

ENVIRONMENTAL ASSESSMENT FOR THE PACIFIC GAS & ELECTRIC COMPANY MULTIPLE REGION OPERATIONS AND MAINTENANCE HABITAT CONSERVATION PLAN

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Acronyms and Abbreviations

Act	Federal Endangered Species Act of 1973, as amended 16 U.S.Code 1531 et seq.)
AMMs	avoidance and minimization measures
BAHCP	Bay Area Operations and Maintenance HCP
BMPs	best management practices
CFR	Code of Federal Regulations
CNDDDB	California Natural Diversity Database
Covered Activities	operations and maintenance and minor new construction activities
CPUC	California Public Utilities Commission
DOC	Department of Conservation
EA	Environmental Assessment
FP	Field Protocol
GHG	greenhouse gases
GO	General Order
IEEE	Electrical and Electronics Engineers
ITP	incidental take permit
MRHCP	Multiple Region Operations and Maintenance Habitat Conservation Plan
NEPA	National Environmental Policy Act
PG&E	Pacific Gas & Electric Company
Service	United States Fish and Wildlife Service
SF6	sulfur hexafluoride
SJVHCP	San Joaquin Valley Operations and Maintenance Program HCP
SWPPP	Stormwater Pollution Prevention Plan
USACE	U.S. Army Corps of Engineers
VELB	valley elderberry longhorn beetle

Executive Summary

The United States Fish and Wildlife Service (Service) has received an application from Pacific Gas and Electric Company (PG&E) for an incidental take permit (ITP) under section 10(a)(1)(B) of the Federal Endangered Species Act of 1973, as amended (16 U.S. Code 1531 et seq.). PG&E is seeking this authorization so that activities associated with implementing PG&E's Multiple Region Operations and Maintenance Habitat Conservation Plan (MRHCP) comply with the Endangered Species Act, while providing protection for 36 species that are either listed under the Endangered Species Act, could become listed during the permit term, or will provide a conservation benefit. A complete list of the 24 wildlife species and 12 plant species that are proposed for coverage under the MRHCP (Covered Species) is included in Appendix E of this Environmental Assessment (EA). The Service has issued ITPs for two other regional habitat conservation plans for PG&E's activities in the San Francisco Bay Area and San Joaquin Valley. The MRHCP includes most of PG&E's remaining service area in California not covered by these existing plans: the Sacramento Valley and Foothills, North Coast, and Central Coast regions.

The Proposed Action considered in this EA is the Service's issuance of an ITP for PG&E's Covered Activities in the MRHCP. Because the proposed issuance of an ITP for the MRHCP would be a federal action that may affect the human environment, the issuance of an ITP is considered a federal action subject to review under the National Environmental Policy Act (NEPA). NEPA provides an interdisciplinary framework for federal agencies to evaluate environmental consequences of programs and projects over which they have discretionary authority. The Service is the Lead Agency under NEPA for proposed issuance of the ITP. The Service's issuance of the ITP would authorize the incidental take of federally-listed threatened and endangered species during implementation of PG&E's operations and maintenance as well as minor new construction activities on or near its existing facilities in 34 California counties over the requested 30-year term of the permit. This EA evaluates the impacts of issuing the ITP and implementing the MRHCP.

Purpose and Need

The purpose of the Proposed Action is to respond to PG&E's application for an ITP while permanently protecting high-quality habitat for the 36 Covered Species within the MRHCP Plan Area. See Section 1.6.1 for the purpose and need statement.

Alternatives

This EA analyses a No Action Alternative and the Proposed Action. A brief summary of each alternative is provided below, and more detail on each alternative is provided in Chapter 2.

- **No Action Alternative:** The Service would not issue an ITP and PG&E would continue to conduct its activities according to current environmental practices in compliance with any required permits or licenses. Any incidental take would be permitted (through section 7 or 10) on a project-by-project basis.
- **Proposed Action:** The Service would issue an ITP for the Covered Species with a 30-year permit term for PG&E's activities and the conservation strategy described in PG&E's MRHCP.

Potential Effects of Alternatives

The following resources and resource categories may be affected by the Service’s issuance of an ITP and are analyzed in Chapter 3: agricultural resources, air quality and climate change, biological resources, cultural resources, environmental justice, geology and soils, paleontological resources, hydrology and water quality, noise, public health and environmental hazards, and visual resources. The impact analysis concludes that the Proposed Action will not result in significant impacts on the human environment.

Revisions to Final EA

On March 24, 2020, the Service published a notice in the Federal Register stating the availability of the Draft EA and Draft HCP. The public comment period for these documents closed April 16, 2020. Comments received during the public comment period and the Service’s responses to those comments are provided in the Responses to Comments document. The Service has carefully considered the public comments and has incorporated the following changes into the EA based on changes made to the Final HCP following the public comment period:

MRHCP Edit	EA Edit
<p>In Section 4.1.1 of the final HCP, the definition of permanent impacts to plants was clarified to read: <i>Permanent impacts on plants are defined as absence of the plant after the restoration period has ended or for more than 1 year after it is impacted.</i></p>	<p>The <i>Covered Plant Mitigation</i> section on page 3-17 of the EA has been revised to incorporate this language from the HCP.</p>
<p>The Final HCP designates Mount Herman June beetle as a hot zone species so its avoidance and minimization measures was changed from species-specific measure MHJB-1 to Hot Zone 14. The text of the actual measure remained unchanged.</p>	<p>This numbering for this measure was changed in the EA on pages 3-19 and 3-20.</p>
<p>Mountain yellow-legged frog southern DPS occurs outside of the HCP Plan Area, therefore the HCP text was revised to clarify that only the northern DPS for this species is included in the HCP.</p>	<p>Mention of mountain yellow-legged frog southern DPS was deleted from the table of covered wildlife in Appendix E1 on page E1-5.</p>

Additionally, section 3.6.1.1 was changed to reflect the fact that the Service received no comment letters from any federally-recognized tribes.

Purpose and Need

1.1 Introduction

The United States Fish and Wildlife Service (Service) prepared this Environmental Assessment (EA) in compliance with the National Environmental Policy Act (NEPA). This EA evaluates the effects of issuing an incidental take permit (ITP) under section 10(a)(1)(B) of the Federal Endangered Species Act of 1973, as amended (16 U.S. Code 1531 et seq.) (Act) to Pacific Gas & Electric Company (PG&E) for activities covered by PG&E's Multiple Region Operations and Maintenance Habitat Conservation Plan (MRHCP). Issuance of a section 10 ITP constitutes a discretionary federal action by the Service and is therefore subject to NEPA, which requires that federal agencies assess the effects of their actions on the human environment.

PG&E, in coordination with the Service, prepared the MRHCP in compliance with section 10(a)(2)(A) of the Act, which requires any application for an ITP include a conservation plan that details the potential impacts on covered species, including non-listed species and plants, and the approach to minimize and mitigate those impacts to the maximum extent practicable. To meet document length requirements established with Secretarial Order 3355, this EA makes many references to content that is presented in detail in the MRHCP, which is available for public review on the Service's website.

The Service's issuance of the ITP would authorize the incidental take of federally-listed threatened and endangered animal species during implementation of PG&E's operations and maintenance MRHCP as well as minor new construction activities on or near its existing facilities over the requested 30-year term of the permit, including implementation of the conservation measures provided in the MRHCP. The study area for this EA includes all or portions of 34 California counties, which have been grouped into three distinct regional planning areas by PG&E: Sacramento Valley and Foothills, North Coast, and Central Coast Regions (see Figure C-1 in Appendix C).

1.2 Background

PG&E is one of the largest combined natural gas and electric utilities in the United States, serving more than 5.3 million electricity customers and 4.3 million natural gas customers in 50 of California's 58 counties. Approximately 40 percent of its total service area lies within the 34 counties shown in Figure C-1 (Appendix C). An overview of PG&E's gas and electric system is included in Section 1.3 of the MRHCP. In the MRHCP Plan Area, PG&E owns, operates, and maintains approximately:

- 1,600 miles of natural gas transmission pipelines (approximately 8 to 42 inches in diameter), which move high-pressure gas around the system;
- 19,000 miles of lower-pressure natural gas distribution lines, which deliver natural gas to industrial, commercial, and residential customers;
- 4,500 miles of high-voltage electric transmission lines (50 kilovolts to 500 kilovolts), which move bulk energy between substations around the system;

- 28,000 miles of lower voltage electric distribution lines (less than 50 kilovolts), which deliver electricity to industrial, commercial, and residential customers;
- Facilities to support the gas and electric lines, including electric switching stations and substations, and natural gas compressor stations, regulator stations, valve lots, and pressure limiting stations.

To deliver energy reliably and safely to its customers, PG&E must perform operations and maintenance and minor new construction activities (Covered Activities) on an ongoing basis.

1.2.1 Existing PG&E Operations and Maintenance HCPs

The Service previously performed NEPA review of two existing HCPs—the San Joaquin Valley Operations and Maintenance Program HCP (SJVHCP) and Bay Area Operations and Maintenance HCP (BAHCP)—for PG&E’s Covered Activities in other parts of California. An overview of each HCP and NEPA review are provided below.

1.2.1.1 San Joaquin Valley Operations and Maintenance Program HCP

In 2006, PG&E, in conjunction with the Service, prepared an HCP for Covered Activities on its facilities in the San Joaquin Valley area. This HCP included all or parts of the following nine counties: San Joaquin, Stanislaus, Merced, Fresno, Kings, Kern, Mariposa, Madera, and Tulare. To satisfy both NEPA and California Environmental Quality Act review requirements, the Service, along with the California Department of Fish and Wildlife, prepared a joint Environmental Impact Statement/Environmental Impact Report (CEQ #20060262). The Service issued a Record of Decision along with the section 10 ITP to PG&E on December 14, 2007.

1.2.1.2 Bay Area Operations and Maintenance HCP

In 2016, the PG&E prepared an HCP for Covered Activities on its facilities in nine San Francisco Bay Area counties: Sonoma, Marin, Napa, Solano, Contra Costa, Alameda, Santa Clara, San Mateo, and San Francisco. To satisfy NEPA requirements, the Service prepared an EA, and the Service issued a Finding of No Significant Impact along with the section 10 ITP to PG&E on October 2, 2017.

1.3 Regulatory Setting

PG&E’s Covered Activities are subject to a wide range of legal and regulatory requirements that cover many resource areas (refer to MRHCP Section 1.4, *Regulatory Context*, and Appendix D of this EA for a summary).

1.4 Proposed Action Addressed in this EA

The Proposed Action considered in this EA is the Service’s issuance of a section 10(a)(1)(B) ITP for PG&E’s Covered Activities based on implementation of conservation measures provided in the MRHCP. In issuing the ITP, the Service would not authorize PG&E’s Covered Activities, but rather the incidental take resulting from those activities. “Take” is defined in section 3 of the Act [16 U.S. Code 1532(19)] and “incidental” is defined in the implementing regulations for section 7 of the Act in (50 Code of Federal Regulations [CFR] 402.02). Please refer to Chapter 2 of this EA for more details

about the Service's Proposed Action and PG&E's MRHCP, including Covered Activities and the conservation strategy.

1.4.1 NEPA Action Area and MRHCP Plan Area

PG&E's MRHCP addresses PG&E's routine operations and maintenance as well as minor new construction activities on or near its gas and electric system in 34 counties. These 34 counties compose the study area for the MRHCP and represent the portion of PG&E's service area that has not been covered by previous programmatic permits issued to PG&E under the Act. Within this study area, the MRHCP Plan Area consists of the specific areas in which PG&E will continue to conduct its Covered Activities, including the rights-of-way for PG&E's existing gas and electric transmission and distribution facilities (plus a buffer based on the size of each facility), lands owned by PG&E and/or subject to PG&E easements to maintain the facilities, private access routes associated with PG&E's routine maintenance, and mitigation areas acquired to mitigate impacts resulting from Covered Activities under the MRHCP. The Plan Area is the NEPA action area, and includes areas for minor new construction.

As detailed in the MRHCP, the Plan Area encompasses approximately 565,800 acres and consists of the following three regional planning areas:

- **Sacramento Valley and Foothills Region:** This region includes Sacramento Valley counties from Sacramento County in the south to Shasta County in the north, specifically Sacramento, Yolo, Sutter, Colusa, Glenn, Butte, and Tehama counties. The region also includes the foothill counties that rise into the Cascade and Sierra Nevada mountain ranges, specifically Lassen, Plumas, Sierra, Nevada, Placer, El Dorado, Amador, Calaveras, Tuolumne, Mariposa, Madera, and Fresno counties. The southern counties were included in this planning area because they abut PG&E's existing SJVHCP. In the north, portions of Siskiyou and Modoc counties that contain gas and electric transmission lines are also included in this region.
- **North Coast Region:** This region consists of Humboldt, Trinity, Mendocino and Lake counties. It abuts PG&E's existing BAHCP area to the south and the Sacramento Valley and Foothills Region to the east.
- **Central Coast Region:** This region includes Santa Cruz, Monterey, San Benito, San Luis Obispo, Santa Barbara, and southern Kern counties. It abuts PG&E's SJVHCP area to the east.

1.5 Species Covered by the MRHCP

The MRHCP presents a conservation strategy and monitoring, reporting, and adaptive management program to avoid, minimize, and mitigate for the potential effects on 24 covered wildlife species and 12 covered plant species (collectively "Covered Species") and associated critical habitat for 17 Covered Species as a result of implementation of PG&E's Covered Activities. Species proposed to be covered under the MRHCP include primarily those species that are federally-listed as threatened or endangered,¹ are known to occur or have a high potential to occur in the Plan Area, have a potential to be affected by the Covered Activities, and have sufficient data available to estimate effects.

¹ One covered species, the foothill yellow-legged frog, is not currently listed as threatened or endangered, but may become listed during the 30-year permit term. PG&E requested to include this species in the HCP in anticipation of the species being listed.

Wildlife and plant species proposed to be covered by the MRHCP are listed in Appendix E in Table E-1 and Table E-2, respectively.

In determining which species to cover in the MRHCP, PG&E initially evaluated approximately 200 wildlife and 400 plant species with potential to occur in the study area. PG&E compiled the list using information from several sources including the California Natural Diversity Database (CNDDDB), the California Native Plant Society, biological experts, and the Service. PG&E further narrowed this list to 84 wildlife and 70 plant species with potential to occur in the Plan Area. MRHCP Appendix A details these 154 species that were considered for inclusion in the MRHCP and the rationale for inclusion or exclusion. More information on the selection process for proposed covered species can be found in MRHCP Section 1.5.2, *Covered Species*.

1.6 Purpose and Need

1.6.1 Action Agency

NEPA (40 CFR 1502.13) requires an EA to briefly describe the underlying purpose and need for the agency's proposed and alternative actions. This purpose and need establishes the basis for determining a reasonable range of alternatives to the Proposed Action. The purpose and need for the Proposed Action is to:

- Respond to PG&E's application for a section 10(a)(1)(B) ITP for the 36 Covered Species (24 wildlife species and 12 plant species) based on the Covered Activities described in the MRHCP.
- Protect and preserve the 36 Covered Species by protecting and enhancing high-quality habitat for all 36 Covered Species in the Plan Area.
- Conserve the ecosystems on which the Covered Species depend by partnering with other habitat conservation plans in the MRHCP's regional planning areas to preserve large, contiguous areas of the Covered Species' habitat, including designated critical habitat.
- Ensure the long-term survival of the Covered Species through protection and management of the species and their habitats in the MRHCP's regional planning areas by contributing to the network of permanently protected and managed lands that support populations of Covered Species.

1.6.2 Applicant

In addition to the above, the Service also considered the applicant's stated purposes that it intends to achieve in developing the MRHCP:

- Avoid, minimize, and mitigate temporary and permanent impacts on threatened and endangered species resulting from PG&E's Covered Activities in the Plan Area.
- Provide the basis for incidental take authorization pursuant to the Act for PG&E's Covered Activities in the Plan Area.

