5.4 Biological Resources

5.4.1 Environmental Setting

The Proposed Project is in northern Merced County in the central San Joaquin Valley. Merced County is bordered by the foothills of the Sierra Nevada Mountains to the east and the Coast Range to the west. The county supports a variety of vegetation communities, including annual grasslands, wetlands, valley foothill riparian, and foothill oak woodlands. The Proposed Project is located primarily on or adjacent to agricultural land and pastureland. Unless otherwise noted, information presented in this section is summarized from the Biological Resources Technical Report for the Cressey-Gallo 115 kV Power Line Project, which is included as Appendix C (Biological Resources Technical Report, GANDA, 2011).

Introduction

Reconnaissance-level field surveys of botanical, wetland, and wildlife resources along a 600-foot-wide corridor for the Proposed Project were conducted by Garcia and Associates (GANDA) in April 2011. This survey area covers a wide buffer zone outside of PG&E's existing and proposed right-of-way, which is 50 feet wide (or less). In addition, to GANDA's field surveys, CH2M HILL surveyed botanical resources within 50 feet of Cressey Substation in August 2011. The purpose of all of these surveys was to identify and map potential habitat for sensitive biological resources, including special-status plant and wildlife species and sensitive natural communities. The survey area for biological resources is shown in detail in Figure 1, Maps 1-25 in the Biological Resources Technical Report in Appendix C.1 and in Figure 3 (Potential Staging Areas) in Appendix C.2.

In addition to surveys, biological databases and other sources were reviewed for this analysis. Sources included the following:

- California Department of Fish and Wildlife (CDFW, formerly known as the California Department of Fish and Game) RareFind 3.1.0 California Natural Diversity Database (CNDDB) (CDFG, 2011a) and CNDDB Quickviewer online database (CDFG, 2011d);
- U.S. Fish and Wildlife Service (USFWS) species list website (USFWS, 2011);
- California Wildlife Habitat Relationships (CWHR) System (CDFG, 2008) and Special Animals List (CDFG, 2011b);
- California Native Plant Society (CNPS) online version of the Inventory of Rare and Endangered Plants of California (CNPS, 2011);
- Aerial photographs; and
- The Jepson Online Interchange (2011) database for California floristics.

In addition, the following documents were reviewed: PG&E Draft Environmental Impact Report (EIR) for the San Joaquin Valley Operations and Maintenance Program Habitat Conservation Plan (HCP) (Jones and Stokes, 2006a), Draft EIR for the City of Merced Wastewater Treatment Plant Expansion Project (City of Merced, 2006), Wildlife and Rare Plant Ecology of Eastern Merced County's Vernal Pool Grasslands (Vollmar, 2002), and Eastern Merced County Natural Community Conservation Plan HCP (Noss et al., 2002). Altogether, these sources have been used by qualified biologists to develop an accurate description of existing conditions for biological resources.

Regulatory Setting

Federal Endangered Species Act (ESA). The federal ESA protects plants and wildlife that are listed as endangered or threatened by USFWS and the National Oceanic and Atmospheric Administration (NOAA) Fisheries Service. Section 9 of the ESA prohibits the take of listed fish and wildlife, where "take" is defined as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in such conduct" (50 Code of Federal Regulations [CFR] 17.3). For plants, this statute governs removing, possessing, maliciously damaging, or destroying any listed plant on federal land and removing, cutting, digging-up, damaging, or destroying any listed plant on non-federal land in knowing violation of state law (16 United States Code [USC] 1538). Section 10 of the ESA allows for issuance of incidental take permits to private parties provided a Habitat Conservation Plan (HCP) is developed. The private party initiates consultation with USFWS or NOAA Fisheries through consultation to discuss target species in the project area. The private party then prepares an HCP assessing the potential for the project to adversely affect federally listed species and presenting the measures that will be undertaken to avoid and minimize such impacts.

PG&E San Joaquin Valley Operations and Maintenance Habitat Conservation Plan. PG&E has a habitat conservation plan (HCP) for its operations and maintenance (O&M) activities in the San Joaquin Valley (Jones and Stokes, 2006b). PG&E's O&M HCP covers 23 wildlife and 42 plant species for 33 routine operations and maintenance activities for PG&E's electric and gas transmission and distribution systems within nine counties of the San Joaquin Valley, including Merced County. The project is included within the boundaries of this HCP. The HCP pertains to the operations and maintenance components of the project, but construction practices and APMs for the Proposed Project are also designed to be compatible with the HCP avoidance and minimization measures.

Migratory Bird Treaty Act (16 USC Sections 703–711). The Migratory Bird Treaty Act (MBTA) of 1918 protects all migratory birds, including active nests and eggs. Birds protected under the MBTA include all native waterfowl, shorebirds, hawks, eagles, owls, doves, and other common birds such as ravens, crows, sparrows, finches, swallows, and others, including their body parts (for example feathers and plumes), active nests, and eggs. A complete list of protected species is found at 50 CFR 10.13. Enforcement of the provisions of the MBTA is the responsibility of USFWS.

Clean Water Act (CWA) Sections 401 and 404. The purpose of the CWA is to "restore and maintain the chemical, physical, and biological integrity of the nation's waters." 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 ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (33 CFR 328.3 7b).

The U.S. Army Corps of Engineers (USACE) issues permits based on guidelines established under Section 404 of the CWA. Section 404 of the CWA prohibits the discharge of dredged or fill material into "waters of the United States," including wetlands, without a permit from USACE. The USEPA also has authority over wetlands and may under Section 404(c) veto a USACE permit.

California Endangered Species Act (CESA). Sections 2050-2098 of the California Fish and Game Code (CFGC) prohibit the take of state-listed endangered and threatened species unless specifically authorized by CDFW. The state definition of "take" is to hunt, pursue, catch, capture, or kill a member of a listed species or attempt to do so. CDFW administers CESA and authorizes take through permits or memorandums of understanding issued under Section 2081 of CFGC, or through a consistency determi-

nation issued under section 2080.1. Section 2090 of CFGC requires state agencies to comply with threatened and endangered species protection and recovery and to promote conservation of these species.

Fully Protected Species CFGC Sections 3511, 4700, 5050, and 5515. CFGC designates certain animal species as "fully protected" under Sections 3511 (birds), 4700 (mammals), 5050 (reptiles and amphibians), and 5515 (fish). Incidental take permits are available for such species only if they are covered under a Natural Community Conservation Plan (CFGC Sec. 2835.).

Native Plant Protection Act of 1973 (CFGC Sections 1900-1913). The Native Plant Protection Act of 1973 includes provisions that prohibit the taking of endangered or rare native plants from the wild and a salvage requirement for landowners. CDFW administers the Native Plant Protection Act of 1973 and generally regards as rare many plant species included on Ranks 1A, 1B, and 2, and sometimes Ranks 3 and 4, of the CNPS *Inventory of Rare and Endangered Vascular Plants of California*.

California Protection for Birds (CFGC Section 3503 et seq). CFGC Section 3503 states that it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto. Section 3513 makes it unlawful to take, possess, or destroy any birds of prey or to take, possess, or destroy the nest or eggs of birds protected under the Migratory Bird Treaty Act. Section 3503.5 makes in unlawful to take possess, or destroy any birds in the orders Falconiformes or Strigiformes (birds of prey), or to take, possess or destroy the nest or eggs of such birds.

California Species of Special Concern. "Species of Special Concern" is a designation assigned by the CDFW to species it considers at risk. Species of Special Concern meet one or more of the following criteria: (1) is extirpated from the State or, in the case of birds, in its primary seasonal or breeding role; (2) is listed as federally, but not State, threatened or endangered; meets the State definition of threatened or endangered but has not formally been listed; (3) is experiencing, or formerly experienced, serious (non-cyclical) population declines or range retractions (not reversed) that, if continued or resumed, could qualify it for State threatened or endangered status; (4) has naturally small populations exhibiting high susceptibility to risk from any factor(s), that if realized, could lead to declines that would qualify it for State threatened or endangered status. "Species of Special Concern" is an administrative designation intended to focus attention on at-risk species during environmental review and conservation planning. CDFW maintains lists of Species of Special Concern, including a list of California Bird Species of Special Concern.

Merced County General Plan. Merced County is currently operating under the *Merced County Year 2000 General Plan* (Merced County 1989; B. Nicholson pers. comm.) The County is in the process of updating this plan and has a draft of the revised plan (*Merced County General Plan Policies; Planning Commission Review Draft;* Merced County, 2011). The goals, objectives, and policies pertaining to the comprehensive and long-range management, preservation, and conservation of open-space lands, including wildlife, vegetation, and wetland resources, most relevant to the project are listed below for both plans.

2000 General Plan:

GOAL 1: Habitats that support rare, endangered, or threatened species are not substantially degraded. Objective 1. A.: Rare and endangered species are protected from urban development and are recognized in rural areas. Policies:

- (1) Recognize as significant wetland habitats areas that meet the definition of having a high wetland habitat value based on the Adamus methodology and based on the Army Corps of Engineers delineation method.

- (2) Continue to regulate the location, density, and design of development to minimize adverse impacts and encourage enhancement of rare and endangered species habitats.
- (7) In wetland areas, all public utilities and facilities, such as roads, sewage disposal ponds and gas, electrical and water systems, should be located and constructed to minimize or avoid significant loss of wetland resources.

2011 Planning Commission Review Draft:

Goal NR-1: Preserve and protect, through coordination with the public and private sectors, the biological resources of the County. Policies:

- NR-1.1: Habitat Protection. Identify areas that have significant long term habitat and wetland values including riparian corridors, wetlands, grasslands, rivers and waterways, oak woodlands, and vernal pools, and provide information to landowners.
- NR-1.4: Important Vegetative Resource Protection. Minimize the removal of vegetative resources which stabilize slopes, reduce surface water runoff, erosion, and sedimentation.
- NR-1.5: Wetland and Riparian Habitat Buffer. Identify wetlands and riparian habitat areas and designate a buffer zone around each area sufficient to protect them from degradation, encroachment, or loss.
- NR-1.7: Agricultural Practices. Encourage agricultural, commercial, and industrial uses and other related activities to coordinate with environmental groups in order to minimize adverse effects to important or sensitive biological resources.
- NR-1.10: Aquatic and Waterfowl Habitat Protection. Cooperate with local, State, and Federal water agencies in their efforts to protect significant aquatic and waterfowl habitats against excessive water withdrawals or other activities that would endanger or interrupt normal migratory patterns or aquatic habitats.
- NR-1.11: On-Going Habitat Protection and Monitoring. Cooperate with local, State, and Federal agencies to ensure that adequate on-going protection and monitoring occurs adjacent to rare and endangered species habitats or within identified significant wetlands.
- NR-1.12: Wetland Avoidance. Avoid or minimize loss of existing wetland resources by careful placement and construction of any necessary new public utilities and facilities, including roads, railroads, high speed rail, sewage disposal ponds, gas lines, electrical lines, and water/wastewater systems.
- NR-1.17: Agency Coordination. Coordinate with private, local, State, and Federal agencies to assist in the protection of biological resources and prevention of degradation, encroachment, or loss of resources managed by these agencies.

Vegetation and Habitat Types

The biological resources survey area for this project covers approximately 1,051 acres which includes the proposed power line route and a 600-foot-wide corridor centered along the route. Surveys were conducted within this 600-foot-wide corridor along the proposed power line route between the existing Cressey and Gallo Substations. The entire survey area (also referred to in this analysis as the "project corridor") is shown in detail in Figure 1, Maps 1-25, in the Biological Resources Technical Report in Appendix C. There are seven vegetation types within the survey area. Four of these are forms of agricultural land: pastureland, orchard, vineyard, and other cropland. The other three vegetation types are

ruderal, planted trees, and annual grassland. Wildlife habitat descriptions in this analysis are based on based on the California Wildlife Habitat Relationships System (CDFG, 2008). The area covered by each habitat type is summarized in Table 5.4-1.

Table 5.4-1. Approximate Extent of Vegetation and Other Land Cover Types within the Survey Area

Vegetation and Land Cover Types	Area (acres)
Vegetation Types	
Orchard	377.7
Cropland	359.9
Vineyard	127.7
Ruderal	70.6
Pastureland	67.1
Planted trees	10.9
Non-native Annual Grassland	3.1
Other Land Cover Types	
Developed/Landscaped	126.7
Bare ground	12.3
Irrigation canal	5.4
Ditch	0.7
Total	1,162.1

Note: The survey area consisted of the 600-foot-wide buffer along the 14.4-mile proposed power line corridor. The ends of the corridor are also buffered, which includes the 3.8 acres that are not shown in the table.

Agricultural (Crops/Orchard/Vineyard)

There are orchards in the eastern and central parts of the survey area (approximately 377.7 acres). The area is dominated by almond (*Prunus amygdalus*) orchards, but there are also a few walnut (*Juglans regia*) orchards. The understory is barren to very sparsely vegetated. Low-growing, shade-tolerant forbs are the predominant understory plants. These forbs include wartcress (*Lepidium didymum*), pygmy weed (*Crassula* sp.), white-stemmed filaree *(Erodium moschatum)*, and knotweed (*Polygonum aviculare* ssp*. depressum*).

