

3.4 BIOLOGICAL RESOURCES

3.4.1 INTRODUCTION

This section describes biological resources (vegetation, fish, wildlife, and wetlands) in the project area, identifies potential impacts on sensitive habitats and species that could result from the implementation of the project, and concludes that impacts on biological resources will be less than significant. Incorporation of the Applicant-Proposed Measures (APMs) described in Section 3.4.4.2 will reduce potential project impacts on biological resources to a less-than-significant level. The project's potential effects on biological resources were evaluated using the significance criteria set forth in Appendix G of the California Environmental Quality Act (CEQA) Guidelines. The conclusions are summarized in Table 3.4-1 and are discussed in more detail in Section 3.4.4. The technical biological reports referenced in this section will be submitted separately to California Public Utilities Commission (CPUC) staff.

Table 3.4-1: CEQA Checklist for Biological Resources

Would the project:	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or the 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 Wildlife or US Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input 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 checked="" type="checkbox"/>	<input 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 checked="" type="checkbox"/>	<input 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"/>

Would the project:	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
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 checked="" type="checkbox"/>	<input type="checkbox"/>

3.4.2 REGULATORY BACKGROUND AND METHODOLOGY

3.4.2.1 Regulatory Background

Federal

Endangered Species Act

The federal Endangered Species Act (ESA) of 1973 (16 United States Code [USC] 1531–1544), as amended, protects plants, fish, and wildlife that are listed as endangered or threatened by the U.S. Fish and Wildlife Service (USFWS) or the National Oceanic and Atmospheric Administration’s National Marine Fisheries Service (NOAA Fisheries). Section 9 of the ESA prohibits the “take” of listed fish and wildlife, where “take” is defined as “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in such conduct” (50 Code of Federal Regulations [CFR] 17.3). For plants, this statute prohibits removing, possessing, maliciously damaging, or destroying any listed plant *under federal jurisdiction* and removing, cutting, digging-up, damaging, or destroying any listed plant in knowing violation of state law (16 USC 1538).

The ESA allows for issuance of incidental take permits to private parties either in conjunction with a Habitat Conservation Plan (HCP) or as part of a Section 7 consultation (which is discussed in the following paragraph). Under Section 10 of the ESA, a private party may obtain incidental take coverage by preparing an HCP to cover target species within the project area, identifying impacts to the covered species, and presenting the measures that will be undertaken to avoid, minimize, and mitigate such impacts.

Under Section 7 of the ESA, federal agencies are required to consult with USFWS and/or NOAA Fisheries, as applicable, if their actions—including permit approvals or funding—may affect a federally listed species (including plants) or designated critical habitat. If the project is likely to adversely affect a species, the federal agency will initiate formal consultation with the USFWS and/or NOAA Fisheries and issue a biological opinion as to whether a proposed agency action(s) is likely to jeopardize the continued existence of a listed species (jeopardy) or adversely modify critical habitat (adverse modification). As part of the biological opinion, the USFWS may issue an incidental take statement allowing take of the species that is incidental to an otherwise authorized activity, provided that the action will not jeopardize the continued existence of the species or adversely modify designated critical habitat.

Migratory Bird Treaty Act

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

Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act (BGEPA) of 1940 (16 USC Section 668) specifically protects bald and golden eagles and their nests from harm or trade in parts of these species. The 1972 amendments increased penalties for violating provisions of the BGEPA or regulations issued pursuant thereto and strengthened other enforcement measures. Rewards are provided for information leading to arrest and conviction for violation of the BGEPA.

Waters and Wetlands: Clean Water Act Sections 401 and 404

The purpose of the Clean Water Act (CWA) (33 USC Section 1251 et seq.) is to “restore and maintain the chemical, physical, and biological integrity of the nation’s waters.” Waters of the United States include rivers, streams, estuaries, the territorial seas, ponds, lakes, tributaries, and adjacent wetlands. Wetlands are defined as those areas “that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions” (33 CFR 328.3; 80 Fed. Reg. 37054).

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

Section 401 of the CWA requires all Section 404 permit actions to obtain a state Water Quality Certification or waiver, as described in more detail in Section 3.9, Hydrology and Water Quality.

State

California Endangered Species Act

Sections 2050–2098 of the California Fish and Game Code (the California Endangered Species Act [CESA]) prohibit the take of state-listed endangered and threatened species unless specifically authorized by the CDFW). The state definition of “take” is to hunt, pursue, catch, capture, or kill a member of a listed species or attempt to do so. CDFW administers CESA and authorizes take through permits or memorandums of understanding issued under Section 2081 of CESA, or through a consistency determination issued under Section 2080.1. Section 2090 of CESA requires state agencies to comply with threatened and endangered species protection and recovery and to promote conservation of these species.

Fully Protected Species Under the Fish and Game Code

Fish and Game Code designates certain fish and wildlife species as “fully protected” under Sections 3511 (birds), 4700 (mammals), 5050 (reptiles and amphibians), and 5515 (fish). Fully protected species may not be taken or possessed at any time, and no permits may be issued to Pacific Gas and Electric Company (PG&E) for incidental take of these species.¹

Protection for Birds: Fish and Game Code

Fish and Game Code Section 3503 et seq. state that it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto. Section 3503.5 makes it unlawful to take, possess, or destroy any birds in the orders of Falconiformes or Strigiformes (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird.

Native Plant Protection Act of 1973

The Native Plant Protection Act of 1973 (Fish and Game Code Sections 1900–1913) includes provisions that prohibit the taking of endangered or rare native plants. CDFW administers the Native Plant Protection Act of 1973 and generally regards as rare many plant species included on California Rare Plant Rank (CRPR) 1A, 1B, 2A, and 2B of the California Native Plant Society (CNPS) (2011) Inventory of Rare and Endangered Vascular Plants of California. In addition, sometimes CRPR 3 and 4 plants are considered if the population has local significance in the area and is impacted by the project.

Section 1913(b) includes a specific provision to allow for the incidental removal of endangered or rare plant species, if not otherwise salvaged by CDFW, within a right-of-way to allow a public utility to fulfill its obligation to provide service to the public.

California Species of Special Concern

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

Porter-Cologne Water Quality Control Act

The State Water Resources Control Board (SWRCB) and the nine Regional Water Quality Control Boards (RWQCBs) have jurisdiction over all surface water and groundwater in California, including wetlands, headwaters, and riparian areas. The SWRCB or applicable RWQCB must issue waste discharge requirements for any activity that discharges waste that could affect the quality of waters of the state, as described in more detail in Section 3.9, Hydrology and Water Quality.

¹ While take of fully protected species may be authorized by CDFW under a Natural Communities Conservation Plan (NCCP), PG&E activities are not covered by an NCCP, so this permitting option is not available.

Local

This section includes a summary of local or regional plans, policies, or regulations that identify sensitive or special-status species in the project area, as well as local polices or ordinances that protect biological resources. Because the CPUC has exclusive jurisdiction over the siting, design, and construction of the project, the project is not subject to local discretionary regulations related to biological resources. The following summary is provided for informational purposes and to assist with CEQA review.

Santa Rosa Plain Conservation Strategy

The purpose of the Santa Rosa Plain Conservation Strategy (USFWS 2005) is to create a long-term conservation program sufficient to mitigate potential adverse effects on listed species due to future development on the Santa Rosa Plain. The program will contribute to the recovery of the Sonoma County distinct population segment of California tiger salamander (CTS) (*Ambystoma californiense*), and Burke’s goldfields (*Lasthenia burkei*), Sonoma sunshine (*Blennosperma bakeri*), Sebastopol meadowfoam (*Limnanthes vinculans*), and many-flowered navarretia (*Navarretia leucocephala* ssp. *plieantha*) (listed plants), and to the conservation of their sensitive habitat. The Conservation Strategy accomplishes these goals in a manner that protects stakeholders’ (both public and private) land use interests, and supports issuance of an authorization for incidental take of CTS and listed plants that may occur in the course of carrying out covered activities on the plain.

Sonoma County General Plan Policy for Riparian Corridors

In 2008, the Board of Supervisors adopted General Plan 2020, which increased protections for riparian corridors. In November 2014, the Board of Supervisors adopted zoning code changes to implement the stream protection policies, and rezoned properties to add the Riparian Corridor Combining Zone to all designated streams shown on the General Plan Open Space maps.

Sonoma County defines a riparian corridor as the area occupied by a river or stream and related plant or animal communities. Riparian corridors provide numerous benefits to the community and the environment, including improving water quality; increasing groundwater recharge; providing flood protection; enhancing wildlife and aquatic habitat; and supporting the recovery of salmon, steelhead, and other endangered species.

Tree Protection Ordinances

Sonoma County has a Valley Oak Conservation Plan that protects this species within the Valley Oak Habitat Combining District (Article 67 of the Sonoma County Zoning Regulations). Mitigation for removal of large valley oak with diameter at breast height (dbh) greater than 20 inches or small valley oaks with a cumulative dbh greater than 60 inches includes replanting or paying an in-lieu fee to the County valley oak planting program. The landowner has the sole discretion to choose the mitigation measure, which must be undertaken and completed within 1 year.

The Sonoma County Heritage of Landmark Tree Ordinance (Sonoma County Code, Chapter 26D) protects heritage or landmarks trees or groves of trees that are designated by the Sonoma

County board of supervisors. “Heritage tree” means a designated tree or grove of trees with historical interest or significance. “Landmark tree” means a designated tree or grove of trees that possesses outstanding characteristics in terms of size, age, rarity, shape, or location. Removal of trees by a CPUC-licensed utility in order to maintain required clearance around power lines is exempted from the ordinance, and no permit is required for trimming or pruning protected trees.

The Town of Windsor’s Tree Preservation and Protection Ordinance (Chapter 27.36, Zoning Ordinance) regulates protection, preservation, maintenance, and removal of protected trees, as specified in the ordinance. Removal of trees for the protection of existing electrical power lines is exempted from the ordinance, and no permit is required for trimming or pruning protected trees.

3.4.2.2 Methodology

This section summarizes the methods used to identify and analyze potential impacts on special-status species that may occur in the project area. As described below, biologists began their research with database searches and literature reviews to determine which special-status plants, natural communities, and wildlife might have potential to occur in the project area. Using this information, the biologists conducted detailed field surveys of the biological resources survey area, as defined below. A more detailed description of these methods is provided in the project’s Biological Resources Technical Report and Addendum, which will be provided separately to CPUC staff.

Species Considered to be of Special Status

Special-status species include those that are:

- Listed or candidates for listing as rare, threatened, or endangered under the federal ESA or California ESA
- Plants included in the online version of the CNPS Inventory of Rare and Endangered Plants of California as CRPR 1A, 1B, 2A, or 2B
- Fish or wildlife designated as a Species of Special Concern or a fully protected species by the CDFW
- Migratory birds with active nests, defined as containing eggs or dependent young

Natural communities were considered to be special-status if they were identified on the most recent CDFW List of Vegetation Alliances and Associations as being highly imperiled.

Database Searches

The following biological databases were queried for records of special-status plants, natural communities, and wildlife that might have potential to occur in the project area:

- USFWS list of federally listed and proposed endangered, threatened, and candidate species and their designated critical habitat (USFWS 2011)

- CNPS online Inventory of Rare and Endangered Vascular Plants of California (CNPS 2011)
- California Natural Diversity Database (CNDDDB) (CDFG 2011)

The CNDDDB search area included a “nine-quad” search, including the U.S. Geological Survey (USGS) 7.5-minute quadrangle (quad) in which the project is located (Healdsburg), and the eight surrounding quads (Camp Meeker, Geyserville, Guerneville, Jintown, Mark West Springs, Mount St. Helena, Santa Rosa, and Sebastopol).

