

5.4 Biological Resources

This section describes the environmental and regulatory setting and discusses impacts associated with the construction and operation of the Sanger Substation Expansion Project (proposed project) proposed by Pacific Gas and Electric Company (PG&E, or the applicant) with respect to biological resources.

5.4.1 Environmental and Regulatory Setting

The proposed expansion of the Sanger Substation would be located directly north of the existing Sanger Substation, with a small portion located adjacent to and west of the existing substation. The proposed expansion would be sited on land that is currently used for agriculture. The proposed transmission line work would occur within approximately 0.5 miles of the existing substation boundary. The area surrounding the Sanger Substation is primarily agricultural, dominated by vineyards and row crops with a few trees interspersed.

PG&E would mount two dishes, each measuring about 4 feet in diameter, on an existing tower at the Fence Meadow Repeater Station in the Sierra National Forest as part of the proposed project. No ground disturbance would occur as a result of the installation, and no additional tall structures would be installed. Existing roads would be used to access the site. There would be no impacts to biological resources as a result of work on the proposed project at the Fence Meadow Repeater Station. As a result, the antenna system at the Fence Meadow Repeater Station is not further discussed in this section.

Methodology

Literature Review

The California Public Utilities Commission (CPUC) conducted a literature review to identify biological resources in the project area. The CPUC reviewed the following information on biological resources:

- A California Natural Diversity Database (CNDDB) records search of a 10-mile radius around the project site (CDFW 2015a) for the following United States Geological Society 7.5-minute quadrangles: Sanger, Malaga, Wahtoke, Piedra, Round Mountain, Clovis, Fresno North, Fresno South, Conejo, Selma, and Reedley;
- The California Native Plant Society's (CNPS's) 2015 online *Inventory of Rare and Endangered Plants of California* for Fresno County (CNPS 2015);
- A U.S. Fish and Wildlife Service (USFWS) list of endangered, threatened, or proposed species for Fresno County (USFWS 2015a);
- USFWS Information for Planning and Conservation (IPaC) Resource Report for 10 square miles around the proposed project site (USFWS 2015b);
- Soil maps (NRCS 2015);
- California Department of Fish and Wildlife's (CDFW's) List of Vegetation Alliances and Associations (CDFW 2010);
- CDFW Threatened and Endangered Species Lists and Accounts (CDFW 2015b);
- A Manual of California Vegetation (CNPS 2016);
- eBird, an online database of bird distribution and abundance (eBird 2016);
- Aerial photographs (Google Earth 2016);
- Jepson Manual: Vascular Plants of California (Jepson Flora Project 2016); and

- PG&E’s Proponent’s Environmental Assessment (PG&E 2015) and Biological Resources Technical Report (NSR 2015) for the proposed project.

Biological Surveys

North State Resources, Inc., the applicant’s consultant, conducted field reconnaissance surveys on March 30, 2012, and April 14, 2015 (NSR 2015). The surveys entailed walking meandering transects in the biological resources survey area, which included all areas within a 250- to 400-foot radius of the proposed project (Figure 5.4-1). Habitat types and plant communities were characterized within the survey area and then evaluated to determine habitat suitability for special status plants and animals. In addition, the survey area was searched for special status plant and animal species or signs of them (e.g., scat) and for any nesting birds and raptors; an additional 0.5 miles outside the survey area was also searched by vehicle for raptors. Protocol-level rare plant surveys were not conducted because the survey area contains little native vegetation and does not fit the protocol’s criteria (CDFW 2009).

During field surveys, an assessment for potential waters of the United States as defined by Section 404 of the Clean Water Act (CWA) within the survey area was conducted, and it was determined that there are no features within the project area that would be considered potentially jurisdictional by the United States Army Corps of Engineers, Regional Water Quality Control Board, or CDFW. In addition to the applicant’s surveys, general biological information was also collected by the CPUC’s qualified professionals during a site visit to the proposed project location in February 2016 (Vick 2016).

Agency Consultation

CPUC’s environmental consultant informally contacted USFWS and CDFW. USFWS did not provide comments. CDFW responded with several comments (Bahm pers. comm. 2016):

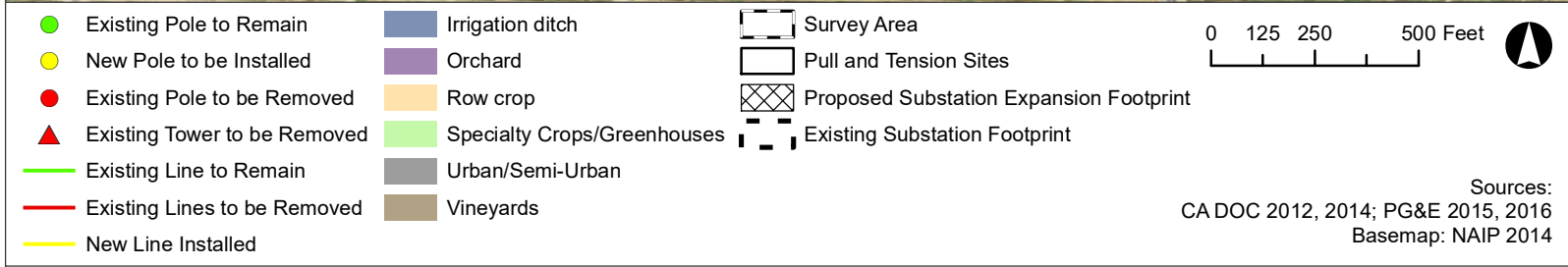
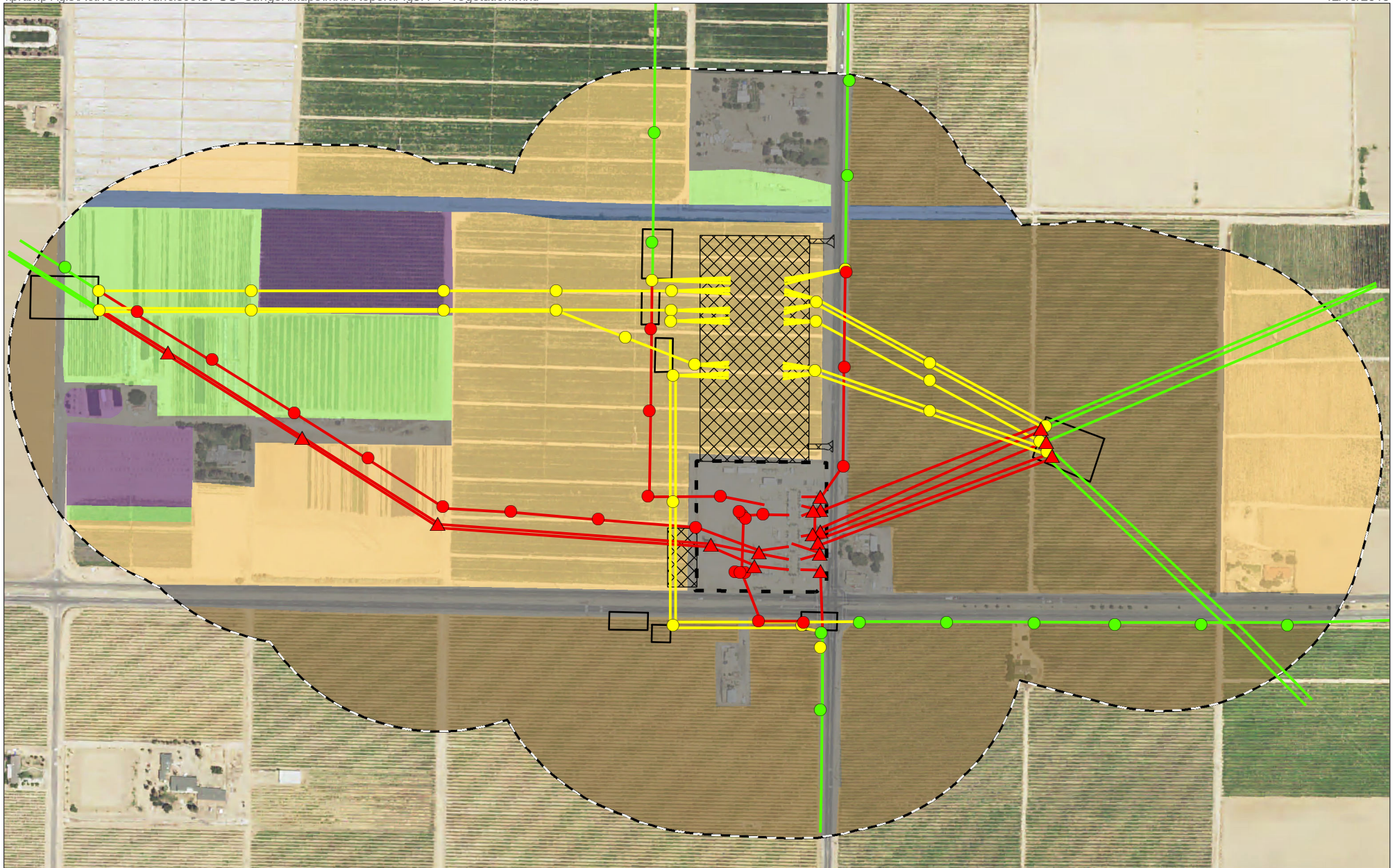
- Recommended general pre-activity/construction surveys for San Joaquin kit fox, their sign, and potential dens within 7 days prior to work commencing. Potential dens should be avoided by 50 feet, known dens by 100 feet, and natal den avoidance should be determined on a case-by-case basis in coordination with CDFW and USFWS.
- Recommended including bat species if there are any natural and/or man-made structures in the project area.
- Provided additional information regarding suggested Worker Environmental Awareness Plan (WEAP) training protocols.
- Recommended a detailed nesting bird mitigation measure rather than a nesting bird management plan.
- Suggested minimum buffer distance recommendations for birds.