Approximately 248.9 acres of other croplands are also present in the project corridor. These crops include wheat, row crops, and fallow fields. Typical wildlife species found in agricultural lands include red-tailed hawk (*Buteo jamaicensis*), common crow (*Corvus brachyrhynchos*), Brewer's blackbird (*Euphagus cyanocephalus*), western meadowlark (*Sturnella neglecta*), house finch (*Carpodacus mexicanus*), red-winged blackbird (*Agelaius phoeniceus*), California ground squirrel (*Spermophilus beecheyi*), and deer mouse (*Peromyscus maniculatus*). Disked fields typically provide foraging habitat for wildlife species such as great egret (*Ardea alba*), great blue heron (*Ardea herodus*), northern harrier (*Circus cyaneus*), red-tailed hawk, killdeer (*Charadrius vociferous*), white-tailed kite (*Elanus leucurus*), and burrowing owl (*Athene cunicularia*). Extensive vineyards of wine grapes (*Vitus* spp.) occur in the western third of the survey area and cover approximately 127.7 acres. The understory of these vineyards is barren or contains annual grasses, likely planted for erosion control. These grasses were present only in vegetative form and could not be identified to species.

Developed/Landscaped/Planted Trees

Developed and landscaped areas are located on and around rural residences, farm buildings, schools, and roads. A total of approximately 126.7 acres of developed/landscaped lands occur in the survey area. Landscaping associated with some of these areas includes lawns, ornamental flowers, shrubs, and trees. Rows of planted trees (approximately 10.9 acres) were observed along the roadsides and adjacent to the vineyards in the western part of the survey area, especially along Magnolia Avenue. Planted trees and shrubs included cork oak (*Quercus suber*), coast live oak (*Quercus agrifolia*), oleander (*Nerium oleander*), Fremont cottonwood (*Populus fremontii*), almonds, plums (*Prunus domestica*), and apples (*Malus sylvestris*).

Developed areas, particularly areas with landscaping vegetation and planted trees, can provide moderately valuable habitat for wildlife. The planting and maintenance of shrubs, trees, and other ornamental plants in developed and landscaped areas can enhance this habitat for opportunistic animal species that can coexist with humans. Examples of species found in this habitat type are northern mockingbird (*Mimus polyglottos*), house finch, Brewer's blackbird, and raccoon (*Procyon lotor*). Also, buildings and structures such as bridges, overpasses, and transmission towers can provide shelter, roosting, or nesting sites for species such as cliff swallow (*Petrochelidon pyrrhonota*), barn swallow (*Hirundo rustica*), rock pigeon (*Columba livia*), and small mammals such as mice, rats, and a variety of bats.

Ruderal Vegetation and Bare Ground

Ruderal vegetation consists of non-native weedy grasses and forbs that are typically associated with roadsides and other highly disturbed locations. Approximately 70.6 acres of ruderal habitat was identified in the survey area. Common species observed include annual ryegrass (*Lolium multiflorum*), foxtail barley (*Hordeum murinum* ssp. *leporinum)*, wild oats (*Avena* spp.), ripgut brome brome (*Bromus diandrus*), soft brome (*Bromus hordeaceus*), annual bluegrass (*Poa annua*), fiddleneck (*Amsinckia* sp.), white-stemmed filaree, linaria (*Linaria canadensis*), narrow-leaved plantain (*Plantago lanceolata*), common mustard (*Brassica rapa*), jointed charlock (*Raphanus raphanistrum*), milk thistle (*Silybum marianum*), bur clover (*Medicago polymorpha*), vetch (*Vicia* sp.), and cudweed (*Gnaphalium palustre*). The approximately 12.3 acres of bare ground in the survey area consists mainly of unpaved roads, including roads through orchards and some public rural roads.

Ruderal areas generally provide relatively low habitat value for wildlife because they are degraded communities dominated by non-native, weedy plants. These areas typically provide low-quality foraging habitat for most birds and small mammals, but can provide marginal habitat for some species depending on the type and amount of vegetation present. Common birds found in ruderal habitat include Brewer's blackbird, house finch, and mourning dove (*Zenaida macroura*). The western fence lizard (*Sceloporus occidentalis*), a common reptile, often utilizes bare ground areas such as roadsides and railroad berms for thermal basking.

Pastureland

Grazed pastureland covers approximately 67.1 acres within the survey area, mainly in the eastern third of the proposed route. Vegetation consists mainly of non-native grasses and forbs. The grasses were largely unidentifiable to species due to grazing, but include foxtail barley, annual fescue (*Vulpia* spp.), and mannagrass (*Glyceria* sp.). Other plants include common mustard, mallow (*Malva* sp.), white-stemmed filaree, curly dock (*Rumex crispus*), spikerush (*Eleocharis* sp.), and prickle-seed buttercup (*Ranunculus muricatus*).

Pastures are used by a variety of wildlife depending on the geographic area and types of adjacent habitat. The pastureland found in the survey area provides suitable foraging and nesting habitat for some animals, especially birds. Ground nesting birds including waterfowl, western meadowlark, and pheasant (*Phasianus colchicus*) may nest in pastures if adequate residual vegetation is present during the nesting season. Flood irrigation of pastures provides foraging habitat for many wetland-associated birds, including shorebirds, wading birds, gulls, waterfowl, and raptors.

Non-native Annual Grassland

Annual grassland is the only habitat type in the project corridor that is included in the classification system of Holland (1986). The areas included as annual grassland in this analysis are low quality grasslands that would not meet the annual grassland criteria in *A Manual of California Vegetation* (Sawyer et al., 2009). These areas are distinct from pastureland because they were not being grazed at the time of the surveys.

Non-native annual grassland is composed of dense to sparse cover of mainly introduced annual grasses, usually less than 3 feet in height (Holland, 1986). The 3.1 acres of annual grassland within the survey area are dominated by non-native grasses such as wild oats and ripgut. No native grasses were observed. Introduced forbs were abundant, including wild radish *(Raphanus sativus*), jointed charlock, common mustard, and white-stemmed filaree. Native fiddleneck occurs in low densities.

Annual grassland can support a variety of small mammals and provide foraging or nesting habitat for raptors and other birds. Birds commonly found foraging in annual grasslands include red-tailed hawk, American kestrel (*Falco sparverius*), and turkey vulture (*Cathartes aura*). Common seed eaters, including California quail (*Callipepla californica*), mourning dove, and western meadowlark may nest on the ground in grasslands. Other common species, such as western scrub-jay (*Aphelocoma californica*) and northern mockingbird, disperse through, and forage within, grassland habitats.

Mammals commonly found in annual grasslands include California ground squirrel, Botta's pocket gopher (*Thomomys bottae*), deer mouse, broad-footed mole (*Scapanus latimanus*), western harvest mouse (*Reithrodontomys megalotis*), and black-tailed jackrabbit (*Lepus californicus*). These small mammals utilize open grassland for both foraging and breeding. Burrows of California ground squirrels may also provide important refuge sites for other species. Grassland wildflowers provide important nectar sources for butterflies, bees, and other insects.

Wetland and Aquatic Habitats

Aquatic resources in the survey area include seasonal ponded areas, agricultural ditches, and irrigation canals. Irrigation canals and ditches cover 6.1 acres in the project corridor, and seasonal ponded areas cover 1.83 acres. These aquatic features are represented on the maps in the Biological Resources Technical Report*,* Figure 1 (see Appendix C). Irrigated pasture and cropland observed during reconnaissance-level field surveys are not considered wetland or aquatic resources and are not discussed in this section.

Irrigation Canals. Irrigation canals cover approximately 5.4 acres in the survey area, and ditches cover approximately 0.7 acres. There are some canals and ditches with concrete or other hard structure bank, and some with dirt banks. A few of these were dry at the time of the survey, but most were filled with irrigation water. The channels and banks of most of the canals and ditches observed were unvegetated. The channelized irrigation canals and ditches associated with agricultural and crop lands in the survey area serve as habitats for amphibians and reptiles such as Pacific treefrog (*Pseudacris regilla*), western spadefoot toad (*Spea* [= *Scaphiopus*] *hammondii*), and bullfrog (*Lithobates catesbeiana*), as well as

reptiles such as western pond turtle (*Actinemys marmorata*). A variety of waterbirds may also utilize these features as refuge and/or foraging sites.

Seasonal Ponded Areas. Seasonal freshwater ponded areas may support a unique assemblage of species that are adapted to an annual regime of ponding and drying out. These habitats can provide valuable resources for a variety of wildlife species. Species composition within seasonal ponded areas depends in part on the period of inundation during the wet season. When water is present, these habitats may support aquatic invertebrates, including federally listed vernal pool crustaceans, and provide breeding sites for amphibians such as Pacific treefrog, western toad (*Anaxyrus boreas*), and western spadefoot toad. The duration of ponding affects which species may use ponds as breeding sites. Because they are hydrologically isolated from rivers and streams and subject to seasonal drying, fish are not present in seasonal ponded areas. In the winter and spring, seasonal ponded areas may provide foraging habitat for resident and migratory birds. The seasonal ponded areas that were surveyed do not contain vernal pool plant indicator species; therefore, they were not considered vernal pool habitat in this analysis.

The following describes the seasonal ponded areas and potential seasonal ponded areas observed during reconnaissance surveys:

- In the pastureland on the eastern side of the survey area south of Cressey Substation there are 1.6 acres of seasonal ponded areas and an additional 0.07 acres that contained pooled water from recent rain events at the time of reconnaissance surveys. The dominant plants associated with these features are Italian rye grass, spikerush, curly dock, and mannagrass.
- Near the intersection of Mercedes Avenue and the Burlington Northern Santa Fe railroad tracks (along Santa Fe Drive), there is a 0.1-acre (apparently manmade) feature that represents a seasonal ponded area. This feature is characterized by curly dock, common rush (*Juncus effusus*) and loosestrife.
- One seasonally wet depression was observed within a field of planted wheat west of a rural residence immediately southwest of the intersection of Arena Canal with Magnolia Avenue. Plant species observed within this depression included spurrey (*Spergula arvensis*), common groundsel (*Senecio vulgaris*), and red maids (*Calandrinia ciliata*). This depression covers approximately 0.06 acres.

April 2011 surveys were conducted when vernal pool plants would be present. None of the seasonal ponded areas in the project corridor contained vernal pool indicator plant species. In addition, none of the seasonal ponded areas appear to be capable of holding water for an extended period. The seasonal ponded areas near Cressey Substation are located in pastureland that has been significantly altered by grazing and other agricultural uses and shows signs of continual disking.

Special-Status Species

The likelihood of special-status species occurrence (low, moderate, high) in the analysis below is based on habitat requirements (such soils, hydrology, vegetation types, and disturbance factors) and known habitat range:

- **Low**: Habitat within the survey area and/or project vicinity satisfies very few of the species' requirements and/or the range of the species overlaps with the vicinity of the project, but not within the project corridor itself. The species' presence within the project corridor is unlikely.
- **Moderate**: Habitat within the survey area and/or project vicinity meets some of the species' requirements, and known locations for the species are found in the vicinity of the project corridor. Presence of the species within the project corridor is moderately likely.

- **High**: Habitat within the survey area and/or project vicinity meets most or all of the species' requirements, and known locations for the species are found within 5 miles of the project corridor. Presence of the species within the project corridor is highly likely.

Special-status species with moderate or high likelihood to occur in the project corridor are discussed in more detail below. Special-status species with low likelihood to occur are not discussed in detail, but are included in the analysis of potential project impacts in Section 5.4.2.

Designated Critical Habitat

Critical habitat is designated in conjunction with the federal Endangered Species Act. Critical habitat is a specific geographic area that may require special management and protection because it contains features that are essential for the conservation of threatened or endangered species. USFWS and the NOAA Fisheries both designate critical habitat.

The survey area does not include designated critical habitat for any plant or wildlife species. However there is designated critical habitat for several species within five miles of the project corridor (see Appendix C, Figure 2). The Merced River (0.26 miles north of Gallo Substation) is designated critical habitat for Central Valley steelhead (*Oncorhynchus mykiss irideus*). There is critical habitat for Conservancy fairy shrimp (*Branchinecta conservatio*), vernal pool fairy shrimp (*Branchinecta lynchi*), Vernal pool tadpole shrimp (*Lepidurus packardi*) and five endangered vernal pool plants 4.6 miles south of project route along Magnolia Avenue and 3.4 miles east of Cressey Substation. No wildlife connectivity areas or linkage corridors were identified within five miles of the survey area (USFWS, 1998; CDFG, 2011c).

Special-Status Plants and Wildlife

Special-status species with the potential to occur in the survey area are shown in Table 5.4-2. Species that are known to occur in the region based on database and literature reviews, but that have no potential to occur in the habitat within the survey area, are listed in Tables 2 and 3 in the Biological Resources Technical Report (see Appendix C), but are not shown in Table 5.4-2 below. Species with at least moderate potential to occur in the project corridor are discussed in more detail below. Species with low potential to occur in the survey area are discussed in Table 5.4-2 only.