The Service also considered the applicant's objective to continue operating and maintaining PG&E's natural gas and electrical infrastructure in the 34 counties in the Plan Area, including approximately 1,600 miles of high-pressure gas transmission pipelines, 19,000 miles of gas distribution pipelines,

4,500 miles of high-voltage electric transmission lines, and 28,000 miles of electric distribution lines.

Alternatives Including the Proposed Action

2.1 Introduction

As referenced in the Council for Environmental Quality NEPA regulations regarding the contents of an EA (40 CFR 1508.9[b]), NEPA Section 102[E] requires federal agencies to develop, study, and briefly describe alternatives to any proposed action with the potential to result in unresolved resource conflicts. This chapter describes the alternatives considered by the Service in this EA, specifically the Proposed Action, the No Action Alternative, and alternatives considered but eliminated from further evaluation.

2.2 Alternatives Evaluated in Detail

PG&E's gas and electric system is existing, currently operated and maintained, and must remain in or near PG&E's existing rights-of-way. With consideration of these conditions and criteria, the Service considered alternatives that would meet the Service's purpose and need, as well as the applicant's objective, while minimizing project-related environmental effects, including take of federally-listed animal species.

2.2.1 Alternative 1: Proposed Action

As described in Chapter 1, the Proposed Action considered in this EA is the Service's issuance of a section 10(a)(1)(B) ITP for Covered Activities identified in the MRHCP based on implementation of the conservation strategy provided therein. Additional details regarding the Covered Activities, construction methods and techniques, proposed measures to avoid, minimize, and mitigate adverse effects on the covered plant and wildlife species and their habitats, and the overall conservation approach are provided in the MRHCP. A summary of the MRHCP is included in the following sections.

2.2.1.1 Covered Activities

As detailed in MRHCP Chapter 3, *Covered Activities*, the Covered Activities include PG&E's operations and maintenance activities and minor new construction activities related to its natural gas and electric transmission and distribution systems that may result in take of covered animal species, and impacts to listed plant species, in the Plan Area. Covered Activities also include biological surveys and handling of listed Covered Species as required to implement the MRHCP, as well as management activities for purchased or conserved mitigation lands. Covered Activities do not include the generation, transmission, or distribution of electricity or gas. Typical operations and maintenance activities include inspecting, monitoring, and testing existing equipment; operating valves and switches; repairing and replacing existing facilities, structures, wires, pipelines, access roads, and boardwalks; increasing the height above ground or the depth below ground of facilities; replacing overhead lines with buried underground lines; and vegetation management, including tree removal and pruning. Operations and maintenance activities are ongoing and will continue with or without implementation of the MRHCP.

Minor new construction activities include installing infrastructure to extend service to new residential or commercial customers, including lines up to approximately 2 miles in length. Minor new construction also includes installation of new pressure limiting stations (typically approximately 0.6 acre, but up to approximately 1 acre) and expansion of the footprint of existing substations (typically approximately 3 acres, but up to approximately 10 acres).

2.2.1.2 Conservation Strategy

As detailed in Chapter 5 of the MRHCP, the primary objective of the conservation strategy is to first avoid and minimize adverse effects to Covered Species. When effects are unavoidable, PG&E will offset or mitigate impacts by conserving lands of high conservation value. Key elements of PG&E's conservation strategy are summarized below:

Training: PG&E will require annual training for staff and third-party contractors who conduct or supervise Covered Activities in the Plan Area to increase awareness of the HCP requirements. See MRHCP Section 5.3, *Training*.

Screening: In conjunction with the Service, PG&E has developed species-specific habitat models based on available data to estimate the amount and location of habitat for Covered Species in the Plan Area. PG&E will incorporate these models into the company's existing environmental review, planning, and screening process to avoid or reduce impacts on habitat areas when possible and apply avoidance and minimization measures when needed. Screening methods will be calibrated to project size and location, with small activities (less than 0.1 acre) screened mostly by automated systems unless located in areas of known Covered Species occurrence (Map Book zones¹ for covered plants or Hot Zones² for covered wildlife). See MRHCP Section 5.4, *Environmental Review, Planning, and Screening Process*.

Biological Surveys and Monitoring: The need for biological surveys and monitoring will be determined based on project size and location using the habitat models. See MRHCP Section 5.5, *Biological Surveys and Monitoring*.

Avoidance and Minimization Measures: PG&E will avoid and minimize the effects associated with Covered Activities through the use of defined avoidance and minimization measures and best management practices. See MRHCP Section 5.5.1, *Avoidance and Minimization of Impacts* and MRHCP Tables 5-1 and 5-2.

Onsite Restoration: With a few exceptions, Covered Activities affecting more than 0.1 acre will require some level of restoration to return a site to pre-project conditions. If covered plants cannot be avoided with the standard avoidance and mitigation measures, PG&E will prepare and implement a site-specific, Service-approved restoration plan. See MRHCP Table 5-1, Field Protocol 14; MRHCP Section 5.6.2.5, *Mitigation Summary for Plants*; and MRHCP Section 6.2.3, *Implement AMMs and Vegetation Management BMPs*.

Mitigation: PG&E will fund the acquisition, enhancement, management, and restoration of habitat by qualified third parties to mitigate impacts on Covered Species in the Plan Area. Mitigation is

¹ Map Book zones are defined as areas with extant, known, or recently confirmed plant occurrences.

² Hot Zones are defined as areas containing a known population of Covered Species with a small and well-defined range, and where species would most likely be affected should Covered Activities be implemented there.

subject to Service approval and will prioritize large, high-quality, and high-conservation-value mitigation parcels contiguous to existing protected areas and other non-protected areas of suitable habitat to promote species recovery. For temporary impacts, mitigation ratios established in the HCP incentivize PG&E to purchase mitigation in advance of impacts. Mitigation properties will be protected and managed for species conservation in perpetuity. See MRHCP Section 5.6, *Habitat Mitigation*; MRHCP Section 5.7, *Conservation Strategy Summary*; and MRHCP Section 6.5, *Adaptive Management for Mitigation Lands*.

2.3 Alternative 2: No Action

Under the No Action Alternative, the Service would not issue a section 10(a)(1)(B) ITP, and PG&E would continue to conduct operations and maintenance activities using current practices. Activities would be implemented in accordance with PG&E's existing environmental practices described in Appendix F and in compliance with any required permits or licenses. PG&E would take action to avoid impacts on listed species; however, a total reduction of effects would not be possible because of the public safety, regulatory, and site-specific requirements that are necessary to complete operations and maintenance work. The need for consultation with the Service would be determined on a project-by-project basis. If it is determined that an individual activity could result in take of federally-listed animal species (or plants, if on federal lands) where a federal nexus exists, PG&E would seek incidental take exemption through section 7 of the Act. When a federal nexus does not exist, PG&E would seek incidental take authorization through the section 10 process of the Act, which would require development and public review of a project-specific HCP and associated NEPA document, as well as negotiation with the Service regarding appropriate mitigation. Issuance of individual section 10 permits would be evaluated on a case-by-case basis.

Under the No Action Alternative, PG&E would continue to rely on existing programmatic biological opinions for specific species (e.g., giant garter snake³), where available and as applicable, and could potentially pursue development of additional species-specific programmatic consultations. Further, PG&E could continue to seek take covered under HCPs developed by local or regional entities where allowed and available. This approach poses challenges because existing programmatic consultations and HCPs offer only limited species coverage within restricted geographic areas for specific purposes. Additionally, seeking incidental take coverage under existing HCPs is at the discretion of the individual HCP's permittees. If operations and maintenance activities would result in take of other federally-listed animal species or are located outside of the covered areas, separate take coverage from the Service would still be required.

Due to PG&E's vast service territory, the condition of PG&E's existing aging infrastructure, and public safety risks associated with compromised infrastructure integrity and loss of service, there is generally a high volume of vital operations and maintenance activities required to be completed at any given time, some of which are under strict state and federal regulatory timeframes to ensure public safety. The large volume and need for expeditious repair make implementation of project-by-project permitting challenging, inefficient, costly, and known to cause schedule delays. The current project-by-project approach poses impediments to timely maintenance of PG&E facilities, needed system repairs, and safety improvements. Given the time and staffing resources required to prepare

³ *Programmatic Formal Consultation for U.S. Army Corps of Engineers 404 Permitted Projects with Relatively Small Effects on the Giant Garter Snake within Butte, Colusa, Glenn, Fresno, Merced, Sacramento, San Joaquin, Solano, Stanislaus, Sutter and Yolo Counties, California*

and evaluate individual ITP applications under the section 7 and 10 processes, it is likely that vital operation and maintenance activities would be delayed, or PG&E would need to move forward with the activities under the emergency provisions of the Act.

Moreover, a project-by-project conservation approach would likely include protections for a smaller number of federally-listed species, as well as result in implementation of fragmented conservation strategies with decreased benefits to fewer species. By comparison, the landscape- or regional-level mitigation approach put forth under the Proposed Action alternative would include more comprehensive conservation strategies for all the Covered Species, as well as coordinated avoidance and minimization measures and mitigation actions that, in combination, result in enhanced conservation practices. Landscape-level and regional-level mitigation is also beneficial to non-covered species, both those with protected status, as well as those that are common and abundant.

2.4 Alternatives Eliminated from Further Consideration

During the alternatives development process, the Service and PG&E considered a variety of means to fulfill the Service's purpose and need, as described in Section 1.6 of this EA, while also meeting the applicant's objectives. The alternatives described below were reviewed and eliminated from further analysis because they did not meet the purpose and need of the Proposed Action and/or the applicant's objectives.

2.4.1 Issuance of the ITP with Additional Avoidance and Minimization Measures

Under this alternative, the Services would issue the ITP with additional avoidance and minimization measures (AMMs):

- **Seasonal Restrictions.** Regulatory, legal, and logistical considerations such as North American Electric Reliability Corporation (NERC) standards and requirements to maintain conductor clearances and reliability limit PG&E's ability to modify some activities. For example, NERC reliability standards require some repairs to be corrected within 12 months from the time a deficiency is reported, thereby limiting PG&E's ability to seasonally restrict some Covered Activities.

Seasonal restrictions under this scenario (such as limiting construction to the dry and non-nesting seasons) would require that PG&E delay maintenance activities, thereby compromising its ability to make necessary inspections, repairs, and upgrades. This could result in emergency repairs, unnecessary outages, and increase risks to public safety.

- **Pre-Activity Biological Surveys.** The Service evaluated the possibility of conducting pre-activity biological surveys for most Covered Activities to assess potential impacts on species. Conducting such surveys for Covered Activities would be cost-prohibitive and would not appreciably reduce effects on species.

As a result, the Service determined that this alternative would not meet the purpose and need of the Proposed Action and it was eliminated from further consideration.

2.4.2 Large Maintenance Projects Only

Under this alternative, the Service would issue an ITP only for PG&E's larger maintenance projects (mostly large gas and electric transmission construction projects) that have historically needed take coverage and coordination with multiple stakeholders. By covering fewer activities, PG&E's take request would be reduced for the section 10 ITP. However, smaller projects would still be needed to operate and maintain PG&E's gas and electric systems, and some of the smaller projects would need take coverage for unavoidable effects on listed animal species. This approach would likely result in project delays for those small projects requiring take exemptions and would not meet the Service's purpose and need or the applicant's objectives. Therefore, this alternative was eliminated from further consideration.

2.4.3 Exclude Minor New Construction

Under this alternative, the Service would issue an ITP for only activities on existing facilities such that minor new construction would be excluded from the MRHCP. Minor new construction activities are expected to be conducted near existing facilities, would be located in proportion to the same types of modeled habitat, and would result in minor impacts comparable to those resulting from operations and maintenance activities. To confirm this is the case, PG&E has included an AMM (Minor New-1) that requires the Service and PG&E to review the specific details of minor new construction projects to verify PG&E's activities are within the scope of the impact analysis in MRHCP Chapter 4 and Chapter 3 of this EA. PG&E's annual report will summarize the impacts associated with this activity and the Service will be able to verify these effects.

Similar to the No Action Alternative, excluded minor new construction activities taking listed Covered Species would still require individual take authorizations (resulting in increased costs and risk of schedule delays) and would preclude the ability to capture the efficiencies and effectiveness of a larger, more comprehensive conservation effort. As a result, the Service determined that this alternative would not meet the purpose and need of the Proposed Action and it was eliminated from further consideration.

2.4.4 Reduce Number of Covered Species

Under this alternative, the Service would issue an ITP for a reduced number of Covered Species. The Covered Species would only consist of federally-listed wildlife species that would have a minimum of 0.5 acre of habitat disturbed by Covered Activities per year. This alternative would exclude Conservancy fairy shrimp, longhorn fairy shrimp, Morro shoulderband snail, Mount Hermon June beetle, Ohlone tiger beetle, Zyante band-winged grasshopper, Mountain yellow-legged frog, Sierra Nevada yellow-legged frog, Yosemite toad, and all covered plants. This would likely result in implementation of fewer avoidance and minimization measures, and establishment of smaller and fewer Hot Zones where additional species-specific avoidance and minimization measures would apply, and would likely result in an amount of take similar to that of the Preferred Action Alternative while netting less mitigation to offset the take. Similar to the No Action Alternative, activities affecting species not covered would still require individual take authorizations for federally-listed wildlife. Although the take prohibitions in section 9 of the Act do not generally apply to take of federally-listed plants, the Service would be required to include in individual section 7 biological opinions an assessment of whether the proposed action would jeopardize the continued existence of all affected federally-listed threatened and endangered species, both plants and wildlife.

Appropriate avoidance, minimization, and mitigation measures would need to be developed on a project-by-project basis.

This approach also would not provide the benefits of a larger, more comprehensive and coordinated conservation effort. As a result, the Service determined that this alternative would not meet the purpose and need of the Proposed Action and it was eliminated from further consideration.

2.4.5 Increase Number of Covered Species

Under this alternative, the Service would issue an ITP for additional Covered Species, including all federally-listed and non-listed birds known to occur within the Plan Area. This alternative would increase or expand avoidance and minimization measures, which would increase cost but would not be expected to appreciably reduce effects on species. Specifically, with regards to bird species, bird collisions and electrocutions do not result from Covered Activities; therefore, take of bird species would not be covered under any permitting scenario.

Birds not federally-listed do not require coverage under the Act. For the non-listed bald and golden eagles, PG&E decided to obtain take authorization under the Bald and Golden Eagle Protection Act instead of through a section 10(a)(1)(B) ITP. The Service's revised section 10 Handbook (issued December 23, 2016; p. 7-7) notes that applicants "can choose to include bald and golden eagles" in an HCP, but are not required to do so. The Service is working with PG&E to develop an Eagle Conservation Plan for eagle species, and other avian species will continue to be addressed through PG&E's Avian Protection Plan, which reduces the need for take coverage for non-listed bird species. As a result, PG&E elected not to include non-listed avian species in the MRHCP, and the alternative was eliminated from further consideration.

For some other federally-listed species, but not Covered Species, take is not expected to result from Covered Activities because habitat of the other federally-listed species does not intersect with the Plan Area. The Service will make an evaluation of other federally-listed species that may exist within the Plan Area, but which are not proposed as Covered Species in the HCP, in the intra-Service biological opinion.

2.4.6 Reduce Permit Duration

Under this alternative, the Service evaluated issuance of the ITP for a reduced permit duration. However, given the current need for continued operation of the existing gas and electric system, the facilities are anticipated to remain in situ for the foreseeable future. Consequently, operations and maintenance activities would be required to continue over a long period of time under any permitting scenario. Furthermore, the MRHCP incorporates ongoing monitoring and adaptive management strategies, which allow for modification of conservation practices to address potential changes in future environmental conditions. If any Covered Activities are determined to potentially jeopardize the continued existence of a Covered Species, the Service would be required to reevaluate the effects of Covered Activities on that species, regardless of the length of any permit.

Therefore, a shorter duration permit is not expected to provide additional protection of the Covered Species and would not reduce the effects of the Covered Activities on the Covered Species. A shorter duration permit would not allow the same landscape-scale conservation in advance of impacts and would be contrary to the MRHCP's long-term conservation objectives. Ultimately, the Service

determined that this alternative would not meet the purpose and need of the Proposed Action and it was eliminated from further consideration.