Regulatory Setting

Federal

Federal Endangered Species Act (ESA)

The federal ESA of 1973 conserves plants and animals that are listed by the federal government as “endangered” or “threatened” and the ecosystems upon which they depend. Section 9 of the ESA prohibits the “take” of listed fish and wildlife. “Take” is defined as “harass, harm, pursue, hunt, shoot, wound, trap, capture, collect, or attempt to engage in such conduct” (50 Code of Federal Regulations [CFR] 17.3). It is also unlawful to remove, cut, dig up, damage or destroy listed plant species from areas



**Figure 5.4-1
Vegetation and Land
Cover Types
Sanger Substation
Fresno County, CA**

1 under federal jurisdiction, or in knowing violation of state law or regulations without a permit. Provisions
2 under the federal ESA allow USFWS to authorize “incidental” take of listed species occurring as a result
3 of otherwise lawful activities under certain terms and conditions. Although incidental take is not
4 anticipated for the proposed project, PG&E would consult under Section 10 of the ESA if an incidental
5 take permit is needed. Under Section 10, a private party initiates consultation with USFWS to discuss
6 target species in the area, the private party prepares a Habitat Conservation Plan (HCP) to assess the
7 potential for the project to impact these species, and presents measures to minimize these impacts.
8

9 ***PG&E San Joaquin Valley Operations and Maintenance Habitat Conservation Plan***

10 PG&E has an HCP, which has been approved by USFWS, for routine operations and maintenance
11 (O&M) in nine counties in the San Joaquin Valley, including Fresno County. The HCP authorizes
12 PG&E’s incidental take of 23 wildlife and 42 plant special status species for 33 routine O&M activities.
13 The proposed project is within the plan area, but construction of the proposed project is not a covered
14 plan activity. However, once construction of the proposed project is completed, its routine O&M
15 activities would be covered activities (Jones & Stokes 2006).
16

17 ***Migratory Bird Treaty Act***

18 The Migratory Bird Treaty Act (MBTA) of 1918 (16 United States Code Sections 703-712) protects all
19 migratory birds listed in 50 CFR 10.13, including active nests and eggs. The MBTA makes it unlawful to
20 pursue, hunt, take, capture, kill, possess, or sell birds listed under the MBTA without the appropriate
21 permits. Birds protected under the MBTA include all native waterfowl, shorebirds, hawks, eagles, owls,
22 doves, and other common birds such as ravens, crows, sparrows, finches, and others, including their body
23 parts (feathers and plumes), nests, and eggs.
24

25 ***Clean Water Act Sections 401 and 404***

26 The CWA regulates restoration and maintenance of the chemical, physical, and biological integrity of the
27 nation’s water. The definition of “waters of the United States” includes rivers, streams, estuaries, the
28 territorial seas, ponds, lakes, and wetlands. Section 404 of the CWA regulates the discharge of dredge-
29 and-fill material into waters of the United States, including wetlands. Section 401 of the CWA requires a
30 State Water Quality Certification (or waiver thereof) for activities that require a U.S. Army Corps of
31 Engineers Section 404 permit, to ensure consistency with state water quality standards.
32

33 ***United States Forest Service Sierra National Forest Land and Resource Management*** 34 ***Plan***

35 Two dishes would be installed on an existing tower at the Fence Meadow Repeater Station, which is on
36 land managed by the U.S. Forest Service; there would be no impacts from this work. The Sierra National
37 Forest Land and Resource Management Plan includes management directions for protection of sensitive
38 species and their habitat (USFS 1991). The plan protects nests and dens of all sensitive wildlife species
39 until young are gone and requires management activities occur in a way to preserve nests and dens.
40

41 ***State***

42 ***California Endangered Species Act (CESA)***

43 The CESA is similar to the federal ESA and is administered by the CDFW under California Fish and
44 Game Code (CFGF) Section 2050 et seq. The CESA, as amended, protects endangered and threatened
45 species and their habitats, and prohibits the take of CESA-listed species. The state definition of “take” is
46 to hunt, pursue, catch, capture, or kill a member of a listed species or attempt to do so (Fish and Game
47 Code Section 86). CDFW administers CESA and authorizes take through permits or memorandums of
48 understanding issued under Section 2081 of CFGF, or through a consistency determination issued under

1 section 2080.1. Under the CESA, endangered, rare, or threatened species are those listed in Sections
 2 670.2 (plants), and 670.5 (animals), Title 14, California Code of Regulations. The protections of the
 3 CESA also apply to species designated as candidate species.

4
 5 ***Stream Protection (CFGC Sections 1600–1616)***

6 The CDFW regulates activities that would interfere with the natural flow of or substantially alter the
 7 channel, bed, or bank of a lake, river, or stream. These activities are regulated under CFGC Sections 1600
 8 to 1616 and require a Lake or Streambed Alteration Agreement (LSAA). Requirements to protect the
 9 integrity of biological resources and water quality are often conditions of LSAAAs.

10
 11 ***Fully Protected Species (CFGC Sections 3511, 4700, 5050, and 5515)***

12 CFGC designates certain animal species as “fully protected” under Sections 3511 (birds), 4700
 13 (mammals), 5050 (reptiles and amphibians), and 5515 (fish). Take of fully protected species may be for
 14 “scientific research”; incidental take of fully protected species may be authorized through an approved
 15 Natural Community Conservation Plan (CFGC Section 2835).

16
 17 ***Protection for Birds (CFGC Sections 3503, 3503.5, 3513)***

18 CFGC Section 3503 states that “it is unlawful to take, possess, or needlessly destroy the nest or eggs of
 19 any bird, except as otherwise provided by this code or any regulation made pursuant thereto.” Section
 20 3503.5 states that it is “unlawful to take, possess, or destroy any birds in the orders of Falconiformes or
 21 Strigiformes (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird.” CDFW
 22 generally considers disturbance that results in the incidental loss of fertile eggs or nestlings, or otherwise
 23 leads to nest abandonment and/or loss of reproductive effort to be “take.” Section 3513 provides for
 24 consistency with regulations that implement the MBTA.

25
 26 ***California Species of Special Concern***

27 Species of Special Concern is a category used by CDFW to identify fish and wildlife species that meet the
 28 state definition of threatened or endangered, but have not been formally listed (e.g., federally or state-
 29 listed species), or are considered at risk of qualifying for threatened or endangered status in the future
 30 based on known threats. Species of Special Concern is an administrative classification only, but these
 31 species should be considered “special-status” for the purposes of the California Environmental Quality
 32 Act analysis (see the Significance Criteria section of this document).

33
 34 ***California Native Plant Protection Act of 1977 (CFGC Sections 1900–1913, 2062, and***
 35 ***2067)***

36 The California Native Plant Protection Act identifies the types of plant species eligible for state listing.
 37 Eligible species include those identified on CNPS Rare Plant Ranks 1A, 1B, and 2, and meet the
 38 definitions of Sections 1901, Chapter 10 (Native Plant Protection Act). Under California Fish and Game
 39 Code Section 2062, any plant species determined by the CFGC (Commission) as “endangered” on or
 40 before January 1, 1985 is an endangered species under CESA and under Section 2067 any plant species
 41 determined by the Commission as “rare” is a “threatened species” under CESA.

42
 43 ***Porter–Cologne Water Quality Control Act***

44 Article 4 of the Porter-Cologne Water Quality Control Act (California Water Code Section 13260 et seq.)
 45 states that discharge of waste in an area that could affect Waters of the State requires filing a report of
 46 discharge with the Regional Water Quality Control Board. Waters of the State include surface water and
 47 groundwater in the state. Dischargers must obtain Waste Discharge Requirements. If waters are also

1 Waters of the U.S., then the Waste Discharge Requirement is covered by the section 401 Water Quality
 2 Certification, discussed above under the CWA.

3
 4 **Local**

5 ***Fresno County General Plan***

6 The Fresno County General Plan was created to meet state general plan requirements and “is a
 7 comprehensive, long-term framework for the protection of the county’s agriculture, natural, and cultural
 8 resources and for development in the county” (Fresno County 2000). In particular, the Open Space and
 9 Conservation Element is “concerned with protecting and preserving natural resources, preserving open
 10 space areas, managing the production of commodity resources, protecting and enhancing cultural
 11 resources, and providing recreational opportunities.” Section E focuses on Fish and Wildlife Habitat and
 12 states:

- 13
- 14 • *Policy OS-E.9: Prior to approval of discretionary development permits, the County shall require,*
 15 *as part of any required environmental review process, a biological resources evaluation of the*
 16 *project site by a qualified biologist. The evaluation shall be based upon field reconnaissance*
 17 *performed at the appropriate time of year to determine the presence or absence of significant*
 18 *resources and/or special-status plant or animals. Such evaluation will consider the potential for*
 19 *significant impact on these resources and will either identify feasible mitigation measures or*
 20 *indicate why mitigation is not feasible.*

21
 22 **Vegetation and Wildlife Habitats**

23 Agriculture is the primary land use in the survey area, consisting of row crops and vineyards. The heavy
 24 land modification from agriculture has resulted in relatively little native vegetation in the survey area.
 25 Several vegetation and ground cover categories were identified during the field surveys (Table 5.4-1,
 26 Figure 5.4-1). None of these are considered special status natural communities (CDFW 2010). There is no
 27 USFWS-designated critical habitat for special status species in the survey area (USFWS 2015b).
 28

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

| Vegetation and Land Cover Types | Area (acres) |
|---------------------------------|--------------|
| Vineyards | 77.8 |
| Row Crops | 63.9 |
| Urban/Semi-urban | 27.4 |
| Specialty Crops/Greenhouse | 17.1 |
| Orchards | 8.5 |
| Agriculture Irrigation Ditch | 3.8 |

29
 30 ***Vineyards***

31 Vineyards are found in the eastern and southern portions of the survey area, with a small additional
 32 portion of vineyards on the western edge. These vineyards are intensively farmed and leave very little
 33 vegetation between rows. In a few areas, ground cover was found to contain non-native species, including
 34 Mediterranean barley (*Hordeum marinum*), ripgut brome (*Bromus diandrus*), common burclover
 35 (*Medicago polymorpha*), and redstem stork’s bill (*Erodium cicutarium*).
 36

37 ***Row Crops***

38 The area directly north and west of the existing substation is made up of row crops. Row crops are also
 39 found in the fringes of the northern, western, and eastern boundaries of the survey area. The proposed
 40 expansion area is located entirely within land planted with row crops. At the time of the March 30, 2012
 41 survey and the February 2016 site visit, the proposed expansion area was mostly disked; however, during

1 the April 14, 2015 survey, the proposed expansion area was predominately planted with squash. Along
2 the edges of row crops and access roads, non-native grasses and forbs were found sporadically, including
3 bermudagrass (*Cynodon dactylon*) and shepherd's purse (*Capsella bursa-pastoris*), as well as native
4 species such as fiddleneck (*Amsinckia* sp.).

6 **Urban/Semi-urban**

7 Within the survey area, the existing Sanger Substation, as well as a few isolated residences, make up the
8 urban/semi-urban category. There is agriculture infrastructure within the survey area as well, but all of
9 these areas are largely unvegetated, with the exception of a few ornamental trees.

11 **Specialty Crops/Greenhouses**

12 In the northwestern portion of the survey area, and in a small area between the irrigation ditch and an
13 urban area, there are specialty crops and greenhouse structures. The crops include Chinese broccoli,
14 Chinese spinach, kohlrabi, lemongrass, sugar peas, peppers, cucumbers, yams, and lettuce. This area is
15 intensively farmed.

17 **Orchards**

18 In the northwest portion of the survey area, just south of the irrigation ditch, there is a young plum
19 orchard. In the western portion of the survey area, there are two young orchards situated between a
20 residence and South Thompson Avenue. The surrounding soil is well maintained, with few occurrences of
21 the non-native plants and weeds under row crops.