Special-status plants meet one or more of the following criteria:

- Federally or state-listed, or proposed for listing, as rare, threatened or endangered (CDFG, 2011a);
- Special Plant as defined by the CNDDB (CDFG, 2011a); and/or
- Listed by the CNPS in the online version of its *Inventory of Rare and Endangered Plants of California* (CNPS, 2010). Species designated as List 4 by the CNPS were also considered special-status species.

Database searches identified 38 special-status plant species in the vicinity of the Proposed Project (see Table 5.4-2). Based on reconnaissance surveys, there is no suitable habitat (e.g., native or natural grasslands, natural alkaline flats, chenopod scrub, or vernal pools) in the survey area for any of these species except Sanford's arrowhead *(Sagittaria sanfordii*).

Special-status wildlife meet one or more of the following criteria:

- Listed, proposed for listing, or candidates for listing as threatened or endangered under the federal Endangered Species Act (ESA);
- Listed or candidates for listing as threatened or endangered under the California Endangered Species Act (CESA);

- Designated as Species of Special Concern or a fully protected species by the CDFW; and/or
- Listed on the CDFW "Special Animals" list (CDFG, 2011b); or that otherwise meet the definition of rare, threatened or endangered as described in the California Environmental Quality Act (CEQA) Guidelines, Section 15380.

Literature and database reviews identified 54 special-status wildlife species with potential to occur in the project vicinity (see Table 5.4-3). Based on reconnaissance surveys, ten of these species have moderate potential to occur within the survey area. Both Swainson's hawk (*Buteo swainsoni*) and white-tailed kite (*Elanus leucurus*) were actually observed during surveys of the project corridor. An active red-tailed hawk nest was also observed in the survey area.

Valley Elderberry Longhorn Beetle – Federally Threatened. Valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*) is completely dependent on its host plant, elderberry (*Sambucus* spp.). Elderberry shrubs are commonly found in the remaining riparian forests and adjacent uplands of California's Central Valley. Valley elderberry longhorn beetle lay eggs on elderberry stems that are at least one inch in diameter (measured at ground level). Larvae excavate passages into the elderberry shrub; the larvae remain in the shrubs for as long as two years before they emerge as adults. Beetles are most abundant in dense native plant communities with a mature overstory and mixed understory (USFWS, 1999).

The dense riparian habitat along the Merced River supports elderberry shrubs (Vollmar, 2002). There are three CNDDB occurrences of valley elderberry longhorn beetle from the late 1980s and early 1990s within five miles of the survey area (CDFG, 2011A). Each of these occurrences is within the Merced River riparian corridor. Reconnaissance surveys for the project identified 28 elderberry shrubs in the survey area. Twenty-seven of the elderberry shrubs had stems greater than one inch in diameter at ground level; twenty-five of these were along the shoulders of West Avenue and Palm Avenue adjacent to irrigated pastureland. No exit holes were observed in these 25 mature elderberry shrubs. Valley elderberry longhorn beetle has moderate-high potential to occur in the vicinity of Cressey Substation.

Western Spadefoot Toad – State Species of Special Concern. Western spadefoot toad is found primarily in lowland washes, floodplains, and alluvial fans and flats; however, the species' range also extends into foothills and mountain habitats. Typical breeding habitat for the western spadefoot toad in Merced County includes vernal pools, stock ponds, seasonal pools, and ephemeral wetlands that hold water for more than three weeks and are free of introduced fish and bullfrogs (Jennings and Hayes, 1994). Adults spend the majority of their lives underground in burrows; they prefer open vegetation with short grasses and sandy or gravely soil (Stebbins, 2003). Western spadefoot toads generally emerge from burrows during relatively warm rains in the late fall through late spring to breed in ponds and ephemeral wetlands (Morey and Guinn, 1992); typically breeding areas are within approximately 1,200 feet of upland habitat (Semlitsch and Brodie, 2003).

Western spadefoot toad has been found in scattered locations throughout Merced County (Laabs et al., 2002, CDFG, 2011a). The nearest reported occurrence is 7.8 miles south of Magnolia Avenue and Arena Way (CDFG, 2011A). Reconnaissance-level surveys identified suitable breeding habitat (seasonal ponded areas) in the pastures south of Cressey Substation. The seasonal ponded area located near the intersection of Mercedes Avenue and the Burlington Northern Santa Fe railroad tracks lacks suitable upland habitat necessary for this species. Because there is suitable aquatic breeding habitat for western spadefoot toad in the pastureland south of Cressey Substation, this species has moderate potential to occur in the project corridor.

Blainville's (Coast) Horned Lizard – State Species of Special Concern. The Blainville's (coast) horned lizard (*Phrynosoma blainvillii*) is associated with a wide variety of habitats including scrubland, grassland,

coniferous forest, and woodlands. This species is commonly found in lowlands along sandy washes and in habitats with loose, sandy loams and/or sandy-gravelly soils (Jennings and Hayes 1994; Stebbins, 2003). This species requires open bare soil for basking, and presence of native harvester ants as prey.

Little is known about the presence of Blainville's horned lizard in Merced County (Noss et al., 2002). There is one CNDDB record from 1989 in the vicinity of the survey area, approximately 6 miles south of Magnolia Avenue (see Figure 5.4-1). During surveys, colonies of harvester ants and sandy soils were observed throughout the survey area. However, much of the survey area, including locations where harvester ants and sandy soils were observed, has been developed by agriculture and presents this species with only marginally suitable habitat. Based on the presence of sandy soils and harvester ants, Blainville's horned lizard has a moderate potential to occur in the survey area.

Western Pond Turtle – State Species of Special Concern. The western pond turtle requires still or slow-moving, temporary or permanent waters, such as ponds, freshwater marshes and pools in perennial streams. They may remain active all year and sometimes move overland for distances of more than 300 feet to find a suitable nesting site (Jennings and Hayes, 1994). Pond turtles generally lay their eggs in open areas that are on dry slopes with soils rich in silt and clay.

Western pond turtle is found throughout Merced County (Orloff, 2002; CDFG, 2011a). There is one CNDDB record of this species 2.25 miles north of Magnolia Avenue (CDFG, 2011a). Canals and ditches have been found to create travel corridors and connectivity between habitats that have been compromised by fragmentation (Holland, 1994). The larger, mud bottom/vegetated irrigation canals in the survey area provide suitable habitat for this species. Because of the presence of suitable aquatic habitat (e.g., mud bottom and vegetated irrigation canals), western pond turtle has a moderate potential to occur in the survey area.

Loggerhead Shrike – State Species of Special Concern. The loggerhead shrike (*Lanius ludovicianus*) frequents open habitats with sparse trees and shrubs. These birds are known to perch on or utilize fences, trees, power lines, and utility poles to scan for suitable prey. This species nests in small trees, large shrubs, and hedgerows (Yosef, 1996). There are no CNDDB records of this species nesting in the vicinity of the survey area; however, this species is a common winter and breeding bird in Merced County (Sloat and Whisler, 2002). Suitable foraging and nesting habitat is present in open annual grasslands, pastureland, and adjacent planted trees throughout the project corridor. Therefore, this species has a moderate potential to occur in the project corridor.

Mountain Plover – State Species of Special Concern. Mountain plovers (*Charadrius montanus*) are winter migrants generally found on plowed agricultural fields. During the summer they migrate to nest in the dry prairies and short grass plains of northern Montana, southeastern Colorado, and Wyoming. Typically this species nests in a scraped depression on bare ground, lined with grasses, roots, and cow manure (Kaufman, 1996). There is one CNDDB record of this species in the project vicinity, approximately 14 miles northeast of Cressey Substation (CDFG, 2011a). Suitable foraging habitat for this species is present in open pastureland and grasslands found throughout the survey area. Therefore, mountain plover has a moderate potential to occur (during the winter) in the project corridor.

Swainson's Hawk – State Threatened. Swainson's hawk breeds in California (March-September) and winters in South America and Mexico. This species primarily consumes insects and small rodents while foraging in large, open plains and grasslands. Hay, grain, and most row crops also provide suitable foraging habitat during at least part of the breeding season. Vineyards and orchards are much less suitable because prey is scarce or unavailable due to vegetation density (Estep, 1989). Swainson's hawks usually nest in large trees, preferring native species. Most nest sites are found in riparian habitats, but

species may also use mature roadside trees, isolated individual trees in agricultural fields, small groves of oaks, and trees around farm houses (Schlorff and Bloom, 1984).

Swainson's hawks nest in low densities in Merced County. There are four CNDDB-recorded occurrences of Swainson's hawk within five miles of the survey area (CDFG, 2011A). Three of these occurrences were observations of active nests; the closest is approximately 1.9 miles northwest of Mercedes Avenue. During the reconnaissance-level survey, an adult Swainson's hawk was observed flying over the survey area. Suitable foraging habitat is present in open annual grasslands, pastureland, and agricultural croplands throughout the survey area. Suitable nest trees were observed throughout the survey area; many are located adjacent to rural residences. Swainson's hawk has a moderate potential to nest in the survey area and vicinity.

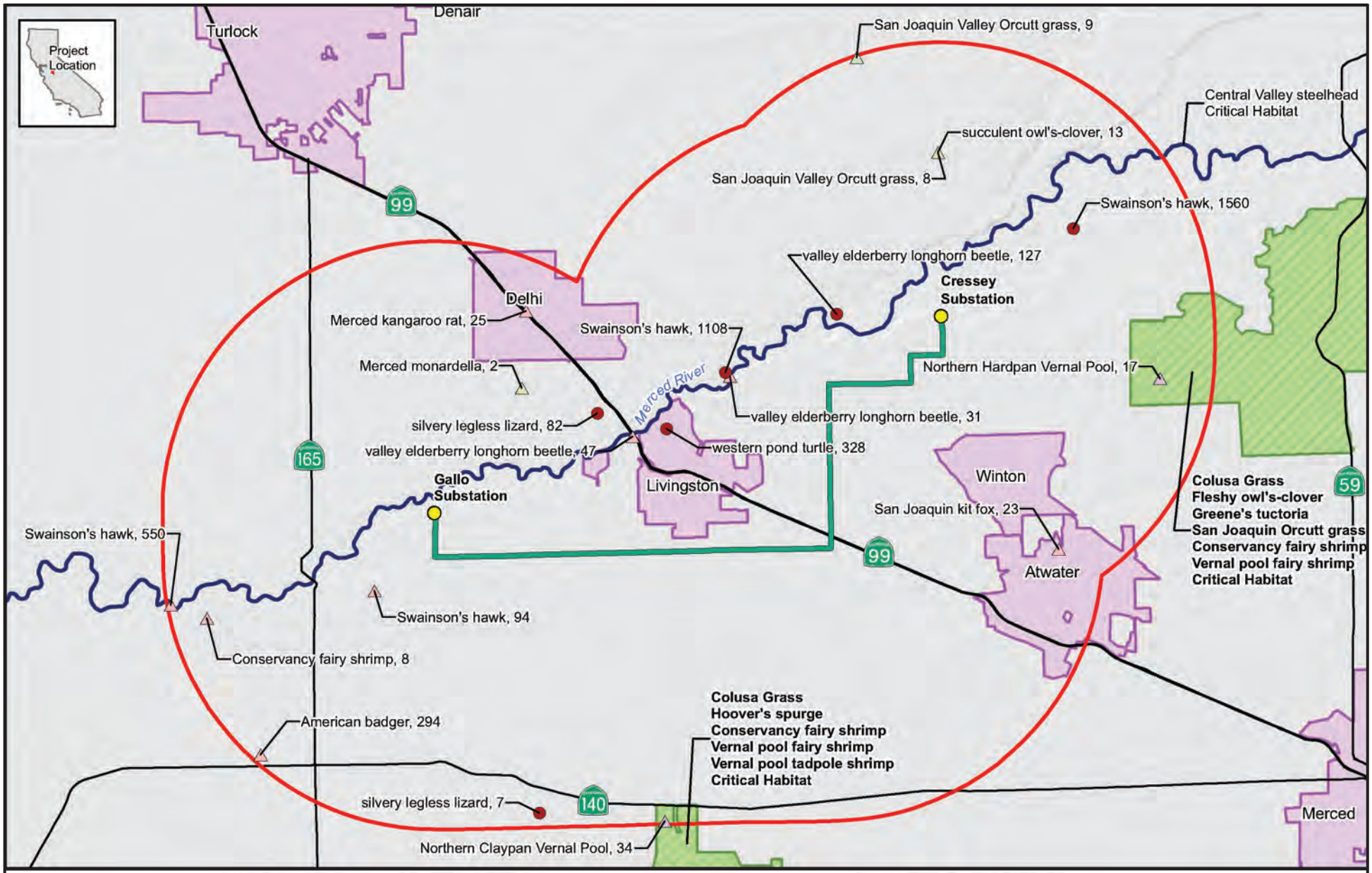
Western Burrowing Owl – State Species of Special Concern. Western burrowing owl (*Athene cunicularia hypugea*) prefers open, flat, or gently sloped grasslands and requires burrows for nesting. This species nests and forages in grasslands and agricultural lands. Western burrowing owls typically nest in burrows created by California ground squirrels, but they will also nest in artificial structures, such as pipes, concrete rubble piles, and small, dry culverts.