Affected Environment and Environmental Consequences

This chapter presents an overview of the affected environment and the potential environmental consequences of the Proposed Action and No Action Alternative. NEPA and its implementing regulations require agencies to analyze the environmental impacts of proposed federal actions on the human environment. In this case, the federal action is the Service's issuance of a section 10(a)(1)(B) ITP for PG&E's Covered Activities in the Plan Area, including implementation of conservation measures provided in the MRHCP. See Chapter 2, Section 2.2.1.1 of this EA and Chapter 3 of the MRHCP for a discussion of the Covered Activities.

3.1 Existing Conditions

This section describes existing conditions in the Plan Area, as defined in MRHCP Chapter 1, Section 1.5.1, to establish the baseline condition that will persist with or without the proposed federal action.

3.1.1 Existing Facilities

The majority of PG&E's gas and electric infrastructure in the Plan Area is already in place and must remain in or near PG&E's existing utility rights-of-way. The location of PG&E's existing gas and electric facilities in the Plan Area is part of existing environmental conditions.

3.1.1.1 Existing Operating Conditions

PG&E is a California public utility subject to the jurisdiction of the California Public Utilities Commission (CPUC). As such, PG&E is required to "furnish and maintain such adequate, efficient, just, and reasonable service, instrumentalities, equipment, and facilities...as are necessary to promote the safety, health, comfort, and convenience of its patrons, employees, and the public" (California Public Utilities Code Section 451). As described in Chapter 3 of the MRHCP, PG&E is also obligated to perform ongoing operations and maintenance activities in order to safely and efficiently maintain the gas and electric systems in the Plan Area. Many of PG&E's routine operation and maintenance actions are prescribed by state or federal laws or standards, or are necessary to ensure public safety (e.g., California Public Resource Code 4292-4293, CPUC General Order [GO] 95, NERC Standards FAC-003-3, CPUC GO 112-F, and 49 CFR Parts 191, 192, 193, and 199, which govern the design, construction, testing, and operation and maintenance of gas piping systems in California). PG&E cannot defer necessary operations and maintenance activities on existing facilities. Without the issuance of the ITP, PG&E would continue to perform these activities in the Plan Area in accordance with PG&E's Environmental Practices (Appendix F) and in compliance with state and federal environmental laws and regulations (Appendix D), including obtaining environmental permits when required.

3.1.1.2 Existing Regulatory Environment

In addition to setting the regulatory standards for many of PG&E's construction, operation, and maintenance activities, the CPUC also requires permitting and site-specific environmental review of PG&E's larger activities, such as construction of transmission line extensions and substation expansions beyond the utility-owned substation property as prescribed by CPUC GO 131-D.

In addition to being regulated by the CPUC, PG&E's activities are subject to the jurisdiction of other state and federal agencies when the activities affect agency-jurisdictional resources or areas. Most PG&E maintenance activities currently performed regularly in the Plan Area do not require a federal action and are not subject to environmental review under NEPA.

The Service's issuance of the ITP will not change the utility's obligation to comply with all state and federal laws and permitting requirements, nor will it change permitting triggers or the obligations of state and federal agencies to comply with relevant laws and regulations. See Appendix D of this EA for brief summaries of environmental laws and regulations that are relevant to the Covered Activities. Similarly, the MRHCP does not change PG&E's land rights for existing facilities, or any notification and coordination procedures that have been established (or may be established in the future) with the many public and private landowners crossed by PG&E's existing facilities.

Issuance of an ITP will not change the discretionary authority of state or federal land management agencies or permitting authorities to issue permits for Covered Activities when required by state and federal laws, or to develop permit conditions or mitigation measures related to Covered Species. For federal agencies taking federal actions with regard to Covered Activities (e.g., issuance of a Clean Water Act Section 404 permit from the U.S. Army Corps of Engineers [USACE] or a Special Use Permit from the National Park Service), issuance of an ITP will not relieve the federal agency of the obligation to consult with the Service or the National Marine Fisheries Service under section 7 of the Act if the action may affect federally-listed species. Through the consultation process, the Service and the federal agency can determine whether the MRHCP will provide a streamlined framework for avoidance, minimization, and mitigation of potential adverse effects on federally-listed species. If the Service determines that the MRHCP measures are not sufficient for the specific activity, an activity-specific biological opinion would be prepared to conclude the federal agency's section 7 consultation. Similarly, federal agencies can specify additional protection measures as conditions of the permit or land right that triggered the section 7 consultation.

3.1.2 Existing NEPA Analysis of Covered Activities

The Service has performed NEPA review of PG&E's Covered Activities in other parts of California in two previous NEPA documents, as indicated in Table 3-1.

Table 3-1. U.S. Fish and Wildlife Service Environmental Review Documents of PG&E Covered Activities in Other Regions of California

NEPA Document	Proposed Action	Impact Conclusion
Final Environmental Impact Statement/Environmental Impact Report, Pacific Gas and Electric Company, San Joaquin Valley Operations and Maintenance Program, September 2006 (82 FR 15063)	Issuance of a section 10 ITP for operations and maintenance activities on PG&E facilities in the San Joaquin Valley area of nine counties: San Joaquin, Stanislaus, Merced, Fresno, Kings, Kern, Mariposa, Madera, and Tulare.	The proposed action would not result in significant impacts to the physical and biological resources and would not significantly affect the quality of the human environment (40 Code of Federal Regulations Parts 1501.4 (e), 1508.13).
Pacific Gas & Electric Company Bay Area Operations and Maintenance Habitat Conservation Plan Final Environmental Assessment, September 2017 (72 FR 13818)	Issuance of a section 10 ITP for operations and maintenance activities on PG&E facilities in the nine San Francisco Bay Area counties: Sonoma, Marin, Napa, Solano, Contra Costa, Alameda, Santa Clara, San Mateo, and San Francisco.	The proposed action would not result in significant impacts to the physical and biological resources in the Plan Permit Area, or in the surrounding area and would not significantly affect the quality of the human environment (40 Code of Federal Regulations Parts 1501.4 (e), 1508.13).

NEPA analyses of PG&E’s Covered Activities in other regions of California have not identified significant impacts that were likely to result from the issuance of an ITP for PG&E’s habitat conservation plans.

3.1.3 Scope of the Analysis

The Service does not have jurisdiction over individual activities carried out by PG&E. Thus, in issuing the ITP, the Service will not authorize PG&E to conduct the Covered Activities. Rather, the ITP will authorize incidental take of animal species listed under the Act that could result from PG&E engaging in those activities. Without the ITP, PG&E will continue to perform the same activities proposed for coverage under MRHCP, but would seek project-by-project incidental take authorization through section 7 or section 10 of the Act for any activities that are likely to result in take of a federally-listed animal species. Therefore, this EA uses project-by-project take authorization for each Covered Activity as the “No Action Alternative” and analyzes environmental impacts on the human environment resulting from issuance of the ITP as the “Proposed Action.”

Because the Proposed Action is not a new project, but rather a change in the permitting and conservation approach to ongoing work, the scope of the NEPA analysis considers how impacts from Covered Activities may change as a result of issuance of the ITP and implementation of the MRHCP conservation strategy. The analysis describes the environmental impacts of ongoing operations and maintenance activities as part of the current baseline that will continue under both the Proposed Action and No Action Alternative.

Although most Covered Activities will be undertaken within or immediately adjacent to the footprint of PG&E’s existing facilities, minor new construction activities covered by the MRHCP could extend

existing facilities up to 2 miles. Therefore, the impact analysis in this EA considers the potential for impacts from Covered Activities to occur outside of the footprint of the existing utility corridors, but assumes the land-cover types will be similar to those currently found in existing utility corridors. The location, scope, and configuration of PG&E's minor new construction activities are determined by the needs of the system and the customers PG&E serves, with appropriate environmental review over individual projects to determine the option with the least environmental impact. In most cases, the issuance of the ITP by the Service would be only one of the many discretionary permits required for minor new construction activities.

Management activities on mitigation lands may be conducted to increase the habitat value of the mitigation properties for the benefit of the species. Some temporary adverse impacts could occur during habitat restoration and management activities, particularly any which involve use of machinery and equipment. These activities are Covered Activities under the MRHCP and are also considered in the impact analysis of this EA.

To assess the potential impacts resulting from the Proposed Action, specific impact criteria were developed for each resource topic, as detailed in Appendix G of this EA.

3.1.3.1 Resource Areas Not Included in the EA

For the following resource topics, the Proposed Action will result in little to no change from baseline conditions because issuance of the ITP by the Service and implementation of the MRHCP will not change how PG&E performs its activities. This section briefly describes the rationale for dismissing these topics from further analysis in the EA.

Land Use and Planning

The Proposed Action will not have an appreciable effect on land use because PG&E's existing gas and electric facilities are part of the existing land use setting. Minor construction of new or relocated facilities to upgrade or extend services to new customers will represent an incremental change to existing land use and will not result in a substantial conflict with current land uses. Because these upgrades and extensions will be relatively small in scope and located within or adjacent to existing PG&E infrastructure and facilities, they are not anticipated to physically divide established communities. Management activities on mitigation lands are not anticipated to change or conflict with existing land use because they will focus on preservation and enhancement of existing open space. Furthermore, the Service does not have jurisdiction over local land use decisions, therefore the Proposed Action will not directly contribute to any conflicts with local land use or planning determinations.

Public Services

The Proposed Action will not result in an increase in the regional population that would require an increased demand for any public services such as fire protection services, police services, schools, parks, or other public services, nor will it affect service ratios for these public services.

Public Utilities

Similarly, the Proposed Action will not increase the demand for or require construction or expansion of any public utilities, such as water, wastewater, and telecommunications facilities, nor will it increase demand for PG&E's electric or gas facilities. PG&E constructs facilities in response to

increased demand; it does not construct facilities to generate demand for its services. Consequently, any activities carried out under the Proposed Action will be in response to increased demand and will therefore not increase demand for any public utilities. Ground-disturbing Covered Activities that require excavation have the potential to encounter and damage other utilities. However, compliance with standard utility alert procedures and protocols should adequately minimize potential conflicts and damage.

Covered Activities may generate soil or debris that will be moved offsite and disposed of at a landfill; however, issuance of the ITP by the Service will not appreciably change the amount of waste generated or the disposal method. Further, utility operations and maintenance and construction activities typically generate a relatively small amount of waste and are completed in accordance with all applicable disposal regulations. Therefore, the Proposed Action will not result in a breach of federal, state, or local standards relating to solid waste or litter control, nor will it have an appreciable effect on public utilities.

Recreation

Covered Activities located in recreation areas open to the public will be coordinated with the landowner or land manager (when possible) to avoid or minimize impacts on recreation area users and opportunities. Management activities on mitigation lands are not anticipated to affect recreation areas open to the public. Accordingly, the Proposed Action will not affect recreation access, use, or opportunities in the Plan Area.

Socioeconomics

The Proposed Action will have no social or economic effects. Because the Proposed Action will not change how PG&E selects local crews and contractors to perform the Covered Activities, the Proposed Action will not result in new or different staff, jobs, or work locations for PG&E or other members of the public.

Transportation and Circulation

The Proposed Action will have no appreciable effect on transportation services or level of service on roadways. Work crews tasked with completing most Covered Activities will likely use no more than three work vehicles. The short duration (typically less than a few days at any one location) and limited frequency of these activities is such that the level of service on existing roads will not be affected. For substation expansions, more equipment and longer duration construction activities will be required in a concentrated area, but most work will be confined to PG&E's fenced off-road construction site. Management activities on mitigation lands are not anticipated to affect transportation and circulation because small crews will perform the activities with minimal use of construction equipment.

PG&E will continue to obtain and comply with encroachment permits from local jurisdictions and the California Department of Transportation to ensure public safety and emergency access, and to limit traffic impacts where Covered Activities may require temporary work in roads or highways, including short-term detours or lane closures. The Proposed Action will not require PG&E to hire additional staff and will not result in a permanent increase in vehicle trips or worker traffic near PG&E facilities.

3.1.3.2 Resource Areas Included in the EA

Covered Activities have the potential to cause impacts on the human environment for the following resource areas, which are discussed in more detail below:

- Section 3.3, Agricultural Resources.
- Section 3.4, Air Quality and Climate Change.
- Section 3.5, Biological Resources.
- Section 3.6, Cultural Resources.
- Section 3.7 Environmental Justice.
- Section 3.8, Geology, Soils, and Paleontological Resources.
- Section 3.9, Hydrology and Water Quality.
- Section 3.10, Noise.
- Section 3.11, Public Health and Environmental Hazards.
- Section 3.12, Visual Resources.

However, as detailed below, the Proposed Action is not likely to change how PG&E currently performs the Covered Activities such that there will be a significant impact on the human environment.

3.1.4 Cumulative Impact Assessment Methodology

Cumulative effects are defined as those effects on the environment resulting from the incremental effect of the Proposed Action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions. Cumulative effects can result from individually minor but collectively significant actions taking place over a period of time (40 CFR Part 1508.7).

The cumulative impact analysis in the following resource sections addresses both the combined effects resulting from more than one action and those resulting solely from the additive effect of repeated Covered Activities under the Proposed Action. Both types of effects are analyzed based on professional judgment informed by current standards of care specific to each resource topic. Consistent with Council on Environmental Quality's cumulative effects guidance, the analysis focuses on aspects of regional cumulative effects to which the Proposed Action has the potential to contribute; cumulative effects to which the Proposed Action will not contribute are not discussed or analyzed in detail.

The geographic boundaries of the cumulative effects area are generally those of the Plan Area, adjusted as appropriate based on the nature of the resources affected and the distance that such effects may travel. As an example, increased sedimentation of waterways that results from a project is limited to the watershed in which it occurs. As a result, it is only necessary to examine effects within that watershed. In contrast, air quality emissions from a project can travel over far greater distances and, therefore, necessitate analysis on a county, air basin, or regional level.

There are two approaches to identifying cumulative projects and their associated impacts. The list approach identifies individual projects in order to identify potential cumulative impacts. The

projection approach uses a summary of projections to identify potential cumulative impacts. This EA uses the projection approach because the list approach is infeasible given the number of local jurisdictions responsible for reviewing and approving development projects in the 34-county MRHCP study area, and the fact that the Covered Activities are not prescribed to occur at a specific time and location. Although Chapter 2 of this EA and Chapter 3 of the MRHCP both describe the types of Covered Activities that PG&E will implement under the Proposed Action in the Plan Area, it is important to note that the specific locations, timing, or extent of these activities have not yet been specifically identified. Rather, although the MRHCP will facilitate the Service's permitting process as it relates to take of Covered animal Species, the MRHCP does not set forth a detailed construction program that would aid in the assessment of cumulative effects. Nonetheless, it is assumed that Covered Activities will be implemented in conjunction with projects implemented by both public and private entities throughout the Plan Area over the course of the 30-year timeframe of the MRHCP.

The California Department of Finance projects that during the duration of the 30-year ITP, the state-wide population of California will increase by approximately 20.5% from 40.5 million to 48.8 million. Growth in the MRHCP study area is projected to increase at an even higher rate of 28% during that same timeframe, with total population increasing from 7.9 million to 10.1 million (California Department of Finance 2019). Continued human population growth in the MRHCP study area is expected to drive further development of agriculture, forestry, cities, industry, transportation, and water resources in the foreseeable future. The cumulative impact analyses in each section below considers the potential for the Proposed Action to result in a cumulatively considerable contribution to impacts for each resource area.

3.2 Environmental Consequences of the No Action Alternative (All Resource Topics)

Under the No Action Alternative, the Service would not issue an ITP for the MRHCP. PG&E would be required to continue its existing program of operations and maintenance activities and minor new construction activities, with individual activities being subject to project-by-project evaluations. Implementation of the MRHCP and issuance of the ITP by the Service would not change the location, frequency, or duration of PG&E's operations and maintenance activities, nor would it change the methods, vehicles, work force, hazardous materials, or equipment used to perform the activities. Because PG&E's operations and maintenance activities would not change with implementation of the MRHCP and issuance of the ITP, their continuation into the future is assumed to be part of the baseline conditions and No Action Alternative. Under the No Action Alternative, PG&E would continue to address federally-listed species through either section 7 or section 10 of the Act when required.

