-status plant species. If identified special-status plant species cannot be avoided, PGandE will:

- acquire suitable habitat for identified species within the project vicinity,
- develop a long-term habitat enhancement plan for identified species, and/or
- monitor the implementation of and the compliance with mitigation measures outlined in the habitat enhancement plan.

## **6.6.3 Special-Status Wildlife Species**

### **6.6.3.1 California Red-legged Frog and California Tiger Salamander**

The following practices will be implemented as part of the project design to minimize disturbance to areas potentially occupied by CRLF and CTS.

- Access to the construction site will be restricted to those routes identified in the project description. Access will be clearly marked in the field with appropriate flagging and signs.
- Vehicle parking at the construction site will be restricted to previously disturbed areas or existing roads. Agricultural areas are not considered previously disturbed. Necessary vehicles belonging to the biological monitors and construction personnel will be parked at the nearest point to the work site on existing access roads.

- Soil disturbance will be minimized to the greatest extent possible.
- Prior to the start of construction, a qualified biological monitor will train all project personnel regarding habitat sensitivity, identification of special-status species, and required practices within the project area. A fact sheet or other supporting materials containing this information will be prepared and distributed. Upon completion of training, employees will sign a form stating that they attended the training and understood all of the conservation and protection measures.
- A qualified biologist will monitor all construction activities within 300 feet of Sand Creek. If necessary, the monitor will inform the project foreman of any construction activities that compromise environmental integrity. The project foreman will have the authority to stop and/or redirect project activities to ensure protection of resources and compliance with all environmental permits and conditions of the project. The biologist will complete a daily report summarizing activities and environmental compliance.
- A qualified biologist will oversee placement of orange safety/exclusion fencing on either side of Sand Creek at the boundary to the work area to limit the area of disturbance during construction of the access road and bridge.
- Sensitive species will not be handled without first obtaining the necessary authorizations from the USFWS.
- A qualified biologist will conduct a preconstruction survey within the project area no earlier than two days before the start of ground-disturbing activities. If a CRLF or CTS is encountered during the survey or construction work, activities will cease in the immediate area until the animal is removed and relocated by a USFWS-approved biologist. Any incidental take will be reported to the USFWS immediately by telephone.
- Ground-disturbing activities within 30 feet of suitable CRLF or CTS breeding habitat will only occur between May 1 and October 31. The bridge at Sand Creek will be installed during this time period to ensure breeding behavior is not disrupted.
- From October 15 or the onset of the rainy season, whichever occurs first, until May 1, a qualified biologist will conduct daily visual surveys of all work areas within 100 feet of aquatic habitat at the beginning of the work day before any vehicles or equipment traffic enter the work area. If CRLF or CTS are observed within the work area, work activities will cease in the immediate area until they are removed and relocated by a USFWS-approved biologist.
- Mobile equipment will not be parked overnight within 100 feet of aquatic habitat. Stationary equipment (e.g., pumps, generators) used or stored within 100 feet of aquatic habitat will be positioned over secondary containment.



- During the installation of the bridge at Sand Creek, surveys will be conducted each morning to ensure that wildlife is not within the work area. Sediment control measures will be installed to minimize sedimentation downstream.
- PGandE will purchase habitat at a 3:1 ratio for impacted kit fox foraging habitat. Because this habitat is also suitable CRLF and CTS upland habitat, no additional habitat will be purchased. PGandE anticipates approximately 6 acres will be permanently impacted as a result of the project. A total of 18 acres of suitable kit fox, CRLF, and CTS upland habitat or credits will be purchased from an organization agreed upon by PGandE and the USFWS.

### **6.6.3.2 *Burrowing Owl***

Protective measures that will be implemented include:

- A preconstruction survey will be conducted in all areas providing suitable habitat at least 30 days prior to construction according to the most recent Burrowing Owl Survey Protocol and Mitigation Guidelines. Surveys will cover a 500-foot buffer around the substation and work areas. The survey will include checking for the burrowing owl and owl sign. If owls are found to be using the site and avoidance is not feasible, a passive relocation effort (displacing the owls from the site) may be conducted as stipulated by the CDFG guidelines. If an active burrow is inadvertently destroyed or an individual incidentally killed during construction, PGandE will take appropriate actions as recommended by current CDFG guidelines. However, PGandE does not anticipate an incidental take occurring.
- If occupied habitat is found on or adjacent to the project area, the following measures to avoid, minimize, or mitigate impacts to burrowing owls will be incorporated into the project.
  - Confirmed unoccupied burrows in the area may be collapsed.
  - If occupied burrows are identified, reasonable protective buffer zones will be implemented.
  - All work will be coordinated with the CDFG.

### **6.6.3.3 *Tricolored Blackbird***

Protective measures that will be implemented include:

- Field surveys for the tricolored blackbird will occur prior to construction.
- Suitable breeding habitat within the project area will be surveyed by a qualified biologist. If this species is located prior to construction and the nest cannot be avoided, PGandE will consult with the USFWS and CDFG to coordinate mitigation measures. Direct avoidance is possible by spanning suitable habitat.
- If construction is scheduled during the breeding season, a buffer of a reasonable distance, as determined by the on-site biological monitor, will be established around any active nests to protect breeding tricolored blackbirds.