23 **Agriculture Irrigation Ditch**

24 An actively managed agriculture irrigation ditch is located in the northern portion of the survey area and
25 approximately 80 feet north of the proposed northern boundary of the expanded substation footprint.
26 There is a semi-paved access road that runs parallel between the south side of the ditch and the proposed
27 project. There is a levee of approximately 3 feet high on either side of the ditch, which regulates water
28 levels. The ditch and the levee are regularly maintained by mechanically clearing them of vegetation. The
29 levee is also cleared using chemicals. The bottom of the ditch was found to have sparse vegetation,
30 including natives smartweed (*Polygonum lapathifolium*) and fringed willowherb (*Epilobium ciliatum*),
31 and non-natives white sweetclover (*Melilotus alba*), bermudagrass, shepherd's purse, and redstem stork's
32 bill. The steep banks of the ditch, which were largely clear of vegetation during both surveys, contained
33 sporadic patches of non-native vegetation, including mouse-tail (*Festuca bromoides*), Canada horseweed
34 (*Erigeron canadensis*), common mallow (*Malva neglecta*), and ripgut brome.

36 **Special Status Species**

37 Special status species include plants and animals that are either formally listed under federal or state
38 endangered species law, or not formally listed but which, in the judgement of the CPUC's qualified
39 professionals, meet the definitions of "Endangered" or "Rare" under California Environmental Quality
40 Act Guidelines Section 15380, such as species considered to be rare by resource agencies, professional
41 organizations (e.g., CNPS), local ordinances, and the scientific community. In this document "special
42 status species" include species listed as Endangered, Threatened, Candidate, or Proposed under the
43 Federal ESA; listed as Endangered, Threatened, or Rare under CESA; designated as Watch List, Fully
44 Protected, or Species of Special Concern or listed under the California Native Plant Protection Act by
45 CDFW; USFWS Birds of Conservation Concern; or CNPS Rare Plant Ranks 1-4.

47 The potential for special status species to occur within the proposed project area was assessed using the
48 data sources and survey results described in above. The species that have potential to occur in the project
49 area based on the above definitions for low, moderate, and high potential are described in Table 5.4-2.

The likelihood of each special status species occurrence in the project area was determined based on known occurrences and natural history parameters, including but not limited to the species' range, habitat, foraging needs, migration routes, and reproductive requirements according to the following categories:

High: CNDDDB or other documentation of occurrence of the species within a 3-mile radius of the project area. Suitable habitat for foraging and/or breeding is present within the project area.

Moderate: CNDDDB or other documentation of occurrence of the species between a 3- and 5-mile radius of the project area. Suitable habitat for foraging and/or breeding is present within the project area.

Low: CNDDDB or other documentation within 10 miles of the project area, but limited suitable habitat or poor quality habitat for foraging and/or breeding is present within the project area; or there are no CNDDDB or other records within 10 miles of the project area, but known suitable habitat for foraging and/or breeding is present within the project area.

Table 5.4-2 Special Status Wildlife Species with Potential to Occur within Project Area

| Common and Scientific Names | Status Federal/State ^(a) | Habitat Requirements ^(b) | Potential Occurrence in Project Area ^(c) |
|---|-------------------------------------|--|---|
| Birds | | | |
| Burrowing owl (<i>Athene cunicularia</i>) | —/SSC | Level, open, dry, heavily grazed, or low stature grassland or desert vegetation with available burrows. Can excavate their own burrows, but often use ground squirrel, fox, or badger burrows or dens. During breeding season, will typically forage near their burrows, but have been reported 2.7 kilometers away. | Low: CNDDDB occurrence 8 miles north-northeast of the town of Sanger in 2006 in open non-native grassland habitat. Four observations on eBird, three of which were at the same point approximately 8 miles from the project area from 2011 to 2015. The other location was approximately 7.5 miles from the project area in 2015. Suitable habitat in terms of burrows (the irrigation ditch) and foraging occurs in survey area. No evidence of burrowing owl or burrowing owl sign (white wash, pellets, feathers, etc.), and limited prey were observed during reconnaissance field surveys. |
| Loggerhead shrike (<i>Lanius ludovicianus</i>) | —/SSC | Forages in open grassland habitats throughout the Central Valley of California. Nests in shrubs and trees. Generally requires thorny trees or shrubs, or barbed-wire fences, which it uses to help store and tear apart larger prey. | Low: No CNDDDB occurrence within 10 miles. Fifteen eBird observations at eight locations 5 to 9 miles from the project area from 2000 to 2016. Limited habitat is present in the form of marginal quality foraging habitat within and adjacent to project site and minimal shrubs for nesting. Barbed-wire fencing present. |
| Swainson's hawk (<i>Buteo swainsoni</i>) | —/T | Nests in oaks or cottonwoods in or near riparian habitats, will utilize lone trees in agricultural fields. Forages in grasslands, irrigated pastures, and grain fields. Sometimes utilizes man-made structures, such as power poles, for nesting. | Moderate: Last CNDDDB recorded sighting within a 10-mile radius of project location in 1956. One eBird observation 3.5 miles from project area in 2015. Three more eBird observation 6 to 8 miles from project area between 2004 and 2015. Suitable habitat is present in the form of foraging habitat and potential nesting sites within 0.5 miles of the project area. |

Table 5.4-2 Special Status Wildlife Species with Potential to Occur within Project Area

| Common and Scientific Names | Status Federal/State ^(a) | Habitat Requirements ^(b) | Potential Occurrence in Project Area ^(c) |
|--|-------------------------------------|---|---|
| White-tailed kite (<i>Elanus leucurus</i>) | —/FP | Nests in dense tree stands, forages in grasslands, agriculture fields and marshes. Uses trees with dense canopies for cover. Nests located near open foraging area. | Low: No CNDDDB occurrences within 10 miles. Four eBird observations in a 3- to 5-mile radius of the project area in 2013 and 2014 and 22 observations within a 5- to 10-mile radius between 2000 and 2015. Limited foraging habitat within and adjacent to the project area; no dense canopies for potential nesting sites within 1 mile of project area. |
| Mammals | | | |
| Pallid Bat (<i>Antrozous pallidus</i>) | —/SSC | Daytime roosts in caves and crevices, and occasionally in buildings and hollow trees. Range includes low elevations throughout California. Roosts must protect bat from high temperatures. | Low: No reported observations within a 10-mile radius of the project area. Poor quality habitat is present in the form of isolated tree stands and buildings. |
| San Joaquin kit fox (<i>Vulpes macrotis mutica</i>) | E/T | Open habitats in deserts and grasslands, dens in open, level areas with loose textured soils. Denning sites may be found in agricultural and urban areas associated with fallowed areas or areas of natural vegetation. | Low: Last CNDDDB occurrence within 10 miles was in 1980 with a location represented as "Sanger" (no specific coordinates provided). Because of heavily modified agricultural lands, limited habitat is located within 1.5 miles and limited amount of prey is present in the area. No known denning habitat in survey area. |
| Western red bat (<i>Lasiurus blossevillii</i>) | —/SSC | Roosts primarily in trees that are in edge habitats adjacent to streams, fields, or urban areas. Preferred roost sites are protected from above and open below to minimize water loss. | Low: No reported observations within a 10-mile radius of the project area. Poor quality habitat is present in the form of isolated tree stands. |

Notes:

(a) **Status explanations:**

Federal

E listed as endangered under the federal Endangered Species Act.

State

T listed as threatened under the California Endangered Species Act.

FP fully protected under the California Fish and Game Code.

SSC species of special concern in California.

(b) As reported in the 2015 CDFW Threatened and Endangered Species Lists and Accounts (CDFW 2015b), California Wildlife Habitat Relationships (CDFW 2000b, 2005, Undated a, Undated b), Shuford and Gardali (2008), and 2015 USFWS Endangered Species List (USFWS 2015a),

(c) **Potential Occurrence in the Project Area**

Moderate: CNDDDB or other documentation of occurrence of the species between a 3- and 5-mile radius of the project area. Suitable habitat for foraging and/or breeding is present within the project area.

Low: CNDDDB or other documentation within 10 miles of the project area, but limited suitable habitat or poor quality habitat for foraging and/or breeding is present within the project area; or there are no CNDDDB or other records within 10 miles of the project area, but known suitable habitat for foraging and/or breeding is present within the project area.

Key:

CNDDDB California Natural Diversity Database

1 A number of plant and wildlife species identified in the literature review were determined to have no
2 potential to occur within the project area because no CNDDDB records or other documentation within
3 10 miles of the project area were found, or suitable habitat is not present in the project area in any
4 condition. Species with no potential to occur were not included in this document.

5.4.2 Environmental Impacts and Assessment

Applicant Proposed Measures

9 The applicant has incorporated applicant-proposed measures (APMs) into the proposed project to
10 minimize or avoid impacts on biological resources. Not all APMs were applied to reduce impacts;
11 however, APMs BIO-1, BIO-2, BIO-3, BIO-6, BIO-7, and BIO-8 were not applied in the analysis to
12 determine whether and to what extent impacts to biological resources would be reduced because no
13 impacts were identified that could be minimized through application of these APMs. Nonetheless, these
14 APMs would be implemented by PG&E because they are considered to be part of the proposed project. A
15 list of all project APMs is included in Table 4-5.

17 **APM BIO-1: Work area minimization.** The number of access routes, staging areas, and total area
18 of the work sites will be kept to the minimum necessary.

19 **APM BIO-2: Erosion and sediment control measures.** A Stormwater Pollution Prevention Plan
20 (SWPPP) will be implemented to ensure effective erosion and sediment control measures will be in
21 place at all times during construction.

22 **APM BIO-3: Weed management.** To prevent the spread of noxious weeds, only equipment which
23 has been washed and is free of caked on mud, dirt, and other debris, which could house plant seeds,
24 will be allowed in the project area.

25 **APM BIO-4: Avoidance of impacts to wildlife and natural habitats.** All work will be done in a
26 manner that minimizes disturbance to wildlife and habitat.

27 **APM BIO-5: Litter and trash management.** All food waste and associated containers will be
28 disposed of in closed lid containers.

29 **APM BIO-6: Maintenance and refueling.** No vehicle maintenance or refueling will occur within
30 100 feet of the agricultural irrigation ditch located near the north boundary of the project footprint.

31 **APM BIO-7: Spill prevention and cleanup.** Proper spill prevention and cleanup equipment will be
32 readily available.

33 **APM BIO-8: Route limitations.** Vehicles will remain on designated access roads and within
34 designated worksites.

35 **APM BIO-9: Pets and firearms.** No pets or firearms are permitted within the project area.

36 **APM BIO-10: Vehicle speed limits.** Construction crews will abide all County road speed limits.

37 **APM BIO-11: Backfilling.** Prior to backfilling or placement of structures, all excavation sites (e.g.,
38 holes excavated for pole butts, trenches, etc.) will be inspected to ensure no small vertebrates have
39 been entrapped. All excavations with a potential for entrapment of wildlife will be backfilled or fully
40 covered at the end of the work day. Alternatively, holes or trenches will include one or more escape
41 ramps constructed of earth fill or wooden planks no less than 10 inches wide and reaching to bottom
42 of trench at the close of each working day.