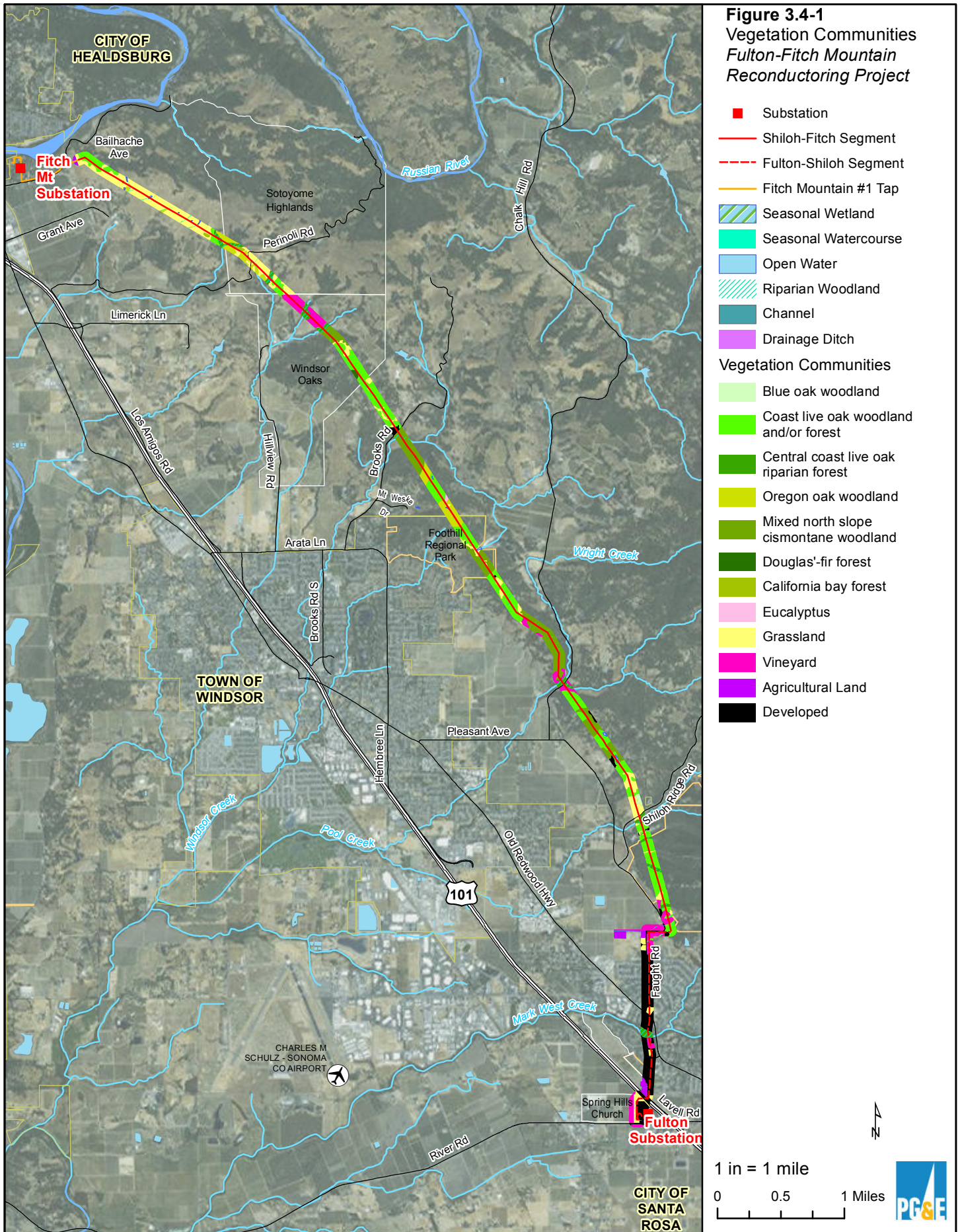
The USFWS database was queried using a custom polygon that encompassed the project area.

Other information sources consulted to determine which special-status species could potentially occur in the project area included:

- Santa Rosa Plain Conservation Strategy (USFWS 2005) for information related to the occurrence of CTS, Burke’s goldfields, Sonoma sunshine, Sebastopol meadowfoam, and many-flowered navarretia
- Soil maps (Natural Resources Conservation Service [NRCS] 2011)
- CDFW’s List of Vegetation Alliances and Associations
- A Manual of California Vegetation (Sawyer et al. 2009)
- Aerial photographs
- *Jepson Manual, Second Edition: Vascular Plants of California* (Baldwin et al. 2012)
- A Flora of Sonoma County (Best et al. 1996)
- Sonoma County Breeding Bird Atlas (Burr ridge 1995)
- CalPhotos database (UC Berkeley 2011)
- California State University, Chico and University of California, Davis herbaria
- Species experts

Field Surveys

The biological resources survey area included a 500-foot-wide corridor extending 250 feet on either side of the project alignment (Figure 3.4-1[a–e]: Vegetation Communities). In addition to this corridor, the survey area included access routes and landing zones/staging areas that fall outside of the 500-foot corridor around the alignment. At these locations, an additional 50-foot-wide buffer was surveyed to allow flexibility for minor adjustments during construction. The survey area was surveyed on foot, except for steep canyons where access was unsafe, and where equipment access would not be feasible during construction. Existing substations, which were previously improved and covered with compacted fill, were not surveyed for biological resources.



Reconnaissance Surveys

General biological reconnaissance surveys entailed walking and meandering transects in the biological resources survey area (as defined previously), and surveying areas that appeared to support special-status fauna and flora, as identified in desktop-level reviews.

The following tasks were conducted during the reconnaissance-level surveys:

- Plant communities and habitat types were identified in the biological resources survey area and evaluated for special-status plant suitability in April 2011, March 2015, and October 2015. The April 2011 biological resource survey included the northern Shiloh-Fitch segment, spanning from Healdsburg to Shiloh Ranch Regional Park. The March 2015 biological resource survey included the southern Fulton-Shiloh segment, spanning from Shiloh Ranch Regional Park to Fulton Substation. The October 2015 survey included identification of water crossings on access roads for the Shiloh-Fitch segment.
- Field reconnaissance surveys for suitable habitat for special-status wildlife species were conducted within the biological resources survey area on August 15 and 16, 2011. A separate reconnaissance survey was done on March 31, 2015, within the portion of the project area that was added after the 2011 surveys. The purpose of these surveys was to identify and describe on-site habitat conditions, and assess habitat suitability for potential occurrence of special-status wildlife species.

Focused Surveys

Focused surveys evaluate habitat in the project area and its ability to support relevant special-status species. Species-specific focused surveys were initiated once it was determined that suitable habitat exists in the biological resources survey area for California red-legged frog (CRLF) (*Rana draytonii*). In February 2012, biologists conducted a survey for potential habitat suitable for CRLF within the biological resources survey area; in 2015, biologists addressed the potential for CRLF at access road water crossings. In 2015, raptor surveys were conducted from March through May. In July 2015, bat surveys were conducted.

Protocol-Level Surveys

Protocol surveys are species-specific surveys that follow agency-issued guidelines and determine the presence or absence of these species. Protocol-level surveys for special-status plants—using CDFW, USFWS, and Bureau of Land Management protocols—were conducted in suitable habitat locations in the biological resources survey area by a team of botanists on April 19–22, May 10–12, June 6–9, and June 24, 2011. A second season of surveys was performed on April 18–19, and June 14–15, and 20, 2012. To assess project impacts, mapped locations of special-status plants were overlain with project features.

During surveys, special attention was given to the identification of seasonal wetland and vernal pool habitats that might be suitable for listed plant species, identified in the Santa Rosa Plain Conservation Strategy (USFWS 2005) as occurring on the Santa Rosa Plain.

A jurisdictional delineation was conducted on November 2, 2012. Wetland areas within the project footprint were assessed, and representative data points were collected to determine the

extent of wetland boundaries. The delineation included a complete list of plant species observed within the delineated wetlands.

Likelihood of Presence for Special-Status Species

Using the information generated from literature reviews and field surveys, the list of special-status species with the potential to occur was further refined to reflect the species that may occur within the project area. The likelihood of special-status species occurrence was determined based on natural history parameters, including but not limited to, the species' range, habitat, foraging needs, migration routes, and reproductive requirements, using the following general categories:

- *Present*: Reconnaissance-level, focused, or protocol-level surveys documented the occurrence or observation of a species in the project area.
- *Seasonally present*: Individuals were observed in the project area only during certain times of the year.
- *Likely to occur (on site)*: The species has a strong likelihood to be found in the project area prior to or during construction but has not been directly observed to date during project surveys. The likelihood that a species may occur is based on the following considerations: suitable habitat that meets the life history requirements of the species is present on or near the project area; migration routes or corridors are near or within the project area; records of sighting are documented on or near the project area; and there is an absence of invasive predators (e.g., bullfrogs). The main assumption is that records of occurrence have been documented within or near the project area, the project area falls within the range of the species, and suitable habitat is present, but it is undetermined whether the habitat is currently occupied.
- *Potential to occur*: There is a possibility that the species can be found in the project area prior to or during construction, but has not been directly observed to date. The likelihood that a species may occur is based on the following conditions: suitable habitat that meets the life history requirements of the species is present on or near the project area; migration routes or corridors are near or within the project area; and there is an absence of invasive predators (e.g., bullfrogs). The main assumption is that the project area falls within the range of the species and suitable habitat is present, but no records of sighting are located within or near the project area and it is undetermined whether the habitat is currently occupied.
- *Unlikely to occur*: The species is not likely to occur in the project area based on the following considerations: lack of suitable habitat and features that are required to satisfy the life history requirements of the species (e.g., absence of foraging habitat; lack of reproductive areas, and lack of sheltering areas); presence of barriers to migration/dispersal; presence of predators or invasive species that inhibit survival or occupation (e.g., the presence of bullfrogs or invasive fishes); lack of hibernacula, hibernation areas, or estivation areas on site.

- *Absent*: Suitable habitat does not exist in the project area, the species is restricted to or known to be present only within a specific area outside of the project area, or focused or protocol-level surveys did not detect the species.

Unless otherwise noted, the methodology and environmental information presented in this section are summarized from the Biological Resources Technical Report for the Fulton-Fitch 60 kV Power Line Reconductoring Project and Addendum, which will be provided separately to CPUC staff.

3.4.3 ENVIRONMENTAL SETTING

3.4.3.1 Regional

Regional plant communities in the project area include those that are common to the northern California coast, including mixed oak woodland, Douglas-fir forest, grasslands, and riparian forest. Areas developed for agricultural or other human use are interspersed within the natural communities. The climate is typically mild and influenced by coastal fog in the summer. The region is situated in the Northern Coast Ranges, and elevations range from approximately 30 to 1,000 feet above sea level.

Landcover, Vegetation, and Wildlife Habitats

The project area supports a diversity of vegetation communities, including oak woodland, grassland, and forest. A brief description of each type is presented in the following paragraphs, from most common to least common.

Coast Live Oak Woodland and Coast Live Oak Forest

The most common vegetation communities in the project area are coast live oak woodland and coast live oak forest. These are the dominant community types on the foothills above the valley floor. In both types, the canopy is dominated by coast live oak (*Quercus agrifolia*). Other tree species—such as madrone (*Arbutus menziesii*), blue oak (*Quercus douglasii*), Oregon oak (*Quercus garryana* ssp. *garryana*), and California bay (*Umbellularia californica*)—are also common. California buckeye (*Aesculus californicus*) is also occasionally present, while poison oak (*Toxicodendron diversilobum*), and pink honeysuckle (*Lonicera hispidula* var. *vacillans*) are common woody plants in the understory.

The coast live oak woodland has an intermittent canopy with a grassy, open understory. A variety of grasses and herbs grow in the openings between trees and at the woodland edge. Common species are slender wild oat (*Avena barbata*), rattlesnake grass (*Briza maxima*), wavy-leaf soaproot (*Chlorogalum pomeridianum*), hedgehog dogtail (*Cynosurus echinatus*), blue wildrye (*Elymus glaucus*), purple needlegrass (*Stipa pulchra*), and common hedge parsley (*Torilis arvensis*).

The coast live oak forest has similar species composition, but has more of a closed canopy, with fewer openings that support herbaceous species. These two communities intergrade with each other, Oregon oak woodland, and mixed north slope cismontane woodland.