Because compensation requirements would be assessed on a project-by-project basis, smaller parcels of land would likely be identified for enhancement or preservation for the individual projects under the No Action Alternative. As detailed in Section 2.3 of this EA, mitigation for effects on listed species by individual projects would not be coordinated as part of a long-term, large-scale regional conservation effort. A fragmented approach to mitigation would be less beneficial to species recovery because PG&E would not pursue landscape-level mitigation that is coordinated and consolidated with other regional partners to acquire high-priority mitigation properties with high

conservation value for the Covered Species. Additionally, the creation of numerous small habitat mitigation lands would likely increase the need for management activities on dispersed lands.

The MRHCP uses modeled habitat and assumed species presence to automatically determine mitigation for impacts of less than 0.1 acre to Covered Species rather than using on-the-ground surveys. This approach is expected to provide time saving and other administrative benefits to operations and maintenance activities conducted by PG&E. It is also likely to result in an overall increase in the amount and conservation value of mitigation for covered species, due in part to the greater coordination and consistent approach to the avoidance, minimization, and mitigation measures by PG&E. Also, mitigation would be provided following the conservation strategy outlined in the MRHCP for effected areas where habitat for covered species is of marginal quality and Covered Species presence is questionable, making it unlikely that mitigation would occur on a project-by-project approach. Under the No Action Alternative, less and lower quality conservation is anticipated to occur for Covered Species.

With the No Action Alternative, PG&E would likely employ only measures that avoid take of individuals during implementation of many small activities. For these small activities, PG&E would not likely provide compensatory mitigation that ensures permanent conservation of high-value habitat lands to aid species recovery. In contrast, under the MRHCP conservation strategy, even with implementation of successful avoidance measures, PG&E will also provide compensatory mitigation for temporary and permanent impacts on covered wildlife habitat resulting from many small and large Covered Activities as identified in MRHCP Table 5-3.

Under the No Action Alternative, PG&E would be expected to use similar criteria for identifying suitable compensation lands for larger activities as defined in the MRHCP. PG&E would coordinate with appropriate agencies and landowners to establish habitat mitigation lands and minimize the potential for impacts and conflicts with existing land uses.

3.3 Agricultural Resources

3.3.1 Affected Environment

The Plan Area includes approximately 114,284 acres of agricultural lands based on the land-cover type, which is approximately 20.8% of the total Plan Area and approximately 4.1% of the approximately 2,756,757 acres of agricultural lands available in the 34 counties that compose the MRHCP study area (Land IQ 2017). Existing gas and electric facilities are sited on lands where PG&E holds land rights in fee, or has rights to access, operate, and maintain facilities as established in easement or franchise agreements on public or private land owned by others. The existing facilities currently exist as a compatible use with agricultural lands in the Plan Area, and existing operations and maintenance activities are already authorized on agricultural lands based on PG&E's existing land rights.

3.3.2 Environmental Consequences

Most minor new construction activities, including gas and electric line extensions, will not preclude the continued use of the land for agriculture, and agricultural practices will be allowed to continue. Minor new construction activities permissible under the MRHCP could potentially convert agricultural lands to non-agricultural use permanently (e.g. up to 10-acre electric substation

expansions and 0.55-acre gas pressure limiting station construction¹). These activities will be infrequent and, when implemented on lands not already owned by PG&E, will require compensation to the landowner. Substations will be expanded on or immediately adjacent to the existing utility-owned substation parcel.

As footnoted in Table 1-1 of the MRHCP, approximately 10% of minor new construction activities are anticipated to affect agricultural lands. PG&E anticipates installation of one new gas pressure limiting station on an annual basis (for a total of approximately 30 new pressure limiting stations over the 30-year term of the MRHCP). PG&E estimates approximately 10 electric substation expansions over the permit term. Although it is not possible to predict the location of these facilities, assuming 10% of these activities were implemented on agricultural lands at the maximum scale anticipated under the MRHCP, these activities could result in the conversion of approximately 11.65 acres of agricultural lands over the 30-year permit term, which constitutes 0.00042% of the total agricultural lands in the MRHCP study area (see Appendix C of this EA, *Study Area Map*). Given the vast inventory of agricultural lands present in the study area, minor new construction activities would result in a negligible amount of agricultural lands being converted to non-agricultural use.

As part of the MRHCP conservation strategy (see Chapter 5 of the MRHCP), some additional land could be acquired to support habitat mitigation under the MRHCP. As discussed in the MRHCP, the agricultural lands affected by habitat mitigation would likely be limited to lands that offer benefit to Covered Species under their current agricultural use, such as grazing lands that provide habitat for California tiger salamander and rice fields that provide seasonal aquatic habitat for giant garter snake. Mitigation lands will be acquired only from landowners willing to sell their lands, and most lands identified for compensation use will likely continue to be grazed or farmed after acquisition, albeit with modified practices, and thus will not undergo a change in uses. Under the Proposed Action, any grasslands or rice fields acquired for mitigation use will be permanently protected from urban development and managed to benefit biological resources in perpetuity. Because of the commitment to manage mitigation lands for biological benefit, the physical attributes of unirrigated grassland or irrigated rice fields that may be acquired under the Proposed Action will not be lost or otherwise altered.

Issuance of the ITP by the Service is not anticipated to substantially change the amount or location of impacts on agricultural resources in the Plan Area. Consequently, the potential effect of the Proposed Action on agricultural resources will be negligible.

3.3.3 Cumulative Effects

The principal concern related to cumulative effects on agricultural resources is conversion of agricultural land to non-agricultural uses. According to the California Department of Conservation (DOC), Division of Land Resource Protection Farmland Mapping and Monitoring Program, approximately 1.4 million acres of agricultural land has been converted to non-agricultural uses between 1984 and 2012 (DOC 2015). This represents an average of approximately 50,000 acres converted annually.

¹ Minor substation expansions under the MRHCP will typically be limited to an average of approximately 3 acres per substation. However, in some cases, the expanded substation footprint may require up to 10 acres of permanent vegetation loss. The Service used 10 acres as a conservative estimate of the potential conversion of agricultural lands for any given substation expansion.

As noted above, most Covered Activities are compatible with the existing agricultural land use. Minor new construction activities, such as substation expansion and pressure limiting station construction, could result in the permanent conversion of small areas of farmland to non-agricultural use. PG&E estimates that permanent conversion of agricultural land will occur at an average rate of approximately 0.39 acres per year throughout the Plan Area over the 30-year term of the MRHCP. This constitutes 0.0008% of the total amount of agricultural land conversion in California per year,² and is not considered cumulatively considerable.

As discussed above, habitat mitigation is not expected to result in a substantial physical impact on agricultural land on an incremental basis, nor will habitat mitigation result in a cumulatively considerable contribution to regional agricultural conversion impacts.

3.4 Air Quality and Climate Change

3.4.1 Affected Environment

The Plan Area spans 28 air districts and 11 air basins. Appendix H of this EA includes more information about the local air districts and air basins, as well as the attainment status for the Plan Area with respect to criteria pollutants. As shown in Appendix H, portions of the Plan Area are currently classified nonattainment or maintenance areas (i.e., areas that do not meet air quality standards) for the state and federal ozone and particulate matter air quality standards. However, the Proposed Action is not subject to the General Conformity Rule, which requires federal actions in nonattainment areas to conform to applicable State Improvement Plans employed to bring an area into compliance with air quality standards. Approval of the ITP by the Service will represent an initial step for PG&E's minor new construction activities that may cause emissions. However, the Service will not exercise practical control over those emissions after issuance of the permit. Therefore, a conformity analysis is not required to be performed for the federal action (40 CFR 93.153).

PG&E's baseline operations and maintenance activities currently generate varying levels of criteria pollutants and greenhouse gases (GHGs), depending on the type and duration of activity. Typically, emission sources for these activities include trucks and vehicles, off-road equipment, helicopters, grading and ground-disturbing activities (which can cause airborne particulates during dry conditions), painting, paving, and replacement of fuel-based circuit breakers with breakers containing sulfur hexafluoride (SF₆).

3.4.2 Environmental Consequences

No new permanent emission-generating facilities will be installed as a result of issuance of the ITP. Any replacement of existing facilities will be in-kind, except for potential replacement of fuel-based circuit breakers with gas-insulated circuit breakers or switchgear, which may contain the greenhouse gas SF₆. Although SF₆ is typically completely contained in the equipment and not released into the atmosphere, there is a potential for leaks during maintenance or operation of equipment. Leakage of SF₆ would be controlled through compliance with PG&E's air quality practices, which are estimated to limit SF₆ leak rates to a maximum of 0.5% per year. Accordingly, there will be negligible changes in GHG emissions from Covered Activities compared with the No

² This calculation is based on the previously stated average of 50,000 acres of agricultural conversion per year.

Action Alternative. Moreover, emissions of criteria pollutants and GHG are expected to decline over the 30-year life of the MRHCP as PG&E replaces its vehicles and construction equipment with more efficient, less-polluting equipment.

Criteria pollutant and GHG emissions from Covered Activities will be generated by mobile and stationary equipment exhaust, employee and haul truck vehicle exhaust, and earthwork. The frequency and intensity of Covered Activities is expected to be short-term and minor and will not exceed 10 acres per site. Accordingly, emissions will be limited.³ Management activities on mitigation lands are similarly anticipated to have negligible impacts on air quality because they will likely involve minimal ongoing earthwork or use of emission-generating equipment. All activities will also be subject to PG&E's air quality practices, which directly reduce criteria pollutant and GHG emissions (see Appendix F of this EA). PG&E will also implement MRHCP avoidance and minimization measures (AMMs) and vegetation management best management practices (BMPs) to reduce air quality-related effects. These include Field Protocol (FP)-01 (worker training), FP-02 (park vehicles on existing roads designated areas), FP-03 (use existing roads), FP-07/BMP 13 (15 mph on unpaved roads), FP-10 (minimize disturbance footprint), FP-11 (follow erosion and sediment control measures), BMP-5 (compliance with CARB permitting requirements), and BMP-6 (minimizing vehicle idling).

Use of diesel-powered equipment during Covered Activities could generate particulate exhaust emissions, which are identified as a toxic air contaminant (California Air Resources Board 2000). However, emissions-generating activities will be relatively small, short term, and dispersed throughout the Plan Area. Exposure of nearby receptors to diesel particulate emissions will also be reduced through implementation of PG&E's air quality practices, which will reduce the likelihood that receptors will be exposed to substantial pollutant concentrations (see Appendix F of this EA). In addition, because health risks are generally associated with chronic exposure and are assessed over a 30-year exposure period (Office of Environmental Health Hazard 2015), emissions from vehicles and equipment during Covered Activities, which will generally last no longer than 2 years at one location—and often less than a few days—will have a limited potential to affect sensitive receptors.

Covered Activities may also generate odors from diesel-powered equipment and asphalt paving. Such odors will be temporary and will generally occur at magnitudes that will not affect substantial numbers of people.

Overall, Covered Activities typically generate negligible emissions dispersed across the Plan Area and issuance of the ITP will not substantially change PG&E's emissions from the current baseline level. Therefore, the potential effect of the Proposed Action on air quality and climate change will be negligible.

3.4.3 Cumulative Effects

During the 30-year term of the ITP, other activities that could contribute to cumulative air quality and climate change impacts in the air basins crossed by the Plan Area include agriculture, timber

³ For example, reactive organic gas and nitrogen oxides emissions from electric tower line/new transmission line construction are expected to be approximately 0.5 and 3 tons per year, respectively, based on modeling from the Cressey-Gallo 115 kV Power Line environmental analysis. On a daily basis, this would equate to approximately 5 and 39 pounds per day, respectively. These emissions are below all recommended air district thresholds in the Plan Area.

harvesting, transportation, construction activities, industrial processes, and wildfires. Covered Activities will not generate new permanent sources of criteria air pollutants or GHGs, with the exception of substation expansions involving installation of new gas-insulated circuit breakers or switchgear, which may contain SF₆. Because potential leaks will be infrequent, controlled through PG&E's air quality practices, and negligible, these emissions will not represent a cumulatively considerable contribution, nor will they result in a cumulatively considerable effect.

Emissions of criteria pollutants and GHGs during minor Covered Activities will be diffuse over the relatively large Plan Area, short term in nature, and minimized with implementation of PG&E's air quality practices. Therefore, the Proposed Action will not result in a cumulatively considerable contribution to existing effects on criteria air pollutants or GHGs.

3.5 Biological Resources

3.5.1 Affected Environment

3.5.1.1 Land-Cover Types in the Plan Area

The Plan Area encompasses approximately 565,800 acres, and approximately 54% of this area consists of natural land-cover types. The majority of Covered Activities will be implemented in the rights-of-way of existing electric and gas transmission and distribution facilities. Land-cover types fall into three major categories: natural, cultivated lands, and urban. A detailed review of the methodology and data sources used to develop the land cover analysis for the MRHCP can be found in Chapter 2, Section 2.2, *Land-Cover Mapping*, of the MRHCP. A detailed breakdown of acreages of each land-cover type by region and by PG&E's four utility groups is presented in Chapter 2, Tables 2-3, 2-4, 2-5 and 2-6 of the MRHCP. Table 3-2 below presents a summary of land-cover types by region and acres that are found in the Plan Area, which includes seven types of natural communities and two non-natural communities. Natural land-cover types in the Plan Area include forest, grassland, riparian, shrubland, wetland, marine, and barren land/ruderal. The majority of the Plan Area is mapped as non-native communities including urban (25.5%) and cultivated land (20.8%). The natural communities include 24.9% forest land, 18.7% grassland, and the remaining 10.1% consists of other natural land-cover types. As indicated in these tables, many PG&E facilities are in urban, grassland, forest, and agricultural land-cover types.

Table 3-2. Summary of Plan Area Land-Cover Types by Acres and Region

Community Type	Land Cover	Sacramento Valley and Foothill Region	North Coast Region	Central Coast Region	Total (Ac)	Percent of Plan Area
Forest ^a	Natural	86,158	28,040	23,094	137,292	24.9
Grassland ^b	Natural	53,050	12,552	37,561	103,163	18.7
Riparian ^c	Natural	6,098	1,459	1,698	9,255	1.7
Shrubland ^d	Natural	18,032	2,523	11,282	31,837	5.8
Wetland ^e	Natural	2,364	65	155	2,584	0.5
Barren/Ruderal	Natural	2,855	4,022	4,545	11,422	2.1
Marine	Natural	0	8	2	10	0
Agriculture	Non-Natural	81,851	8,729	23,703	114,283	20.8
Urban	Non-Natural	102,524	5,352	32,527	140,403	25.5
	TOTAL	352,932	62,749	134,600	550,281	100.0

Source: MRHCP Chapter 2, Table 2-3. Land-cover types are based on PG&E’s existing rights-of-way. The location and land-cover type for minor new construction and mitigation areas are not known at this time.

^a Forest land-cover types: aspen, conifer, eucalyptus, hardwood, juniper, oak woodland, and redwood forest.

^b Grassland land-cover types: annual, perennial grassland, and vernal pool complex.

^c Riparian land-cover types: desert riparian, lacustrine, montane riparian, riverine, and valley foothill riparian.

^d Shrubland land-cover types: alkali desert scrub, alpine dwarf-shrub, bitterbrush, chamise-redshank chaparral, coastal scrub, desert scrub, low sage, mixed chaparral, montane chaparral, and sagebrush.

^e Wetland land-cover types: saline emergent wetland, estuarine, fresh emergent wetland, freshwater emergent marsh, marsh, and wet meadow.

3.5.1.1 Rare, Threatened, Endangered, and Fully Protected Species

Covered Species

As detailed in Appendix E of this EA, the proposed MRHCP covers 24 federally-listed wildlife species and 12 federally-listed plant species that PG&E intends to conserve and protect through the proposed MRHCP in support of the ITP. Summary information about each Covered Species’ status, habitat, and distribution in the three regions of the Plan Area can be found in Appendix E of this EA, and additional detail is provided in MRHCP Chapter 2, Section 2.3 and Chapter 4, Sections 4.2.8 to 4.2.10. Additional details on life history, habitat requirements, range and critical habitat for these 36 Covered Species can be found in MRHCP Appendix B1 for wildlife and MRHCP Appendix B2 for plants. Ten covered wildlife species and six covered plant species also have protected status under the California Fish and Game Code as rare, threatened, endangered, and/or fully protected, as shown in Appendix E of this EA.