Western burrowing owls are known to occur throughout Merced County; breeding owls are more common than wintering owls (Sloat and Whisler, 2002). There are five CNDDB occurrences of western burrowing owl within the vicinity of the survey area, with the closest occurrence located 6.5 miles southwest of Magnolia Avenue and Arena Way (CDFG, 2011A). Suitable foraging habitat exists in open annual grasslands, pastureland, and agricultural croplands throughout the survey area. California ground squirrel burrows, which can be enlarged to be suitable as nesting sites, were also present. Because of suitable nesting and foraging habitat, western burrowing owl has moderate potential to occur throughout the project corridor.

White-tailed Kite – State Fully Protected Species. White-tailed kite forages in grasslands, marshes, riparian edges, and cultivated fields where prey species (mainly ground squirrels and jackrabbits) are relatively abundant (Kaufman, 1996). Kites typically nest on the tops of trees in close proximity to good foraging locations. There are no CNDDB records of this species nesting in the vicinity of the survey area. However, a white-tailed kite was observed foraging in the western part of the survey area during reconnaissance surveys, and suitable foraging habitat is present in the open annual grasslands, pastureland, and agricultural croplands throughout the project corridor. There is marginal nesting habitat in the survey area as well. Therefore, white-tailed kite has moderate potential to nest in the project corridor and vicinity.

Western Red Bat – State Species of Special Concern. Western red bat (*Lasiurus blossevillii*) is widely distributed throughout California. The species occurs in a variety of habitats, including forested canyons, riparian zones, and arid areas where they primarily roost in trees (Reid, 2006). This non-colonial species roosts almost exclusively in foliage, under overhanging leaves. Pierson et al. (2006) suggest that Central Valley habitats are most important for breeding populations.

Western red bats are known to occur in Merced County in association with both cottonwood riparian habitat and fruit orchards (Pierson and Rainey, 2002). However, there are no CNDDB occurrences within 5 miles of the survey area. Limited suitable foraging habitat for this species is present within the project corridor along the canals in the vicinity of the Merced River. Marginal roosting habitat (e.g., fruit orchards and other large planted trees) is present in the survey area. Due to the presence of suitable foraging habitat and roosting habitat in the project corridor, western red bat has a moderate potential to occur in the survey area in the vicinity of the Merced River.



Source: PG&E, 2011.

Figure 5.4-1

CNDDB Occurrences and Critical Habitat

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Table 5.4-2. Special-Status Species with Potential to Occur within the Survey area

Common Name *Scientific Name*	Status[2] Federal/State	Habitat Requirements	Potential to Occur in the Survey area
Plants			
Sanford's arrowhead *Sagittaria sanfordii*	1B.2	Blooming period: May-Oct. Marshes and swamps. Elevation 0-2,133 feet.	Moderate. No individuals of any species of *Sagitarria* were observed during the reconnaissance-level field survey. However, this species has been observed in a ditch in Merced County (pers. comm. R. Huddleston, 2011). Ditches and canals in the survey area likely provide poor quality habitat for this species.
Invertebrates			
California linderiella[1a] *Linderiella occidentalis*	– / SA	Vernal pools and other seasonal wetlands.	Low. Marginal suitable seasonal wetland habitat is present in the survey area south of Cressey Substation in the pastureland. However, all of the seasonal wetland features are located in pastureland that shows signs of continual disking. The topography has been significantly altered by agricultural and grazing practices. No vernal pool habitat found in the survey area.
Conservancy fairy shrimp[1a] *Branchinecta conservatio*	FE / SA	Large turbid vernal pools and other seasonal wetlands. Within vernal pool complex, conservancy shrimp are sporadic in their distribution, often inhabiting one or a few pools within a widespread complex.	Low. Marginal suitable seasonal wetland habitat is present in the survey area south of Cressey Substation in the pastureland. However, all of the seasonal wetland features are located in pastureland that shows signs of continual disking. The topography has been significantly altered by agricultural and grazing practices. No vernal pool habitat found in the survey area.
Midvalley fairy shrimp[1a] *Branchinecta mesovallensis*	– / SA	Shallow vernal pools, vernal swales and various artificial ephemeral wetland habitats.	Low. Marginal suitable seasonal wetland habitat is present in the survey area south of Cressey Substation in the pastureland. However, all of the seasonal wetland features are located in pastureland that shows signs of continual disking. The topography has been significantly altered by agricultural and grazing practices. No vernal pool habitat found in the survey area.
Molestan blister beetle[1a] *Lytta molesta*	– / SA	No published information on habitat or floral visitation records.	Low. Based on habitat information from other meloid beetle species (species typically found on flowers) there is little suitable habitat present for this species. The only significant area where wild flowers were observed present in the survey area was along SR-99 where wild flower seed mixes had been planted.

Table 5.4-2. Special-Status Species with Potential to Occur within the Survey area

Common Name *Scientific Name*	Status[2] Federal/State	Habitat Requirements	Potential to Occur in the Survey area
Valley elderberry longhorn beetle[1a] *Desmocerus californicus dimorphus*	FT / SA	Host larval plant is the elderberry; found primarily in riparian areas. Adult beetles lay eggs in elderberry 2-8 inches in diameter with some preference showed toward "stressed" elderberry bushes.	Moderate-High. Elderberry (*Sambucus* sp.) present in survey area in the vicinity of Cressey Substation.
Vernal pool tadpole shrimp[1a] *Lepidurus packardi*	FE / SA	Vernal pools and swales containing clear to highly turbid water. Pools commonly found in grass-bottomed swales of unplowed grasslands. Some pools are mud-bottomed & highly turbid.	Low. Marginal suitable seasonal wetland habitat is present in the survey area south of Cressey Substation in the pastureland. However, all of the seasonal wetland features are located in pastureland that shows signs of continual disking. The topography has been significantly altered by agricultural and grazing practices. No vernal pool habitat found in the survey area.
Amphibians			
California tiger salamander[1a] *Ambystoma californiense*	FT / ST	Vernal pools and/or seasonal water sources; requires underground refuges in adjacent upland areas, especially ground squirrel burrows.	Low. Seasonal wetlands found in the agricultural pasture land in the south of Cressey Substation are not suitable for breeding as they do not hold water for long enough.
Western spadefoot[1a] *Spea hammondii*	– / SSC	Occurs primarily in open grassland habitats, but can be found in valley-foothill hardwood woodlands. Prefers open areas with sandy or gravel laden soils. Vernal pools or rain-pools and/or ponds that do not contain bullfrogs, fish or crayfish are essential for breeding and egg-laying.	Moderate. Suitable aquatic breeding habitat present in the pastures south of Cressey Substation.
Reptiles			
Blainville's (coast) horned lizard[1a] *Phrynosoma blainvillii*	– / SSC	Frequents a wide variety of habitats, most common in lowlands along sandy washes with scattered low bushes. Found in open areas with adjacent bushes for cover, patches of loose soil for burial, and an abundant supply of ants and other insects.	Moderate. Marginal habitat present throughout the survey area. Sandy soils and harvester ants were observed throughout the survey area, which represent the typical habitat and prey, respectively.
Giant garter snake[1a] *Thamnophis gigas*	FT / ST	Prefers freshwater marshes and low gradient streams. Has adapted to drainage canals and irrigation ditches. This is the most aquatic of the garter snakes in California.	Low. Canals in the survey area provide marginal aquatic habitat for this species; survey area lacks the wetlands necessary to support this species life cycle. All CNDDB occurrences were found >10 miles SW of the survey area in or adjacent to Stevinson Wildlife Reserve.

Table 5.4-2. Special-Status Species with Potential to Occur within the Survey area

Common Name *Scientific Name*	Status[2] Federal/State	Habitat Requirements	Potential to Occur in the Survey area
Silvery legless lizard[1a] *Anniella pulchra pulchra*	– / SSC	Found in moist, warm sandy or loose loamy soils with plant cover. Typically occurs in areas with leaf litter under trees and bushes in sunny locations.	Low. Very marginal habitat present in the survey area. Sandy soils and some plant cover present, however, most of the survey area has been developed by agriculture and experiences frequent ground disturbing activities associated with agriculture.
Western pond turtle[1a] *Emys marmorata*	– / SSC	Occurs in both permanent and seasonal waters, including marshes, streams, rivers, ponds and lakes. Also found in irrigation canals and agricultural drains. They favor habitats with large amounts of emergent logs or boulders, where they aggregate to bask.	Moderate. Suitable aquatic habitat found in the survey area.
Birds			
Aleutian cackling goose[1a] *Branta hutchinsii leucopareia*	FD / SA	Winters on Central Valley agricultural fields and wildlife refuges; feeds on waste grain before leaving for Humboldt and Del Norte Counties in mid-January.	Low. Marginal winter habitat present in pasture land south of Cressey Substation. Species does not nest in Merced County.
Bank swallow[1b, 1f] *Riparia riparia*	– / ST	Colonial nester. Nests primarily in riparian and other lowland habitats west of the desert. Nest colonies are located in vertical banks of sand or dirt along river banks, lake shores, road cuts or similar sites.	Low. No suitable nesting habitat in the survey area; none of the irrigation canals in the survey area contained sufficient bank size and/or substrate to support a colony.
Burrowing owl[1a] *Athene cunicularia*	– / SSC	Nests in burrows (often constructed by ground squirrels) and forages in low-growing grasslands and other open, semi-arid habitats.	Moderate. Suitable nesting and foraging habitat in the survey area.
Ferruginous hawk[1a] *Buteo regalis*	– / SA	Open grasslands, sagebrush flats, desert scrub, low foothills and fringes of pinyon-juniper habitats.	Low. Marginal winter habitat present in pasture land south of Cressey Substation. Species does not nest in Merced County.
Loggerhead shrike[1e] *Lanius ludovicianus*	– / SSC	Found in a wide variety of habitats including woodlands, savannah, pinyon-juniper, Joshua tree, riparian woodlands, desert oases, scrub and washes. Prefers open habitat for hunting, with perches for scanning, and fairly dense shrubs and brush for nesting.	Moderate. Suitable nesting found in the survey area (e.g. planted trees). Suitable foraging habitat in the survey area.
Mountain plover[1a] *Charadrius montanus*	PT / SSC	Short grasslands, freshly plowed fields, newly sprouting grain fields, and sometimes sod farms. Prefers short vegetation, bare ground with flat topography and grazed areas with burrowing rodents.	Moderate. Suitable winter foraging habitat in the survey area.
Northern harrier[1a] *Circus cyaneus*	– / SSC	Wet and dry open country such as marshes and grasslands with good ground cover. Nests on the ground.	Low. No suitable nesting habitat present in the survey area.

Table 5.4-2. Special-Status Species with Potential to Occur within the Survey area

Common Name *Scientific Name*	Status[2] Federal/State	Habitat Requirements	Potential to Occur in the Survey area
Purple martin[1e,1f] *Progne subis*	– / SSC	Found in a variety of habitats near human settlements where nest houses are provided, especially near water and large open areas. Also in saguaro cactus, and in western montane forests around beaver ponds.	**Low**. No suitable nesting habitat found on the survey area. Suitable foraging habitat present.
Swainson's hawk[1a] *Buteo swainsoni*	– / ST	Breeds in grasslands with scattered trees, juniper-sage flats, riparian areas, savannahs, and agricultural or ranch. Requires adjacent suitable foraging areas such as grasslands, or alfalfa or grain fields supporting rodent populations.	Present. Adult observed flying over the survey area (Figure 1, Map 16 in Biological Technical Report). Suitable nesting habitat present within survey area.
White-tailed kite[1b,c,d,e,f] *Elanus leucurus*	– / FP	Nests in oak, willow or other trees and forages over open grasslands. A coast live oak tree is often chosen as a nest site.	Present. Observed foraging in the survey area (Figure 1, Map 5 in Biological Technical Report). Suitable foraging habitat present throughout survey area; marginal nest habitat present.
Mammals			
American badger[1a] *Taxidea taxus*	– / SSC	Prefers dry open stages of most shrub, forest, and herbaceous habitats. Requires sufficient food (mostly on burrowing rodents), friable soils and open, uncultivated ground.	Low. Marginal habitat suitability present in the survey area for this species. Pasture land has been recently disked and is heavily grazed by dairy cows.
Hoary bat[1a] *Laciurus cinereus*	– / SA	Prefers open habitats or habitat mosaics with cover and open areas or habitat edges for feeding. Roosts in dense foliage of medium to large trees. Feeds primarily on moths. Requires water.	Low. No suitable roosting (e.g. riparian habitat utilized for day roosts) present in the survey area. Foraging habitat present in the vicinity of canals near Merced River.
Merced kangaroo rat[1a] *Dipodomys heermanni dixoni*	– / SA	Grassland and savanna communities in eastern Merced & Stanislaus counties. Needs fine, deep well-drained soil for burrowing. Granivorous, but also eats forbs and green grasses.	Low. This species was found in the western part of Merced County (>13 miles from the survey area) during 2001 (Laabs and Allaback, 2002). No suitable habitat present in the survey area. Pasture land has been recently disked and all grassland consisted of dense, high non-native grasses.
Pallid bat[1a] *Antrozous pallidus*	– / SSC	Open, dry habitats such as grasslands, shrublands, and woodlands with rocky areas for roosting. Roosts in anthropogenic structures (buildings and bridges), cliff crevices of rock faces, and hollow trees.	Low. Suitable day roosting habitat not present in the survey area. Typical colony size is 50-300 individuals (Pierson and Rainey, 2002); buildings/bridges in the vicinity of the survey area were not suitable for pallid bat colonies.