Grasslands

Grasslands are the second most common vegetation community in the project area. These grasslands consist of areas dominated by low-growing grasses and herbs, with few trees and/or shrubs. Common species in the grasslands are Spanish lotus (*Acmispon americanus*), barbed goatgrass (*Aegilops triuncialis*), slender wild oat, purple false brome (*Brachypodium distachyon*), rattlesnake grass, ripgut brome (*Bromus diandrus*), soft chess (*Bromus hordeaceus*), sterile brome (*Bromus sterilis*), hedgehog dogtail, medusahead (*Elymus caput-medusae*), blue wildrye, stork's-bills (*Erodium botrys*), six weeks rattail fescue (*Festuca myuros*), rye grass (*Festuca perennis*), Harding grass (*Phalaris aquatica*), purple needlegrass, little hop clover (*Trifolium dubium*), and rose clover (*Trifolium hirtum*). Some areas support non-dominant native wildflowers such as clarkias (*Clarkia* sp.), lupines (*Lupinus* sp.), and phloxes (*Leptosiphon* sp.).

Mixed North Slope Cismontane Woodland

Mixed north slope cismontane woodland is also a common vegetation community in the project area. The same tree species are present in the overstory of this woodland as in coast live oak woodland, including California buckeye, madrone, coast live oak, blue oak, garry oak, and California bay. California black oak (*Quercus kelloggii*) and gray pine (*Pinus sabiniana*) are also present. Common shrubs in the understory include common manzanita (*Arctostaphylos manzanita*), coyote brush (*Baccharis pilularis*), pink honeysuckle, snowberry (*Symphoricarpos mollis*), and poison oak. The herbaceous layer in this mixed woodland is similar to that of the coast live oak woodland.

Oregon Oak Woodland

Oregon oak woodland is less common in the project area. Dominant trees include Oregon oak, California buckeye, madrone, coast live oak, and blue oak. Poison oak, hairy honeysuckle, and snowberry are common woody plants in the understory. The herbaceous layer contains grasses and herbs also common in the north slope cismontane woodland and grasslands.

Vineyard

Cultivated grape (*Vitis vinifera*) vineyards are present throughout the project area. Vineyards are managed with even-aged grape vines and a mowed ruderal understory. Common understory species are wild oat, soft chess, ripgut brome, rough cat's-ear (*Hypochaeris radicata*), various types of filaree, black medic (*Medicago lupulina*), English plantain (*Plantago lanceolata*), little hop clover, rose clover, and subterranean clover (*Trifolium subterraneum*).

Central Coast Live Oak Riparian Forest

Central Coast live oak riparian forest occurs in the corridors around larger perennial streams. Coast live oak is a dominant tree in the dense overstory of these corridors. Unlike the coast live oak woodlands and forests in the drier settings described previously, these riparian forests have a more evenly mixed canopy containing broad-leaved and riparian trees such as big-leaf maple (*Acer macrophyllum*), California buckeye, valley oak (*Quercus lobata*), interior live oak (*Quercus wislizenii*), red willow (*Salix laevigata*), and arroyo willow (*Salix lasiolepis*). In these settings, the canopy is dense, multi-storied, and tall, often to 50 feet. Blackberry (*Rubus armeniacus*, *Rubus ursinus*), snowberry, and poison oak are common in the understory. The streams have a mix of hydrophytic herbs such as tall nutsedge (*Cyperus eragrostis*), dense

willow-herb (*Epilobium densiflorum*), pennyroyal (*Mentha pulegium*), seep-spring monkeyflower (*Mimulus guttatus*), rabbit's foot grass (*Polypogon monspeliensis*), and the moss *Scleropodium* (on rocks below ordinary high water).

Developed Areas

A portion of the survey area (approximately 6 acres) is developed as residential homes with driveways and other paved surfaces, yards, gardens, barns, tennis courts, small orchards, and similar non-natural environments.

Wetlands and Aquatic Resources

Wetland types and water features observed in the project area are described in detail in the following paragraphs.

Seasonal Watercourses

The project alignment intersects numerous watercourses. Two types of seasonal watercourses—ephemeral channels and intermittent creeks—were observed within the project area. Ephemeral channels within the project area are those seasonal drainages that support flowing water for brief periods during precipitation events. Ephemeral channels can include unvegetated waterways or watercourses with vegetative communities along the banks or channel, which are contiguous with the surrounding upland communities (e.g., ruderal or non-native grassland within the channel bed and banks). Intermittent creeks are defined as those seasonal drainages where both rainwater and groundwater flow during the wet season, sometimes extending into late spring or early summer. Intermittent creeks typically support some wetland or riparian vegetation within or surrounding the banks. For the purpose of mapping for this project, the two drainage types are mapped together as seasonal watercourses.

Open Water

In the project area, the mapped open water includes unvegetated standing waters, including two man-made ponds located on private property. Generally, the depth of the project area's open waters precludes establishment of emergent vegetation; however, mosquito fern (*Azolla* sp.) provides a thick surface cover.

Seasonal Wetland

Seasonal wetlands occur in depressions, ditches, swales, and other low-lying areas that are inundated or support saturated soil conditions for a portion of the growing season. Soil conditions within seasonal wetlands are generally dry in late summer through fall. These wetlands are usually supported by direct precipitation and/or overland flow during the wet season. The vegetation composition and structure of seasonal wetlands is highly variable depending on soil type, hydrology, and disturbance levels. These sites are generally dominated by annual species, but may include some perennial species, depending on local hydrology. Common plants in seasonal wetlands within the project area include ryegrass, Harding grass, rushes (*Juncus bufonius*, *J. effusus*, *J. occidentalis*, *J. patens*, and *J. xiphioides*), curly dock (*Rumex crispus*), hyssop loosestrife (*Lythrum hyssopifolia*), pennyroyal, oxtongue (*Helminthotheca echioides*), wild hyacinth (*Triteleia hyacinthina*), and vernal sweet grass (*Anthoxanthum odoratum*). Regular disturbance by cattle has resulted in establishment of non-native species and invasive exotics in the wetland depressions. However, ponding was observed

at the time of the 2011 and 2012 surveys, suggesting that conditions are suitable for seasonal wetlands, if they are not regularly disturbed.

Seasonal wetlands are widely distributed through the project area and are found in both natural and man-made settings. In many locations, seasonal watercourses expand into broad terraces that support characteristic seasonal wetland vegetation, and are mapped based on the wetland community type. Additionally, in some locations where overland stormwater runoff accumulates prior to passing into the watercourse, seasonal wetlands have developed adjacent to seasonal and perennial watercourses and open water. Seasonal wetlands are also present within and adjacent to access roads, in a small ditch within grassland habitat, and surrounding one pole where seasonal precipitation accumulates in sufficient quantity and duration within disturbed areas to support wetland vegetation.

Riparian Woodland

The riparian woodland community tree canopy ranges from continuous to intermittent over the associated stream course (perennial and intermittent creeks). Riparian tree cover can replace or complement shrub cover associated with riparian scrubs. Within the project area, the tree canopy of riparian woodlands is dominated by coast live oak, interior live oak, and/or valley oak, with tree willows such as arroyo willow and red willow, big-leaf maple, California buckeye, and California bay. Riparian woodlands were identified along watercourses throughout the project area.

Special-Status Species

This section describes special-status species observed (present) during project reconnaissance-level field surveys and any species considered to be likely to occur, have potential to occur, or that are seasonally present. Special-status species that are unlikely to be found in the project area are not discussed in this section.

Special-Status Plants

Background research identified 66 special-status plant species from the nine-quad search area (Table 3.4-2: Special-Status Plant Species). However, no federal- or state-listed or CRPR List 1 or 2 plant species were observed in the plant survey area during the protocol level surveys conducted in 2011 and 2012. Suitable habitat for covered plant species is absent in those portions of the plant survey area that lie within the boundary of the Santa Rosa Plain Conservation Strategy (USFWS 2005).

Several weed species that are listed by the California Department of Food and Agriculture and/or the California Invasive Pest Council were observed during surveys. Noxious weeds observed during the surveys include barbed goatgrass, medusahead, Italian thistle (*Carduus pycnocephalus*), purple star-thistle (*Centaurea calcitrapa*), yellow star-thistle (*Centaurea solstitialis*), Scotch broom (*Cytisus scoparius*), French broom (*Genista monspessulana*), and Spanish broom (*Spartium junceum*).

Table 3.4-2: Special-Status Plant Species

Scientific name Common Name	Status ¹ Federal/State/CRPR	Habitat Requirements (Blooming Period)	Occurrence Potential
<i>Alopecurus aequalis</i> var. <i>sonomensis</i> Sonoma alopecurus	FE/--/1B.1	Freshwater marshes and swamps, riparian scrub. 16–1,197 feet. (May–July)	Absent: A small amount of moderately suitable habitat is present along the portions of the project located in proximity to wetter streams, and ponds. No occurrences known within 5 miles. Not observed during protocol surveys.
<i>Amorpha californica</i> var. <i>napensis</i> Napa false indigo	--/--/1B.2	Chaparral, cismontane woodland, and openings in broadleaved upland forest. 394–6,562 feet. (April–July)	Absent: Suitable habitat is present along most of the project corridor and occurrence records are known from within 5 miles. Not observed during protocol surveys.
<i>Amsinckia lunaris</i> Bent-flowered fiddleneck	--/--/1B.2	Cismontane woodland, valley and foothill grassland, coastal scrub. 10–1,640 feet. (March–June)	Absent: Suitable habitat present along most of the project corridor but no occurrence records are known within 5 miles. Not observed during protocol surveys.
<i>Anomobryum julaceum</i> Slender silver moss	--/--/2.2	Damp rock and soil on outcrops or roadcuts, in broadleaved upland forest, lower montane coniferous forest, north coast coniferous forest. 328–3,280 feet.	Absent: Suitable habitat only in a few limited areas of the project corridor. No occurrence records within 5 miles. Not observed during protocol surveys.
<i>Arctostaphylos bakeri</i> ssp. <i>bakeri</i> Baker’s manzanita	--/SR/1B.1	Broadleaved upland forest, chaparral, often on serpentine. 246–984 feet. (February–April)	Absent: No preferred serpentine habitat present, but plenty of broadleaved upland forest on volcanic soils. Not known within 5 miles. Not observed during protocol surveys.
<i>Arctostaphylos bakeri</i> ssp. <i>sublaevis</i> The Cedars manzanita	--/SR/1B.2	Serpentine seeps in chaparral and closed-cone coniferous forest. 607–2,493 feet. (February–May)	Absent: No serpentine habitat present. Not known within 5 miles. Very restricted range, all to the west of the project. Not observed during protocol surveys.
<i>Arctostaphylos canescens</i> ssp. <i>sonomensis</i> Sonoma canescent manzanita	--/--/1B.2	Chaparral, lower montane coniferous forest. Sometimes serpentine. 590–5,485 feet. (January–June)	Absent: No preferred serpentine habitat, and no conifer forest or chaparral. However, mixed north slope woodland which may provide habitat present in large portions of survey area. Known within 5 miles. Not observed during protocol surveys.