Non-Covered Species

In addition to the Covered Species, the Plan Area includes potential habitat for 31 federally-listed wildlife species and 64 federally-listed plant species that are not proposed for coverage in the MRHCP, as detailed in MRHCP Appendix A, *Species Considered*. This detailed list of species that PG&E considered including in the MRHCP also contains several state-protected species that have the

potential to occur in the Plan Area. The Covered Species were determined by a screening process described in MRHCP Chapter 1, Section 1.5.2, *Covered Species*.

In issuing the ITP, the Service will not authorize PG&E's Covered Activities, but rather the incidental take of covered animal species resulting from those activities. Therefore, the Proposed Action addressed in this EA (issuance of the ITP) is anticipated to affect only PG&E's conservation approach to the Covered Species. However, in considering potential impacts on the human environment under NEPA, the Service has considered potential effects on non-covered species, as detailed in the impact criteria in Appendix G of this EA.

The Proposed Action is not anticipated to result in a significant adverse effect on non-covered species. Impacts from most Covered Activities will be small-scale, temporary, and dispersed over linear utility rights-of-way. Most Covered Activities will modify existing infrastructure and will not require permanent conversion of habitat. Substation expansions will be adjacent to existing developed substations—many of which are located in urban, cultivated, or disturbed lands—and will not remove substantial habitat. AMMs and vegetation management BMPs prescribed by the MRHCP will also reduce impacts on non-covered species by minimizing the footprint and duration of disturbance in natural vegetation; minimizing construction of new roads; siting work sites and off-road access to minimize impacts on vegetation, burrows, and rock outcrops; preventing wildlife entrapment; limiting vehicle speeds on unpaved roads; preventing water pollution and wildfires; maintaining buffers around wetlands, ponds, and riparian areas; and avoiding active bird nests. As described in MRHCP Section 5.4, *Environmental Review, Planning and Screening Process*, PG&E will review Covered Activities for potential impacts on protected species and habitat and will include any other environmental protection measures in a release-to-construction memorandum.

Because PG&E does not know the precise location of minor new construction activities that may be required over the 30-year permit term, the HCP includes a measure (Minor New-1) that requires PG&E to notify the Service prior to select large activities. PG&E will provide a project summary so that the Service can confirm there is adequate take authorization or impact allowance remaining for the species, and confirm that the activity does not have a reasonably certain likelihood of take of listed non-covered animal species.

Most Covered Activities will be conducted in upland habitats and are not likely to be in habitat for federally-listed fish species. However, if Covered Activities require work in habitat for federally-listed fish species, the work would also typically require a Clean Water Act permit from USACE. These individual activities would be evaluated on a case-by-case basis. If adverse effects on federally-listed fish species were likely, formal consultation between USACE and the National Marine Fisheries Service under section 7 of the Act would be required. Therefore, potential effects on listed fish species are not evaluated further in this EA.

PG&E implements an Avian Protection Plan, which describes the company's programmatic approach to avoiding impacts on nesting birds during Covered Activities. Overall, PG&E's Avian Protection Plan avoids and minimizes direct effects on nests by providing guidance on species-specific buffer distances and what to do when nests are found.

Issuance of an ITP by the Service will not change PG&E's obligation to comply with the California Endangered Species Act, including its take prohibitions for state-listed species. Similarly, PG&E will continue to be obligated to comply with sections of the California Fish and Game Code that prohibit take of designated fully protected species, including Sections 3511 (fully protected birds), Section

4700 (fully protected mammals), Section 5050 (fully protected reptiles and amphibians), and Section 5515 (fully protected fish). See MRHCP Section 1.4.2 *Endangered Species Laws* for more information about relevant laws and regulations.

Further, issuance of the ITP by the Service will not change PG&E's obligation to comply with other state and federal environmental resource protection requirements, and any resulting permit conditions from other agencies. PG&E will continue to implement avoidance strategies for protected species not covered by the MRHCP, and will seek appropriate take authorization from the Services and from the California Department of Fish and Wildlife if take cannot be avoided.

With implementation of avoidance measures identified in the MRHCP, together with other state and federal resource protection laws, the Proposed Action is not likely to result in substantial direct mortality or substantial loss or degradation of habitat, including designated critical habitat, for non-covered rare, threatened, or endangered species. The Proposed Action will not substantially reduce the naturally occurring population of any plant or animal species below levels for maintaining viability at the local or regional level, either through direct mortality or substantial habitat loss or modification. Further, the mitigation lands PG&E will provide through implementation of the MRHCP will benefit other species with habitat requirements similar to those of Covered Species, and any short-term impacts from management activities on these mitigation lands will be minor and offset by the substantial long-term benefit they provide to all species that occupy them. Therefore, impacts on non-covered species are not further addressed in this EA.

3.5.2 Environmental Consequences

3.5.2.1 Methodology for NEPA Impact Analysis

Potential impacts on biological resources from issuance of the ITP for PG&E's MRHCP were evaluated using the impact criteria in Appendix G, as detailed below. Impacts on Covered Species were analyzed based on an independent review and evaluation of the analysis provided in MRHCP Chapter 4, *Covered Species Impact Analysis*. To quantify and estimate habitat and species impacts, as well as assess the likelihood of take of or impacts to each Covered Species that could result from Covered Activities, PG&E developed a methodology that relied extensively on GIS analysis, as described in the MRHCP Chapter 4, Section 4.1.2, *Analytical Methods*.

For covered wildlife species, PG&E worked with the Service to develop predictive species-specific habitat models based on broad land-cover types. Habitat models were based on data from several conservation planning efforts in or near the Plan Area, the California Department of Fish and Wildlife's California Wildlife Habitat Relationships and the CNDDDB, literature review, and field knowledge. PG&E also worked with the Service to develop covered wildlife "Hot Zones," which are defined as areas containing a known population of Covered Species with a small and well-defined range, and where the species will be most likely to be affected by Covered Activities. See MRHCP Chapter 2, Section 2.3 for more information on Hot Zones, MRHCP Chapter 4, Section 4.1.4 for more details on wildlife habitat modeling, and MRHCP Table 2-3 in Chapter 2, *Environmental Setting*, for the source used to determine each species' range.

Habitat models were not used for plants because of the unique microhabitat requirement for these species and because known location information provides guidance to the application of AMMs. For covered plants, a GIS-based analysis was conducted by overlaying CNDDDB plant location data on to PG&E's facility location data layers to determine where a covered activity may affect a plant species'

habitat. PG&E delineated plant “Map Book zones” in areas with extant, known, or recently confirmed plant occurrences. Aerial photography interpretation was also used to examine possible impacts on individual plant occurrences from Covered Activities. The number of individual plants that will be directly impacted by Covered Activities was estimated for CNDDDB occurrences based on reported population size and density. For more details, see the MRHCP Chapter 4, Section 4.1.8, *Calculation of Covered Plant Impacts*.

The MRHCP does not quantify estimates for potential impacts associated with management activities on the habitat mitigation lands because, although management activities are included as Covered Activities, their minor impacts will be accounted for in restoration plans and management plans for the properties. With implementation of the MRHCP AMMs, impacts on Covered Species from management activities on the mitigation lands are anticipated to be temporary and minimal. The purpose of these activities is to improve habitat conditions for Covered Species, and the long-term benefits of the conservation strategy will offset any temporary minor effects on the species.

Impacts on Covered Plant Species and their Habitats

The MRHCP includes 12 covered plant species in the Plan Area that may be impacted by Covered Activities. These activities could result in direct loss of individual plants, disruption of the seedbank, and reduced habitat quality due to soil compaction or introduction of invasive plants.

Covered Plant Avoidance and Impact Minimization

The proposed MRHCP conservation strategy will avoid impacts on covered plants by following PG&E’s environmental screening practices described in MRHCP Section 5.4.2, *Screening for Covered Plants*, and implementing covered plant AMMs as detailed in MRHCP Table 5-1, *Field Protocols and Avoidance and Minimization Measures to Reduce Impacts on Covered Species*, whenever Covered Activities will be conducted near covered plant populations. For medium and large activities, biologists are required to conduct project-specific screening to determine the potential for impacts if a covered plant is likely to be present, whether or not the activity will be conducted in a designated Map Book zone.

In combination with existing PG&E environmental practices, proposed AMMs will minimize adverse effects on covered plants and their habitats. PG&E will implement a number of AMMs to protect covered plants. These measures include standard construction practices for all Covered Species (FP-1 through FP-18, to the extent they apply to covered plants), specific measures to protect vernal pools and other wetlands (Wetland-1 and Wetland-2); several plant-specific measures (Plant-01 through Plant-08); and minor new construction activities (Minor New-1). Refer to Chapter 5 (Table 5-1) of the MRHCP for more details on AMMs. For large activities, if covered plants cannot be avoided, PG&E will implement Plant-05 through Plant-08 as applicable, which require plant salvage and restoration in accordance with a Service-approved restoration plan.

In addition to AMMs and PG&E environmental practices, BMPs will also be used to reduce environmental impacts from vegetation management activities (see Chapter 5, Table 5-2). BMPs are equivalent to field protocols in implementation.

Estimated Impacts on Covered Plants and Critical Habitat

Table I-1 in Appendix I of this EA summarizes the acreage for covered plant species’ habitat and the number of individuals potentially subject to impact from Covered Activities over the 30-year term of

the MRHCP. Table I-2 includes estimated impacts on critical habitat for the three covered plant species for which critical habitat has been designated (Monterey spineflower, robust spineflower, and Yadon's rein orchid). Estimated impacts on critical habitat for covered plant species were based on the locations of occurrence records within facility corridors. Expected indirect impacts are the introduction of invasive plant species, sedimentation, or pollutants caused by a covered activity near species habitat or off-site, possibly leading to eventual degradation of critical habitat. However, AMMs are expected to reduce these potential impacts. The plant impact analysis uses known covered plant occurrence data from the CNDDDB in existing corridors, with the assumption that Covered Activities will be conducted in or near these existing corridors in similar habitat types. Because actual Covered Activities may be implemented outside of these areas, this extrapolation is not a precise impact estimate for any individual species, but rather gives an order of magnitude for the likely impacts. The actual number of plants impacted over the 30-year term of the MRHCP will depend on the actual location of Covered Activities and will be bound by the limits in the HCP.

Covered Plant Mitigation

If plants cannot be re-established according to the timeframe and success criteria defined in the restoration plan, PG&E will mitigate the permanent impact on covered plants. As detailed in MRHCP Section 5.6.2.5, *Mitigation Summary for Plants*, PG&E will mitigate unavoidable permanent impacts on individual plants at a 1:1 ratio, and the general acres of habitat impacted will be similar to the mitigation area. Permanent impacts on plants are defined as absence of the plant after the restoration period has ended or for more than 1 year after it is impacted. PG&E will not provide mitigation for temporary impacts on plants, which are defined as pruning or temporarily removing topsoil and seedbank, where the plants recover.

Covered Plant Impact Summary

Impacts on plants from Covered Activities will be small, mostly temporary, and distributed over a large area over the 30-year permit term. With implementation of PG&E's environmental screening practices, application of applicable AMMs and BMPs, adherence to the impact limits committed to in the HCP and reflected in the ITP, and mitigation for unavoidable permanent impacts as detailed in PG&E's conservation strategy, the Proposed Action is not anticipated to result in substantial direct mortality or substantial loss or degradation of habitat, including designated critical habitat, for covered plants.

Impacts on Covered Wildlife Species and their Habitats

The MRHCP includes 24 covered wildlife species in the Plan Area that may be impacted by Covered Activities. These activities could result in direct impacts on individuals of Covered Species being harmed or killed by construction vehicles and equipment during ground disturbance, vegetation clearing, or off-road travel. Indirect effects could result from damage to habitat, including loss of nesting trees, host plants, cover plants and other vegetation; soil compaction that adversely affects the life cycle of some covered invertebrates; and pollution of aquatic habitats from fuels, hazardous materials, or sedimentation from eroded soils disturbed by construction. Construction activities could also spread invasive plants that could degrade habitat by outcompeting host plants and other native plants that provide food sources, cover, or other habitat values for covered wildlife.

Covered Wildlife Avoidance and Impact Minimization

The proposed MRHCP conservation strategy will avoid impacts on covered wildlife by following PG&E's environmental screening practices described in MRHCP Section 5.4.1, *Screening for Covered Wildlife*. Biologists and land planners will use the MRHCP habitat models to conduct project-specific screening to determine which AMMs to apply to each Covered Activity.

As detailed in MRHCP Table 5-1, PG&E will avoid and minimize impacts associated with Covered Activities through the use of field protocols, a suite of AMMs (Hot Zone AMMs, species-specific AMMs, and covered plant AMMs) as they apply to covered wildlife species. The AMMs are specific to Hot Zones and other sensitive habitat types associated with covered wildlife and plant species. Hot Zone AMMs ensure impacts on narrow endemic species are avoided or minimized; each measure focuses on a particular species or group of species and will be applied when PG&E undertakes Covered Activities in a specific area. These protocols and measures are prescribed under various circumstance described in MRHCP Section 5.5.1, *Avoidance and Minimization of Impacts*, and are discussed in the subsequent section of this EA as they apply to specific covered wildlife species.

As detailed in MRHCP Table 5-2, vegetation management activities will follow PG&E's BMPs to reduce environmental impacts. Vegetation management BMPs are equivalent to field protocols in implementation.

Field Protocols Benefitting All Covered Wildlife

The following field protocols will avoid and minimize direct and indirect impacts on all covered wildlife: FP-01 (BMP-1) requires for training construction crews on species avoidance and minimization; FP-02 restricts vehicles and equipment parking to designated areas; FP-03 (BMP-4) minimizes the development of new roads; FP-04 reduces impacts from off-road travel; FP-08 (BMP-26) prohibits trash dumping onsite; FP-10 minimizes the footprint and duration of Covered Activities; FP-17 requires felling trees away from exclusion zones.

Field Protocols Benefitting Terrestrial Wildlife

FP-06 requires inspection of materials and pipes prior to moving, FP-13 requires escape ramps in open trenches and steep-walled holes; FP-19 requires inspection and maintenance of fencing installed to exclude species from work areas.

Field Protocols Benefitting Aquatic Wildlife

FP-11 avoids soil and sediment runoff into water bodies; FP-12 limits stockpiles and requires covering of spoils; FP-15 prohibits refueling within 250 feet of wetlands, streams, or waterways; FP-16, Wetland-1, and Wetland 2 require maintaining setbacks or other protective measures during work near vernal pools, wetlands, ponds, and riparian areas.

Estimated Impacts on Covered Wildlife and Critical Habitat

Table I-3 in Appendix I of this EA summarizes the potential impact of Covered Activities on covered wildlife species habitat over the 30-year term of the MRHCP. Table I-4 identifies estimated temporary and permanent impacts on designated critical habitat for covered wildlife species. Temporary impacts on wildlife habitat consist of impacts on habitat that recover within 1 year and/or do not result in installation or expansion of facility footprint. Permanent impacts on wildlife consist of impacts on habitat that do not recover for more than 1 year, or the installation or

expansion of a permanent facility footprint. Permanent impacts of Covered Activities could include permanent conversion of habitat to industrial use, as in the case of a substation expansion, or permanent conversion of habitat to a different habitat type, such as a new power line right-of-way through a forested area, which will preclude re-establishing tall-growing forest trees under the new conductor.

The values in Table I-3 are estimated based on anticipated Covered Activities in modeled habitat; they are not a precise impact estimate for any individual species, but rather give an order of magnitude for the likely impacts. There may be instances where some of PG&E's individual project impacts could be larger than those identified in Table I-3. However, PG&E will be limited to the total take authorization provided by the ITP and will be required to seek a permit amendment if take were projected to exceed these impacts.