1 **APM BIO-12: Avoidance and minimization of potential impacts on Swainson’s hawk.** If
2 construction activities are scheduled to occur during the nesting season (February 1 to August 31), a
3 preconstruction survey for nesting Swainson’s hawk will be conducted within 0.5 mile of the project
4 area by a qualified biologist. If active nests are found, a qualified biologist will designate an
5 appropriate buffer between construction activities and the nest to avoid disturbance to the nesting.
6 Work within the buffer will not proceed until the nestlings have fledged or the nest becomes inactive.

7 **APM BIO-13: Avoidance and minimization of potential impacts on burrowing owl.** Within 30
8 days of beginning ground-disturbing activities, a preconstruction survey for burrowing owl will be
9 conducted along the agricultural irrigation ditch and any other suitable habitat within 500 feet of the
10 project area by a qualified biologist. If no burrowing owls are detected no further measures are
11 required. If burrowing owls are detected, no construction activities will occur within 250 feet of
12 occupied burrows during the nesting season or within 160 feet of occupied burrows during the non-
13 nesting season. For the purposes of this measure, the nesting season is February 1st to August 31st.
14 Additionally, the burrowing owls will be monitored by a qualified biologist during construction to
15 assess the sensitivity of the burrowing owls to the construction activities. The size of the avoidance
16 buffer may be increased or decreased as determined by the monitoring biologist based on the planned
17 construction activities and the sensitivity of the burrowing owls. If impacts on an active burrow
18 cannot be avoided, passive relocation may be considered. Relocation will be conducted during the
19 nonnesting season and only after a site-specific plan has been developed and implemented in
20 coordination with the CDFW.

21 **APM BIO-14: Avoidance and minimization of potential impacts on nesting birds.** If work is
22 scheduled to occur during the avian nesting season (February 1st through August 31st), active work
23 areas will be surveyed by a qualified biologist within 15 days before work begins to determine if any
24 nesting birds are present. Exclusionary buffer zones will be established by a qualified biologist
25 around any active nests within the project area. The size of the buffer zone will be established at the
26 discretion of the biologist based on the following factors: 1) the species’ sensitivity to disturbance, 2)
27 the topography surrounding the nest site, and 3) its concealment from project activities. If
28 construction activities are required within an exclusionary buffer zone, the nest will be monitored for
29 disturbance by a qualified biologist until the young have fledged and are independent of the adults.
30 Nest disturbance will be assessed based on behavioral cues such as time off the nest, hesitation
31 approaching the nest, incessant chattering and bill swiping, and other indications. If no nest
32 disturbance is observed, work may continue. If the biologist determines that construction activities are
33 causing nest disturbance, work will not be allowed to continue within the buffer zone until the nest
34 becomes inactive or the young have fledged.

35 Additional APM cited in this section:

36 **APM AES-2: New source of substantial light or glare avoidance.**
37

38 **Impacts on Biological Resources**

39 Table 5.4-3 includes the significance criteria from Appendix G of the California Environmental Quality
40 Act Guidelines’ biological resources section to evaluate the environmental impacts of the proposed
41 project.
42

Table 5.4-3 Biological Resources Checklist

| Would the project: | Potentially Significant Impact | Less Than Significant with Mitigation Incorporation | 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? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

1
2 The applicant is independently required to comply with the federal and state endangered species acts.
3 Specific biological resource mitigation measure requirements in this document may be satisfied through
4 compliance with permit conditions, or other authorizations that may be obtained by the applicant, if these
5 requirements are equally or more effective than the mitigation identified in this document. The applicant
6 shall provide the CPUC with copies of permits or other authorizations, and supporting documentation, to
7 show that compliance with permitting conditions will be equally or more effective as mitigation for
8 impacts to biological resources. The CPUC shall have sole discretion to determine whether compliance
9 with permit conditions will also satisfy the performance standards or requirements identified in mitigation
10 measures in this IS/MND. If the CPUC determines that compliance with permit conditions would also
11 satisfy the mitigation measures in this IS/MND, the applicant shall submit reports to the CPUC
12 documenting compliance, consistent with the reporting requirements of the equivalent mitigation measure
13 or measures.
14

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

5
6 *LESS THAN SIGNIFICANT WITH MITIGATION*

7
8 **Construction**

9 ***Special Status Plants***

10 Reconnaissance field surveys were conducted during blooming season and found no special status plant
11 species or potential habitat within the survey area. Database searches of CNDDDB and CNPS found 20
12 special status plant species within the Sanger quadrangle and the eight surrounding quadrangles. Analysis
13 of the known habitat requirements of each plant species found that no special status plant species have a
14 potential to occur in the project area. There is no suitable habitat for the 20 special status species due to
15 the heavy land modification of agriculture in the area and lack of required soil or substrate. Therefore, the
16 project would have no impact on special status plants.

17
18 ***Special Status Wildlife***

19 No special status wildlife species were identified in the area during field surveys. CNDDDB, USFWS, and
20 eBird searches found 15 federally or state listed special status species within 10 miles of the project area.
21 In addition, special status wildlife species with no known CNDDDB or other documentation of occurrence
22 were considered if required habitat was identified in the project area during applicant or CPUC surveys.
23 During analysis, most species were eliminated from having the potential to occur in the project area based
24 on range or habitat requirements. There is a moderate potential for one special status species—
25 Swainson’s hawk (*Buteo swainsoni*)—to occur in the area, and low potential for burrowing owl (*Athene*
26 *cunicularia*), loggerhead shrike (*Lanius ludovicianus*), pallid bat (*Antrozous pallidus*), San Joaquin kit fox
27 (*Vulpes macrotis mutica*), western red bat (*Lasiurus blossevillii*), and white-tailed kite (*Elanus leucurus*).
28

29 **Birds**

30 The one special status species with moderate potential to occur and three of the species with low potential
31 to occur are migratory birds that may appear on the project site during nesting season. In addition, field
32 surveys found that migratory birds protected by the MBTA and CFGC use the existing substation and its
33 associated utility structures as nesting sites. Impacts on these special status bird species, as well as on
34 nesting birds protected by the MBTA or CFGC, could result from construction activities associated with
35 substation upgrades and expansion, replacement and installation of utility poles, and access road and
36 staging area construction. These activities could result in indirect and direct impacts on special status bird
37 species and nesting birds.

38
39 Indirect impacts on special status bird species, including burrowing owl, loggerhead shrike, Swainson’s
40 hawk, and white-tailed kite, could result from loss of foraging or nesting habitat. Construction activities
41 across the proposed project may discourage foraging within the immediate vicinity of an active work site;
42 this disruption in foraging is expected to be localized and temporary. A minimal number of lattice
43 structures and vegetation that provide nesting habitat would be removed as part of the proposed project.
44 In addition, the proposed project would include the addition of new substation equipment and a
45 telecommunications tower, which would provide new nesting habitat, and the project site is relatively
46 small; therefore, the loss of habitat would not be significant. These indirect impacts would not be
47 significant.
48

1 Construction activities could result in direct mortality or injury of individual special status or nesting bird
2 species resulting from collisions with vehicles and equipment, removal of active nests through tower or
3 vegetation removal. In addition, visual (e.g., night lighting, equipment use) or noise disturbance could
4 result in nest abandonment or nest avoidance. The operation of the current substation creates a low level
5 of noise disturbance (i.e., operational noise levels from existing transformers are a component of ambient
6 noise levels). Ambient noise levels in the project vicinity would increase above baseline conditions on a
7 temporary and intermittent basis during construction. Construction disturbance that results in loss of
8 individual birds, eggs, or nestlings would be a significant impact. Specific construction impacts for each
9 special status bird species are discussed below.

10 11 Burrowing Owl

12 The burrowing owl is designated as a species of special concern by the CDFW and is protected by the
13 MTBA and CFGC. Burrowing owls prefer dry, open habitat with short grass and no trees (Shuford and
14 Gardali 2008). They are frequently associated with burrowing mammals that provide burrows for nesting.
15 Burrowing owls can dig their own burrows; however, they are known to nest in burrows abandoned by
16 mammals or tortoises. Common suitable habitat in agricultural areas includes roadside embankments and
17 levees. Burrowing owls feed on insects, reptiles, birds, and small mammals and are known to hunt both
18 day and night.

19
20 Several burrowing owls were recently observed approximately 7 to 8 miles from the proposed project
21 area (Table 5.4-3). No burrowing owls were observed during the field surveys, and no burrowing owl sign
22 (white wash, pellets, feathers, etc.) was seen in the survey area. There is suitable habitat in the survey area
23 in the irrigation ditch, which is 100 feet north of the proposed substation expansion footprint. Numerous
24 ground squirrel burrows were observed in the ditch and one ground squirrel was observed during field
25 surveys; several rodent bait traps were observed along the ditch. The potential for burrowing owl to occur
26 in the project area is low.

27
28 Construction activities such as the proposed expansion of the substation would occur within 100 feet of
29 the irrigation ditch. Construction activities could disturb a nesting burrowing owl and result in the loss of
30 eggs or fledglings, interfere with foraging activities, or result in a collision with construction vehicles.
31 This would be a significant impact.

32
33 APM BIO-4 would avoid impacts to wildlife and natural habitats, APM BIO-5 would require trash to be
34 disposed of in closed lid containers, APM BIO-10 would limit vehicle speeds, APM BIO-13 would
35 require pre-construction surveys for burrowing owl, and APM BIO-14 would avoid potential impacts on
36 nesting birds. APMs BIO-4, BIO-5, BIO-10, BIO-13, and BIO-14 would reduce impacts, but not to less
37 than significant. APM BIO-4 does not require any specific actions to ensure impact avoidance, APM
38 BIO-5 does not specify that trash containers need to be animal proof, and APM BIO-10 does not provide
39 specific speed limits for project roads. APM BIO-13 proposes buffers for burrowing owl nests that are
40 smaller than CDFW's recommendations and allows the biologist to decrease buffer distances without
41 agency consultation. APM BIO-14 does not describe specific buffer distances for nesting birds and does
42 not outline monitoring and reporting requirements.