Table 5.4-2. Special-Status Species with Potential to Occur within the Survey area

Common Name *Scientific Name*	Status[2] Federal/State	Habitat Requirements	Potential to Occur in the Survey area
San Joaquin kit fox[1a] *Vulpes marcotis mutica*	FE / ST	Annual grassland or grassy open stages with scattered shrubby vegetation. Need loose-textured sandy soils for burrowing and suitable prey base.	Low. Marginal habitat suitability present in the survey area for this species. Pasture land has been recently disked and is heavily grazed by dairy cows. All grassland consisted of dense, high non-native grasses.
Townsend's big-eared bat[1c,1e] *Corynorhinus townsendii*	– / SSC	Found throughout California in a wide variety of habitats; most commonly associated with mesic sites. Generally solitary or in small groups, but females form larger maternity colonies in the summer. Roosts in the open, hanging from walls and ceilings of caves, mines or abandoned structures in or near woodlands and forests. Extremely sensitive to human disturbance.	Low. No suitable roosting habitat present in the survey area.
Western mastiff bat[1a] *Eumops perotis californicus*	– / SSC	Found in open, semi-arid to arid habitats, including conifer and deciduous woodlands, coastal scrub, grasslands, and chaparral. Roosts in crevices in cliff faces, high buildings, trees and/or tunnels.	Low. No suitable roosting habitat present in the survey area. Typical colony size is 30-300 individuals (Pierson and Rainey, 2002); buildings/bridges in the vicinity of the survey area were not suitable for western mastiff bat colonies.
Western red bat[1a] *Lasiurus blossevillii*	– / SSC	Widely distributed throughout California. Roosts primarily in trees, 2-40 ft high. Roosting habitat includes forests and woodlands from sea level up through mixed conifer forests. Forages over a wide variety of habitats including grasslands, open woodlands and forests, and croplands. Generally prefers habitat edges and mosaics with trees that are protected from above and open below with open areas for foraging.	Moderate. Marginal roosting habitat (e.g. fruit orchard) present in the survey area. Foraging habitat present in the vicinity of canals near Merced River.
Yuma myotis[1a] *Myotis yumanensis*	– / SA	Found in a variety of habitats, ranging from desert areas near open water to juniper and riparian woodlands. Optimal habitat is open forest and woodlands with water sources. Forages over open water. Roosts in large groups in caves, buildings, crevices, mines and under bridges.	Low. No suitable roosting habitat present in the survey area. Foraging habitat present in the vicinity of canals near Merced River.

Notes:
DPS = distinct population segment; ESU = evolutionarily significant unit

1 - Sources

1a California Natural Diversity Database (RareFind3, version 3.0.5). Electronic database. Sacramento, CA. (CDFG, 2011a)
1b Sacramento Fish and Wildlife Office, Endangered Species Program. Endangered and Threatened Species List website (USFWS, 2011).
1c Draft Environmental Impact Statement/Environmental Impact Report. Pacific Gas and Electric Company. San Joaquin Valley Operations and Maintenance Program. Habitat Conservation Plan (PG&E, 2006)
1d Draft EIR for Merced Wastewater Treatment Plant Expansion Project (City of Merced, 2006)
1e Wildlife and Rare Plant Ecology of Eastern Merced County's Vernal Pool Grasslands (Vollmar, 2002)
1f Eastern Merced County Natural Community Conservation Plan HCP (Noss et al., 2002)

2 - Status designations:

U.S. Fish and Wildlife Service designations:
FE Endangered: In danger of extinction throughout all or a significant portion of its range.
FT Threatened: Likely to become endangered within the foreseeable future.
FC Listed as Candidate under the federal Endangered Species Act
FD Delisted
PT Proposed for listing as threatened

California Department of Fish and ~~Game~~ Wildlife designations:
FP California Fish and Game Code Fully Protected Species
SA California Department of Fish and ~~Game~~ Wildlife Special Animals List
SD Delisted
SE California Fish and Game Code Endangered Species
SSC California Department of Fish and ~~Game~~ Wildlife Species of Special Concern
ST California Fish and Game Code Threatened Species

California Native Plant Society Rare Plant Ranks:
1A Species presumed extinct in California
1B Plants rare, threatened or endangered in California and elsewhere.
2 Plants rare, threatened or endangered in California, but more common elsewhere.
3 Plants About Which We Need More Information – A Review List
4 Plants of Limited Distribution - A Watch List

California Native Plant Society threat categories:
.1 Seriously endangered in California.
.2 Fairly endangered in California.
.3 Not very endangered in California.

Applicant Proposed Measures

PG&E proposes to implement measures during the design, construction, and operation of the Proposed Project to ensure it would occur with minimal environmental impacts in a manner consistent with applicable rules and regulations. Applicant Proposed Measures (APMs) are considered part of the Proposed Project in the evaluation of environmental impacts. CPUC approval would be based upon PG&E adhering to the Proposed Project as described in this document, including this project description and the APMs (see Table 5.4-3), as well as any adopted mitigation measures identified by this Initial Study.

Table 5.4-3. Applicant Proposed Measures (APMs) Related to Biological Resources

APM Number	Issue Area
	Biological Resources
APM BIO-1	General Avoidance of Biological Resources Impacts. This APM consists of the following components: ▪ Environmental awareness training. Environmental awareness training will be conducted for on-site construction personnel prior to the start of construction activities. The training will explain measures to prevent impacts on nesting birds and special-status species with moderate or high potential to occur in the project area. The training will also include a description of these special-status species and their habitat needs, and an explanation of the status of these species and their protection under the federal ESA, CESA, and other statutes. A brochure will be provided with color photos of sensitive species as well as a discussion of project measures. A copy of the training and brochure will be provided to the CPUC at least 30 days prior to the start of construction. Training logs and sign-in sheets will be provided to CPUC staff. As needed, in-field training will be provided to new on-site construction personnel by a qualified biological monitor who will be identified by the PG&E's biologist, or initial training will be recorded and replayed for new personnel. ▪ Biological monitoring to avoid impacts near or in potentially sensitive habitat. A qualified biological monitor will be onsite during ground-disturbing construction activities near and in sensitive habitat or resources as defined in the project's Biological Resources Technical Report and will monitor implementation and compliance with APMs relating to the sensitive habitat. The monitor will have the authority to stop work or implement alternative work practices as determined by PG&E's biologist in consultation with agencies and construction personnel, as appropriate, if construction activities are likely to impact sensitive biological resources. ▪ Marking of sensitive habitat or resource areas. Sensitive habitat or resources identified during the reconnaissance-level field surveys or pre-construction surveys that are in or adjacent to project work areas, such as occupied burrowing owls burrows, occupied migratory bird nests, elderberry shrubs, and seasonal ponded areas, will be either clearly marked or the limits of an adjacent worked will be clearly marked. Project resource maps may be updated to reflect active nest buffers or changes to the resources adjacent to work areas based on pre-construction survey findings. Such areas will be avoided during construction and additional measures (described below) will be implemented to further avoid impacts. ▪ Litter and trash management. All food scraps, wrappers, food containers, cans, bottles, and other trash from the project area will be deposited in closed trash containers. Trash containers will be removed from the project area at the end of each working day. ▪ Parking. Vehicles and equipment will be parked on pavement, existing roads, and previously disturbed or developed areas or work areas as identified in this document. Off-road parking will only be permitted in previously identified and designated work areas. ▪ Route and work area limitations. Vehicles will be confined to established roadways and pre-approved access roads, overland routes and access areas. Access routes and construction work areas will be limited to the minimum necessary to achieve the project goals. ▪ Maintenance and refueling. All equipment will be maintained such that there will be no leaks of automotive fluids such as fuels, solvents, or oils. All refueling and maintenance of vehicles and other construction equipment will be restricted to designated staging areas located at least 100 feet from any down gradient aquatic habitat unless otherwise isolated from habitat (please see APM WQ-1 in Section 3.8.4.2). Proper spill prevention and cleanup equipment will be maintained in all refueling areas. ▪ Pets and firearms. No pets or firearms will be permitted at the project site.

Table 5.4-3. Applicant Proposed Measures (APMs) Related to Biological Resources

APM BIO-2	Pre-construction Nesting Surveys. If construction is to occur during the avian nesting season (February 1 through August 31), a pre-construction migratory bird and raptor nesting survey will be performed by a qualified biologist in accordance with CDFW survey guidelines. No additional measures will be implemented if active nests are more than the following distances from the nearest work site: (a) 300 ft for raptors, or (b) 75 feet for passerine birds (or as otherwise agreed to by USFWS and CDFW). If active nests are closer than those distances to the nearest work site, then an appropriate nest protection zone will be established by a qualified biologist and the active nest(s) will be monitored for signs of disturbance. Factors to be considered include intervening topography, roads, development, type of work, visual screening from the nest, nearby noise sources, etc. Buffers will not apply to construction related traffic using existing roads that are not limited to project-specific use (i.e., county roads, highways, farm roads, etc.). Consideration will also include timing of nesting (i.e., if the bird nests in the project area during actual construction). If the biologist determines that a disturbance is occurring and/or if nesting raptors are identified in areas susceptible to disturbance from construction activities, PG&E will consult with the USFWS and CDFW to determine the specific buffer zone to be maintained for that nest.
APM BIO-3	Swainson's Hawk Surveys. Swainson's hawk surveys will be conducted according to Swainson's Hawk Technical Advisory Committee (2000) suggested protocol. To meet CDFW's recommendations for avoidance and protection of Swainson's hawks, surveys will be conducted for a 0.5-mile radius around all project activities where access is available (e.g., on public land, along public roads, etc.). If active nesting is identified in an area susceptible to disturbance from active construction activities, PG&E will discuss the occurrence with CDFW. Surveys will be completed during at least two of the survey periods identified in the protocol (January through March 20, March 20 through April 5, April 5 through April 20, and/or June 10 through July 30) immediately prior to the project's initiation. Surveys will not be conducted between April 21 and June 10 because this is during the nesting phase when nests are difficult to locate, and CDFW does not typically consider this a valid survey period.
APM BIO-4	Burrowing Owl Surveys. Within burrowing owl habitat that is subject to disturbance from project construction activities, pre-construction burrowing owl surveys will be conducted by a qualified biologist from the project ROW observing up to 250 feet from construction work areas. Burrowing owl surveys will follow the CDFW's Burrowing Owl Protocol Survey and Mitigation Guidelines (California Burrowing Owl Consortium, 1993) as permitted by access and will occur between February 1 and August 31. If ground-disturbing activities are delayed or suspended for more than 30 days after the pre-construction surveys, the site will be resurveyed. If no burrowing owl activity is detected, no further surveys are necessary. No disturbance will occur within approximately 150 feet of occupied burrows during the non-breeding season of September 1 through January 31, or within approximately 250 feet during the breeding season of February 1 through August 31. The limits of the exclusion zone in the project site will be clearly marked with signs, flagging, or fencing. If construction activity within these limits is unavoidable while burrows are active, work will only take place within the presence of a qualified monitor who will determine whether the owls show signs of disturbance. If signs of disturbance from construction activities occur, then appropriate avoidance and minimization will be determined in consultation with CDFW. A passive relocation effort (displacing the owls from the work area) may be conducted during the non-breeding season (September 1 through January 31). A plan will be drafted and provided to CDFW before passive relocation occurs. Passive relocation will include installing one-way doors on the entrances of burrows. The one way doors will be left in place for 48 hours to allow owls to vacate the nest site. Owls will not be relocated during the breeding season.
APM BIO-5	Trenches and Excavations Design and Inspection. All excavations in excess of 2 feet deep will be sloped, have escape ramps installed that are suitable for the escape of the Blainville's horned lizard and other wildlife or be thoroughly covered at the end of the day. All trenches and excavations will be inspected for wildlife at the beginning of the work day and prior to backfilling. If a special-status species is discovered in a trench or excavation, work in the area will be redirected, and the special-status species will be allowed to leave the trench and the area of its own accord. In the event any special-status species is trapped in a trench or an excavation and unable to leave on its own accord, the USFWS and the CDFW will be contacted by the PG&E biologist unless the PG&E biologist identifies an individual with appropriate permits (for example, a CDFW collecting permit) to relocate the special-status species.