Vernal Pool Invertebrates

Covered Activities will typically avoid vernal pool habitat and, therefore, will not affect covered vernal pool invertebrates (Conservancy fairy shrimp, longhorn fairy shrimp, vernal pool fairy shrimp, and vernal pool tadpole shrimp). PG&E will maintain a 250-foot setback from vernal pools (FP-15, FP-16, and Wetland-1), or will implement other site-specific protective measures prescribed by a biologist or the MRHCP administrator in cases where the setback cannot be observed (BMP-14). In vernal pool complexes that have been designated as a Hot Zone because of known populations of covered vernal pool invertebrates, PG&E will implement Hot Zone-2, which limits ground-disturbing activities near vernal pools during the rainy season and requires on-foot access in rock outcrops year-round.

Terrestrial Invertebrates

Covered Activities could be conducted in habitat for covered terrestrial invertebrates, including Morro Bay shoulderband snail, Mount Herman June beetle, Ohlone tiger beetle, Smith's blue butterfly, valley elderberry long-horn beetle, and Zyante band-winged grasshopper. Covered Activities could cause direct mortality of covered terrestrial invertebrates or their host plants. Vehicles, equipment, and foot traffic could crush, kill, or bury individual eggs, larvae, pupae, nymphs, or adults or destroy burrows used by larvae. Adults of flying invertebrates could be struck by vehicles during flight. Under certain conditions, soil compaction or covering of pupation sites by eroded soils or excavation spoils could inhibit or prohibit emergence of beetles.

Indirect impacts could result from removal of vegetation or the spread of invasive plant species leading to a reduction in habitat quality. PG&E will minimize potential indirect effects of Covered Activities using weed-free seed mixes and straw in revegetation and erosion control applications.

The AMMs listed above for all covered wildlife and terrestrial covered wildlife will avoid and minimize impacts on covered terrestrial invertebrates. Additional species-specific AMMs and BMPs will apply to large activities:

- SBB-1 requires pre-construction surveys, avoidance of host plants, and seasonal activity restrictions.
- VELB-1 requires crew training and exclusion zones to avoid or minimize disturbance to elderberry shrubs, and stipulates pruning rather than removal of elderberry shrubs when feasible for required vegetation management.

- BMP-15 requires that vegetation management activities in valley elderberry longhorn beetle (VELB) habitat must follow PG&E VELB Utility Standard ENV-7001S and vegetation management VELB procedures.

Additional AMMs will apply in known Hot Zones for several species, specifically:

- Hot Zone-10 avoids removal and crushing of silver bush lupine, the primary host plant for Zayante band-winged grasshopper, and minimizes off-road vehicle and equipment use in undisturbed natural habitat (i.e., areas with lupine).
- Hot Zone-11 minimizes ground disturbance and off-road use of vehicles and equipment in undisturbed natural habitat for Ohlone tiger beetle.
- Hot Zone-12 requires a pre-construction biological survey and relocation of Morro shoulderband snail when work cannot be conducted from paved roads or non-vegetated areas.
- Hot Zone-14- requires avoiding work during the flight season for Mount Hermon June beetle and minimizing off-road use of vehicles and equipment in sensitive habitat.

Amphibians

Most Covered Activities will not be conducted in or near wetland or other aquatic habitats and will not likely affect wildlife dependent on these habitats. Species that use both aquatic and upland habitats are more likely to be affected in upland areas. For Covered Activities that involve ground disturbance in or near seasonal wetlands, marshes, ponds, or streams, seven federally-listed amphibians (California red-legged frog, California tiger salamander, foothill yellow-legged frog, mountain yellow-legged frog, Santa Cruz long-toed salamander, Sierra Nevada yellow-legged frog, and Yosemite toad) could be affected.

There are few PG&E facilities located in modeled habitat for foothill yellow-legged frog, mountain yellow-legged frog, or Sierra Nevada yellow-legged frog—and where present, the amount of modeled habitat in proximity to PG&E facilities is extremely small. Therefore, PG&E has indicated that Covered Activities are unlikely to be conducted in habitat for these highly aquatic species.

Covered Activities could cause direct mortality or injury of covered amphibians during ground-disturbing activities in or near aquatic habitats, as well as vehicle and equipment travel across or near aquatic habitats. Covered Activities are more likely to affect covered amphibians when the species are more active during the wet season. Individual covered amphibians could be crushed or buried by vehicles or equipment during travel or while performing earthwork work in upland habitat, particularly when in close proximity to aquatic breeding habitat. If Covered Activities cannot avoid aquatic breeding habitat, tadpoles and eggs could also be directly impacted by equipment; however, impacts on breeding areas are expected to be minimal and infrequent.

Indirect impacts could result from upslope disturbances that affect drainage patterns or increase sedimentation, stream banks collapsing from construction equipment or other activities, or the discharge of pollutants into the soil or aquatic habitats. Covered Activities could also spread invasive plants that could degrade wetland and aquatic habitat by outcompeting with native plants.

The AMMs listed above for all covered wildlife and aquatic covered wildlife will avoid and minimize impacts on covered amphibians. The following Hot Zone AMM will also apply in mapped Hot Zones for Santa Cruz long-toed salamander:

- Hot Zone-9 requires pre-construction surveys and seasonal restrictions in known habitat for Santa Cruz long-toed salamander.

Santa Cruz long-toed salamander is fully protected under California law; therefore, even with issuance of the ITP from the Service, PG&E will continue to take necessary measures to avoid direct mortality of Santa Cruz long-toed salamander during Covered Activities and habitat enhancement activities.

Reptiles

Covered Activities could be conducted in habitat for covered reptiles, specifically blunt-nosed leopard lizard and giant garter snake. Vehicles and equipment could crush eggs, juveniles, and adults of each species, either while they are above ground during their active or breeding season or underground during their inactive period. Because giant garter snakes primarily inhabit fresh permanent wetland, flooded cropland, and slow-moving drainages in the Sacramento Valley floor, they are generally vulnerable to impacts on aquatic habitat during their active, breeding season (early spring to mid-fall). During their inactive season (late fall through winter) they are more vulnerable to impacts in uplands areas while occupying hibernation sites in small mammal burrows and other small crevices within approximately 200 feet of suitable aquatic habitat.

Indirect impacts on giant garter snake are similar to those described above for covered amphibians. Indirect impacts on blunt-nosed leopard lizard could result from introduction of invasive plant species that reduce blunt-nosed leopard lizard hunting success.

The AMMs listed above for all covered wildlife and terrestrial wildlife will avoid and minimize impacts on covered reptiles and the AMMs for aquatic wildlife will also avoid and minimize impacts on giant garter snake. Additional species-specific AMMs will apply to large activities:

- GGS-1, which requires performing work activities during the active season for the species (May 1–October 1) to the extent practicable, installing exclusion fencing, and avoidance or relocation of snakes by a qualified biologist in active construction areas
- BNLL-1 requires surveys, identification and avoidance of burrows, exclusion zones, and relocation of lizards by a biologist if they are in danger of injury or mortality in work areas.

Blunt-nosed leopard lizard is fully protected under California law; therefore, even with issuance of the ITP from the Service, PG&E will continue to take necessary measures to avoid direct mortality of blunt-nosed leopard lizard during Covered Activities and habitat enhancement activities.

Birds

Covered Activities could be implemented in habitat for covered birds, specifically marbled murrelet and northern spotted owl. Direct impacts from Covered Activities are most likely to occur during the nesting season, either from direct removal of vegetation resulting in direct injury or mortality to eggs or young. Noise-generating activities near active nests could result in nest abandonment by adults or young during the incubation, brooding, or fledgling period, leading to failure of egg development or mortality of juveniles through starvation.

The location and configuration of PG&E's existing power lines and any bird strikes that currently occur as a result of their presence on the landscape are considered part of the existing conditions that will not change with issuance of the ITP by the Service. Extensions and relocations of existing

transmission and distribution lines, up to 2 miles in length, are considered Covered Activities and are included in the analysis in this EA. Issuance of the ITP by the Service is not likely to increase the frequency of PG&E's construction of power line extensions, nor will it stipulate their location or configuration. PG&E follows an Aviation Protection Plan, which is based on guidelines issued by the Avian Power Line Interaction Committee, for all new facilities. The plan stipulates design and siting decisions that minimize the risk of bird electrocution.

Indirect impacts on covered birds could result in a reduction in their prey base as a result of Covered Activities. However, this type of impact is not anticipated because of the small temporary and permanent footprint required for Covered Activities.

The AMMs listed above for all covered wildlife will avoid and minimize impacts on covered birds by reducing disturbance from Covered Activities. In addition, FP-18 (BMP-16) protects all birds by requiring avoidance of all nests with eggs and/or chicks. Additional species-specific AMMs will apply to large activities:

- NSO-1 stipulates seasonal work restrictions if Covered Activities will occur within 0.25 mile of unsurveyed northern spotted owl nesting habitat, activity centers, or critical habitat.
- MM-1 requires seasonal work restrictions or nest buffers for Covered Activities if an activity will impact suitable marbled murrelet nesting habitat.

Mammals

Covered Activities could be conducted in habitat for covered mammals, specifically giant kangaroo rat, Point Arena mountain beaver, and San Joaquin kit fox. All three of these mammals are active primarily at night. Covered Activities and habitat enhancement activities are mostly likely to result in direct impacts on these species while they are in underground burrows or dens. Vehicles or equipment operating over a burrow or den entrance could collapse the entrance and entomb an animal or it's young and cause injury or mortality. While above ground, these mammals could also be struck by vehicles or equipment.

The potential for impacts on individual San Joaquin kit foxes is influenced by the duration of the activities, time of year, time of day, and amount of ground disturbance in the species' habitat. The highest potential for impacts on individuals is from March to August, when adults are hunting and young are exploring around natal sites. Construction sites may attract San Joaquin kit foxes during non-work hours, potentially elevating their risk for injury or death if they become trapped in open trenches or seek cover under equipment or materials (i.e., pipes) that are later moved.

Indirect impacts on covered mammals could result from ground vibration caused by large activities, which could affect behavior during breeding season and reduce reproductive success. Permanent removal of forage vegetation for Point Arena mountain beaver and giant kangaroo rat could reduce habitat quality. Removal, burial, or destruction of giant kangaroo rat seed caches could lead to energy loss or starvation of one or more individuals. Covered Activities and habitat management activities are not anticipated to substantially decrease the prey base for San Joaquin kit fox because they will result in minor permanent impacts on habitat and impacts will typically be spread over a large area and extended timeframe.

The AMMs listed above for all covered wildlife and terrestrial wildlife will avoid and minimize impacts on covered mammals. Additional species-specific AMMs will apply to large activities:

- GKR-1 requires giant kangaroo rat burrow avoidance, biological monitoring of ground disturbing activities, burrow excavation and animal relocation if potentially occupied burrows and burrow precincts cannot be avoided.
- SJKF-1 requires surveys for potential dens prior to construction, 200-foot avoidance buffers for active dens, and exit ramps for excavations near active dens.

Additional AMMs will apply to all Covered Activities in known Hot Zones for Point Arena mountain beaver, including:

- Hot Zone-13 encourages avoidance of work during the Point Arena mountain beaver breeding season, and site-specific assessment by a biologist and avoidance of burrows if work cannot be scheduled outside of the breeding season.

Critical Habitat

Table I-4 includes estimated impacts on critical habitat for the 14 covered wildlife species for which critical habitat has been designated. Estimated impacts on critical habitat for Covered Species was determined through a GIS-based analysis using the latest USFWS maps of critical habitat units as boundaries (see MRHCP Chapter 4, Section 4.1.7 and Table 4-10 for details). Generally, impacts within specific critical habitat and individual critical habitat units are expected to be in proportion to the extent of the Plan Area within which that critical habitat unit is situated (MRHCP Table 4-10 and Table 4-11).

Covered Wildlife Mitigation

As detailed in MRHCP Section 5.6, *Habitat Mitigation*, PG&E will mitigate unavoidable impacts on habitat with equivalent or higher-value habitat by establishing conservation easements, funding enhancement and restoration on protected lands, or by purchasing credits from approved mitigation or conservations banks. Mitigation ratios are proposed as follows:

- Permanent impacts on covered wildlife: 3:1 (3 acres mitigated for every 1 acre permanently impacted), except for impacts on valley elderberry longhorn beetle, which will be mitigated at a 2:1 ratio, and San Joaquin kit fox moderate-value and low-value habitat, which will be mitigated at 1:1 and 0.5:1, respectively.
- Temporary impacts on covered wildlife: 0.1:1 to 1:1 (0.1 to 1.0 acres mitigated for every 1 acre temporarily impacted), depending on the species, type, and quality of the habitat.

As described in MRHCP Section 5.4.1.1, *Use of Habitat Models*, for most small activities (impacting less than 0.01 acre), PG&E will rely on the habitat models and the estimated activity sized in MRHCP Table 4-1 to determine the size of the impact to be mitigated. For medium and large activities impacting more than 0.01 acre, PG&E will determine mitigation requirements based on actual, on-the-ground impacts as measured in the field. As detailed in MRHCP Section 5.6.2.3, *Exceptions to Use of Models in Determining Mitigation*, PG&E will perform a site-specific habitat assessment for the following species to determine mitigation requirements and will not rely on the models: valley elderberry longhorn beetle, foothill yellow-legged frog, mountain yellow-legged frog, and Yosemite toad.

Covered Wildlife Impact Summary

MRHCP Table 4-36, shows the total acreage of impacts on covered wildlife habitat over the 30-year permit as a percentage of all estimated available habitat in the MRHCP study area. In MRHCP Section 4.3.2, *Effects of the Taking*, PG&E estimates that approximately 78.5% of impacts in a given year will be temporary. For most species, the total area estimated to be permanently impacted represents less than 0.1% of available modeled habitat in the study area with the following exceptions: Santa Cruz long-toed salamander breeding habitat (0.29%) and upland habitat (0.13%) and Mount Hermon June beetle habitat (0.10%). See MRHCP Chapter 4, Section 4.3.2 and Table 4-36 for more details.

On the whole and considering the geographic extent of the Plan Area relative to the Covered Species' ranges, impacts are projected to be very small. Additionally, PG&E's impacts will not be concentrated in time and space. Because Covered Activities will be conducted intermittently as needed, impacts will be distributed throughout the Plan Area in relation to the specific facilities, and most frequently will be temporary in nature.

With implementation of PG&E's environmental screening practices, application of AMMs and BMPs, adherence to the take limits in the ITP, and mitigation for unavoidable impacts as detailed in PG&E's conservation strategy, the Proposed Action is not anticipated to result in substantial direct mortality or substantial loss or degradation of habitat, including designated critical habitat, for covered wildlife. Over the 30-year permit term, impacts on covered wildlife species will be negligible, and the landscape-level, high-habitat-value compensatory mitigation lands provided will result in a net beneficial effect for species recovery.

3.5.3 Cumulative Effects

Like much of the rest of California, the Plan Area has been subject to cumulative impacts related to the loss and degradation of habitat as a result of land use practices over the past 150 years. Conversion to agricultural use, timber harvesting, and accelerating urbanization have been the primary factors in the loss of the Plan Area's native grassland, scrub, woodlands, forests, and riparian/wetland habitats. As a result of this land conversion, approximately 46% of the 566,000-acre Plan Area is mapped as nonnative communities, specifically urban (25.5%) and cultivated land (20.8%). The Plan Area's aquatic habitats have been affected by various types of pollutants, including agricultural and petroleum chemicals, pollutants delivered via urban runoff, and increased sediment delivery resulting from soil and vegetation disturbance from timber harvesting and construction. Habitat modifications and construction activities can affect individual plant and wildlife species and result in reductions in their populations, which can be detrimental to listed or other special-status species. The Proposed Action's contribution to this cumulative effect will be minimal considering the size of the Plan Area and the total acreage in the 34-county MRHCP study area.

PG&E's Covered Activities will contribute to habitat modifications and impacts on the 36 Covered Species (including designated critical habitat) in the MRHCP. Continued population and economic growth in the 34-county MRHCP study area will bring additional timber harvesting, agricultural conversion, land development, and other construction activities that could also affect habitats and individuals of both covered and non-covered plants and wildlife.