43
44 In order to reduce the project's impacts on burrowing owls, the applicant would be required to implement
45 Mitigation Measures (MM) BIO-1 through BIO-6. MM BIO-1 would require that all construction
46 personnel participate in an environmental awareness program designed to provide information and
47 training regarding special status species in the area, as well as all mitigation measures and APMs specific
48 to species' impact reduction. MM BIO-2 would require the applicant to perform preconstruction surveys
49 for special status species prior to construction, and MM BIO-3 would require that special status species in
50 the project vicinity are monitored in order to reduce disturbance by project activities. MM BIO-4

1 supersedes APM BIO-14 by increasing the length of the nesting bird season, adding survey requirements
2 for nesting birds, providing standard buffer distances, and detailing reporting requirements for all nesting
3 birds. MM BIO-5 supersedes APMs BIO-4, BIO-5, and BIO-10 by providing avoidance measures to
4 reduce harassment of wildlife, detailing trash removal efforts to prevent attraction of predators, and
5 providing specific speed limits to reduce potential vehicle strikes of wildlife. MM BIO-6 supersedes APM
6 BIO-13 by providing additional monitoring requirements for burrowing owl nesting season and
7 increasing burrowing owl nest buffer distances. Specifically, MM BIO-6 would require the
8 implementation of an appropriate buffer around any identified occupied burrow, approved by the CPUC,
9 which would be based on the particular owl's tolerance and the disturbance level. Implementation of the
10 appropriate buffer would reduce visual and noise disturbance and thus reduce potential impacts on
11 burrowing owl and nesting birds in general. With the implementation of MM BIO-1, MM BIO-2, MM
12 BIO-3, MM BIO-4, MM BIO-5, and MM BIO-6, the project's impacts on burrowing owl would be less
13 than significant.

14
15 **MM BIO-1: Biological Resources Worker Environmental Awareness Program.** The applicant
16 shall develop a WEAP. Prior to the start of construction, all construction crew members and
17 contractors shall be required to attend the WEAP training presented by a CPUC-approved, qualified
18 biologist. All construction crew members and contractors who attend the training shall sign a form
19 indicating that they attended the training and understood the information. Follow-up training shall be
20 conducted as needed; new workers shall attend WEAP training prior to beginning at the work site. A
21 record of all trained personnel shall be kept on site, and a sticker indicating training completion shall
22 be worn on all worker hard hats.

23 The WEAP training shall include a review of the special status species and other sensitive resources
24 (e.g., nesting birds) that could exist in the project area, the locations where sensitive biological
25 resources do or may occur, the limits of the work area, applicable laws and regulations, penalties for
26 non-compliance, and APMs and mitigation measures to be implemented for avoidance of these
27 sensitive resources. Additionally, personnel shall be trained for situations where it is necessary to
28 contact a qualified biologist (e.g., should any sensitive biological resources such as an active nest be
29 found during construction). If sensitive resources are found, the qualified biologist shall provide
30 guidelines for the personnel to avoid impacts on them. All WEAP participants shall receive a
31 brochure that outlines all this information including contact information for the appropriate
32 environmental personnel.

33 **MM BIO-2: Pre-activity surveys for sensitive species.** A CPUC-approved qualified biologist shall
34 conduct a pre-activity survey for all activities occurring near where sensitive resources may be found
35 within 7 days prior to work commencing. If there is no work in an area for 7 days, it shall be
36 considered a new work area if construction begins again. The biologist shall survey all suitable
37 habitat for sensitive species within 100 feet of the activities (see MM BIO-4, MM BIO-6, or MM
38 BIO-7 for additional nesting bird procedures). If any species listed by the state or federal endangered
39 species acts or protected by other statutes, or their signs, are found, the CPUC and the appropriate
40 wildlife agencies shall be notified within 48 hours to confirm appropriate avoidance measures. If it is
41 determined that construction activity cannot avoid areas where sensitive biological resources are
42 present, the qualified biologist shall coordinate with the CPUC, CDFW, and/or USFWS, as necessary.

43 If a potential San Joaquin kit fox den is found then a minimum buffer of 50 feet shall be
44 implemented. For a known den, the buffer shall be 100 feet and for a natal den the avoidance buffer
45 shall be determined on a case-by-case basis in coordination with CDFW and USFWS. If dens cannot
46 be avoided by these distances, a CPUC-qualified biologist shall determine occupation following the
47 procedures outlined in USFWS Standardized Recommendations for Protection of the Endangered San
48 Joaquin Kit Fox Prior to and During Ground Disturbance (USFWS 2011) and consult and coordinate
49 with CDFW and USFWS.

1 **MM BIO-3: Biological Monitoring.** A CPUC-approved qualified biological monitor shall develop
2 an appropriate schedule of monitoring to ensure that disturbance is minimized to sensitive resources
3 to the greatest extent possible during project activities. The schedule shall ensure that a CPUC-
4 approved qualified biological monitor (1.) visits the project area regularly (at a minimum of every 7
5 days); (2.) is present to monitor all ground disturbing activities, such as grading and trenching; and
6 (3.) is present to monitor any observed special status species (observed sign or individual) that may be
7 disturbed by project activities. Biological monitors shall be familiar with San Joaquin kit fox and
8 burrowing owl. Avian biologists present during nesting bird season may act as the biological monitor
9 if qualified.

10 The biological monitor shall be responsible for ensuring that impacts on special status species, their
11 associated habitat, and/or sensitive resources are avoided to the fullest extent possible, and the
12 monitor shall have full authority to halt construction if the monitor observes actual or potential
13 disturbances to sensitive resources. At a minimum of once per 7 days, the monitor shall survey all
14 project components near where construction activities may occur in the next 7 days, as well as the
15 irrigation ditch area. Where appropriate, monitors shall flag the boundaries of areas where activities
16 need to be restricted to protect special status species. If a special status species is present in the
17 project area while construction activities are occurring, the restricted areas shall be monitored to
18 ensure their protection during construction.

19 **MM BIO-4: Mitigation for nesting birds (Supersedes APM BIO-14).** The applicant shall
20 implement the measures below in all work areas where any construction-related activities are
21 conducted during the nesting bird season (February 1 to September 15) for all species except
22 Swainson's hawk and white-tailed kite (see MM BIO-7), and burrowing owl (see MM BIO-6).

23 **Nesting Bird Survey Requirements.** If work is scheduled to occur during nesting bird season, then
24 the following provisions shall be employed:

- 25 • A CPUC-approved qualified avian biologist shall conduct surveys for nesting birds within 7 days
26 prior to the start of any construction-related activities. Areas shall be re-surveyed every 7 days
27 while construction activities are occurring. If there is no work in an area for 7 days, it shall be
28 considered a new work area if construction resumes. In addition, a CPUC-approved qualified
29 monitor shall conduct pre-construction clearance sweeps for nesting birds at all access, staging
30 and, work areas where suitable habitat is present within approximately 24 hours of construction
31 activities each day during the nesting season.
- 32 • Surveys shall be conducted with the appropriate buffer, duration, level of effort, and timing based
33 on level of construction disturbance, time of day, and environmental factors. Surveys shall be
34 conducted within a 500 foot buffer of active work areas for raptors and a 250 foot buffer for non-
35 raptors, at a minimum.
- 36 • Surveys shall be conducted at a minimum between February 1 and September 15; however, the
37 survey season may need to begin earlier or end later depending on species and weather
38 conditions.
- 39 • Survey results shall be provided to the CPUC each week.

40 **Avoid Impacts on Nesting Birds.**

- 41 • When a nest of any avian or raptor species is located within 500 feet of a construction site, a
42 CPUC-approved qualified avian biologist shall determine whether the nest is active. A nest shall
43 be defined as active once a bird begins nest construction or when a raptor begins "nest
44 decoration." An inactive nest is defined as a nest that has been abandoned by the adult bird or
45 once fledglings are no longer dependent on the nest site or parental care.

- 1 • If the nest is active, then the qualified biologist shall implement an exclusionary buffer to prevent
2 construction activities from occurring within a specified distance from the active nest. For active
3 raptor nests located more than 500 feet from the nearest work site, and non-raptor active nests
4 located more than 250 feet from the nearest work site, no additional measures shall be
5 implemented. A minimum standard buffer of 500 feet for an active raptor nest or 250 feet for an
6 active non-raptor nest, as recommended by CDFW (Bahm pers. comm. 2016), shall be
7 implemented when construction activities are occurring. Buffers shall not apply to construction-
8 related traffic using existing roads that are not limited to project-specific use (i.e., county roads,
9 highways, etc.).
- 10 • If any active nest of a species listed by the state or federal endangered species acts or fully
11 protected species (other than those specified MM BIO-7) is found, then the minimum standard
12 buffer shall be implemented and the CPUC and the appropriate wildlife agencies shall be notified
13 immediately (within 48 hours).
- 14 • As appropriate, nest deterrent strategies may be used to prevent birds from nesting in construction
15 equipment or staged materials. This includes covering equipment with tarps or covering small
16 holes. Bird netting may not be used due to risk of entanglement.
- 17 • If construction requires removal of a structure or tree that contains a known or historic nest, then
18 removal of that structure must occur when the nest is determined to be inactive and, if feasible,
19 outside of nesting season.
- 20 • PG&E shall adhere to recommendations published by APLIC's Reducing Avian Collisions with
21 Power Lines: The State of the Art in 2012 (APLIC 2012), as feasible.

22 **Monitoring and Reporting.** Nest locations and exclusion buffers shall be mapped (using a
23 geographic information system [GIS]) for all identified nests. The information shall be maintained in
24 a database; shall be provided to the CPUC weekly and to USFWS and CDFW monthly; and shall
25 include the following information:

- 26 • Date, time, and length of observation period
- 27 • Status (active or inactive)
- 28 • Species
- 29 • Nest location, including nest height
- 30 • Behavioral observations
- 31 • Site conditions, including construction activities
- 32 • Nest exposure
- 33 • Estimated date of nest establishment
- 34 • Estimated fledge date
- 35 • Number of eggs or hatchlings, if observed
- 36 • Buffer size implemented

37 Nests protected by a standard buffer shall be observed by a CPUC-approved qualified avian biologist
38 at a frequency and length of time the avian biologist deems necessary to ensure activities are not
39 causing disturbance to the nest (minimum of once a week during construction) until the biologist has
40 determined that the nest is inactive or until after construction ends in the work area (whichever occurs
41 first). If the biologist observes the birds becoming agitated or the incubating adult leaves the nest as a
42 result of construction activities, he or she shall have the authority to halt work and expand the buffer.

1 No avian reporting shall be required for construction outside of the nesting season unless species are
2 observed nesting outside of the normal season or special status bird species are observed in the
3 project area.

4 **Buffer Reductions.** The specified buffer sizes for nests may be reduced on a case-by-case basis
5 based on compelling biological and ecological reasoning (e.g., the biology of the bird species,
6 concealment of the nest by topography, land use type, vegetation, and the level of project activity),
7 and if a CPUC-approved qualified avian biologist determines that a reduced buffer size would not
8 result in the abandonment of the nest or failure. Buffer reduction requests shall be submitted to the
9 independent avian biologist (a qualified avian biologist approved by the CPUC and who reports
10 directly to the CPUC) to be reviewed and approved. The independent avian biologist shall respond to
11 PG&E's request for a buffer reduction within 48 hours. Buffer reduction requests for special status
12 species (other than those specified in MM BIO-6 and MM BIO-7) shall be submitted to the
13 appropriate wildlife agencies and to the CPUC for approval. The request must include the following:

- 14 • Species
- 15 • Location
- 16 • Pre-existing conditions present on site
- 17 • Description of the work to be conducted within the reduced buffer, including equipment type and
18 start date
- 19 • Size and expected duration of proposed buffer reduction
- 20 • Reason for buffer reduction
- 21 • Name and contact information of the CPUC-approved qualified avian biologist who requested the
22 buffer reduction and who shall conduct subsequent monitoring
- 23 • Proposed frequency and methods of monitoring necessary for the nest given the type of bird and
24 surrounding conditions as recommended by the CPUC-approved qualified avian biologist

25 Nests shall be monitored until the avian biologist has determined that the nest is inactive; or
26 construction ends within the standard buffer (whichever occurs first). The biologist shall halt
27 construction and increase the reduced buffer size if it is determined that the nesting bird(s) are
28 agitated or the incubating adult leaves the nest as a result of construction activities.