Scientific name Common Name	Status ¹ Federal/State/CRPR	Habitat Requirements (Blooming Period)	Occurrence Potential
<i>Arctostaphylos densiflora</i> Vine Hill manzanita	--/SE/1B.1	Chaparral, with acid marine sand substrate. 164–394 feet. (February–April).	Absent: Very restricted range, and not known within 5 miles. Sand substrate not present, but sedimentary substrate in somewhat suitable plant community present in portions of the project corridor. Not observed during protocol surveys.
<i>Arctostaphylos manzanita</i> ssp. <i>elegans</i> Konocti manzanita	--/--/1B.3	Volcanic soils in chaparral, cismontane woodland, and lower montane coniferous forest. 1,296–5,300 feet. (March–May)	Absent: Suitable habitat present in much of the project corridor. However, not known within 5 miles, known range all north of project, and known elevation all higher than project. Not observed during protocol surveys.
<i>Arctostaphylos stanfordiana</i> ssp. <i>decumbens</i> Rincon Ridge manzanita	--/--/1B.1	Chaparral and cismontane woodland, restricted to red rhyolites in Sonoma County. 246–1,214 feet. (February–May)	Absent: Extensive suitable vegetation type, but only small amount of suitable rhyolite substrate present. Known within 5 miles. Not observed during protocol surveys.
<i>Astragalus claranus</i> Clara Hunt's milk-vetch	FE/ST/1B.1	Cismontane woodland, valley and foothill grassland, or chaparral. Usually found on serpentinite, volcanic, or rocky clay substrates. 246–902 feet. (March–May)	Absent: Suitable vegetation type, and patches of suitable rocky/bare habitat occasional in survey area. Not known within 5 miles. Not observed during protocol surveys.
<i>Balsamorhiza macrolepis</i> var. <i>macrolepis</i> Big-scale balsamroot	--/--/1B.2	Valley and foothill grassland, chaparral, and cismontane woodland. Sometimes on serpentinite. 295–5,102 feet. (March–June)	Absent: Suitable vegetation types throughout survey area, but no preferred serpentinite substrates. Not known within 5 miles, but range of the species is very scattered. Not observed during protocol surveys.
<i>Blennosperma bakeri</i> Sonoma sunshine	FE/SE/1B.1	Vernal pools, and other mesic areas in valley and foothill grassland. 33–361 feet. (March–May)	Absent: Suitable habitat in proximity to seasonal wetlands and drainages, particularly in grasslands at the north end of the project. Several occurrences known within 5 miles. Not observed during protocol surveys.
<i>Brodiaea californica</i> var. <i>leptandra</i> Narrow-anthered California brodiaea	--/--/1B.2	Volcanic soils in cismontane woodland, valley and foothill grassland, broadleaved upland forest, chaparral, and lower montane coniferous forest. 361–3,002 feet (May–July)	Absent: Suitable habitat is present in grassland, woodlands, and forest, and known from within 5 miles. Not observed during protocol surveys.

Scientific name Common Name	Status ¹ Federal/State/CRPR	Habitat Requirements (Blooming Period)	Occurrence Potential
<i>Calamagrostis crassiglumis</i> Thurber's reed grass	--/--/2.1	Mesic areas in coastal scrub, and freshwater marsh. Usually found in marshy swales. 33–148 feet. (May–July)	Absent: Small amounts of slightly suitable habitat are present of the project located in proximity to drainages, seasonal wetlands, and open water. Known occurrences in valleys or coastal. Not known within 5 miles. Not observed during protocol surveys.
<i>Campanula californica</i> Swamp harebell	--/--/1B.2	Bogs and fens, meadows and seeps, freshwater marsh, and other freshwater mesic habitats. Can include areas in closed-cone coniferous forest, coastal prairie, North Coast coniferous forest. 3–1,329 feet. (June–October)	Absent: Small amounts of suitable habitat are located in proximity to drainages, streams, and open water. No occurrences from the background research within 5 miles, and thought to be extirpated from the area. Most known occurrences are west of survey area. Not observed during protocol surveys.
<i>Carex albida</i> White sedge	FE/SE/1B.1	Freshwater marsh, and bogs and fens. 49–295 feet. (May–July)	Absent: Small amounts of somewhat suitable habitat are present along the portions of the project located in proximity to streams, seasonal wetlands, drainages, and open water. Only one extant occurrence is known from Pitkin Marsh, which is more than 5 miles from the survey area. Not observed during protocol surveys.
<i>Carex comosa</i> Bristly sedge	--/--/2.1	Mesic areas such as freshwater marshes and swamps, and areas in valley and foothill grassland, and coastal prairie. 0–2,050 feet. (May–September)	Absent: Small amounts of slightly suitable habitat are present of the project, located in proximity to streams, drainages, seasonal wetlands, and open water. Not known within 5 miles. Not observed during protocol surveys.
<i>Castilleja uliginosa</i> Pitkin Marsh Indian paintbrush	--/SE/1.A	Freshwater marshes and swamps (June–July)	Absent: Small amounts of slightly suitable habitat are present along the portions of the project located in proximity to streams, drainages, seasonal wetlands, and open water. Thought to be extirpated from last known occurrence at Pitkin Marsh, which is more than 5 miles from the survey area. Not observed during protocol surveys.
<i>Ceanothus confusus</i> Rincon Ridge ceanothus	--/--/1B.1	Serpentine or volcanic soils in closed-cone coniferous forest, chaparral, and cismontane woodland. 246–3,494 feet. (February–June)	Absent: Although serpentine substrates not present, generally suitable habitat (cismontane woodland with volcanic soil) is present throughout the project corridor. Known within 5 miles. Not observed during protocol surveys.

Scientific name Common Name	Status ¹ Federal/State/CRPR	Habitat Requirements (Blooming Period)	Occurrence Potential
<i>Ceanothus divergens</i> Calistoga ceanothus	--/--/1B.2	Rocky, serpentine, or volcanic sites, in chaparral or cismontane woodland. 558–3,117 feet. (February–April)	Absent: Somewhat suitable vegetation type (cismontane woodland) and patches of suitable rocky habitat occasional in survey area. No serpentine habitat present. Not known within 5 miles. Not observed during protocol surveys.
<i>Ceanothus foliosus</i> var. <i>vineatus</i> Vine Hill ceanothus	--/--/1B.1	Chaparral. 148–1,001 feet. (March–May)	Absent: Somewhat suitable habitat (cismontane woodland) is present throughout the project corridor. Not known within 5 miles. Not observed during protocol surveys.
<i>Ceanothus purpureus</i> Holly-leaved ceanothus	--/--/1B.2	Chaparral, with rocky volcanic soils. 394–2,100 feet. (February–June)	Absent: Somewhat suitable habitat (cismontane woodland), and patches of suitable rocky habitat occasional in survey area. Not known within 5 miles. Not observed during protocol surveys.
<i>Ceanothus sonomensis</i> Sonoma ceanothus	--/--/1B.2	Chaparral with sandy, serpentine, or volcanic soils. 705–2,635 feet. (February–April)	Absent: Suitable habitat (cismontane woodland with volcanic soils) is scattered throughout the project corridor. No serpentine present. Project at low end of elevation range of species. Not known within 5 miles. Not observed during protocol surveys.
<i>Centromadia parryi</i> ssp. <i>parryi</i> Pappose tarplant	--/--/1B.2	Usually alkaline or salty areas. These include coastal prairie, meadows and seeps, coastal salt marsh, and mesic areas in valley and foothill grassland. 7–1,378 feet. (May–November)	Absent: Somewhat suitable habitat present (wetlands within grassland) within the survey area, particularly at northern end. However, no alkaline or salty soils present. Known from within 5 miles. Not observed during protocol surveys.
<i>Chorizanthe valida</i> Sonoma spineflower	FE/SE/1B.1	Sandy areas in coastal prairie. 33–1,001 feet. (June–August)	Absent: No coastal prairie habitats present. Not known from within 5 miles. Many occurrences extirpated. Not observed during protocol surveys.
<i>Clarkia imbricata</i> Vine Hill clarkia	FE/SE/1B.1	Acidic sandy loam in chaparral and valley and foothill grassland. 164–246 feet. (June–August)	Absent: Suitable vegetation type is scattered throughout of the project corridor, although sandy soils not observed. Not known from within 5 miles. Not observed during protocol surveys.
<i>Cordylanthus tenuis</i> ssp. <i>capillaris</i> Pennell’s bird’s-beak	FE/SR/1B.2	On serpentine soils in closed-cone coniferous forest and chaparral. 148–1,001 feet. (June–September)	Absent: No serpentine soils present. Not known from within 5 miles. Not observed during protocol surveys.

Scientific name Common Name	Status ¹ Federal/State/CRPR	Habitat Requirements (Blooming Period)	Occurrence Potential
<i>Cryptantha clevelandii</i> var. <i>dissita</i> (= <i>C. dissita</i>) Serpentine cryptantha	--/--/1B.1	On serpentine soils in chaparral. 1,296–1,903 feet. (April–June)	Absent: No serpentine soils present. Not known from within 5 miles. Not observed during protocol surveys.
<i>Delphinium bakeri</i> Baker's larkspur	FE/SE/1B.1	Mesic areas on decomposed shale in coastal scrub, broadleaved upland forest, and valley and foothill grassland. 262–1,001 feet. (March–May).	Absent: Limited suitable habitat present in mesic areas on sedimentary soils (Dibble series). Not known from within 5 miles. Current known range all south of project, and many occurrences extirpated. Not observed during protocol surveys.
<i>Delphinium luteum</i> Golden larkspur	FE/SR/1B.1	Rocky areas in chaparral, coastal prairie, and coastal scrub. 0–328 feet. (March–May).	Absent: Limited rocky areas in somewhat suitable habitat (cismontane woodland) widely scattered in survey area. Project at high end of elevation range, and somewhat north of known range; range limited. Not known within 5 miles. Not observed during protocol surveys.
<i>Downingia pusilla</i> Dwarf downingia	--/--/2.2	Vernal pools and similar mesic sites in valley and foothill grassland. 3–1,460 feet. (March–May)	Absent: Suitable habitat (seasonal wetlands in grassland) present in the survey area, particularly at the north end. Range widely scattered. Known from within 5 miles. Not observed during protocol surveys.
<i>Erigeron greenei</i> Green's narrow-leaved daisy	--/--/1B.2	Serpentine and volcanic soils in chaparral. 262–3,297 feet. (May–September)	Absent: Somewhat suitable habitat (volcanic soils in cismontane woodland) scattered throughout the survey area. No serpentine present. Not known within 5 miles, but species range scattered around survey area. Not observed during protocol surveys.
<i>Erigeron serpentinus</i> Serpentine daisy	--/--/1B.3	Serpentine seeps in chaparral. 197–2,198 feet. (May–August)	Absent: No suitable habitat present within the survey area. No serpentine substrate present. Known from Healdsburg quad. Not observed during protocol surveys.
<i>Eriogonum nervulosum</i> Snowy Mountain buckwheat	--/--/1B.2	Serpentine chaparral. 984–6,906 feet. (June–September)	Absent: No serpentine habitat present. Not known from within 5 miles. Survey area slightly lower elevation than known range of species. Not observed during protocol surveys.
<i>Fritillaria liliacea</i> Fragrant fritillary	--/--/1B.2	Coastal scrub, valley and foothill grassland, and coastal prairie. Often found on serpentine. 10–1,345 feet. (February–April)	Absent: Grassland habitat is present in portions of the survey area. No serpentine present. Known from within 5 miles. Not observed during protocol surveys.

Scientific name Common Name	Status ¹ Federal/State/CRPR	Habitat Requirements (Blooming Period)	Occurrence Potential
<i>Hemizonia congesta</i> ssp. <i>congesta</i> Seaside tarplant, pale yellow hayfield tarplant	--/--/1B.2	Valley and foothill grassland, sometimes on roadsides. 66–1,827 feet. (April–November)	Absent: Several CNDDDB records within 5 miles. Suitable habitat present in portions of the survey area in grasslands. Not observed during protocol surveys.
<i>Hesperolinon bicarpellatum</i> Two-carpellate western flax	--/--/1B.2	Serpentine/serpentinite in chaparral. 197–3,297 feet. (May–July)	Absent: No serpentine/serpentinite soils present. Not known from within 5 miles. Not observed during protocol surveys.
<i>Horkelia tenuiloba</i> Thin-lobed horkelia	--/--/1B.2	Mesic openings with sandy soil in broadleaved upland forest, chaparral, and valley and foothill grassland. 164–1,640 feet. (May–July)	Absent: Vegetation communities generally suitable, but no mesic sandy soil openings noted. Not known within 5 miles. Not observed during protocol surveys.
<i>Lasthenia burkei</i> Burke's goldfields	FE/SE/1B.1	Vernal pools, and meadows and seeps. 49–1,968 feet. (April–June)	Absent: Limited amounts of somewhat suitable habitat (seasonal wetlands and drainages) scattered throughout the survey area, particularly at north end. Most wetlands do not appear deep/wet enough for this species. Known from within 5 miles. Not observed during protocol surveys.
<i>Lasthenia californica</i> ssp. <i>bakeri</i> (= <i>L. macrantha</i> ssp. <i>bakeri</i>) Baker's goldfields	--/--/1B.2	Openings in closed-cone coniferous forest, coastal scrub, meadows and seeps, marshes and swamps. 197–1,706 feet. (April–October)	Absent: Small amounts of somewhat suitable habitat associated with larger/wetter seasonal wetlands, drainages, and open water. Local occurrences believed to be extirpated, current range closer to coast. Not known from within 5 miles. Not observed during protocol surveys.
<i>Legenere limosa</i> Legenere	--/--/1B.1	Vernal pools. 3–2,887 feet. (April–June).	Absent: No vernal pools present, but somewhat suitable habitat in larger seasonal wetlands, drainages, and edges of open water. Not known from within 5 miles, but range is widely scattered around the survey area. Not observed during protocol surveys.
<i>Leptosiphon jepsonii</i> Jepson's leptosiphon	--/--/1B.2	On volcanic soil or the periphery of serpentine substrates, in chaparral and cismontane woodland. (328–1,640 feet. (March–May)	Absent: Suitable habitat (cismontane woodland on volcanic soil) is scattered throughout the survey area. Several occurrences known from within 5 miles. Not observed during protocol surveys.