- A biological monitor will remain on-site in sensitive habitat during breeding season while construction activity occurs to assist construction crews with information relative to nesting tricolored blackbirds, to minimize disturbance to habitat, and to maintain a buffer of a reasonable distance around active nests. These measures will be implemented to lessen the chance of nest abandonment by this sensitive species.

#### **6.6.3.4 Raptors**

Protective measures that will be implemented include:

- Before the spring breeding season (and prior to start of construction), a survey of the construction area for potential sensitive raptor habitat will be performed by a qualified biologist. It is expected that if construction occurs in suitable habitat before the onset of the breeding season, the construction disturbance will cause the raptors to seek alternate sites for breeding and nest construction.
- If avoidance of active nests is not practicable, a reasonable buffer of a reasonable distance will be maintained around any active raptor nest.
- If construction activities do not start until the onset of the nesting season for raptors (generally March through September), a qualified biologist will conduct a raptor survey at the site and of the surrounding area within 500 feet.
- In the event that an active raptor nest is found within 500 feet of the work area, a qualified biological monitor will be provided by PGandE and will remain on-site during construction activities to ensure there is no nest abandonment.

#### **6.6.3.5 Nesting Passerines**

Protective measures that will be implemented include:

- Before the spring breeding season (and prior to start of construction), the construction area will be surveyed for potential breeding birds. If active nests or breeding species are located prior to construction, PGandE will consult with the USFWS and CDFG to coordinate mitigation if the active nests cannot be avoided.
- If construction is scheduled during the breeding season, a sufficient buffer will be observed around active nests.
- A biological monitor will be present during the breeding season to ensure no construction activity results in nest abandonment.

#### **6.6.3.6 San Joaquin Kit Fox**

To minimize direct project-related disturbances and impacts to the kit fox, PGandE will comply with the USFWS' "*Standard Recommendations for the Protection of the San Joaquin Kit Fox Prior to or During Ground Disturbance.*" This document includes measures for preconstruction surveys and measures to minimize or eliminate mortality, harm, or harassment resulting from construction activity. The following measures will be followed:

- Within 30 days prior to the commencement of construction activities, a qualified biologist will survey for kit fox dens within the area that will be disturbed. Any potential den will be monitored for evidence of kit fox use by placing a tracking medium at den entrances for at least three consecutive nights. If an occupied den is found, progressive plugging of the den may be employed to discourage use, and the den closed after it is determined to be unoccupied for a minimum of three consecutive nights.
- Project-related vehicles will observe a 15-mile per hour speed limit in project areas deemed to provide kit fox habitat, except as posted on county roads and state and federal highways.
- Construction hours will be limited to the hours between 7 a.m. and 6 p.m.
- Off-road traffic outside of the designated project area will be prohibited.
- To prevent accidental entrapment of kit fox during construction, all excavated holes or trenches will be covered at the end of each workday with plywood or similar materials. Before such holes are filled they will be thoroughly inspected for trapped animals. In the event of a trapped animal, ramps or other structures will be installed immediately to allow the animal to escape, or the USFWS will be contacted for advice. PGandE will appoint a representative who will notify the USFWS and CDFG immediately in the event of an accidental death or injury to a kit fox during project-related activities and a follow-up letter will be submitted within three working days of the accident.
- PGandE will purchase habitat at a 3:1 ratio for impacted kit fox foraging habitat. PGandE anticipates approximately 6 acres will be permanently impacted as a result of the project and, therefore, a total of 18 acres of suitable kit fox habitat or credits will be purchased from an organization agreed upon by PGandE and the USFWS.

#### **6.6.3.7 San Joaquin Pocket Mouse**

Protective measures that will be implemented include:

- Field surveys for the San Joaquin pocket mouse will be conducted by a qualified biologist before construction begins. If this species is located prior to or during construction, PGandE will consult with the USFWS to coordinate avoidance.

### 6.6.3.8 Bats

Protective measures that will be implemented include:

- Before the spring breeding season (and prior to start of construction), a survey of the construction area for roosting or maternity colonies will be performed by a qualified biologist. It is expected that if construction occurs near suitable roosting habitat before the onset of breeding season, the construction disturbance will cause the bats to seek alternate sites for breeding and nest construction.
- If avoidance of an active roosting or maternity colony is not practicable, a sufficient buffer will be established at the discretion of the appropriate agency.
- In the event that a roosting or maternity colony occurs within or near the project area, a qualified biological monitor will be provided by PGandE and will remain on-site during construction activities to ensure there is no nest abandonment.

### 6.6.3.9 Bird Electrocutions

No impacts are expected from the 230 kV transmission line because of wire spacing stipulated as part of project design; therefore, no mitigation is required. Wire spacing from Tower 2 to Tower 1 is approximately 15 feet (vertical) and 20 to 28 feet (horizontal). Because electrocutions of sensitive species at substations are expected to be very rare events, no mitigation is proposed.

However, since substation outages threaten reliability and are expensive, PGandE's customary practice is to correct any problem at a substation causing repeated outages. Solutions to wildlife-caused outages at substations are specific to the equipment and species involved.

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