Table 5.4-3. Applicant Proposed Measures (APMs) Related to Biological Resources

APM BIO-6	Open-ended Pipe Covers and Inspection. Open-ended project-related pipes 4 inches or greater in diameter will be capped if left overnight or inspected for wildlife prior to being moved. If a special-status species is discovered in a pipe, the animal will be left undisturbed, and the pipe will not be moved until the special-status species has left the pipe and the area of its own accord. In the event any special-status species is trapped in an open pipe and unable to leave on its own accord, the USFWS and the CDFW will be contacted by the PG&E biologist unless the PG&E biologist identifies an individual with appropriate permits (for example, a CDFW collecting permit) to relocate the special-status species.
APM BIO-7	Valley Elderberry Longhorn Beetle (VELB) Habitat Protection and Avoidance. The project is designed to avoid elderberry plants during construction. When activities are conducted in an area of potential VELB habitat, a qualified individual, as determined by the PG&E biologist, will use project documented elderberry shrub data and review the presence of elderberry plants within a minimum of 25 feet from the worksite. Potential impacts to elderberry plants with one or more stems measuring 1 inch or more in diameter at ground level will be avoided by the qualified individual flagging the plant or the limits of the nearby work area. No work will occur within the flagged buffer zone. During operations and maintenance, if impacts (pruning/trimming, removal, ground disturbance, or damage) are unavoidable or occur, then additional measures identified in the PG&E VELB conservation plan in Appendix D of the PG&E San Joaquin Valley Operations & Maintenance HCP (Jones and Stokes, 2006b), and compliance brochure will be implemented. The VELB compliance brochure must be carried in all operation and maintenance vehicles performing activities within the potential range of VELB.

5.4.2 Environmental Impacts and Assessment

BIOLOGICAL RESOURCES Would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
c. Have a substantial adverse effect on Federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☒	☐	☐
d. 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?	☐	☐	☒	☐
e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒
f. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan?	☐	☐	☐	☒

Significance criteria established by CEQA Guidelines, Appendix G.

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

Special-Status Plants

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED. If special-status plants are present within the project corridor they could be directly impacted by removal of vegetation or by trampling or crushing during construction activities. Indirect impacts to special-status plants could result from alterations in existing topography and hydrology, sedimentation and erosion, soil compaction, accumulation of fugitive dust (which could impact plant photosynthesis and respiration), exposure to hazardous substances accidentally released by vehicles or other equipment, disruptions to seed banks from ground disturbance, or the colonization of non-native, invasive plant species. Ongoing operational impacts could include trampling or crushing of special-status plants by vehicular or foot traffic and the introduction of non-native, invasive plants.

The Proposed Project would require temporary ground disturbance at pole installation and removal locations and pull and tension sites. The project would require installation of approximately 241 new poles for the new power line and the removal of 170 poles for relocating existing distribution line. Pull and tension sites would be located every 0.5 to 2 miles depending on final project engineering. Work areas for pole installation and pull and tension sites would be approximately 40 feet wide (the width of PG&E's right-of-way) and 200 feet long. Work at the Cressey Substation would occur within the current substation footprint. The Gallo Substation would be expanded by 4,500 square feet (0.1 acres). The expansion would cover a disturbed/developed area that would be acquired from the Gallo Winery. Work at the Gallo Substation would occur within the expanded substation footprint and small temporary work area that would also be located in a disturbed/developed area on the Gallo property. There would be 1-2 temporary staging areas along the project route that would cover approximately 10 acres each. Potential locations for these staging areas are shown in Figure 3 in Appendix C.2.

The only special-status plant species with potential to occur in the project corridor is Sanford's arrowhead (CNPS List 1B.2). This species is moderately likely to occur in irrigation ditches in the project corridor. However, the channels and banks of most of the canals and ditches in the project corridor are unvegetated. In APM BIO-1 (General Avoidance Of Biological Resources Impacts) the applicant commits to environmental awareness training for construction personnel, biological monitoring of construction activities near sensitive habitat, marking seasonal ponded areas and adjacent work areas, and avoiding any construction activities on or adjacent to these sensitive biological resources. Vegetation clearing and other construction activities would not occur in any aquatic habitat in the project corridor, including irrigation ditches. In addition to marking sensitive resources, APM BIO-1 specifies that all vehicle refueling and maintenance would occur in designated staging areas at least 100 feet from any down gradient aquatic habitat. APM AQ-1 (Minimize Fugitive Dust) would minimize any potential impacts on special-status plants from fugitive dust; APM HM-1 (Hazardous Substance Control and Emergency Response) would minimize potential for hazardous materials to effect special-status plants; and APM WQ-1 (SWPPP or Erosion Control Plan) and APM WQ-2 (Worker Environmental Awareness Program) would reduce potential water quality impacts that could affect aquatic plants.

APMs alone would not reduce potential impacts to special-status plants to a less-than-significant level. Mitigation Measure B-1 requires thorough preconstruction surveys of staging areas (and any other work areas) that were not studied for the PEA and IS/MND. Although potential staging areas have covered by

database review and preliminary reconnaissance surveys, additional review would be required to ensure that impacts are less than significant. Mitigation Measure B-2 supplements the environmental awareness training measures in APM BIO-1 by specifying that environmental compliance supervisors would be provided with up-to-date project resource maps including all relevant buffer areas. While APM BIO-1 states that sensitive habitat would be avoided during construction activities, Mitigation Measure B-3 provides additional specificity regarding protection of wetlands and water features as defined by both the USACE and the USFWS/CDFW. The definition of wetlands in the mitigation measure includes the USFWS/CDFW definition because it differs from the USACE definition. CDFW has found the USFWS wetland definitions and classification system to be the most biologically valid of those definitions and classification systems used in California. Mitigation Measure B-4 (Minimize Noxious Weeds) is necessary to reduce potential impacts on special-status plants from the introduction of invasive weeds; there are no APMs that address this potential impact. Potential impacts from construction, operation and maintenance of the project would be minimized by adherence to these measures and the requirements in PG&E's Operations and Maintenance HCP. With the implementation of these measures, impacts to special-status plants would be less than significant.

MM B-1 **Preconstruction surveys. Conduct reconnaissance level Biological Resources Surveys for proposed construction staging areas not previously surveyed.** Areas which have been evaluated using database tools (i.e., CNDDB) although not included in the detailed analysis in the IS/MND may be identified as construction staging areas through additional, reconnaissance surveys. Before any construction or staging activities in areas that have not previously been surveyed for the Proposed Project, qualified biologist(s) (a botanist, a wildlife specialist, and/or a wetland specialist approved by the CPUC) shall conduct a thorough reconnaissance survey including an assessment of the site for sensitive species, their habitat, and wetlands or regulated waters.

Survey results shall be documented in a technical report that will address the occurrence of any sensitive habitats, wetlands or regulated waters, and special-status wildlife and plant species that are observed in the proposed construction area. The report may build on the analysis in the earlier biological report for the project (GANDA, 2011 and 2012) and in the IS/MND. The report shall be submitted to and approved by the CPUC before any construction and staging activities occur in these areas.

If survey results indicate that wetlands, sensitive habitats or special-status species will be affected in locations that were not previously surveyed, additional consultation with Army Corps of Engineers, CDFW and/or USFWS shall be required. Work within the new construction or staging area will not begin until agency consultation is completed. All project mitigation measures shall apply to these areas, and larger exclusion areas may be required based on resource agency consultation.

MM B-2 **Develop and implement environmental awareness training.** This measure incorporates and supplements portions of APM BIO-1. As stated in APM BIO-1, environmental awareness training shall be conducted for on-site construction personnel prior to the start of construction activities. The training shall:

- Explain measures to prevent impacts on nesting birds and special-status species with potential to occur in the project area.
- Include a description of these special-status species and their habitat needs, and an explanation of the status of these species and their protection under the federal ESA, CESA, and other statutes. Provide a brochure with color photos and/or illustrations of

sensitive species, descriptions of these species, and a discussion of project measures related to these species.

The environmental compliance supervisor shall be provided with:

- Project resource maps showing seasonal ponded areas, valley elderberry shrubs, active nests, and any special-status species identified during the biological surveys of the project site and the pre-construction surveys. Maps shall show all relevant buffer areas. Maps shall be updated as needed to show locations of any newly identified ~~nesting birds or special status species~~sensitive biological resources.

Per APM BIO-1, a copy of the training and training materials shall be provided to the CPUC at least 30 days prior to the start of construction. Training logs and sign-in sheets shall be provided to CPUC staff within 7 days of training being presented. As needed, in-field training shall be provided to new on-site construction personnel by the environmental compliance supervisor or a qualified individual who shall be identified by the PG&E's biologist, or initial training shall be recorded and replayed for new personnel.

MM B-3 **Protect seasonal ponded areas and other water features.** Construction activities shall be designed to minimize disturbance of wetlands (including seasonal ponded areas) and regulated water in the project area to the extent feasible.

Avoidance Measures. Construction activities shall not take place within any potential wetland or regulated water except as provided below. All seasonal ponded areas, wetlands or regulated water identified during the biological surveys will be identified on maps of the project site, which will be provided to the environmental compliance supervisor. Exclusion fencing or flagging will be installed 10 feet out side of the regular high-water line of any wetland or regulated water located adjacent to a construction site and no construction will be allowed within the fenced exclusion area.

Wetlands. If potential wetlands or regulated water cannot be completely avoided:

- A wetland delineation shall be conducted by a qualified biologist approved by CPUC. The wetland delineation shall be verified by United States Army Corps of Engineers (USACE) prior to ground disturbance. In lieu of preparing a wetland delineation, a preliminary jurisdiction determination can be completed by the Army Corps of Engineers and permitting can be initiated as appropriate.
- An assessment of areas that may meet the definition of wetlands or jurisdictional waters according to CDFW and ~~USFWS~~ USACE shall be conducted by a qualified biologist approved by CPUC.
- No USACE, CDFW, or Regional Water Quality Control Board (RWQCB) jurisdictional waters shall be impacted before obtaining permits from the respective agency.

If vernal pools with occupied or suitable habitat for state or federally listed species are identified during preconstruction surveys in areas that may be affected by construction activities, additional consultation with CDFW/USFWS shall be required and larger exclusion areas may be necessary.

Irrigation Canals.

A qualified biologist approved by the CPUC shall determine appropriate buffer distances/ setbacks and/or other protective measures (e.g., erosion control best management prac-

tices such as those included in APM WQ-1) to be implemented to minimize the impacts of project construction activities on at-grade irrigation canals. All plans related to work within 10 feet of irrigation canals shall be evaluated by the qualified biologist and submitted to CDFW to determine if the canal is subject to CDFW streambed jurisdiction. If it is determined that the CDFW has jurisdiction and the project may result in direct impacts to a stream subject to CDFW jurisdiction, a Streambed Alteration Agreement may be required.

MM B-4 **Minimize noxious weeds.** Precautions shall be taken to minimize the introduction of any invasive weeds. Construction equipment shall be clean before it arrives at work areas in the project corridor. Any landscaping involving vegetation other than trees and/or shrubs shall consist of native seed mix or other ecologically appropriate, non-invasive, plants. Only weed-free straw or mulch shall be used.

Special-Status Wildlife

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED. There are 54 special-status wildlife species with the potential to occur in the project vicinity. Of these, 21 have low potential to occur in the project corridor, and 23 have no potential to occur. Of the remaining ten species, seven species listed as a state species of special concern (SSC) have moderate potential to occur in the project corridor: western spadefoot toad, Blainville's horned lizard, western pond turtle, burrowing owl, loggerhead shrike, mountain plover, and western red bat. Valley elderberry longhorn beetle, which is listed as threatened under the federal ESA, has moderate to high potential to occur in the project corridor. Finally, both Swainson's hawk (state threatened [ST]) and white-tailed kite (state fully protected [FP]) were observed in the area during reconnaissance surveys.

Permanent and temporary ground disturbance for the Proposed Project are described in the analysis of special-status plants above. Although project work areas would be located largely in disturbed roadside areas and active agricultural areas, direct mortality of some wildlife could occur during construction as a result of increased vehicular and foot traffic, use of heavy construction equipment, vegetation removal, and other project activities. There could be also be impacts related to fugitive dust, exposure to hazardous substances accidentally released by vehicles or other equipment, sedimentation in aquatic habitat, or the colonization of non-native, invasive plant species. There is no habitat for special-status fish in the project corridor because there are gates present in the irrigation canals that flow into the Merced River. Potential impacts to other types of special-status wildlife are discussed in more detail below.

Invertebrates

There is low potential for Molestan blister beetle (SA), California linderiella (state special animal [SA]), conservancy fairy shrimp (federally endangered [FT]/SA), midvalley fairy shrimp (SA), and vernal pool tadpole shrimp (federally endangered [FE]/SA) to occur in the project corridor. There is moderate to high potential for valley elderberry longhorn beetle to occur in the mature elderberry shrubs in the project corridor.

There may be some habitat for molestan blister beetle where wildflower seed mixes have been planted near SR-99. Molestan beetles could be affected by ground disturbance, trampling, or vegetation removal if the species is present in work areas. Impacts to molestan blister beetle would be less than significant with the implementation of Mitigation Measures B-2 (Environmental Awareness Training) and B-4 (Minimize Noxious Weeds).

The four aforementioned vernal pool branchiopod species occur in vernal pools/seasonal wetlands. Although there is some marginal potential habitat for these species in the seasonal ponded areas south of the Cressey Substation, this habitat has been continually disked and is very unlikely to support special-status branchiopods. If present, potential impacts would include habitat degradation or asphyxiation from water quality impacts related to erosion or contamination during construction activities. Potential impacts to aquatic habitat for special-status invertebrates would be reduced by APM BIO-1 (General Avoidance Measures), APM HM-1 (Hazardous Substance Control), APM WQ-1 (erosion control), and APM WQ-2 (Worker Environmental Awareness Program). Mitigation Measure B-2 (Worker Environmental Awareness Program) supplements the requirements in APMs BIO-1 and WQ-2. In addition, Mitigation Measure B-3 would ensure protection of wetlands and water features. With the implementation of these measures and Mitigation Measure B-1, impacts to these species would be less than significant.