29 **Nesting in Active Work Areas.** Non-special status species found building nests within the standard
30 buffer zone after specific project activities begin and the activities are not expected to increase in
31 duration, intensity, or distance from the nest, shall be assumed tolerant of that specific project activity
32 and such nests shall be protected by the immediate implementation of the maximum buffer
33 practicable (as determined by the CPUC-approved avian biologist). Notification, which includes the
34 same data in the above reduction request, shall then be sent to the CPUC's independent avian
35 biologist within 24 hours and the independent avian biologist shall have the authority to increase the
36 buffer distance. These nests shall be monitored on a schedule determined by the qualified CPUC-
37 approved avian biologist during construction activities until the avian biologist has determined that
38 the nest is inactive; or construction ends within the standard buffer zone (whichever occurs first). If
39 the CPUC-approved avian biologist determines that the nesting bird(s) are not tolerant of project
40 activities, the buffer shall be expanded, and may be expanded beyond the standard buffer distance.

1 **MM BIO-5: Wildlife Protection (Supersedes APM BIO-4, -5, and -10).** The applicant shall
2 implement the following measures to ensure protection of all wildlife species.

- 3 • Vehicle speed limits on existing unpaved access routes shall not exceed 15 miles per hour and
4 shall not exceed 10 miles per hour on overland access roads. County speed limits shall be
5 followed on existing paved roads. Construction personnel shall avoid collision with wildlife.
- 6 • If night work is required, all lighting shall be shielded and point downward and away from any
7 identified sensitive biological resources.
- 8 • All trash and debris shall be secured in animal-proof containers before the end of each workday.
9 Containers shall be emptied at least once per week and disposed of at an appropriate off-site
10 location.
- 11 • All construction personnel shall not harass any wildlife and shall allow wildlife to leave the work
12 area on their own volition.
- 13 • Disturbance limits shall be visibly flagged to ensure construction personnel minimize the
14 construction footprint.

15 **MM BIO-6: Specific Requirements for Burrowing Owl (Supersedes APM BIO-13).** A CPUC-
16 approved qualified avian biologist familiar with burrowing owl biology and survey methods shall
17 conduct a pre-construction survey for this species no more than 30 days prior to construction
18 activities during the non-breeding season and no more than 14 days prior to construction during the
19 breeding season (February 1 to August 31 with some variance by geographic location and climatic
20 conditions; CDFW 2012). The biologist shall confirm whether the owls are occupying the site and
21 whether they are actively nesting. If any burrowing owl or sign of an occupied burrow is observed,
22 the CPUC shall be informed as soon as possible (and within 48 hours). Surveys shall include the
23 irrigation ditch and any area with suitable habitat within 656 feet (200 meters) of the project
24 activities. If access to areas with suitable habitat is restricted, the biologist shall visually survey with a
25 spotting scope, binoculars, or other visual techniques.

26 If an occupied burrow is identified, the CPUC-approved qualified biologist shall immediately
27 implement a minimum 200 meter (656 foot) buffer. Then an appropriate burrow-specific buffer shall
28 be recommended by the CPUC-approved qualified biologist based on the circumstances (e.g., owl
29 tolerance and construction activity level) and as explained by the Staff Report on Burrowing Owl
30 Mitigation (CDFW 2012 or more recent), which shall be approved by the CPUC and then
31 implemented.

32 In areas where owl presence or owl sign is not found, weekly surveys for burrowing owl and its sign
33 shall be conducted for the remainder of the first breeding season and all following breeding seasons.
34 Survey areas shall include work areas where construction-related activities are occurring, and surveys
35 shall adhere to the following procedures:

- 36 • A CPUC-approved qualified avian biologist shall conduct surveys for nesting birds within 7 days
37 prior to the start of any construction-related activities. Areas shall be re-surveyed every 7 days
38 while construction activities are occurring. If there is no work in an area for 7 days, it shall be
39 considered a new work area if construction resumes. In addition, a CPUC-approved qualified
40 monitor shall conduct pre-construction clearance sweeps for nesting birds at all work areas where
41 suitable habitat is present within approximately 24 hours of construction activities each day
42 during the nesting season.
- 43 • Surveys shall be conducted with the appropriate duration, level of effort, and timing based on
44 level of construction disturbance, time of day, and environmental factors. Surveys shall be
45 conducted in the irrigation ditch, and any area with suitable habitat within 656 feet (200 meters)

1 of project activities, at a minimum. If access to areas with suitable habitat is restricted, the
2 biologist shall visually survey with a spotting scope, binoculars, or other visual techniques.

- 3 • Surveys shall be conducted at a minimum between February 1 and September 15; however, the
4 survey season may need to begin earlier or end later depending on species and weather
5 conditions.
- 6 • Survey results shall be provided to the CPUC each week.

7 Loggerhead Shrike

9 The loggerhead shrike is listed as a species of special concern by the CDFW and is protected under the
10 MBTA and CFGC. Loggerhead shrikes are present year-round throughout most of their California range,
11 which includes the Central Valley, where the proposed project would be located. They forage in open
12 grasslands and nest in shrubs and trees. Loggerhead shrikes also depend on thorny bushes or shrubs or
13 barbed wire to impale larger prey, which they then manipulate or store (Shuford and Gardali 2008).

14
15 Several observations of loggerhead shrikes are recorded on eBird 5 to 10 miles from the project site
16 (Table 5.4-3). There is a moderate amount of foraging habitat within or adjacent to the project site, but
17 few potential nesting sites. Although no thorny bushes or shrubs were observed during the reconnaissance
18 field surveys, there is barbed wire around the Sanger Substation and a greenhouse area north of the
19 substation that could be utilized by loggerhead shrikes to store and tear apart prey. No evidence of prey
20 storage on the fences was observed during field surveys. The potential for loggerhead shrikes to occur in
21 the project area is low.

22
23 Construction activities such as excavation and grading, removal of existing equipment, tree trimming or
24 removal, night lighting for nighttime work, and installation of new substation equipment could result in
25 direct impacts to the breeding and nesting animals. These activities could cause the nesting birds to flush
26 from their nests, potentially resulting in the loss of eggs or fledglings or result in a collision with
27 construction vehicles. These impacts would be significant. The applicant would be required to implement
28 MM BIO-1, which would require all construction personnel participate in an environmental awareness
29 program designed to provide information and training regarding special status species in the area, as well
30 as all mitigation measures and APMs specific to species' impact reduction; MM BIO-2, which would
31 require the applicant to perform preconstruction surveys for special status species prior to construction;
32 MM BIO-3, which would require special status species in the project vicinity to be monitored in order to
33 reduce disturbance by project activities; MM BIO-4, which outlines detailed protocols required for
34 nesting bird surveys and provides specific standard nest buffer distances recommended by CDFW with
35 procedures for buffer reductions; and MM BIO-5, which would reduce harassment and potential vehicle
36 strikes of wildlife. With the implementation of, MM BIO-1, MM BIO-2, MM BIO-3, MM BIO-4, and
37 MM BIO-5, the impacts on loggerhead shrike would be less than significant.

38 Swainson's Hawk

39
40 Swainson's hawk is listed as threatened under CESA and protected under the MBTA and CFGC. The
41 Swainson's hawk breeds in the western United States and Canada during the summer and winters in
42 South America. Most will return to their traditional nest territories in the Central Valley of California by
43 April 1. The majority of their territories in the Central Valley are located in riparian systems with adjacent
44 suitable foraging habitat; there are no riparian systems in the project area. Swainson's hawks typically
45 feed on small mammals and insects, with mammals making up the majority of their diet during breeding
46 season; however, they are opportunistic feeders and will eat bats, snakes, lizards, and birds. They tend to
47 forage in open habitats, including agricultural areas, as most of their foraging habitat has been converted
48 to agricultural use. Vineyards and orchards are typically unsuitable foraging habitat because they provide

1 few foraging opportunities. Swainson's hawks require scattered tree stands, preferably native trees, or
2 structures near their foraging habitat for nesting (CDFW 2015b).

3
4 No Swainson's hawks were observed by biologists during the field surveys. There is a moderate
5 likelihood of occurrence in the proposed project area (Table 5.4-3). The biologists surveyed the proposed
6 project area and all areas accessible by vehicle within a 0.5-mile radius of the project site as
7 recommended by CDFW (CDFW 2000a). Most of the area in a 0.5-mile radius is agriculture and contains
8 very little suitable nesting habitat; nesting habitat is limited to remaining lattice structures, transmission
9 poles, and a small number of trees primarily on the western side of the project area. Four observations
10 have been recorded on eBird over 3 miles from the project site, two of which were in 2015.

11
12 Construction activities such as removal of existing towers, excavation and grading, removal of existing
13 equipment, tree trimming or removal, night lighting for nighttime work, and installation of new substation
14 equipment could result in direct impacts to breeding and nesting hawks. These activities could remove
15 nests or cause the nesting birds to flush from their nests, potentially resulting in the loss of eggs or
16 fledglings or result in a collision with construction vehicles. Even though there are no known nests in the
17 0.5-mile radius, Swainson's hawks have been known to utilize existing raven nests, and ravens were
18 observed in the survey area during field surveys. These impacts on Swainson's hawks would be
19 significant. The applicant would be required to implement MM BIO-1 through MM BIO-5 and
20 MM BIO-7. MM BIO-1 would require all construction personnel to participate in an environmental
21 awareness program designed to provide information and training regarding special status species in the
22 area, as well as all mitigation measures and APMs specific to species' impact reduction; MM BIO-2
23 would require the applicant to perform preconstruction surveys for special status species prior to
24 construction; MM BIO-3 would require special status species in the project vicinity to be monitored in
25 order to reduce disturbance by project activities; MM BIO-4 outlines detailed protocols required for
26 nesting bird surveys and for reducing impacts on nesting birds; and MM BIO-5 would reduce harassment
27 and potential vehicle strikes of wildlife. The applicant proposed APM BIO-12 to avoid and minimize
28 impacts on Swainson's hawk; however, this measure would not reduce the impacts to less than significant
29 because APM BIO-12 allows a biologist to designate buffers without a minimum buffer distance and does
30 not require protocol level surveys or agency consultation. MM BIO-7 supersedes APM BIO-12 by
31 providing survey method protocols written by CDFW, identifies a minimum buffer, and requires CDFW
32 coordination for a buffer reduction. MM BIO-7 would ensure that CDFW is informed of nest locations,
33 and that CDFW approval would be required for any buffer reductions. With the implementation of MM
34 BIO-1, MM BIO-2, MM BIO-3, MM BIO-4, MM BIO-5, and MM BIO-7, the impacts on Swainson's
35 hawk would be less than significant.