Scientific name Common Name	Status ¹ Federal/State/CRPR	Habitat Requirements (Blooming Period)	Occurrence Potential
<i>Lessingia arachnoidea</i> Crystal Springs lessingia	--/--/1B.2	Serpentine soils in coastal sage scrub, valley and foothill grassland, and cismontane woodland. 197–656 feet. (July–October).	Absent: Suitable vegetation is present, but no serpentine soils. Not known within 5 miles. Not observed during protocol surveys.
<i>Lilium pardalinum</i> ssp. <i>pitkinense</i> Pitkin Marsh lily	FE/SE/1B.1	Mesic areas with sandy soils in cismontane woodland, meadows and seeps, and freshwater marsh. 115–213 feet. (June–July)	Absent: Small amounts of somewhat suitable habitat in a few locations near larger seasonal wetlands and open water. Known range is marshes near Sebastopol. Not known within 5 miles. Not observed during protocol surveys.
<i>Limnanthes vinculans</i> Sebastopol meadowfoam	FE/SE/1B.1	Vernal pools and similar mesic areas in meadows and seeps, and valley and foothill grassland. 49–1,001 feet. (April–May)	Absent: Some suitable habitat present in seasonal wetlands and drainages, and near open water particularly in the northern portion of the survey area. Most wetlands likely are not deep/wet enough. Known within 5 miles. Not observed during protocol surveys.
<i>Lupinus sericatus</i> Cobb Mountain lupine	--/--/1B.2	Chaparral, cismontane woodland, lower montane coniferous forest, and broadleaved upland forest. 902–5,003 feet. (March–June)	Absent: Suitable vegetation types extensive within the survey area. Project below known end of elevation range. Not known within 5 miles. Not observed during protocol surveys.
<i>Microseris paludosa</i> Marsh microseris	--/--/1B.2	Closed-cone coniferous forest, cismontane woodland, coastal scrub, and valley and foothill grassland. 16–984 feet. (April–July)	Absent: Suitable habitat is common in the survey area. Not known within 5 miles. Not observed during protocol surveys.
<i>Monardella villosa</i> ssp. <i>globosa</i> Robust monardella	--/--/1B.2 ²	Openings in broadleaved upland forest, chaparral, cismontane woodland, coastal scrub, and valley and foothill grassland. 328–3,002 feet. (June–August).	Absent: Suitable habitat is present throughout the survey area. Known within 5 miles. Not observed during protocol surveys.
<i>Navarretia leucocephala</i> ssp. <i>bakeri</i> Baker's navarretia	--/--/1B.1	Vernal pools, meadows and seeps, and similar mesic areas in cismontane woodland, valley and foothill grassland, and lower montane coniferous forest. 16–5,709 feet. (April–July)	Absent: Suitable habitat (seasonal wetlands, drainages) are present in the survey area, particularly at the northern end. Known from within 5 miles. Not observed during protocol surveys.

² Species currently under review to change or remove this ranking. Species possibly too common to be ranked CRPR 1.

Scientific name Common Name	Status ¹ Federal/State/CRPR	Habitat Requirements (Blooming Period)	Occurrence Potential
<i>Navarretia leucocephala</i> ssp. <i>pliantha</i> Many-flowered navarretia	FE/SE/1B.2	Vernal pools with volcanic ash flow substrates. 98–3,117 feet. (May–June)	Absent: Somewhat suitable habitat (seasonal wetlands, drainages) within the survey area, particularly at the northern end. These do not appear to have ash flow substrates. Known from within 5 miles. Not observed during protocol surveys.
<i>Penstemon newberryi</i> var. <i>sonomensis</i> Sonoma beardtongue	--/--/1B.3	Rocky areas in chaparral. 2,297–4,495 feet. (April–August)	Absent: Somewhat suitable vegetation community (cismontane woodland), but few rock outcrops and survey area well below known elevation range. Not known within 5 miles. Not observed during protocol surveys.
<i>Pleuropogon hooverianus</i> North Coast semaphore grass	--/ST/1B.1	Meadows and seeps, and similar mesic areas in broadleaved upland forest and north coast coniferous forest. 33–2,201 feet. (April–June)	Absent: Small amounts of somewhat suitable habitat in a few locations in larger seasonal wetlands and open water. Not known within 5 miles, but range is widely scattered. Not observed during protocol surveys.
<i>Rhynchospora alba</i> White beaked-rush	--/--/2.2	Freshwater areas such as bogs and fens and marshes and swamps. 197–6,693 feet. (July–August)	Absent: Small amounts of somewhat suitable habitat present along the portions of the survey area located in proximity to streams, larger seasonal wetlands, drainages, and open water. Not known from within 5 miles, but range widely scattered. Not observed during protocol surveys.
<i>Rhynchospora californica</i> California beaked-rush	--/--/1B.1	Bogs and fens, marshes and swamps, meadows and seeps, and similar mesic areas in lower montane coniferous forest. 148–3,314 feet. (May–July)	Absent: Small amounts of somewhat suitable habitat present along the portions of the survey area located in proximity to streams, larger seasonal wetlands, drainages, and open water. Not known from within 5 miles, but range widely scattered. Not observed during protocol surveys.
<i>Rhynchospora capitellata</i> Brownish beaked-rush	--/--/2.2	Meadows and seeps, freshwater marshes and swamps, and similar mesic areas in lower montane coniferous forest and upper montane coniferous forest. 1,493–6,562 feet. (July–August)	Absent: Only small amount of conifer forest present (Douglas-fir). Small amounts of somewhat suitable habitat present along the portions of the survey area located in proximity to streams, larger seasonal wetlands, drainages, and open water. Survey area below known elevation range. Not known from within 5 miles, but range widely scattered. Not observed during protocol surveys.

Scientific name Common Name	Status ¹ Federal/State/CRPR	Habitat Requirements (Blooming Period)	Occurrence Potential
<i>Rhynchospora globularis</i> var. <i>globularis</i> Round-headed beaked-rush	--/--/2.1	Freshwater marshes and swamps. 148–197 feet. (July–August)	Absent: Small amounts of somewhat suitable habitat present along the portions of the survey area located in proximity to streams, larger seasonal wetlands, drainages, and open water. Has very limited known range. Not known from within 5 miles. Not observed during protocol surveys.
<i>Sidalcea oregana</i> ssp. <i>hydrophila</i> Marsh checkerbloom	--/--/1B.2	Freshwater marshes and swamps, and mesic areas in riparian forest. 3,609–7,546 feet. (July–August)	Absent: Survey area is well below known elevation range of taxon. Not known from within 5 miles. Not observed during protocol surveys.
<i>Sidalcea oregana</i> ssp. <i>valida</i> Kenwood Marsh checkerbloom	FE/SE/1B.1	Freshwater marshes and swamps. 377–492 feet. (June–September)	Absent: Small amounts of somewhat suitable habitat present along the portions of the survey area located in proximity to streams, larger seasonal wetlands, drainages, and open water. Has very limited known range. Not known from within 5 miles. Not observed during protocol surveys.
<i>Streptanthus brachiatus</i> ssp. <i>hoffmanii</i> Freed’s jewel-flower	--/--/1B.2	Serpentine soils/rock in chaparral and cismontane woodland. 1,608–4,003 feet. (May–July)	Absent: No serpentine soils present. Survey area somewhat below known elevation range. Not known from within 5 miles. Not observed during protocol surveys.
<i>Streptanthus breweri</i> var. <i>hesperidis</i> (= <i>S. hesperidis</i>) Green jewel-flower	--/--/1B.2	Serpentine soils/rock in chaparral and cismontane woodland. 426–2,493 feet. (May–July)	Absent: No serpentine soils present. Not known from within 5 miles. Not observed during protocol surveys.
<i>Stuckenia filiformis</i> Slender-leaved pondweed	--/--/2.2	Assorted shallow freshwater habitats such as marshes and swamps. 984–7,054 feet. (May–July)	Absent: Small amounts of somewhat suitable habitat present along the portions of the survey area located in proximity to streams and open water. Survey area below known range. Not known from within 5 miles, but widely scattered range. Not observed during protocol surveys.
<i>Trifolium amoenum</i> Showy rancheria clover/two-forked clover	FE/--/1B.1	Valley and foothill grassland, coastal bluff scrub. Sometimes on serpentinite. 16–1,361 feet. (April–June)	Absent: Somewhat suitable habitat present in grassland, but no preferred serpentine habitat present. Very limited range. Many occurrences believed to be extirpated. Not known within 5 miles. Not observed during protocol surveys.

Scientific name Common Name	Status ¹ Federal/State/CRPR	Habitat Requirements (Blooming Period)	Occurrence Potential
<i>Trifolium hydrophilum</i> Saline clover	--/--/1B.2	Marshes and swamps, vernal pools, and similar mesic areas in valley and foothill grassland. Alkaline areas. 0–984 feet. (April–June)	Absent: No alkaline wetlands present. Not known within 5 miles. Not observed during protocol surveys.
<i>Triquetrella californica</i> Coastal triquetrella	--/--/1B.2	Soil in coastal bluff scrub and coastal scrub. 33–328 feet.	Absent: No suitable coastal habitat present. Not known within 5 miles. Not observed during protocol surveys.
<i>Viburnum ellipticum</i> Oval-leaved viburnum	--/--/2.3	Chaparral, cismontane woodland, and lower montane coniferous forest. 705–4,593 feet. (May–June)	Absent: Suitable habitat is present along most of the project corridor, although survey area at low end of known range. Known from within 5 miles. Not observed during protocol surveys.
¹ Status <u>Federal</u> FE Listed as Endangered under the federal Endangered Species Act FT Listed as Threatened under the federal Endangered Species Act <u>State of California</u> SE California Fish and Game Code Endangered Species ST California Fish and Game Code Threatened Species SR California Fish and Game Code Rare Species		<u>California Rare Plant Rank (CRPR)</u> 1A Plant assumed extinct in California 1B Plants rare, threatened, or endangered in California and elsewhere 2 Plants rare, threatened, or endangered in California, but more common elsewhere <u>Threat Ranks</u> 0.1-Seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat) 0.2-Fairly threatened in California (20-80% occurrences threatened / moderate degree and immediacy of threat) 0.3-Not very threatened in California (<20% of occurrences threatened/ low degree and immediacy of threat or no current threats known)	

Special-Status Wildlife Species

Background research identified 17 special-status wildlife species with records in the project vicinity. All 17 wildlife species are described in Table 3.4-3: Special-Status Wildlife Species.

California tiger salamander. CTS is a federally endangered and state-threatened species. It occurs in vernal pools and seasonal water sources, and requires underground refuges in adjacent upland areas, in particular, ground squirrel burrows. Construction work areas between Fulton substation and Mark West Creek are within an area designated in the Santa Rosa Plain Conservation Strategy as having low potential for CTS to occur (USFWS 2005). Some potentially suitable seasonally ponded breeding habitat is located near Fulton Substation, and the substation is within designated critical habitat for CTS. However, the substation and the work areas immediately surrounding it lack burrows and other features needed to support the species. In addition, this area is surrounded by Highway 101, a county road and vineyard, which limit potential for this species to occur or disperse through the project area. Records for the species within 5 miles of the survey area are limited to a single occurrence within the Santa Rosa Plain approximately 1.7 miles from the southern end of the project. Based on the closest known occurrence, expert opinion (Cook 2015), the lack of primary constituent elements for the species and the barriers to movement into the project area, it is unlikely that CTS would be found in the project area.