Valley elderberry longhorn beetles could be killed or injured if potential host plants (elderberry shrubs with stems at least one inch in diameter at ground level) are damaged by construction and vegetation management activities. Elderberry shrubs could be affected by accumulation of fugitive dust (which could impact plant photosynthesis and respiration), exposure to hazardous substances accidentally released by vehicles or other equipment, or the colonization of non-native, invasive plant species. APM BIO-7 (valley elderberry longhorn beetle habitat protection and avoidance) states that the Proposed Project has been designed to avoid impacts to elderberry shrubs. APM BIO-7 would be supplemented by Mitigation Measure B-5, which specifies that all construction activities would be avoided within 20 feet of potential host plants. The buffer in this measure was approved by USFWS (Sloan, 2012). Potential operational impacts on this species would be minimized by adherence to the measures in PG&E's HCP for Operations and Maintenance in the San Joaquin Valley, including the implementation of the valley elderberry longhorn beetle conservation program. With the implementation of APMs and Mitigation Measures B-1 (Preconstruction Surveys), B-2 (Worker Environmental Awareness Training), B-4 (Minimize Noxious Weeds), and B-5 (Protect Valley Elderberry Longhorn Beetle), impacts to valley elderberry longhorn beetle would be less than significant.

Amphibians

California tiger salamander (FT/SSC) has low potential to occur in the project corridor, and western spadefoot toad (SSC) has moderate potential to occur. The seasonal ponded areas south of Cressey Substation are likely to hold water long enough to provide breeding habitat for western spadefoot toad (at least three weeks), but not long enough to provide breeding habitat for California tiger salamander (three to six months). Potential impacts to these species include trampling or asphyxiation from water quality impacts related to erosion or contamination during construction activities.

APM BIO-1 commits PG&E to environmental awareness training for construction workers, flagging and biological monitoring for construction work near sensitive habitat, and minimization of the area required for access routes and construction work areas. Mitigation Measure B-2 supplements the requirements in APM BIO-1 regarding worker environmental training, and Mitigation Measure B-3 protects wetlands and water features. APM BIO-5 (trenches and excavations design and inspection) and APM BIO-6 (Open-Ended Pipe Covers and Inspection) would minimize the potential for special-status amphibians to be trapped and killed in trenches or pipes in project work areas. In addition, APM HM-1 would minimize the potential for impacts related to accidental releases of hazardous materials, and APM WQ-1 would minimize impacts related to erosion and water quality. Mitigation Measure B-6 (Identify and relocate special-status amphibians and reptiles) requires that a qualified biologist conduct pre-construction surveys of work areas in or near appropriate habitat for western spadefoot toad. If western spadefoot individuals are found in work areas, a qualified biologist would capture and relocate them to suitable habitat

nearby. With the implementation of these measures (and Mitigation Measure B-1), impacts to special-status amphibians would be less than significant.

Reptiles

Blainville's horned lizard (SSC) and western pond turtle (SSC) have moderate potential to occur in the project corridor. Giant garter snake (FT/ST) and silvery legless lizard (SSC) have low potential to occur. Blainville's horned lizard could occur in sandy soils throughout the survey area, and western pond turtles could use aquatic habitat in the project corridor, including irrigation canals. Giant garter snake is unlikely to use canals in the project corridor, and silvery legless lizard is unlikely to use sandy habitat in the project are because of frequent ground disturbance related to agricultural activities. Potential impacts to these species include trampling and minimal habitat degradation.

APM BIO-1 commits PG&E to environmental awareness training for construction workers, flagging and biological monitoring for construction work near sensitive habitat, and minimization of the area required for access routes and construction work areas. APM BIO-5 (Trenches and Excavations Design and Inspection) and APM BIO-6 (Open-Ended Pipe Covers and Inspection) would minimize the potential for special-status reptiles to be trapped and killed in trenches or pipes in project work areas. In addition, APM HM-1 would minimize the potential for impacts related to accidental releases of hazardous materials. Mitigation Measure B-2 supplements requirements related to worker environmental training and Mitigation Measure B-6 (Identify and relocate special-status amphibians and reptiles) requires that a qualified biologist conduct pre-construction surveys of work areas in or near appropriate habitat for coast horned lizard and western pond turtle. If individuals of these are found in areas that cannot be avoided, a qualified biologist would capture and relocate them to suitable habitat nearby. With the implementation of these measures (and Mitigation Measure B-1), impacts to special-status reptiles would be less than significant.

Birds

Swainson's hawk (ST) and white-tailed kite (FP) were observed during reconnaissance surveys of the project corridor. Burrowing owl (SSC), loggerhead shrike (SSC), and mountain plover (proposed for listing as federally threatened/SSC) have moderate potential to occur in the project corridor. Aleutian cackling goose (federally delisted/SA), bank swallow (ST), ferruginous hawk (SA), northern harrier (SSC), and purple martin (SSC) have low potential to occur in the project corridor. All of these species could forage in the project corridor; however, there is only suitable or marginally suitable nesting habitat present for burrowing owl, loggerhead shrike, Swainson's hawk, and white-tailed kite.

Foraging birds would be expected to leave the immediate vicinity of the project during construction activities. These species would likely use unaffected habitat nearby. Given the small amount of habitat lost relative to the availability of habitat near the project, impacts to foraging special-status birds would be adverse, but less than significant and no mitigation is required.

Raptors and other large aerial perching birds, including special-status birds, are susceptible to electrocution by power lines. Electrocutions occur when a bird simultaneously contacts two conductors of different phases or a conductor and the ground. This may happen if a bird attempts to perch on a structure with insufficient clearance between these elements. Most lines that electrocute raptors are energized at voltage levels between 1 kV and 69 kV. The project power lines are insulated for operation at 115 kV and the resulting phase separation (greater than 60 inches) effectively precludes bird electrocutions. Although the non-energized metal structures in a substation are grounded, birds may also be electrocuted by reaching energized conductors from grounded equipment. The electrocution of protected bird species would constitute a significant impact. PG&E would use existing standard raptor-safe design for its poles,

providing 8.5 feet distance between conductors with an occasional 12 kV underbuild. In areas of underbuild, triangular raptor perch deterrents would be installed per the Edison Electric Institute's Avian Power Line Interaction Committee (APLIC) and U.S. Fish and Wildlife Service (USFWS) Avian Protection Plan Guidelines (APLIC, 2006). With the implementation of these measures, impacts related to electrocution of special-status birds would be less than significant.

Construction activity could cause nest abandonment if nests are present; this would be a significant impact. The Migratory Bird Treaty Act (MBTA) prohibits killing, possessing, or trading in migratory birds except in accordance with regulations prescribed by the Secretary of the Interior. Further, raptors (e.g., eagles, hawks, and owls) and their nests are protected under both federal and State regulations. California Fish and Game Code Section 3503 prohibits the needless destruction of the nest, eggs, or young of any bird covered under the MBTA and Section 3503.5 prohibits the destruction of raptor nests, eggs, or young. Construction disturbance during the breeding season (February 1 through August 31) could adversely affect breeding birds through direct take or indirectly through disruption or harassment. As noted above, there is suitable or marginally suitable nesting habitat for four special-status birds in the project corridor: burrowing owl, loggerhead shrike, Swainson's hawk, and white-tailed kite. In addition, other migratory birds, including raptors, may nest in the trees on and around project work areas. Noise and activity associated with the substation expansions and power line work could disturb avian species. Construction activities for this project, which would include hauling, scraping and blading, vegetation removal, pole installation and wire stringing, could cause low to medium disturbance of burrowing owls. Therefore, a 656-foot (200-meter) buffer for nesting burrowing owls would be required according to CDFW's 2012 Staff Report on Burrowing Owl Mitigation (at page 9).

The potential for impacts to breeding birds from tree removal, tree trimming, and general construction activity, would be reduced by implementation of APM BIO-1 (General Avoidance Of Biological Resources Impacts), APM BIO-2 (Pre-Construction Nest Surveys and Consultation with CDFW/USFWS), APM BIO-3 (Swainson's Hawk Surveys), APM BIO-4 (Burrowing Owl Surveys), and APM BIO-6 (Cover and Inspect Open-Ended Pipes). These measures require environmental training of construction workers, biological monitoring of sensitive habitat, pre-construction surveys and the establishment of nest buffers to minimize impacts to nesting birds, and protection of birds from becoming trapped in open pipes. APM BIO-3 specifies that surveys for Swainson's hawk would be conducted according to the Swainson's Hawk Technical Advisory Committee's (2000) suggested protocol and that burrowing owl surveys (and possible passive relocation) would follow the Burrowing Owl Protocol Survey and Mitigation Guidelines (California Burrowing Owl Consortium, 1993).

However, APM BIO-2, APM BIO-3, and APM BIO-4 do not include adequately specific guidelines for the timing of pre-construction nesting bird surveys, nor do they provide for adequate buffers for active nests to reduce impacts to a less-than-significant level. Therefore, these APMs would be supplemented by the requirements in Mitigation Measure B-7 (Protect nesting birds), which outlines timing and buffer requirements for raptors, burrowing owls, and other nesting birds. This measure specifies that burrowing owl mitigation would be implemented in accordance with the CDFW Staff Report on Burrowing Owl Mitigation (CDFG, 2012). Because the CPUC is responsible for ensuring mitigation is complied with on an ongoing basis, Mitigation Measure B-7 requires reports to be provided to the CPUC monthly during construction in the nesting season such that the CPUC can respond to any concerns in a timely fashion as is standard for construction projects. In addition, Mitigation Measure B-2 supplements APM BIO-1 as described above. With the implementation of these measures (and Mitigation Measure B-1), impacts on nesting birds would be less than significant.

Mammals

There is moderate potential for western red bat (SSC) to roost and forage in the in the project corridor. There is foraging habitat in the canals near the Merced River and there is marginal roosting habitat in fruit orchards in the survey area for this species. There is low potential for the following species to occur: American badger (SSC), honey bat (SA), Merced kangaroo rat (SA), pallid bat (SSC), San Joaquin kit fox (FE/ST), Townsend's big-eared bat (SSC), western mastiff bat (SSC), and Yuma myotis bat (SA). General biological monitoring, habitat demarcation, and construction worker training (per APM BIO-1) would adequately minimize impacts to the mammals that have low potential to occur in the project corridor. To reduce impacts to western red bat (SSC) to a less-than-significant level, Mitigation Measure B-1 (Reconnaissance Surveys), Mitigation Measure B-2 (Worker Environmental Training) and Mitigation Measure B-8 (Avoid impacts to roosting western red bat) are required. Mitigation Measure B-8 requires pre-construction surveys, buffers, and biological monitoring specific to roosting bats, which were not specifically addressed under any APMs.

MM B-5 **Protect valley elderberry longhorn beetle habitat.** Prior to construction activities in any areas with potential valley elderberry longhorn beetle habitat, a qualified biologist (approved by the CPUC) shall survey for elderberry plants within 25 feet of areas of potential ground disturbance. The qualified biologist shall flag, ~~and~~ fence, or by other highly visible means identify buffer zones at least 20 feet wide surrounding the drip line of each potential valley elderberry longhorn beetle host plant (any elderberry shrub with at least one stem with a diameter of one inch or greater). ~~Flagging and fencing~~ The visibly defined buffer zones shall be monitored during the duration of construction by a qualified biological monitor (approved by CPUC). The biological monitor shall have the authority to stop work or implement alternative practices (as determined in consultation with USFWS as appropriate) if mature elderberry shrubs may be impacted by construction activities.

MM B-6 **Identify and relocate special-status amphibians and reptiles.** A qualified biologist (approved by CPUC) shall conduct preconstruction surveys for western spadefoot toad, Blainville's horned lizard, and western pond turtle no more than 7 days prior to construction in suitable habitats within the project work areas.

If individuals of these species are found near any proposed construction areas, impacts to individuals and their habitat shall be avoided to the extent feasible. If occupied habitat can be avoided, an exclusion zone shall be established around the habitat and temporary plastic fencing shall be installed around the buffer area. If avoidance is not possible and the species is determined to be present in work areas, the biologist possessing a CDFW Scientific Collecting permit shall capture individuals prior to construction activities and relocate them to nearby, suitable habitat out of harm's way.

As necessary, exclusion fencing shall be installed to prevent special-status amphibians and reptiles from re-entering the work area. For the duration of work in these areas the biologist shall conduct at least weekly follow-up visits to monitor effectiveness and take appropriate corrective action if protection measures are not adequate.

MM B-7 **Avoid impacts on nesting birds.** If construction activities occur during the avian nesting season (February 1 through September 15), a preconstruction survey for nesting birds shall be conducted by a qualified wildlife biologist (approved by the CPUC) within 7 days prior to the start of ground-disturbing construction or vegetation trimming or removal

activities in any new work area. If there is no work in an area for 7 days, it will be considered a new work area if construction or vegetation trimming or removal begins again. Trees with raptor nests shall be evaluated by a qualified avian biologist to determine, in coordination with CDFW, whether the raptor nest is "active" (i.e., has been used within the past five years). Requests to remove trees with active raptor nests must be submitted to the independent avian biologist(s) to be reviewed in coordination with the CDFW.