36
37 **MM BIO-7: Specific Requirements for Special Status Raptors (Except Burrowing Owl)**

38 **(Supersedes APM BIO-12).** A CPUC-approved qualified avian biologist shall conduct pre-
39 construction surveys for Swainson's hawk and white-tailed kite in appropriate habitat within 0.5
40 miles of project construction activities prior to the start of construction during breeding season (i.e.,
41 the "first" breeding season). The avian biologist shall be familiar with the survey methods and
42 biology of these species. Surveys for Swainson's hawk shall follow the protocols outlined in the
43 Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's
44 Central Valley (CDFW 2000a or more recent).

45 If an active nest (i.e., when nest decoration begins) is identified within 0.5 miles of construction
46 activities, then a CPUC-approved qualified avian biologist shall implement a 0.5 miles buffer around
47 the nest. The CPUC and CDFW shall be informed of the nest as soon as possible (and within 48
48 hours). Requests to reduce standard buffers must be sent to the CPUC to be reviewed in coordination
49 with CDFW.

1 If no indication of Swainson's hawk or white-tailed hawk nesting (indications include vocalizations
2 or observations of nesting activities, nests, perched adults, displaying adults, eggs, chicks) is found
3 during protocol-level surveys, weekly surveys for nesting Swainson's hawk and white-tailed kite shall
4 be conducted for the remainder of the breeding season in all work areas where any construction-
5 related activities are occurring, according to the following procedures:

- 6 • A CPUC-approved qualified avian biologist shall conduct surveys for nesting birds within 7 days
7 prior to the start of any construction-related activities. Areas shall be re-surveyed every 7 days
8 while construction activities are occurring. If there is no work in an area for 7 days, it shall be
9 considered a new work area if construction resumes. In addition, a CPUC-approved qualified
10 monitor shall conduct pre-construction clearance sweeps for nesting birds at all work areas where
11 suitable habitat is present within approximately 24 hours of construction activities each day
12 during the nesting season.
- 13 • Surveys shall be conducted with the appropriate duration, level of effort, and timing based on
14 level of construction disturbance, time of day, and environmental factors. Survey areas shall
15 include work areas and a 500-foot buffer, at a minimum.
- 16 • Surveys shall be conducted at a minimum between February 1 and September 15; however, the
17 survey season may need to begin earlier or end later depending on species and weather
18 conditions.
- 19 • Survey results shall be provided to the CPUC each week.

20 During subsequent breeding seasons following the first season, reconnaissance surveys for
21 Swainson's hawk and white-tailed kite shall be performed in appropriate habitat and at the
22 appropriate time within 0.5 miles of project construction activities in order to detect any new nesting
23 activity. If no indication of nesting is found during reconnaissance surveys, weekly surveys for
24 nesting Swainson's hawk and white-tailed kite shall be conducted for the remainder of the breeding
25 season in all work areas where any construction-related activities are occurring (following procedures
26 in the bullet points above).
27

28 White-tailed Kite

29 White-tailed kite is designated as a fully protected species by CDFW and is protected under the MBTA
30 and CFGC. White-tailed kites are found year-round in their habitat range in California, which includes the
31 Central Valley, and are rarely found away from agriculture land. They forage in undisturbed, open
32 grasslands, meadows, and farmlands. White-tailed kites use trees with dense canopies for cover (CDFW
33 2005).
34

35 Several eBird observations have been recorded within 3 to 5 miles of the project area in recent years.
36 Suitable habitat in the proposed project area is present in the form of agriculture land for foraging.
37 However, the project area contains no trees with dense canopies that would be suitable for nesting. During
38 the field reconnaissance surveys, white-tailed kite nests were searched for within a 0.5-mile radius of the
39 project area and no nests were observed. There is a low potential for white-tailed kites to occur in the
40 project area due to lack of nesting habitat.
41

42 Construction activities such as excavation and grading, removal of existing equipment, tree trimming or
43 removal, night lighting for nighttime work, and installation of new substation equipment could result in
44 direct impacts to the breeding and nesting birds. These activities could cause nesting birds to flush from
45 their nests, potentially resulting in the loss of eggs or fledglings or result in a collision with a construction
46 vehicle. Impacts on this fully protected species would be significant. The applicant would be required to
47 implement MM BIO-1 through MM BIO-5 and MM BIO-7. MM BIO-1 would require all construction
48 personnel to participate in an environmental awareness program designed to provide information and

1 training regarding special status species in the area, as well as all mitigation measures and APMs specific
2 to species' impact reduction; MM BIO-2 would require the applicant to perform preconstruction surveys
3 for special status species prior to construction; MM BIO-3 would require that special status species in the
4 project vicinity are monitored in order to reduce disturbance by project activities; MM BIO-4 outlines
5 detailed protocols required for nesting birds surveys and for reducing impacts on nesting birds; MM BIO-
6 5 would reduce harassment and potential vehicle strikes of wildlife; and MM BIO-7 describes required
7 protocols for white-tailed kite in particular. MM BIO-7 would ensure that CDFW is informed of nest
8 locations, and that CDFW approval would be required for any buffer reductions. The implementation of
9 MM BIO-1, MM BIO-2, MM BIO-3, MM BIO-4, MM BIO-5, and MM BIO-7 would reduce the
10 proposed project's impacts on white-tailed kite to less than significant.

11 12 Nesting Birds

13 Nesting birds protected by the MBTA and CFGC may be present in the project area. The MBTA protects
14 all native migratory birds, including active nests and eggs. Birds protected under this act include all native
15 waterfowl, shorebirds, hawks, eagles, owls, doves, and other common birds such as ravens, crows,
16 sparrows, finches, and swallows. The CFGC also protects native migratory birds and provides additional
17 protection for raptors, including common species and their nests. During the reconnaissance field surveys,
18 several nests were observed on structures associated with the existing Sanger Substation. These species,
19 which included house finch (*Carpodacus mexicanus*), mourning dove (*Zenaida macroura*), and western
20 kingbird (*Tyrannus verticalis*), had nests on a lattice structure, a support arm, and a frame structure of the
21 substation, respectively. In addition, a red-tailed hawk (*Buteo jamaicensis*) nest was observed in a lattice
22 tower approximately 600 feet east of the substation. The red-tailed hawk was observed using a nest in the
23 same lattice structure in 2012, 2015, and 2016. The proposed project would remove this lattice structure
24 and replace it with a tubular steel pole, which may not provide the same nesting opportunities. A number
25 of lattice structures would be removed as part of the proposed project; however, other structures would be
26 installed that may provide new nesting opportunities.

27
28 Raptors and other birds may nest in trees, in shrubs, on the ground, or on structures in the project area.
29 Birds vary in their tolerance to human presence and activities; however, in general, birds are more likely
30 to abandon a nest early in the nesting cycle while less is invested in the nest. Birds may abandon eggs and
31 fledglings if disturbed by human activities, including the types of construction activities that would be
32 employed by the proposed project. In addition, the removal of vegetation or a tower could impact nesting
33 birds if it contains an active nest. Construction activities that result in the loss of individual birds, fertile
34 eggs or nestlings, that otherwise leads to nest abandonment, or that results in a collision with a
35 construction vehicle, would be a significant impact on nesting birds protected by the MBTA or CFGC.

36
37 The applicant would be required to implement MM BIO-1 through BIO-5. MM BIO-1 would require that
38 all construction personnel participate in an Worker Environmental Awareness Program designed to
39 provide information and training regarding special status species in the area and in particular birds
40 protected by the MBTA and CFGC, as well as the project commitments required to reduce impacts. MM
41 BIO-2 would require the applicant to perform pre-construction surveys for sensitive species; MM BIO-3
42 would require sensitive species to be monitored in order to reduce disturbance by project activities; MM
43 BIO-4 outlines detailed protocols for reducing impacts to nesting birds, including having a qualified avian
44 biologist identify active nests prior to construction and implement buffer size recommended by CDFW,
45 which would reduce visual and noise impacts; and MM BIO-5 would decrease the potential for vehicle
46 strikes and harassment of wildlife. With the implementation of MM BIO-1, MM BIO-2, MM BIO-3, MM
47 BIO-4, and MM BIO-5, impacts on nesting birds would be reduced to less than significant.

1 **Mammals**

2 No special status wildlife species were observed during the field reconnaissance surveys; however, three
3 special status mammal species, pallid bat, San Joaquin kit fox, and western red bat, have a low potential
4 for occurrence on the project site.

5
6 **Pallid Bat**

7 The pallid bat is listed as a species of special concern by CDFW. It is found throughout California in a
8 variety of habitats including grassland, shrub lands, woodlands, and forests and feed on insects and
9 arachnids (CDFW Undated a). This species is most commonly found in dry, open habitats with rocky
10 outcrops for roosting. Day roosts include caves and crevices, and occasionally hollow trees and buildings.
11 Night roosts can be more open, like buildings and porches (CDFW Undated a).

12
13 There are no recorded observations of this species within a 10-mile radius of the project area. The project
14 is within the species habitat range and poor quality roost habitat is available in the form of isolated tree
15 stands and small buildings; therefore, this species has a low potential to occur in the project area.
16 Construction activities would not include removal of trees (other than agricultural trees) or buildings.
17 Noise from the project activities are not expected to significantly increase ambient noise levels near the
18 potential roost sites or foraging areas when foraging is expected to occur. The only construction activities
19 expected at dusk, dawn, or night time, when foraging occurs, are equipment testing and line work, which
20 would only occur during a limited timeframe in Phase 4c of construction and would not significantly
21 interfere with bat foraging, or increase the existing night time background noise levels. Lighting
22 associated with this night time construction could attract insects and, therefore, foraging western red bats.
23 Many bat species are predators that rely on acoustic cues for hunting and could be disturbed by louder
24 environments (Bunkley and Barber 2015). However, any impacts from noise near the lighting associated
25 with any night time construction work would be temporary and intermittent. Construction impacts on
26 pallid bat would be less than significant.

27
28 **San Joaquin Kit Fox**

29 The San Joaquin kit fox is listed as endangered under the federal ESA and as threatened under the CESA.
30 It is found in open habitats in desert and grassland areas with little human disturbance; however, some
31 agricultural areas may support these foxes. This species inhabits dens in open and level areas that have
32 loose textured soils. It feeds on rodents, insects, reptiles, and some small birds (CDFW 2000b).