California red-legged frog. CRLF is a federally threatened and state species of special concern. It breeds in ponds and pools in slow-moving water with emergent vegetation, and adjacent upland habitats are often used for temporary refuges or dispersal movements. While there are no occurrence records within 5 miles of the survey area, CRLF is considered to have potential to occur based on suitable breeding habitat found in several large ponds and other wetland areas located near suitable upland and dispersal habitat within the project area.

Western pond turtle. Western pond turtle is a state species of special concern. It occurs in both permanent and seasonal waters, including marshes, streams, rivers, ponds, and lakes. Western pond turtle is also found in irrigation canals and agricultural drains, and favors habitats with large amounts of emergent logs or boulders, where they aggregate to bask. Western pond turtle is considered to have potential to occur based on suitable aquatic habitat present in ponds just outside the survey area and upland nesting habitat within the survey area. Sections of the alignment located close to permanent or semi-permanent ponds that offer suitable habitat for nesting females and could provide suitable aquatic habitat for the species. In addition, western pond turtle individuals have been reported to make overland movements of up to 1 mile to access other aquatic habitat and three records for this species occur within 1 mile of the survey area.

White-tailed kite. White-tailed kite is a state-fully protected species. It nests in oak, willow, or other trees, and forages over open grasslands. Coast live oak tree is most often chosen for a nest site. White-tailed kite is considered likely to occur based on suitable nesting (large oaks) and foraging habitat present in the survey area. Several records for this species occur within 5 miles of the survey area. There was no nesting activity observed during the 2015 surveys.

Table 3.4-3: Special-Status Wildlife Species

Scientific name Common Name	Status ¹ Federal/State	Habitat Requirements	Occurrence Potential
<i>Invertebrates</i>			
<i>Syncaris pacifica</i> California freshwater shrimp	FE / SE	Endemic to Marin, Napa, and Sonoma counties. Found in low elevations, low gradient streams where riparian cover is moderate to heavy. Shallow pools away from main streamflow.	Unlikely to occur: Suitable habitat is absent from the project area. Although low gradient, low elevation streams occur at Mark West, Pool, Wright, and Windsor creeks, no project activities will occur in these areas. Nearest CNDDDB record is 5.5 miles east of project area.
<i>Fish</i>			
<i>Lavinia symmetricus navarroensis</i> Navarro roach	-- / SSC	Habitat generalists. Found in warm intermittent streams as well as cold, well-aerated streams.	Unlikely to occur: Suitable habitat is absent from the project area. Occurrence records within 5 miles of the survey area. However, no habitat is present in the survey area.
<i>Hysteroecarpus traski pomo</i> Russian River tule perch	-- / SSC	Low elevation streams of the Russian River system. Requires clear, flowing water with abundant cover. They also require deep (> 1 meter) pool habitat.	Unlikely to occur: Suitable habitat is absent from the project area. No work activities are proposed for watercourses having potential to support the species.
<i>Mylopharodon conocephalus</i> Hardhead	-- / SSC	Low to mid-elevation streams in the Sacramento–San Joaquin drainage. Also present in the Russian River. Clear, deep pools with sand-gravel-boulder bottoms and slow water velocity.	Unlikely to occur: Suitable habitat is absent from the project area. Furthermore, all waterway crossings in the survey area lack suitable habitat for this species.
<i>Oncorhynchus kisutch</i> Coho salmon - central California coast ESU	FE / SE	Require beds of loose, silt-free, coarse gravel for spawning. Also need cover, cool water, and sufficient dissolved oxygen.	Unlikely to occur: Suitable habitat is absent from the project area. Furthermore, suitable watercourses are not present in the survey area.

Scientific name Common Name	Status ¹ Federal/State	Habitat Requirements	Occurrence Potential
<i>Oncorhynchus mykiss irideus</i> Steelhead - central California coast DPS	FT / –	Freshwater spawning sites with water quantity and quality conditions and substrate supporting spawning, incubation and larval development. Natural cover such as shade, submerged and overhanging large wood, log jams and beaver dams, aquatic vegetation, large rocks and boulders, side channels, and undercut banks.	Unlikely to occur: Suitable habitat is absent from the project area. Although perennial watercourses are present within the survey area, no work activities will be performed in watercourses with potential to support the species.
Amphibians			
<i>Ambystoma californiense</i> California tiger salamander	FE / ST	Vernal pools and/or seasonal water sources; requires underground refuges in adjacent upland areas, especially ground squirrel burrows.	Unlikely to occur: Project area is located within, and adjacent to the Santa Rosa Plain Conservation Area. Records for the species within 5 miles from the project are limited to a single occurrence within the Santa Rosa Plain, approximately 1.7 miles from the south end of the project. Fulton Substation is located within designated critical habitat; however, this area lacks the Primary Constituent Elements necessary for this species. Fulton Substation is surrounded by Highway 101, a county road, and vineyard that all limit potential for this species to occur in the project area.
<i>Rana boylei</i> Foothill yellow-legged frog	-- / SSC	Partly-shaded, shallow streams and riffles with a rocky substrate in a variety of habitats. Need at least some cobble-sized substrate for egg-laying.	Unlikely to occur: Suitable habitat is absent from the project area. Potentially suitable riffle habitat with cobble substrate present in watercourse immediately south of Dumps Road and in Pool, Wright, and Windsor creeks. The project is within the range of this species, however, no project activities are proposed within perennial watercourses. There are three CNDDB records approximately 4.9 miles east of the project area, including one record in Mark West Creek.

Scientific name Common Name	Status ¹ Federal/State	Habitat Requirements	Occurrence Potential
<i>Rana draytonii</i> California red-legged frog	FT / SSC	Breeds in ponds and pools in slow-moving streams with emergent vegetation; adjacent upland habitats are often used for temporary refuges or dispersal movements.	Potential to occur: No occurrence records within 5 miles of the project area. However, potentially suitable breeding habitat was found in ponds located in grassland habitat in the survey area. Suitable upland habitat also present in the grassland habitat.
Reptiles			
<i>Emys marmorata</i> Western pond turtle	– / SSC	Occurs in both permanent and seasonal waters, including marshes, streams, rivers, ponds, and lakes. Also found in irrigation canals and agricultural drains. They favor habitats with large amounts of emergent logs or boulders, where they aggregate to bask.	Potential to occur: CNDDDB occurrences within 5 miles of the project. Suitable aquatic habitat is present in ponds just outside the project area, and potential upland nesting habitat lies within the project area.
Birds			
<i>Athene cunicularia hypugaea</i> Western burrowing owl	– / SSC	Nests in burrows (often constructed by ground squirrels) and forages in low-growing grasslands and other open, semi-arid habitats.	Unlikely to occur: No CNDDDB occurrences within 5 miles of the project area. Some marginal habitat is present in the grassland habitat in the northern portion of the project area; however, this habitat lacks significant small mammal activity and few burrows were observed during surveys.
<i>Elanus leucurus</i> White-tailed kite	– / FP	Nests in oak, willow or other trees and forages over open grasslands. A coast live oak tree is often chosen as a nest site.	Likely to occur: CNDDDB occurrences within 5 miles of the project area. Suitable nesting (large oaks) and foraging habitat present in the vicinity of the project area.
Mammals			
<i>Antrozous pallidus</i> Pallid bat	– / SSC	Open, dry habitats such as grasslands, shrublands, and woodlands with rocky areas for roosting. Roosts in anthropogenic structures (buildings and bridges), cliff crevices of rock faces, and hollow trees.	Potential to occur: CNDDDB occurrences within 5 miles of the project area. Suitable day roosting habitat present in trees in the project area. Surveys for bats concluded that there is low potential for roosting bats.

Scientific name Common Name	Status ¹ Federal/State	Habitat Requirements	Occurrence Potential																				
<i>Corynorhinus townsendii</i> Townsend’s big-eared bat	– / SSC	Found throughout California in a wide variety of habitats; most commonly associated with mesic sites. Roosts in the open, hanging from walls and ceilings of caves, mines, or abandoned structures in or near woodlands and forests. Extremely sensitive to human disturbance.	Potential to occur: Caves and mines not known from the project area, but barns and outbuildings in and near the project area represent potentially suitable roosting habitat. Surveys for bats concluded that there is low potential for roosting bats. There are no CNDDDB records within 5 miles of the project area.																				
<i>Lasiurus blossevillii</i> Western red bat	– / SSC	Roosts primarily in trees, 2–40 feet above ground, from sea level up through mixed conifer forests. Prefers habitat edges and mosaics with trees that are protected from above and open below with open areas for foraging.	Potential to occur: No CNDDDB records within 5 miles of the project area, however, some suitable roosting habitat present in larger oaks throughout the project area. Surveys for bats concluded that there is low potential for roosting bats.																				
<i>Arborimus pomo</i> Sonoma tree vole	– / SSC	In Douglas-fir, redwood and montane hardwood-conifer forests. Feeds almost exclusively on Douglas-fir needles. Will occasionally take needles of grand fir, hemlock, or spruce.	Unlikely to occur: No CNDDDB occurrences within 5 miles of the project area, and no recent records in nine-quad search. While some suitable habitat is present within the project vicinity, the habitat consists of a small, isolated grove.																				
<i>Taxidea taxus</i> American badger	– / SSC	Prefers dry open stages of most shrub, forest, and herbaceous habitats. Requires sufficient food (mostly on burrowing rodents), friable soils and open, uncultivated ground.	Potential to occur: No CNDDDB records within 5 miles of the project area, but suitable foraging and denning habitat is present in the grasslands and woodlands throughout the project area (though no larger mammal burrows were observed during surveys).																				
<p>¹. Status designations:</p> <table border="0"> <tr> <td colspan="2"><u>Federal</u></td> <td colspan="2"><u>State of California</u></td> </tr> <tr> <td>FE</td> <td>Listed as Endangered under the federal Endangered Species Act</td> <td>SE</td> <td>California Fish and Game Code Endangered Species</td> </tr> <tr> <td>FT</td> <td>Listed as Threatened under the federal Endangered Species Act</td> <td>ST</td> <td>California Fish and Game Code Threatened Species</td> </tr> <tr> <td></td> <td></td> <td>FP</td> <td>California Fish and Game Code Fully Protected Species</td> </tr> <tr> <td></td> <td></td> <td>SSC</td> <td>California Department of Fish and Wildlife Species of Special Concern</td> </tr> </table>				<u>Federal</u>		<u>State of California</u>		FE	Listed as Endangered under the federal Endangered Species Act	SE	California Fish and Game Code Endangered Species	FT	Listed as Threatened under the federal Endangered Species Act	ST	California Fish and Game Code Threatened Species			FP	California Fish and Game Code Fully Protected Species			SSC	California Department of Fish and Wildlife Species of Special Concern
<u>Federal</u>		<u>State of California</u>																					
FE	Listed as Endangered under the federal Endangered Species Act	SE	California Fish and Game Code Endangered Species																				
FT	Listed as Threatened under the federal Endangered Species Act	ST	California Fish and Game Code Threatened Species																				
		FP	California Fish and Game Code Fully Protected Species																				
		SSC	California Department of Fish and Wildlife Species of Special Concern																				

Pallid bat. Pallid bat is a state species of special concern. It occurs in open, dry habitats such as grasslands, shrublands, and woodlands, with rocky areas for roosting. It is found to roost in anthropogenic structures (buildings and bridges), cliff crevices of rock faces, and hollow trees. Pallid bat is considered to have potential to occur based on suitable day roosting habitat present in trees in the survey area; however, bats surveys completed in July 2015 determined low potential overall. As a result of its basic design structure and a lack of observed bat roosting signs, a large barn adjacent to a project pull site/staging area was determined unlikely to support roosting bats.

Townsend's big-eared bat. Townsend's big-eared bat is a state species of special concern. It occurs throughout California in a wide variety of habitats, and is most commonly associated with mesic sites. It is found to roost in the open, hanging from walls and ceilings of caves, and in mines or abandoned structures in or near woodlands and forests. This species is extremely sensitive to human disturbance. While there are no occurrence records within 5 miles of the survey area, Townsend's big-eared bat is considered to have potential to occur based on the presence of barns and outbuildings in and near the survey area that represent potentially suitable roosting habitat. However, bats surveys completed in July 2015 determined low potential overall and no potential in the barn near the project pull site/staging area. This determination was based on the lack of any bat sign in the barn and the trees that were inspected as well as failure to observe any bats during emergence surveys at potential roost sites.