No additional measures will be implemented if active nests are more than the following distances from the nearest work site: (a) 1/2 mile for Swainson's hawk and white-tailed kite, (b) 500 feet for raptors, or (c~~b~~) 250 feet for passerine birds. Buffers shall not apply to construction-related traffic using existing roads that is not limited to project-specific use (i.e., county roads, highways, farm roads, etc.).

All references in this mitigation measure to wildlife biologists refer to qualified biologists approved by the CPUC; these biologists may be PG&E employees or subcontractors. References to independent avian biologists refer to qualified avian biologists approved by the CPUC who report directly to CPUC.

Buffer reduction. The specified buffer sizes for birds may be reduced on a case-by-case basis if, based on compelling biological or ecological reasoning (e.g. the biology of the bird species, concealment of the nest site by topography, land use type, vegetation, and level of project activity) and as determined by a qualified wildlife biologist that implementation of a specified smaller buffer distance will still avoid project-related "take" (as defined by Fish and Game Code Section 86). Requests to reduce standard buffers must be submitted to the independent avian biologist(s) to be reviewed in coordination with the California Department of Fish and Wildlife (CDFW). Requests to reduce buffers must include: the species, location, size and expected duration of proposed buffer reduction, reason for the buffer reduction, the name and contact information of the qualified wildlife biologist(s) who request the buffer reduction and will conduct subsequent monitoring. The independent avian biologist shall respond to PG&E's request for a buffer reduction within 24 hours.

Non-special status species found building nests within the standard buffer zone *after specific project activities begin*, shall be assumed tolerant of that specific project activity and such nests will be protected by the maximum buffer practicable (as determined by the qualified biologist). However, these nests shall be monitored on a daily basis during construction activities by a qualified biologist until the qualified biologist has determined that the young have fledged, are no longer dependent upon parental care, or construction ends within the buffer zone (whichever occurs first). If the qualified biologist determines that the nesting bird(s) are not tolerant of project activity, the standard buffer shall be implemented. As appropriate, exclusion techniques may be used for any construction equipment that is left unattended for more than 24 hours to reduce the possibility of birds nesting in the construction equipment. An example exclusion technique is covering the equipment with tarps.

If nesting birds show signs of distress within a reduced buffer zone and that stress appears to be related to construction activities, the qualified wildlife biologist shall reinstate the recommended buffers. The recommended buffers may only be reduced again following

the same process as identified above after the qualified biologist has determined that the nesting birds are no longer exhibiting signs of stress.

Monitoring and reporting. All nests with a reduced buffer shall be monitored on a daily basis during construction activities by a qualified wildlife biologist until the biologist has determined that the young have fledged, are no longer dependent upon parental care, or construction ends within the reduced buffer (whichever occurs first). A monthly written report shall be submitted to CDFW and CPUC. Monthly reports shall include: all of the information included in buffer reduction requests in addition to duration of buffer reduction, and outcomes for nests, eggs, young and adults during construction within a reduced buffer. No reporting will be required if construction activities do not occur within a reduced buffer during any calendar month. A final report shall be submitted to CDFW and CPUC at the end of each nesting season summarizing all monitoring results and outcomes for the duration of project construction.

Burrowing owl. A qualified wildlife biologist shall conduct pre-construction surveys for burrowing owls within construction right-of-way and publicly accessible lands following the Burrowing Owl Survey Protocol and Mitigation Guidelines developed by The California Burrowing Owl Consortium (1993) where PG&E has access rights. If any ground disturbing activities are planned during the burrowing owl nesting season (approximately February 1 through August 31), avoidance measures shall include a no construction buffer zone of a minimum distance of 656 feet. If occupied burrows are closer than those distances to the nearest work site, the specified buffer size may be reduced on a case-by-case basis using the process outlined above for other nesting birds. Buffers may only be reduced after approval by the independent avian biologist. Reporting shall also follow the process outlined above for other nesting birds. If the nesting owls show signs of distress within a reduced buffer zone, and that stress appears to be related to construction activities, the qualified wildlife biologist shall reinstate the recommended buffers. The recommended buffers will only be reduced again after the qualified biologist has determined that the nesting owls are no longer exhibiting signs of stress and has submitted a buffer reduction request following the same process as identified above. Reporting regarding reduction of buffers will be documented in a written report and will follow the procedure described above.

Listed and ~~other~~ fully protected species. A qualified wildlife biologist shall conduct pre-construction surveys for Swainson's hawk and for white tailed kite within 1/2 mile of project construction activities, and within 500 feet of work areas for other listed or fully protected species (from observation points within construction right-of-way and publicly accessible lands where PG&E has access rights) within 7 days of the start of construction. Surveys for Swainson's hawk will be conducted according with Swainson's Hawk Technical Advisory Committee (2000) suggested protocol. Where physical access to the entire survey area is unavailable, alternate, appropriate survey techniques should be used to compensate for limited physical access. If any construction activities are planned during the nesting season (approximately February 1 through ~~August 31~~September 15), avoidance measures shall include a no construction buffer zone of a minimum distance of 1/2 mile for Swainson's hawk and white-tailed kite, 500 feet for other raptors or 250 feet for passerine birds. If occupied nests are closer than these distances to the nearest work site, consultation with CPUC and CDFW (and USFWS as appropriate) shall be required to discuss how to implement the project and species avoidance mea-

sures to avoid "take". ~~If any other fully protected species are determined to be nesting within 500 feet of the project activities, consultation with CPUC and CDFW (and USFWS as appropriate) shall be required to discuss how to implement the project and species avoidance measures.~~

***California Avian Species of Special Concern*.** A qualified wildlife biologist shall conduct pre-construction surveys for California Avian Species of Special Concern from observation points within construction right-of-way and publicly accessible lands where PG&E has access rights. If any construction activities are planned during the nesting season (approximately February 1 through ~~August 31~~September 15), the avoidance measures for nesting birds detailed above will be implemented.

MM B-8 **Avoid impacts to roosting western red bat**. Prior to start of construction, a survey for roosting bats or maternity roosts shall be performed by a qualified biologist (approved by CPUC) within seven (7) days of the construction start date for all proposed work areas adjacent to appropriate roosting habitat. ~~and~~ Areas accessible from public or project areas shall be surveyed during the appropriate time of day to maximize detectability. Western red bat roost and maternity roost habitat in the project area is mature riparian woodland, mature orchards, and mature ornamental trees. The survey shall include the ~~work~~ areas ~~and any publicly accessible roosts~~ within 250 feet of a work area. Where physical access to the entire survey area is unavailable, alternate, appropriate survey techniques should be used to compensate for limited physical access. If an active roost is found, or survey data provides evidence of an active roost, within 100 feet of a work area, or if a maternity roost is found, or survey data provides evidence of a maternity roost, within 250 feet of a work area, the limits of the work area will be clearly marked and a qualified biological monitor shall be provided and shall remain on-site during construction activities within the vicinity of the roost or maternity roost. The biologist will ensure that construction activities to do not encroach upon the 100-foot buffer around an active roost or 250-foot buffer around a maternity colony site.

All references in this mitigation measure to biologists or biological monitors refer to qualified biologists approved by the CPUC; these biologists may be PG&E employees or contractors. References to independent biologists refer to qualified biologists approved by the CPUC who report directly to the CPUC.

Requests to reduce buffers or to exclude bats must be submitted to an independent biologist to be reviewed in coordination with California Department of Fish and Wildlife (CDFW). An independent biologist shall respond to requests to reduce buffers within 24 hours and shall respond to requests to exclude bats within 5 days. Requests to reduce buffers or exclude bats must include: location, size of buffer and expected duration of proposed buffer reduction, reason for the buffer reduction or exclusion, the proposed exclusion plan, and the name and contact information of the qualified biologist(s) who request the buffer reduction or exclusion plan and will conduct subsequent monitoring.

In addition, proposed exclusion plans shall describe all construction work that has the potential to affect bats, identify measures to be implemented to exclude bats from the work areas, and describe the features incorporated to minimize potential effects. The plan may include the following:

- If fall/winter hibernacula cannot be avoided, humane techniques may be implemented to passively vacate bats from roosts. Methods to passively evict bats from tree roosts

shall be developed in coordination with CDFW~~may include incrementally trimming limbs to alter the air flow and temperature around the roost feature where slight changes to the surrounding environment of roost features encourage bats to vacate roost features on their own~~. Any trees with nesting birds would be subject to Mitigation Measure B-7.

- If a roost is lost, PG&E shall consult with the CDFW to see if additional compensation for loss of habitat is required. Required compensation may include planting new trees to provide roost habitat, as appropriate to ensure that adequate roost sites are available in the project vicinity, as determined by CDFW.

Trees containing maternity roosts shall not be removed during the breeding season (March 1 through August 31) to avoid disturbing females with young that cannot fly. No trees containing maternity roosts may be removed until the qualified biologist determines that breeding is complete and young are flying.

If buffer reductions are requested and approved, a monthly report shall be submitted to CPUC and CDFW with all of the information in the buffer reduction requests, monitoring results, effects on bats, bat exclusion activities, and bat behavior following implementation of the exclusion plan. Reports shall be submitted for the duration of construction activities within buffer areas.

b. Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED. The Merced River riparian corridor is the closest riparian habitat to the project; it is located approximately 0.26 miles north of Gallo Substation and would not be affected by the project. Potential impacts to wetlands and water features within the project corridor and the species therein are addressed in detail in Section 5.4.2(a). There are no plant species in survey area that indicate the presence of vernal pools. Because proposed staging areas have not been fully surveyed yet, Mitigation Measure B-1 would be required to reduce this impact to a less-than-significant level.

c. Would the project have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) either individually or in combination with the known or probable impacts of other activities through direct removal, filling, hydrological interruption, or other means?

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED. The Proposed Project has been designed to minimize impacts to wetlands and water features in the project corridor. There are 6.1 acres of irrigation canals and ditches and 1.83 acres of seasonal ponded areas within the survey area. The project does not include any filling of wetlands, and is designed to avoid irrigation canals and wetland areas by siting poles and work areas away from these features. However, construction and maintenance activities could potentially affect wetlands through sedimentation or accidental releases of hazardous substances.

Impacts to wetlands would be minimized by APM BIO-1, APM WQ-1, APM WQ-2, APM HM-1 and Mitigation Measures B-1, B-2, B-4. Mitigation Measure B-3 would further protect wetlands and water features. With the implementation of Mitigation Measure B-1 (Reconnaissance Surveys), Mitigation Measure B-2 (Worker environmental training), Mitigation Measure B-3 (Protect seasonal ponded areas and other water features), Mitigation Measure B-4 (Minimize noxious weeds), APM BIO-1 (General Avoidance

of Biological Resources Impacts), APM HM-1 (Avoid Hazardous Spills), APM WQ-1 (Erosion Control), and APM WQ-2 (Worker Environmental Awareness Training – Water Quality), impacts to seasonal wetlands and other waters would be less than significant.

d. Would the project 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 wildlife nursery sites?

LESS THAN SIGNIFICANT IMPACT. There are no wildlife connectivity areas or linkage corridors within 5 miles of the survey area (USFWS, 1998; CDFG, 2011c). Construction activities within the work areas described in Section 5.4.2(a) could interfere with some wildlife movement within the project corridor; however, these impacts would be temporary and would not interfere with wildlife connectivity or impede access to nursery sites. Operation and maintenance of the project would not interfere with wildlife movement or wildlife nursery sites. Therefore, this impact would be adverse, but less than significant, and no mitigation is required.

e. Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

NO IMPACT. The project is compatible with the Merced County General Plan's relevant goals addressing protection of biological resources. Merced County does not have a tree preservation policy or ordinance applicable to this project. Therefore, there would be no impact.

f. Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Communities Conservation Plan, or other approved local, regional, or State habitat conservation plan?

NO IMPACT. Project construction activities are not covered by the PG&E San Joaquin Valley Operations & Maintenance HCP (Jones and Stokes, 2006b),[1] which is the only relevant habitat conservation plan in the project area. Operation and maintenance for the Proposed Project would not change from the existing operation and maintenance activities associated with Cressey and Gallo Substations and distribution lines along the project route. PG&E would continue to implement the PG&E San Joaquin Valley Operations & Maintenance HCP during operation and maintenance of the Proposed Project. Areas where no distribution line currently exists (approximately 20 percent of the project route) are located in disturbed roadside areas or in active orchards. Impacts to biological resources in these areas, including species covered in the HCP, are described in Sections 5.4.2(a) through 5.4.2(d). The annual maintenance for the power line would occur in the same manner as the current annual maintenance of the distribution lines. Therefore, there would be no conflict with HCPs or other conservation plans.

[1] The HCP does cover "minor construction activities," however, these are limited to one (1) mile or less of new electric or gas line, and 0.5 acres or less of permanent facilities (substations). (PG&E San Joaquin Valley Operation & Maintenance Habitat Conservation Plan, December 2006, page 2-1.)