33
34 The only CNDDDB-recorded occurrence within 10 miles of the project area was in 1980, and the location
35 was represented as “Sanger.” The project area is within the species’ range, and suitable foraging habitat
36 may be present. Suitable den habitat is limited to the irrigation ditch and culverts. It is unknown how
37 abundant rodent prey is in the area; a ground squirrel was observed during the CPUC site visit, but several
38 rodent bait stations were observed during site visits along the irrigation ditch. No dens were observed, and
39 feral dogs were seen roaming in the area, which may prey on kit foxes. The potential for occurrence of
40 this species in the project area is low.

41
42 Construction activities such as excavating and grading and increased number of vehicles in the area have
43 the potential to directly impact San Joaquin kit foxes. Kit foxes may become entrapped in an open trench
44 or excavation or struck by a vehicle. Although the likelihood of kit foxes to be present on the project site
45 during construction of the proposed project is low, if a kit fox was injured or killed during construction,
46 this impact would be significant. To reduce the level of impact, the applicant would implement the
47 following APMs: APM BIO-9 would reduce the potential for a pet to attack a kit fox, and APM BIO-11
48 would minimize the potential for a kit fox to become entrapped. Implementation of these APMs would
49 reduce the potential impacts, but not to a less than significant level. Therefore, the applicant would be
50 required to implement MM BIO-1, which would ensure that all construction personnel participate in an

1 environmental awareness program designed to provide information and training regarding special status
2 species in the area; MM BIO-2, which would require pre-activity surveys; MM BIO-3, which would
3 require that biological monitors would be present year round; and MM BIO-5, which would reduce
4 harassment of wildlife and the potential for vehicle strikes, and would minimize the amount of trash on
5 site, which attracts kit foxes. Implementation of APM BIO-9, APM BIO-11, MM BIO-1, MM BIO-2,
6 MM BIO-3, and MM BIO-5 would reduce impacts on San Joaquin kit fox to less than significant.

7 8 Western Red Bat

9 The western red bat is listed as a species of special concern by CDFW. It is found at low elevations in
10 portions of California, including the Central Valley. The western red bat roosts in forests and woodlands
11 and will feed on a variety of insects in various habitats including grasslands, shrub lands, open
12 woodlands, and croplands (CDFW Undated b). It roosts primarily in edge habitats (CDFW Undated b).

13
14 There are no recorded observations of this species within a 10-mile radius of the project area. The project
15 is within the species habitat range and poor quality roost habitat is available in the form of isolated tree
16 stands. Construction activities will not include removal of these trees. Noise from the project activities are
17 not expected to significantly increase ambient levels near the potential roost sites or night time foraging
18 areas. The only construction activities expected at dusk, dawn, or night time, when foraging occurs, are
19 equipment testing and line work, which would only occur during a limited timeframe in Phase 4c of
20 construction and would not significantly interfere with bat foraging, or increase the existing night time
21 background noise levels. Many bat species are predators that rely on acoustic cues for hunting and could
22 be disturbed by louder environments (Bunkley and Barber 2015). Lighting associated with night time
23 construction could attract insects and, consequently, expose foraging western red bats to increased noise
24 that could interfere with their hunting. However, given that any impacts from increased noise levels
25 associated with night time construction work would be temporary and intermittent, there would be no
26 significant impact on bat hunting with the increase in lighting. Construction impacts on western red bat
27 would be less than significant.

28 29 **Operation and Maintenance**

30 The Sanger Substation would continue to be operated remotely, with routine inspections occurring
31 monthly or as needed under emergency conditions. Power line inspections would not change from those
32 currently conducted on the existing lines. Traffic in the area is not anticipated to increase. The *Pacific*
33 *Gas & Electric Company San Joaquin Valley Operations and Maintenance Habitat Conservation Plan*,
34 which has been approved by USFWS and CDFW, for routine O&M, including in Fresno County, would
35 cover the proposed project once completed (Jones & Stokes 2006).

36
37 Additional permanent substation lighting would be installed. APM AES-2 would require new security
38 lighting to be hooded and designed to avoid lighting offsite locations. With the implementation of APM
39 AES-2, impacts from added lighting on birds and San Joaquin kit fox would be less than significant.

40
41 Many bat species are predators that rely on acoustic cues for hunting and could be disturbed by louder
42 environments (Bunkley and Barber 2015). New substation lighting could attract insects and, therefore,
43 foraging pallid bats and western red bats, and thus expose them to noise at the substation that could
44 disrupt their hunting. However, given that there would be no permanent increase in noise levels during
45 substation equipment operation, there would be no impact on bat hunting with the increase in substation
46 lighting.

47
48 Direct impacts on birds could result from electrocution by power lines and collision with structures. Lines
49 and structures can be difficult for birds to detect for various reasons such as during night flight or
50 inclement weather conditions.

1
2 Electrocutation can be caused if conductors and groundwires are placed close enough together that larger
3 birds can touch them simultaneously with their wings or other body parts. Recommendations to avoid
4 electrocution by power lines have been well described by the Avian Power Line Interaction Committee
5 (APLIC 2006), and the applicant has committed to designing structures consistent with these guidelines
6 for the project (PG&E 2015). The current structures identified for removal and replacement were
7 designed and constructed prior to the publication of APLIC recommendations, but are consistent with the
8 current recommendations regarding separation of power lines (PG&E 2015).¹ Thus, the electrocution risk
9 during operations would be similar to the current risk and operational impacts from electrocution would
10 not be significant.

11
12 Collisions with structures could have direct impacts on birds. Additional collisions with new structures,
13 including tubular steel poles and the microwave telecommunications tower, would be a significant impact
14 on birds. The implementation of MM BIO-4 would require the applicant to design structures in
15 accordance with the APLIC's guidance for reducing collisions as described in *Reducing Avian Collisions*
16 *with Power Lines: The State of Art in 2012* (APLIC 2012) as feasible. With the implementation of
17 MM BIO-4, impacts during operations would be less than significant.

18
19 ***b. Would the project have a substantial adverse effect on any riparian habitat or other sensitive***
20 ***natural community identified in local or regional plans, policies, regulations, or by the California***
21 ***Department of Fish and Wildlife or U.S. Fish and Wildlife Service?***

22
23 *NO IMPACT*

24
25 No riparian habitat or other sensitive natural communities were identified in the survey area. The
26 proposed project area is located entirely within heavily modified agricultural land. Database searches
27 confirm that no USFWS-designated critical habitat, CDFW jurisdictional waters, or special status natural
28 communities occur in the project area; therefore, there would be no impact during construction or
29 operations.

30
31 ***c. Would the project have a substantial adverse effect on federally protected wetlands as defined by***
32 ***Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.)***
33 ***through direct removal, filling, hydrological interruption, or other means?***

34
35 *NO IMPACT*

36
37 There are no federally protected wetlands as defined by Section 404 of the CWA within project
38 components. North of the substation expansion footprint there is a manmade irrigation ditch that does not
39 drain into permanent or a traditional navigable water source. The irrigation ditch will not be impacted by
40 the proposed project. There would be no impact to federally protected wetlands as defined by Section 404
41 of the CWA during construction or operations.

42

¹ During the CPUC visit to the project area in February 2016, three deceased birds were observed between the perimeter of the existing substation and the road. Cause of death is unknown.

1 ***d. Would the project interfere substantially with the movement of any native resident or migratory***
2 ***fish or wildlife species or with established native resident or migratory wildlife corridors, or impede***
3 ***the use of native wildlife nursery sites?***
4

5 *NO IMPACT*
6

7 There are no known native wildlife nursery sites or migratory routes for any native resident or migratory
8 fish or wildlife species in the project area. The substation expansion would be implemented on highly
9 modified agricultural land with little wildlife habitat. It is unlikely the new structures, including the
10 expanded substation and power lines, would create a new barrier that would inhibit migration during
11 construction or operation. Therefore, there would be no impact.
12

13 ***e. Would the project conflict with any local policies or ordinances protecting biological resources,***
14 ***such as a tree preservation policy or ordinance?***
15

16 *NO IMPACT*
17

18 Construction and operation of the proposed project would not conflict with local policies or ordinances
19 protecting biological resources, based on a review of the Fresno County General Plan. Policy OS-E9 of
20 the Fresno County General Plan Open Space and Conservation Element would apply to the proposed
21 project. This policy requires that before any discretionary development permit is issued, a biological
22 resources evaluation that considers the potential for significant impacts on any significant natural
23 resources or special status species is completed, and feasible mitigation measures that protect natural
24 resources are identified for the project (Fresno County 2000). The proposed project would not be
25 inconsistent with this policy. The proposed project would not conflict with any additional local policies or
26 ordinances.
27

28 ***f. Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural***
29 ***Community Conservation Plan, or other approved local, regional, or state habitat conservation***
30 ***plan?***
31

32 *NO IMPACT*
33

34 The *Pacific Gas & Electric Company San Joaquin Valley Operations and Maintenance Habitat*
35 *Conservation Plan*, which has been approved by USFWS for routine operation and maintenance (O&M)
36 in nine counties in the San Joaquin Valley, including Fresno County, would cover routine operation and
37 maintenance activities for the proposed project once construction is completed (Jones & Stokes 2006).
38 The HCP authorizes PG&E's incidental take of 23 wildlife and 42 plant special status species for 33
39 routine O&M activities. Construction for the proposed project is not a covered activity under the HCP
40 and, thus, PG&E will not rely on the HCP to comply with the federal Endangered Species Act for
41 construction activities. Construction of the proposed project in the same areas as existing infrastructure
42 would not prevent any ongoing implementation of the HCP.
43

44 Current O&M activities for the Sanger Substation and existing transmission lines near the Sanger
45 Substation, such as substation inspection, equipment or pole replacement, and fencing repairs, do not
46 necessitate implementation of the Avoidance Minimization Measures from the HCP because the current
47 activities do not result in impacts to natural vegetation and do not result in take of a species covered by
48 the HCP (PG&E 2015). Current operational activities would continue after implementation of the
49 proposed project. Because no HCP Avoidance Minimization Measures are triggered under current
50 operation, none would be expected to be triggered during operation of the expanded substation.
51

1 The United States Forest Service Sierra National Forest Land and Resource Management Plan provides
2 forest-wide goals and objectives for managing habitat for state and federally listed threatened and
3 endangered fish, wildlife, and plant species; however, the plan does not provide specific avoidance
4 measures (USFS 1991). The proposed installation of dishes at the Fence Meadow Repeater Station would
5 add an antenna system to an existing tower and utilize existing roads. This work is not expected to impact
6 any habitat or wildlife.

7
8 The project would not conflict with the provisions of PG&E's adopted HCP, nor the Sierra National
9 Forest Land and Resource Management Plan, and no other HCPs, Natural Community Conservation
10 Plans, or other conservation plans are known to exist for the proposed project area. Therefore, there
11 would be no impact as a result of conflict with an adopted conservation plan.