Western red bat. Western red bat is a state species of special concern. It roosts primarily in trees, 2 to 40 feet above ground, at elevations ranging from sea level through mixed conifer forests. It prefers habitat edges and mosaics with trees that are protected from above and open below, with open areas for foraging. While there are no occurrence records within 5 miles of the survey area, Western red bat is considered to have the potential to occur based on the presence of suitable roosting habitat in larger oaks throughout the survey area. However, bats surveys completed in July 2015 determined low potential overall.

American badger. American badger is a state species of special concern. It prefers dry, open spaces of most shrub, forest, and herbaceous habitats. It requires sufficient food (mostly feeding on burrowing rodents), friable soils, and open, uncultivated ground. While there are no occurrence records within 5 miles of the survey area, American badger is considered to have potential to occur based on suitable foraging and denning habitat in the grasslands and woodlands throughout the survey area.

Habitat Conservation Plans

No HCPs apply to the project area. However, a portion of the project area is within the Santa Rosa Plain Conservation Strategy Survey Area, as discussed previously in Section 3.4.2.1, Regulatory Background.

3.4.4 APPLICANT-PROPOSED MEASURES AND POTENTIAL IMPACTS

The following sections describe significance criteria for impacts related to biological resources derived from Appendix G of the CEQA Guidelines, provide APMs to reduce impacts, and assess potential project-related construction and operational impacts on biological resources.

3.4.4.1 Significance Criteria

According to Section 15002(g) of the CEQA Guidelines, “a significant effect on the environment is defined as a substantial adverse change in the physical conditions which exist in the area affected by the proposed project.” As stated in Section 15064(b) of the CEQA Guidelines, the significance of an activity may vary with the setting. Per Appendix G of the CEQA Guidelines, the potential significance of project-related impacts on biological resources were evaluated for each of the criteria listed in Table 3.4-1, as discussed in Section 3.4.4.3.

3.4.4.2 Applicant-Proposed Measures

PG&E will implement the following APMs:

APM BIO-1: General Avoidance of Biological Resources Impacts

This APM consists of the following components:

- **Environmental awareness training.** PG&E will conduct environmental awareness training for all construction and on-site personnel prior to the beginning of site work. Training will include a discussion of the avoidance and minimization measures that are being implemented to protect biological resources, as well as the terms and conditions of any Biological Opinion or other permit conditions that apply to the project. Training will include information on the federal and state Endangered Species Acts and the consequences of noncompliance with these acts. Under this program, workers shall be informed about the presence, life history, and habitat requirements of all listed and special-status species with a potential to be affected within the project area. Training will also include information on state and federal laws protecting nesting birds, wetlands, and other water resources, as applicable and appropriate to the project.
- **Biological monitoring to avoid impacts near or in potentially sensitive habitat.** A qualified biological monitor will be on site during ground-disturbing construction activities near and within sensitive habitat or resources, and will monitor implementation and compliance with APMs relating to the sensitive habitat. The monitor will have the authority to stop work or implement alternative work practices, as determined by PG&E’s biologist in consultation with agencies and construction personnel, as appropriate, if construction activities are likely to impact sensitive biological resources.
- **Marking of sensitive habitat or resource areas.** Sensitive habitat or resources—such as active bird nests, burrows that area near suitable aquatic habitat that might support CTS or CRLF, and seasonal wetlands—identified during pre-construction surveys to be within or adjacent to project work areas will be marked or otherwise delineated to minimize impacts to these resources.
- **Work in California red-legged frog habitat.** Construction activities in suitable CRLF habitat will be restricted to the dry season (April 15 through October 15) to the extent feasible. If construction activities must occur within suitable habitat during the wet season, when CRLF may be migrating overland and breeding in the vicinity, a qualified biologist will determine if it is appropriate to fence the perimeter of pull sites, staging

areas, and/or landing zones. Fencing will be effective amphibian exclusion fencing. Installation of exclusion fencing will occur under the supervision of a qualified biologist. The amphibian exclusion fencing will remain in place for the duration of construction during the wet season, and will be monitored regularly by environmental inspectors or biologists. Where access is necessary, gates will be installed with the exclusion fence. These measures may be refined slightly to be consistent with measures established during the Section 7 consultation process with USFWS.

- **Work in California tiger salamander habitat.** The project area has very limited potential habitat for CTS in the area surrounding Fulton Substation, and impacts to the species are unlikely. If construction activities must occur during the wet season, a qualified biologist will determine if it is appropriate to fence the perimeter of work areas around Fulton Substation. Fencing will be effective amphibian exclusion fencing. Installation of exclusion fencing will occur under the supervision of a qualified biologist. The amphibian exclusion fencing will remain in place for the duration of construction during the wet season, and will be monitored regularly by environmental inspectors or biologists. Where access is necessary, gates will be installed with the exclusion fence.
- **Litter and trash management.** All food scraps, wrappers, food containers, cans, bottles, and other trash from the project area will be deposited in closed trash containers and removed from the project site daily.
- **Parking.** Vehicles and equipment will be parked on pavement, existing roads, and previously disturbed or developed areas or work areas. Off-road parking will only be permitted in previously identified and designated work areas.
- **Route and work area limitations.** Vehicles will be confined to established roadways and pre-approved access roads, overland routes, and access areas. Access routes and construction work areas will be limited to the minimum necessary to achieve the project goals.
- **Maintenance and refueling.** All equipment will be maintained to minimize the potential for leaks of automotive fluids such as fuels, solvents, or oils. All refueling and maintenance of vehicles and other construction equipment will be restricted to designated staging areas located at least 100 feet from any down-gradient aquatic habitat, unless otherwise isolated from habitat by secondary containment. Proper spill prevention and cleanup equipment will be maintained in all refueling areas.
- **Pets and firearms.** No pets or firearms will be permitted at the project site.
- **Cover excavations.** All excavations in excess of 2 feet deep will be sloped, have escape ramps installed that are suitable for the escape of wildlife, or be thoroughly covered at the end of the day. All trenches and excavations will be inspected for wildlife at the beginning of the workday and prior to backfilling. If a special-status species is discovered in a trench or excavation area, work in the area will be redirected, and the special-status species will be allowed to leave the trench and the area of its own accord.

In the event that any special-status species is trapped in a trench or an excavation and is unable to leave on its own accord, removal will be performed or overseen by a biological monitor with the applicable permits for handling of the species.

- **Restore temporarily disturbed habitats.** All areas that are temporarily disturbed as a result of project activities will be restored upon completion of construction. Disturbed areas will be restored to pre-project conditions or as otherwise requested by the landowner.
- **Work during the wet season.** During wet weather or the rainy season, all open holes, pits, and trenches will be protected to ensure that frogs and salamanders do not become entrapped. Qualified personnel will install protective fencing, coverings, or ramps to either prevent wildlife from falling into excavations or to allow for escape. At the end of each work day, trenches will be covered and/or fenced. Excavations sites will be inspected each morning, prior to the start of construction activities, to ensure that no wildlife are trapped.

During the wet season or after a rain event (with greater than 0.1 inch of rainfall), all construction personnel will check underneath vehicles (i.e., tires, tracks, etc.) for the presence of frogs and/or salamanders. Any discovered wildlife will be reported to the on-site biologist or to PG&E environmental staff for relocation assistance.

Use Best Management Practices and implement Stormwater Pollution Prevention Plan (SWPPP) measures to minimize erosion and prevent sediment from leaving work areas and entering any aquatic habitat. Do not use monofilament netting with any erosion-control materials.

APM BIO-2: Avoid Impacts on Nesting Birds

If work is scheduled during the nesting season (February 1 through August 31), nest detection surveys will correspond with a standard buffer for individual species in accordance with the species-specific buffers set forth in Appendix E of the PEA and will occur within 15 days prior to the start of work activities at designated construction areas, staging areas, and landing zones to determine nesting status by a qualified biologist. Nest surveys will be accomplished by ground surveys and/or by helicopter and will support phased construction, with surveys scheduled to be repeated if construction lapses in a work area for 15 days between March and July. Access for ground surveys will be subject to property access permission. Helicopter flight restrictions for nest detection surveys may be in effect for densely populated residential areas, and will include observance of appropriate established buffers and avoidance of hovering in the vicinity of active nest sites.

If active nests containing eggs or young are found, the biologist will establish a species-specific nest buffer, as defined in Appendix E of the PEA. Where feasible, standard buffers will apply, although the biologist may increase or decrease the standard buffers in accordance with the factors set forth in Appendix E. Nesting pair acclimation to disturbance in areas with regularly occurring human activities will be considered when establishing nest buffers. The established buffers will remain in effect until the young have fledged or the nest is no longer

active as confirmed by the biologist. Active nests will be periodically monitored until the biologist has determined that the young have fledged or once construction ends. Per the discretion of the biologist, vegetation removal by hand may be allowed within nest buffers or in areas of potential nesting activity. Inactive nests may be removed in accordance with PG&E's approved avian permits. The biologist will have authority to order the cessation of nearby project activities if nesting pairs exhibit signs of disturbance.

All references in this APM to biologists refer to qualified biologists with a bachelor's degree or above in a biological science field and demonstrated field expertise in ornithology, in particular, nesting behavior.

APM BIO-3: Wetland and Water Feature Protection Measures

The following measures will be implemented to avoid and minimize project impacts on wetland and water features:

- To the maximum extent feasible, design the project to avoid wetland and water features. Where impacts on the features cannot be avoided, coordination may be required with the USACE and RWQCB.
- Where avoidance is feasible, delineate wetland and water features and establish exclusion zones along the upland margins to restrict entrance by construction personnel and equipment.
- Conduct all fueling of vehicles, equipment, and helicopters per APM BIO-1, Maintenance and Refueling.
- To the extent feasible, complete any necessary construction activities within or adjacent to wetland or water features during the dry season (October 15 to April 15). For construction activities occurring outside of the dry season, appropriate erosion-control and stormwater protection measures will be implemented as identified in the project SWPPP, if necessary.

APM BIO-4: Conduct Pre-Construction Surveys for Special-Status Plants

No special-status plants were observed during protocol surveys conducted in 2011 and 2012. Resurvey these areas during the appropriate blooming period prior to construction to confirm that conditions have not changed.

APM BIO-5: Conduct Pre-Construction Surveys for Special-Status Bats

If reconductoring occurs between April and September (i.e., bat reproductive season) accessible trees that are 10-inches dbh or greater and rural outbuildings located within 100 feet of pull sites and landing zones that could provide potential bat habitat will be assessed by desktop review and field surveys. Potential bat habitat includes woodpecker holes, exfoliating bark, and branch and bole hollows. If desktop review and field surveys determine that trees and/or outbuildings have low to no potential for roosting habitat, no further action is required. If desktop review or field surveys determine that trees and/or outbuildings have

moderate to high potential for roosting habitat, the following procedure will be employed during tree trimming and removal:

- A qualified biologist will be present for trimming or removal of trees 10 inches or greater dbh.
- To the extent feasible, trees/snags/stumps will be cut down on warm days in late morning to afternoon when any bats present are likely to be warm and able to fly.
- The qualified biologist will inspect crevices and cavities to the extent possible. If bats may be in a tree bole or branch cavity, the qualified biologist will attempt to expose them and allow escape. For example, if the cavity cannot be investigated by the qualified biologist, then carefully cut successive sections above the cavity to open it, waiting up to 10 minutes in between each cut, and determine if it is empty or allow any bats inside to crawl or fly out.
- Create noise and vibration disturbance on the tree (e.g., concussive hitting with equipment and/or chainsaw cutting) for at least 15 minutes before carefully opening up potential crevices and cavities for inspection and clearance.
- Remove and set aside any branches that may contain bats. For example, cut the branches off intact and set them upright against trees away from the work activity area to allow any bats present to passively escape.