The MRHCP includes measures that adequately minimize and compensate for impacts on Covered Species. Any impacts from Covered Activities will be mostly small-scale, temporary, and dispersed over a linear utility rights-of-way. As part of the MRHCP conservation strategy, PG&E will provide habitat mitigation at an equivalent or higher-value habitat level, in most cases in advance of impacts on Covered Species. Even though the majority of impacts will be from temporary disturbance, PG&E will provide mitigation for both temporary and permanent impacts on modeled habitat. Therefore, the Proposed Action's contribution to impacts on the 36 Covered Species is not expected to preclude survival or recovery of any of the species when considered with other cumulative development within both the Plan Area, as well as the total acreage associated with the 34 counties in the study area.

With implementation of the MRHCPs BMPs and AMMs, the Proposed Action is not expected to result in a cumulatively considerable contribution to regional loss of natural habitats or impacts on covered individual plants or wildlife, and the proposed MRHCP is expected to result in a net long-term benefit with regard to providing compensatory mitigation to offset cumulative regional habitat loss. Based on the experience of PG&E's other HCPs, the MRHCP is expected to provide a cumulative benefit to long-term species recovery through collaboration with other HCPs and conservation efforts in the region to acquire and protect high-value conservation lands. Refer to Appendix J of this EA for other large-scale conservation efforts in the MRHCP study area. The mitigation provided under the MRHCP conservation strategy will also result in corollary benefits to common and special-status plants and wildlife using the habitats preserved and protected.

3.6 Cultural Resources

3.6.1 Affected Environment

Cultural resources, including built environment resources as well as prehistoric and historic era archaeological resources, could occur throughout the Plan Area. In general, prehistoric habitation sites are more likely to be located near streams or other water sources and in sheltered, flat areas. However, prehistoric campsites or special use sites may be located anywhere on the landscape. Historic habitation sites can be predicted to some extent based on historic maps, but some habitations and many special use sites (e.g., mines, refuse deposits) were never mapped. Many PG&E facilities and structures have been or may be eligible for designation as historic resources.

Although most of the Covered Activities will be conducted within or immediately adjacent to existing PG&E rights-of-way, specific work sites within PG&E's infrastructure network are not reasonably foreseeable at this time; therefore, it is not feasible to survey individual work sites for the purpose of this analysis. As described in Appendix F of this EA, PG&E employs cultural resource specialists, all of whom meet the Secretary of the Interior's Professional Qualification Standards for archaeology or architectural history. PG&E's cultural resource specialists work closely with environmental, engineering, and construction personnel to ensure PG&E's baseline operations and maintenance activities comply with all applicable cultural resource laws and regulations, as well as with PG&E's internal cultural resources protection practices. As detailed in Appendix F, PG&E's cultural resources protection practices focus on (1) assessing and minimizing the potential for damage to significant cultural resources as a result of Covered Activities should any such resources be present on work sites; and (2) developing strategies to ensure appropriate avoidance or mitigation of potential impacts.

3.6.1.1 Consultation with Local Tribal Organizations

Secretarial Order 3206, *American Indian Tribal Rights, Federal-Tribal Trust Responsibilities, and the Endangered Species Act*, seeks to strengthen government-to-government relations, streamline the consultation process, and ensure full tribal representation. No comments were received from federally-recognized tribes (Appendix K).

3.6.2 Environmental Consequences

Ground disturbance associated with Covered Activities could damage cultural resources or human remains on or below the ground surface.

To avoid and minimize impacts, PG&E will continue to screen ground-disturbing Covered Activities for their potential to affect cultural resources using cultural resource specialists or automated tools, depending on the location, type of activity, and extent of ground disturbance, as described in Appendix F. The screening process will prescribe appropriate measures to avoid known resources, such as worker training, minimizing disturbance, exclusion fencing and flagging, and/or construction monitoring. If the cultural resource specialist determines construction will be in an area with high potential for buried cultural resources or human remains, the cultural resource specialists will prescribe procedures for addressing unanticipated discoveries following standard protocols. Any required avoidance measures and unanticipated discovery procedures will be included in each release to construction document. Furthermore, PG&E will implement MRHCP AMMs to minimize effects on cultural resources, including FP-01/BMP-1 (worker training), FP-02 (park vehicles on existing roads designated areas), FP-03/Plant-02/BMP-4 (use existing roads), and FP-10 (minimize disturbance footprint). Therefore, impacts on culture resources are not expected to be significant.

Management activities on mitigation lands may require limited excavation by land management partners (e.g., for fence installation). However, because of the limited extent and magnitude of these minor ground-disturbing activities, mitigation land management is not expected to substantially affect cultural resources.

3.6.3 Cumulative Effects

Because some Covered Activities will require ground disturbance, the Proposed Action will have the potential to damage or destroy buried cultural materials. However, based on the screening, training, avoidance, and unanticipated discovery procedures described in Appendix F, the contribution of Covered Activities to a cumulative impact will be avoided, minimized, and mitigated to the extent practicable. Any residual effect will not represent a cumulatively considerable contribution, nor will it result in a cumulatively considerable effect.

3.7 Environmental Justice

3.7.1 Affected Environment

Environmental justice embodies the concept that disadvantaged populations must not experience disproportionate adverse impacts as a result of any federal action. Disproportionate adverse impacts on minority and/or low-income populations are generally referred to as environmental

justice impacts in this EA. As detailed in Appendix D of this EA, environmental justice issues are addressed in both state and federal regulations, and compliance with NEPA requires analysis of environmental justice impacts.

At the county level, none of the counties in the MRHCP study area has greater than 50% of the population living below the federal poverty level; however, 20 of the 34 counties have median household incomes below the state average. Similarly, none of the counties in the study area has greater than 50% minority population (U.S. Census Bureau 2010). However, environmental justice impacts are typically detected at a community or neighborhood level, rather than at the county-wide level.

The CalEnviroScreen mapping tool uses environmental, health, and socioeconomic information to produce scores for every census tract in the state. The combined CalEnviroScreen score is based on potential exposures to pollutants, adverse environmental conditions, socioeconomic factors, and prevalence of certain health conditions. Within the study area, census tracts scoring greater than 75% in CalEnviroScreen are located primarily in the communities of Watsonville, Salinas, Marina, Sacramento, Chico, Thermalito, and Yuba City.

PG&E's environmental justice policy (Appendix F of this EA) applies to most Covered Activities that require a routing or facility placement decision, even in instances where facilities currently exist. Under its environmental justice policy, PG&E may decide to relocate or reroute facilities in instances where a disproportionate number of facilities already exist in a particular neighborhood. Projects that require approval by the CPUC are subject to the CPUC's Environmental and Social Justice Action Plan (CPUC 2019).

3.7.2 Environmental Consequences

Because of demographic factors, almost any adverse effect associated with the Proposed Action has the potential to represent an environmental justice concern in select communities in the Plan Area. However, the majority of Covered Activities are ongoing and impacts of the Proposed Action will not change the baseline condition for existing facilities. Covered Activities under the Proposed Action will be implemented based on system requirements and customer needs on an as-needed basis over a broad geographic region. Although these activities will be implemented adjacent to existing PG&E infrastructure and facilities, the specific location, nature, and scope of these activities over the 30-year permit term have yet to be determined. Consequently, the identification of communities affected by these activities and specific environmental justice impacts would be purely speculative at this time. However, as discussed throughout this EA, environmental impacts from PG&E's Covered Activities are expected to be minimal, predominantly temporary, and dispersed over a large geographic area rather than concentrated in any particular community.

As a regulated public utility, PG&E is obligated by the State of California to provide service to customers within their service area, regardless of socioeconomic status, ethnicity, or other demographic characteristics. Covered Activities required to provide and maintain service are not expected to disproportionately affect one group over another. Management activities on mitigation lands are expected to be small-scale, temporary, infrequent, and are likely to be implemented on unpopulated open lands with minimal potential for environmental justice impacts. Further, PG&E has an established companywide policy in place that requires the company to identify and address potential environmental justice impacts. This policy will carry forward for activities implemented

under the MRHCP. Therefore, the Proposed Action is not expected to result in disproportionate adverse impacts on environmental justice communities in the Plan Area.

3.7.3 Cumulative Impacts

As detailed above, incremental impacts related to environmental justice are expected to be minimal throughout the 30-year permit term. Covered Activities will be distributed across the Plan Area and will not differ substantially from impacts that currently occur and would persist with or without the Proposed Action. With implementation of PG&E's environmental justice policy, the Proposed Action is not expected to result in cumulatively considerable environmental justice impacts.

3.8 Geology, Soils, and Paleontological Resources

3.8.1 Affected Environment

The Plan Area encompasses a diverse geologic setting that includes five geomorphic provinces. Refer to MRHCP Chapter 2, Section 2.1, *Geographic Overview*, for more background on the geologic setting of the Plan Area.

PG&E's existing gas and electric facilities in the Plan Area are installed across and near numerous active faults, and the seismic ground shaking potential ranges widely, from low to high. Portions of the Plan Area are also susceptible to liquefaction and landslides. Additional information regarding the geologic and soil conditions in the Plan Area are available in Chapter 2 of the MRHCP.

Ground shaking in the Plan Area could be sufficient to damage existing facilities in some areas. The primary concerns associated with surface rupture, ground shaking, and seismic-induced ground failure are the safety risks to people and the potential damage to the structures. Indirect impacts include service disruption and fires that could be caused by damage to electric or gas facilities. Fault crossings also pose a hazard to facilities. Some of the existing facilities are located in areas that are susceptible to liquefaction and landslides, and in areas with expansive or corrosive soils. However, the geologic hazards in the Plan Area are part of the baseline conditions for PG&E's existing facilities and their associated operations and maintenance activities; they will not change with the Service's issuance of the ITP.

Geologic units with potential to contain paleontological resources⁴ occur throughout the Plan Area.

3.8.2 Environmental Consequences

3.8.2.1 Geology and Soils

Covered Activities could be implemented in areas subject to the geologic hazards and could result in indirect impacts that increase the risk of slope failure.

PG&E designs its facilities to comply with the applicable CPUC standards (GO 95 for electric facilities; GO 112-E for gas facilities) and relevant sections of the California Building Code (where not superseded by CPUC regulations). Substation expansions are designed and constructed in

⁴ For the purposes of this analysis, paleontological resources are defined as fossilized remains of vertebrate and invertebrate organisms, tracks and trackways, and plants.

conformance with Institute of Electrical and Electronics Engineers (IEEE) 693 standards. These codes include a wide variety of stipulations relevant to reducing risks from seismic, geologic, and soil hazards, including requirements for foundation and structural design and structural tolerances. Depending on the extent, nature, and location of proposed earthwork and construction, PG&E prepares a site-specific geotechnical investigation for new construction activities to provide a geologic basis for the development of appropriate project design to minimize risks from geologic and soil hazards. MRHCP AMMs that will be implemented to minimize effects related to geology and soils include FP-01/BMP-1 (worker training), FP-02 (park vehicles on existing roads or designated areas), FP-03/Plant-02/BMP-4 (use existing roads), FP-11 (erosion and sediment control), FP-12 (stockpile management), FP-14 (work site restoration), and Plant-03 (topsoil conservation).

Adherence to relevant CPUC, IEEE 693, and building codes earthwork standards, and implementation of PG&E's existing environmental practices will reduce the potential for facility damage from geologic hazards and minimize the safety risks to personnel and the public from new and existing facilities. In addition, new facilities will be built using more stringent building requirements than were applied to previously built facilities.

Covered Activities also have the potential to result in erosion and loss of topsoil where the ground is disturbed or vegetation is removed. Management activities on mitigation lands are not anticipated to require significant soil disturbance or vegetation removal that will increase erosion. Potential impacts of soil loss are further discussed in Section 3.9, *Hydrology and Water Quality*.

With implementation of PG&E's standard environmental practices and MRHCP AMMs, as well as compliance with applicable utility standards and regulations, the potential effect of the Proposed Action related to geology and soils will be negligible.

3.8.2.2 Paleontological Resources

Covered Activities will be conducted in or near existing PG&E rights-of-way, which have undergone varying levels of disturbance. However, some of these activities, such as trenching for new pipeline extensions, auguring for new or replacement electric transmission poles and structures, and excavating for substation expansions, have the potential to unearth and damage unanticipated paleontological resources. As part of PG&E's standard environmental practices, if work crews uncover significant paleontological resources during earthwork, the crew foreman will halt work within 100 feet of the find and report it to a PG&E cultural resources specialist for further evaluation, as detailed in Appendix F of this EA. MRHCP AMM FP-10 will also minimize effects on paleontological resources by minimizing the disturbance footprint of Covered Activities. Management activities on mitigation lands are not expected to require substantial excavation that will adversely affect paleontological resources.

With implementation of PG&E's standard environmental practices and MRHCP AMM FP-10, as well as compliance with applicable state and federal laws, the potential effect of the Proposed Action on paleontological resources will be negligible.

3.8.3 Cumulative Effects

3.8.3.1 Geology and Soils

PG&E will design and engineer minor new construction projects to industry construction standards and anticipates that proponents of other development projects in the vicinity of the Plan Area do the same such that cumulative effects related to seismic and other geologic and soil hazards would not be considerable.

3.8.3.2 Paleontological Resources

During the 30-year term of the ITP, other activities in the Plan Area that could affect paleontological resources include construction projects and mining. The scale of PG&E's Covered Activities under the Proposed Action is minimal compared with large-scale development projects and mining operations, and effects on paleontological resources will not be cumulatively considerable over the 30-year term of the permit.

3.9 Hydrology and Water Quality

3.9.1 Affected Environment

The Plan Area includes most of the major watershed lands in PG&E's service area, including numerous streams, rivers, lakes, and wetlands located in the vicinity of existing facilities and the location of future minor new construction activities. Approximately 139 groundwater basins underlay the Plan Area (California Department of Water Resources 2015). These groundwater basins represent a significant water supply source for domestic and agricultural use in valley regions. Chapter 2, Section 2.1 of the MRHCP contains a high-level overview of the hydrology in each of the regional planning areas that constitute the Plan Area.

To minimize impacts on watersheds and groundwater basins in the Plan Area, PG&E's baseline operations and maintenance activities currently follow water quality protection standard practices, such as implementation of erosion and sediment control measures, and hazardous materials spill prevention, reporting, and clean up.

3.9.2 Environmental Consequences

Implementation of Covered Activities in the Plan Area could result in temporary impacts on hydrology and water quality, including the following effects.

- Changes to drainage patterns.
- Increased impermeable surfaces, which could increase stormwater runoff and reduce groundwater infiltration.
- Increased soil disturbance and potential to transport sediment offsite in stormwater runoff.
- Pollution introduced by use of hazardous materials.

Under the MRHCP, PG&E will continue to implement its environmental practices for water quality and hydrology to ensure compliance with state and federal water quality laws and minimize impacts on water quality from Covered Activities (see Appendix F of this EA). In addition, several of the

proposed field protocols, AMMs, and vegetation management BMPs in the MRHCP that are aimed at addressing impacts on listed species will protect hydrology and water quality as well. These include measures that reduce the footprint of disturbance (FP-01, FP-02, FP-03, FP-10, Plant-02, and BMP 4), measures that require sediment and erosion control (FP-11, FP-12, FP-14, and BMP 10), measures that prevent hazardous materials spills in waters and riparian areas (FP-15, BMP 8, BMP 9, BMP 11), measures that require buffers from waters, wetlands, and vernal pools (FP-16, Wetland-1, Wetland-2, and BMP 14), and measures to keep cleared vegetation out of waters (BMP 12). Implementation of the MRHCP conservation strategy will provide landscape-level mitigation in advance of impacts on Covered Species, which will likely have greater benefits for watersheds and water quality than project-by-project mitigation agreements.

PG&E has existing facilities in or near floodplains that are part of the baseline condition. New or expanded facilities, such as pipelines, tower footings, or power poles, may need to be located in floodplains or within the 100-year flood zone. The majority of new or expanded facilities located in floodplains will either be placed underground (pipelines) or will be small (poles or footings) and, therefore, will not obstruct flood flows. Minor new construction activities involving the construction of larger facilities, such as substation expansions or pressure limiting stations, will be designed to meet or exceed flood-resistant construction standards established by the CPUC. Consequently, an increase in flood risk is unlikely and any potential impacts will be minimal.