APM BIO-6: Conduct Pre-Construction Surveys for California Red-Legged Frog

A qualified biologist shall conduct a pre-construction survey of the work areas within suitable habitat for CRLF for CRLF within 24 hours prior to the start of work. Any areas where frogs are observed will be flagged for avoidance, and clear instructions will be given to all crew members during tailboards of areas to avoid where CRLF may be present.

APM BIO-7: Conduct Pre-Construction Surveys for California Tiger Salamander

A qualified biologist shall conduct a pre-construction survey of the work areas with potential CTS habitat within 24 hours prior to potential ground disturbance, specifically in the vicinity of Fulton Substation. Burrows will be marked and avoided during construction activities to the extent feasible. The initial ground-disturbing work at this location will be restricted to the dry season.

APM BIO-8: Conduct Pre-Construction Survey for American Badger

A survey for active dens of American badgers shall be performed by a qualified biologist within 30 days prior to construction grading or land clearing. Surveys shall be conducted within suitable habitat. The width of the pre-activity survey will be 250 feet on either side of the construction area or to the extent of PG&E's right-of-way. Construction may proceed once it is determined that there are no active dens in the survey area. If active dens are present, the dens shall be avoided during the breeding season, and a 50-foot buffer around the

den sites shall be established. Smaller buffers may be established through consultation with CDFW.

APM BIO-9: Conduct Pre-Construction Survey for Western Pond Turtle

A survey for western pond turtle shall be performed by a qualified biologist within 24 hours prior to work within riparian habitats. Individual western pond turtles, if found in the work area during spring/nesting season, shall be relocated out of harm's way and outside of the construction area in the direction of travel. Similarly, if found during hibernation movements in winter, individual western pond turtles will be relocated outside of the construction area in the direction of travel.

APM BIO-10: Tree Removal and Mitigation

Tree removal will be minimized to what is required to implement the project. For removal of large valley oak trees greater than 20 inches dbh or small valley oaks with a cumulative dbh greater than 60 inches that occurs within the Sonoma County Valley Oak Combining District, PG&E will coordinate with landowners to either replace or pay an in-lieu fee to the County valley oak planting program. Any protected trees that are otherwise removed will be documented and replaced at a 1:1 ratio or other measure derived through coordination with Sonoma County or the Town of Windsor that provides an equal level of compensation.

3.4.4.3 Potential Impacts

Potential project impacts on biological resources were evaluated against the CEQA significance criteria and are discussed below. The impact analysis evaluates potential project impacts during the construction phase and operation and maintenance (O&M) phase.

The project includes reconductoring and pole replacement and removal, as well as minor substation modifications. The O&M activities required for the reconducted power and transmission lines and substation modifications will not increase from those currently required for the existing system; thus, no operation-related impacts on biological resources will occur. All work at Fitch Mountain Substation will be completed within the existing fence line, where the surface of the area was previously improved and covered with compacted fill. Therefore, the impact analysis is focused only on construction activities that are required to install the new conductor, replace and remove poles, and to establish required access and construction work areas, as described in Chapter 2.0, Project Description.

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

The project will not have any substantial adverse effects on special-status species. Although several special-status plant species have the potential to occur in the project area, 2 years of surveys were conducted and no occurrences were documented. Additional surveys will take place in 2016, prior to project construction, to confirm that these plant species are absent from the project area and will not be affected. Implementation of APM BIO-4 will further reduce the potential for impacts on special-status plants.

Several special-status wildlife species were identified as having the potential to occur within the project area. The project will not have substantial adverse effects on any of these species. Implementation of APM BIO-1, APM BIO-2, APM BIO-3, and APM BIO-5 will further reduce the potential for impacts on special-status wildlife.

California Tiger Salamander

CTS has low potential to occur in the immediate vicinity of Fulton Substation. In the unlikely event that CTS enters the project area, individual salamanders could be crushed or killed by equipment. However, the work areas are ruderal habitat surrounded by vineyards, major roads, and the substation and isolated from suitable ponds where breeding could occur. It is 1.7 miles from the nearest occurrence and presence of individuals is not likely. Therefore, impacts on CTS will be less than significant, and implementation of APM BIO-1, APM BIO-3, and APM BIO-7 will further reduce this less-than-significant impact.

California Red-Legged Frog

CRLF has moderate potential to occur in the project area in aquatic and upland habitats. No wetlands that may be suitable habitat for CRLF will be impacted; however, approximately 30 acres of potential dispersal habitat may be temporarily impacted by the project. Initial ground-disturbing work will be conducted during the dry season, when frogs are unlikely to disperse through upland habitat. Direct impact on upland habitats that might harbor CRLF will be avoided by conducting pre-construction surveys. If CRLF is observed in any work area, the area will be avoided until the species has moved from the area on its own. Impacts on CRLF will be less than significant with the implementation of APM BIO-1, APM BIO-3, and APM BIO-6.

Western Pond Turtle

Western pond turtle has the potential to occur in the project area. Although they are expected to be restricted to aquatic habitats where no work will occur, some upland habitat may be used for nesting and dispersal. To avoid impacting western pond turtles nesting or dispersing through upland habitats, pre-construction surveys will be conducted. Therefore, impacts on western pond turtle will be less than significant, and implementation of APM BIO-1, APM BIO-3, and APM BIO-9 will further reduce these less-than-significant impacts.

White-Tailed Kite, Raptors, and Nesting Birds

White-tailed kite, raptors, and nesting birds have the potential to nest in or near the project area. During nesting season, birds could be adversely affected if construction activities occur near active nests. Direct impacts could include nest destruction or removal during vegetation removal or trimming activities. Indirect impacts could include nest abandonment or premature fledging from construction-related noise and vibration. Raptor and nesting bird surveys were conducted during the 2015 nesting season to identify nesting locations to facilitate project planning. Additional surveys will be conducted during the 2016 nesting season, as indicated in APM BIO-2. Any nests identified during these surveys will be planned for avoidance, either seasonally (by working outside the nesting season) or geographically (by avoiding work in that location). To further reduce the potential for adverse impacts on nesting white-tailed kites, raptors, and other birds, pre-construction nesting bird surveys will be conducted and no-work buffers will be created. Impacts on white-tailed kite, raptors, and nesting birds will be less than significant, and

implementation of APM BIO-1 and APM BIO-2 will further reduce these less-than-significant impacts.

Pallid Bat, Townsend's Big-Eared Bat, Western Red Bat

Pallid bat, Townsend's big-eared bat, and Western red bat each have the potential to occur in the project area. These species could roost in structures near project construction areas or in trees near work activities. Noise or vibration from heavy equipment or helicopters could disturb roosting bats, resulting in reduced fitness and possible death. Vegetation trimming could displace individual bats, if present. Noise or vibration from heavy equipment will be temporary and short-term. Much of the noise or vibration work is expected to occur when bats are seasonally absent from the area. Surveys conducted during July 2015 determined that low-quality roosting habitat is located in the project area. Impacts on bats will be less than significant, and implementation of APM BIO-1 and APM BIO-5 will further reduce these less-than-significant impacts.

American Badger

American badger has the potential to occur in the project area. If present, project activities could impact badger dens. To avoid potential impacts on American badger, pre-construction surveys will be conducted to identify any badger dens, and any occupied dens will be avoided. Impacts on American badger will be less than significant, and implementation of APM BIO-1 and APM BIO-8 will further reduce these less-than-significant impacts.

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

The project will have no substantial adverse effect on riparian or other sensitive natural habitats. The project is designed to avoid wetland and riparian areas to the maximum extent feasible. Some riparian vegetation is proposed for trimming or removal to establish access roads; however, only the minimum amount necessary will be removed or trimmed. Conductor will span several riparian areas; however, these areas will not require access and will not be impacted by project activities.

The project includes work within an area designated as critical habitat for CTS. Although this area is designated critical habitat, it lacks the primary constituent elements necessary to support CTS. Therefore, the project will have a less-than-significant impact on critical habitat for CTS.

The project will be located within a portion of the Santa Rosa Plain Conservation Strategy Study Area; however, none of the construction activities proposed will conflict with the guidelines of the strategy and the impact will be less than significant.

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

The project may cause minor temporary impacts on seasonal wetlands that need to be crossed with vehicles and equipment. The project may also replace an existing culvert in a waterway. These protected wetlands will be restored to pre-project conditions upon completion of construction, and the project will comply with the requirements of all agency permits. Therefore, the project will have a less-than-significant impact on federally protected wetlands.

d) Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites? *Less-than-Significant Impact*

The project will have no substantial effect on wildlife movement corridors. Construction activities at pole locations along the alignment will occur for a short duration (less than 1 week), and will occupy relatively small areas for staging, construction, and access. Terrestrial animals can freely move around these temporary work locations. No work will take place in any streams or creeks that could support migratory fish. Therefore, the project will have a less-than-significant impact on wildlife movement corridors.

e) Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance? *Less-than-Significant Impact*

The project will not conflict with any local policies or ordinances protecting biological resources. The project will occur within a portion of the Santa Rosa Plain Conservation Strategy Study Area; however, none of the construction activities conflict with the guidelines of the strategy.

To avoid impacts on trees, construction work areas have been sited in open areas to the extent possible in order to minimize the need for tree trimming or removal; however, tree trimming and removal of oaks within project work areas, along access roads, and beneath the electric utility lines may be necessary in some locations. Approximately 30 acres of vegetation trimming and tree or shrub removal will be required to establish construction work areas, project access, and provide clearance along the reconducted line. Although the project is regulated by the CPUC and will not be subject to local land use regulations, such as the Town of Windsor or Sonoma County's discretionary permit for oak tree, heritage, or landmark tree removal, PG&E will implement APM BIO-10, which is consistent with the Town of Windsor and Sonoma County's tree replacement standards to further reduce less-than-significant impacts.

f) Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan? *Less-than-Significant Impact*

The project will not conflict with any conservation plans. The project will occur within a portion of the Santa Rosa Plain Conservation Strategy Study Area; however, none of the construction activities conflict with guidelines of the strategy, and there will be no impact.

3.4.5 REFERENCES

- Baldwin, B.G. et al. 1993. The Jepson Manual, Vascular Plants of California. Second Edition. University of California Press, Berkeley.
- Best, C., et al. 1996. A Flora of Sonoma County. California Native Plant Society. Sacramento, California.
- Burridge, Betty. 1995. Sonoma County Breeding Bird Atlas. Published by the Madrone Audubon Society. Santa Rosa, California.
- California Department of Fish and Game (CDFG). 2011. Rarefind: a California Natural Diversity Database (CNDDDB), commercial version. Wildlife and Habitat Data Analysis Branch. Accessed in March 2011, Sacramento, California.
- CNPS. 2011. Inventory of rare and endangered plants of California (online version, 8th edition). Online: <http://www.cnps.org/cnps/rareplants/inventory/>. Accessed in March 2011.
- _____. 2011 revision. CNPS Botanical Survey Guidelines. Online: http://www.cnps.org/cnps/rareplants/pdf/cnps_survey_guidelines.pdf. Accessed in March 2011.
- Cook, D. 2015. Personal communication between Dave Cook, Senior Environmental Specialist-Sonoma County Water Agency, and Karla Marlow, GANDA Wildlife Biologist regarding California red-legged frog and California tiger salamander.
- NRCS. 2011. Web Soil Survey of survey area in Sonoma County. Online: <http://websoilsurvey.nrcs.usda.gov/app/HomePage.htm>. Accessed in March 2011.
- Sawyer, J.O., T. Keeler-Wolf, and J.M., Evens. 2009. A manual of California vegetation, 2nd edition. California Native Plant Society, Sacramento, CA
- University of California, Berkeley (U.C. Berkeley). 2011. Calphotos website. Online <http://www.calphotos.berkeley.edu>. Accessed in March through June 2011.
- U.S. Fish and Wildlife Service (USFWS). 2011. Sacramento Fish & Wildlife Office Species List. Online: at http://www.fws.gov/sacramento/es/spp_lists/auto_list_form.cfm. Accessed in March 2011.
- _____. 2005. Santa Rosa Plain Conservation Strategy. Online: http://www.fws.gov/sacramento/ES/Recovery-Planning/Santa-Rosa/es_recovery_santa-rosa-strategy.htm. Accessed in March 2011.