As noted in the MRHCP, most Covered Activities will be conducted in upland areas. However, when work in waters is required, PG&E will be subject to additional permitting requirements from state and federal agencies, such as the State Water Resources Control Board, Regional Water Quality Control Board, California Department of Fish and Wildlife, and USACE. See MRHCP Section 1.4.4, *Federal and State Water and Wetland Laws and Regulations*, and Appendix D of this EA for more information about regulations related to hydrology and water quality.

Although some Covered Activities such as substation expansion and pressure limiting station construction will create new impermeable surfaces, these activities will be relatively small in scope, diffuse throughout the Plan Area, and infrequent over the 30-year permit term. Consequently, any decreases in groundwater infiltration or increases in surface runoff will be negligible.

Management activities on mitigation lands are not anticipated to require substantial grading or ground disturbance, vegetation removal, or onsite use or cleaning of equipment. Therefore, water quality impacts are anticipated to be negligible.

With implementation of PG&E's water quality protection practices and MRHCP AMMs, as well as compliance with applicable state and federal regulations, the potential effect of the Proposed Action on hydrology and water quality will be minimal.

PG&E will continue to implement its standard erosion and sediment control practices and water quality control measures, which require review of the geologic and soil conditions at each worksite and identification of site-specific measures to address slope stability and erosion potential prior to construction. Construction projects will comply with relevant construction stormwater permit requirements under state and federal laws, including preparation and implementation of a Stormwater Pollution Prevention Plan (SWPPP) with appropriate erosion and sediment control measures for any activities with the potential to disturb an area greater than 1 acre.

3.9.3 Cumulative Effects

Over the 30-year permit term, actions carried out by other entities in the Plan Area that could combine with PG&E's impacts on water quality from Covered Activities include other construction projects, agriculture, timber harvesting, industrial water discharges, and mining. Increased sediment and pollutant delivery can increase water turbidity, degrade aquatic habitat quality, alter stream function, and increase infrastructure and channel maintenance costs.

As previously discussed, PG&E will implement standard water quality protection practices and HCP AMMs and vegetation management BMPs, and will continue to comply with requirements of state and federal laws and regulations for protection of water quality. With these measures in place, sediment generated by individual activities will be effectively reduced. Nonetheless, erosion and sediment movement will not be entirely eliminated, and sediment delivery could be locally and temporarily increased. Excess sediment load delivered to area waterways will primarily be confined to fine sediment, which may be carried long distances in suspension, dropping out of the water column when flow velocity subsides. Because the temporary increase in sediment discharge will be delivered in discrete pulses, one pulse is expected to move through the local system and be deposited before the next arrives. Thus, the short-term effects of increased sediment loading are not expected to be considerable from a cumulative perspective, nor is the likely increase in sediment transport expected to create a new, significant, or additive cumulative effect on systems not already identified as impaired.

As previously discussed, substation expansion and pressure limiting station construction will result in a permanent increase of impermeable surfaces. As stated in Chapter 1 of the MRHCP (Table 1-1, *MRHCP Plan Area Overview*, footnote b), approximately 90% of minor new construction activities will be implemented in natural vegetation and agricultural lands (with the remaining 10% of activities in previously developed urban areas), creating a maximum average of approximately 3.9 acres of new permanent impermeable surfaces in the approximately 565,800-acre Plan Area annually over the 30-year permit term.⁵ When added to the increase of impermeable surfaces associated with other development projected in the state, the Proposed Action's contributions to any decrease in groundwater infiltration are not cumulatively considerable.

3.10 Noise

3.10.1 Affected Environment

PG&E's system and facilities coexist in the Plan Area landscape in a variety of noise settings, from quiet undeveloped and rural landscapes to noisy metropolitan areas. PG&E's baseline operations and maintenance activities require periodic use of noise-generating equipment, such as generators, construction equipment, helicopters, and work vehicles.

3.10.2 Environmental Consequences

The primary sources of noise and vibration will be work vehicles and construction equipment required to complete Covered Activities. The Proposed Action will not change the baseline condition

⁵ This value assumes the maximum of 10 acres of substation expansion and 0.55 acres of pressure limiting station construction allowable under the MRHCP.

for noise generated from operations and maintenance activities on existing facilities. The specific location, nature, and scope of minor new construction activities have yet to be determined; therefore, site-specific information is not available, and a detailed impact analysis is infeasible at this time. Nevertheless, because of the nature of this work, generation of noise will be relatively small scale, limited in scope, and short term. PG&E will implement standard noise abatement practices (see Appendix F of this EA). Although some minor new construction activities may require the use of a helicopter in some circumstances, those applications will typically be away from sensitive noise receptors and limited to remote locations that are difficult to access. Activities that could cause groundborne vibration, such as pile driving, are not anticipated. Management activities on mitigation lands are similarly anticipated to have negligible noise impacts because they are not likely to be implemented near residences or involve substantial use of mechanized equipment.

Expanded or new facilities will create a new permanent source of substantial noise. Substation expansion projects may add additional transformers; however, noise impacts are not strictly additive. Rather, when adding a noise level to an approximately equal noise level, the total noise level increases 3 A-weighted decibels. Any substation expansions beyond the existing utility-owned parcel will require a Permit to Construct from the CPUC and will be subject to a site-specific noise impact analysis that considers impacts on nearby noise-sensitive receptors. As a result, the potential effect of the Proposed Action related to noise will be negligible.

3.10.3 Cumulative Effects

The Plan Area includes a diversity of land uses ranging from urban to agricultural and rural. Urban and rapidly developing areas are typically subject to cumulative noise impacts, while agricultural and rural areas are much less likely to be so impacted. Because of the diversity of noise environments in the Plan Area, a regional cumulative impact is essentially the ambient noise environment. As previously described, site-specific information to complete a detailed impact analysis is not available at this time. Noise levels for these activities are expected to be similar, however, to existing levels for ongoing operations and maintenance and minor new construction activities currently implemented by PG&E.

Covered Activities will be distributed across the Plan Area. Because of the activities' wide geographic distribution and short-term, intermittent nature, the Proposed Action is not expected to result in a cumulatively considerable effect on noise conditions.

3.11 Public Health and Environmental Hazards

3.11.1 Affected Environment

The Plan Area supports a diversity of land uses and numerous transportation corridors that contain various potential hazards that pose risks to human health and safety. Some of these hazards are natural, such as wildfire, steep slopes, and seismic hazards, while others are a result of human activities, such as hazardous material sites, pesticide use in agricultural areas, and urban areas located in high fire hazard areas.

Contaminants associated with the various uses in the Plan Area include a variety of fuels and other petroleum distillates; pesticides, fertilizers, and other agricultural chemicals; lead; radioactivity; and volatile and semi-volatile organic chemicals. The Environmental Protection Agency and the

California Department of Toxic Substances Control maintain lists of hazardous materials sites, and both agencies are responsible for monitoring clean-up efforts and ensuring the sites do not pose substantial hazards to the environment or people. Numerous hazardous materials sites have been recorded in the Plan Area, including several federal Superfund sites in various stages of remediation (California Department of Toxic Substances Control 2018).

The Plan Area contains a mixture of urban areas and open space; the area where development is adjacent to open space is referred to as the wildland urban interface. Wildfire can threaten communities and buildings in this interface. The state maps fire hazard severity and identifies wildfire threat areas. Approximately 35% of the Plan Area is in State Responsibility Areas categorized as having high or very high wildfire risk (California Department of Forestry and Fire Protection 2007). Approximately 39% of the Plan Area is mapped as being in the High Fire-Threat District on the CPUC Fire-Threat Map (CPUC 2018).

Existing PG&E facilities in the Plan Area are located in wildfire threat areas and wildland urban interfaces. Some facilities are likely to be located near hazardous material sites or other hazardous areas, such as airports or airstrips, or on steep slopes. The facilities themselves also pose hazards, which may result from fire caused by electrical facility damage or gas leaks from pipelines. Damage to the facilities could result in damage to nearby buildings or structures or pose safety risks to people. The facilities are exposed to various environmental and human-posed hazards. PG&E performs routine maintenance of its facilities to keep them in proper working condition and minimize public health or safety risks, as well as the risk of damage to other buildings or structures.

PG&E's baseline operations and maintenance activities require regular use of substances meeting the California Code of Regulations Title 22 definition of hazardous materials, including vehicle fuels, lubricants, and hydraulic fluid for vehicles and equipment; concrete, epoxy, paints, and/or asphalt used for paving; paints, adhesives, and waterproofing compounds; and other substances needed for specific projects. PG&E employees and contractors handle, store, and transport hazardous materials and cleans up any spills in compliance with applicable laws and regulations (see Appendix D of this EA).

3.11.2 Environmental Consequences

Covered Activities will require use of the same types of hazardous materials that are used for PG&E's baseline operations and maintenance activities. Spills or releases of any of these substances could result in localized contamination and could contribute to degradation of surface water and groundwater quality and result in potential health effects. PG&E will continue to comply with applicable state and federal laws, regulations, and requirements pertaining to hazardous materials and hazardous wastes, such as the Federal Toxic Substances Control Act; Clean Water Act ; Clean Air Act; Solid Waste Disposal Act; and Comprehensive Environmental Responsibility, Compensation, and Liability Act (refer to Appendix D, *Regulatory Overview*, for more information on these laws). Management activities on mitigation lands may require minimal use of hazardous materials to operate vehicles and equipment; however, quantities are anticipated to be minimal.

The Clean Water Act requires the preparation of a SWPPP that includes a Spill Prevention and Response Plan for activities with the potential to disturb an area greater than 1 acre. The Spill Prevention and Response Plan will identify the hazardous materials to be used during construction; describe measures to prevent, control, and minimize the spillage of hazardous substances; describe transport, storage, and disposal procedures for these substances; and outline procedures to be

followed in case of a spill of a hazardous material. PG&E also implements its own hazardous materials practices for all operations and maintenance and construction activities (see Appendix F of this EA) and will implement MRHCP AMMs to minimize impacts, including FP-01/BMP-1 (worker training), FP-02 (parking areas), FP-03/BMP-4/Plant-02 (use existing roads), FP-08 (no trash dumping or fires), FP-15/BMP-8 (refueling restrictions), FP-16/Wetland-1/Wetland-2/BMP-14 (buffers for wetlands and vernal pools), and BMPs 28–35 (herbicide practices) to further reduce hazardous material-related risks.

In response to the 2017 and 2018 wildfires, PG&E has expanded its Community Wildfire Safety Program to accelerate inspection of existing electric infrastructure, upgrade to more fire-resistant poles and power lines, enhance vegetation management and fire monitoring, and employ preventative power shutoffs during periods of extreme fire risk. In addition to this ongoing program, PG&E will implement AMMs identified in the MRHCP during all Covered Activities, including FP-08 (no open fires) and FP-09 (fire protection equipment), and consult with local and state jurisdictions regarding wildfire hazards in accordance with its standard companywide fire risk management practices (see Appendix F of this EA). During vegetation management activities, PG&E will implement BMPs 23–26 and BMPs 38–40. With these commitments, PG&E's activities will not increase risks associated with wildfire hazards.

Issuance of the ITP and implementation of the MRHCP will not substantially change public exposure to the hazards associated with PG&E's existing infrastructure and operations and maintenance practices. With implementation of PG&E's hazardous materials and fire risk management practices and compliance with applicable state and federal regulations, the potential effect of the Proposed Action on public health will be negligible.

3.11.3 Cumulative Effects

Considering PG&E's existing environmental practices and the additional protection provided by the SWPPP requirement, adverse effects related to spills or releases of hazardous materials and wildfire are expected to be minimal. To create an additive cumulative effect, multiple spills or releases will need to occur in the same area or in hydrologically connected areas. This is considered unlikely but could occur because PG&E's existing rights-of-way represent areas where similar activities are repeated over the long term. Thus, there is some, probably minor, potential for additive cumulative effects related to hazardous materials use along PG&E's existing rights-of-way. Because of regulatory clean-up and remediation requirements, the additive cumulative effect, if any, is not expected to be cumulatively considerable.

California has historically experience periods of drought and high wildfire risk. PG&E's electric transmission infrastructure together with other human and natural activities in the Plan Area will continue to contribute to wildfire risk in the future. However, issuance of the ITP and implementation of the MRHCP will not substantially change public exposure to the hazards associated with PG&E's existing infrastructure and operations and maintenance practices. PG&E's expanded Community Wildfire Safety Program will continue on existing facilities, and any new facilities constructed following issuance of the ITP will be incorporated into this program. Therefore, impacts of the Proposed Action are not anticipated to contribute to a cumulatively considerable impact.

3.12 Visual Resources

3.12.1 Affected Environment

The visual setting of the Plan Area is characterized by a wide variety of land uses. Agricultural lands, forests, recreation areas, open space, and coastline provide some of the Plan Area's key aesthetic resources. Views along roads and highways in the Plan Area vary from undisturbed views of natural lands and ocean landscapes to developed urban settings with limited distant views. PG&E's infrastructure in the Plan Area is located in or adjacent to undeveloped land, agricultural areas, small and mid-sized communities, and urban centers. These facilities are part of the existing visual setting of the area, and the visibility of the facilities varies depending on their locations and proximity to key viewpoints, such as scenic highways or overlooks. Mitigation lands are generally located in and adjacent to open space areas.

PG&E's baseline operations and maintenance activities can change the appearance of existing facilities by intersetting new structures, increasing the height of existing towers with cage extensions, replacing existing structures with taller structures, adding lighting to existing facilities or structures, and pruning and removal of trees for safety purposes. Baseline operations and maintenance activities typically result in a minor incremental change to the existing visual setting.

3.12.2 Environmental Consequences

The Proposed Action will not change the scope of baseline operations and maintenance activities on existing facilities or their potential to cause minor incremental changes to the existing visual setting. The specific location, nature, and scope of minor new construction activities have yet to be determined; therefore, site-specific information is not available and a detailed impact analysis is infeasible at this time. However, in general, Covered Activities requiring construction of underground infrastructure (such as gas pipeline extensions and underground line construction) will result in visual effects during construction, such as removal of vegetation and staging of construction equipment. Although construction activities may result in changes to visual character, these effects will be relatively short term and temporary. Once construction activities are completed, disturbed areas will be restored to near pre-construction conditions. Operation of these facilities will not result in substantial permanent changes to visual character, although vegetation management will be required over buried facilities to prevent damage from tree roots.

Other Covered Activities, such as installation of new structures or expansion of existing facilities, may result in some permanent changes to visual character in the Plan Area. New or expanded structures or facilities will be located immediately adjacent to existing PG&E infrastructure and, therefore, are anticipated to be consistent with existing local visual character. As detailed in Appendix F of this EA, PG&E staff evaluates visual impacts of new or substantially taller replacement structures to confirm the activity will not substantially degrade the existing visual character or quality of public view of the site and its surroundings. As required by CPUC GO 131-D, new electric transmission line extensions and substation expansions beyond the existing utility-owned property will require additional environmental review by the CPUC, including a site-specific assessment of impacts on aesthetics. Management activities on mitigation lands are not anticipated to substantially change the visual character of the local setting.

Moreover, PG&E implements companywide practices aimed at reducing both temporary and permanent visual effects during construction and operation of its facilities (see Appendix F of this EA). PG&E will also implement AMMs identified in the MRHCP to minimize visual effects, including FP-03/BMP-4/Plant-02 (use existing roads), FP-04 (avoid impacts on trees and unique natural features), FP-08/BMP-26 (prohibit trash dumping onsite), FP-10 (minimize footprint and duration of Covered Activities), and FP-14 (site restoration for large activities).

Because Covered Activities will be located adjacent to existing PG&E facilities and infrastructure, and because implementation of PG&E's standard environmental practices and MRHCP AMMs will minimize visual resource effects, the Proposed Action is anticipated to result in negligible changes to the visual character in the Plan Area.

3.12.3 Cumulative Effects

Although Covered Activities may result in some temporary and permanent changes to visual character in the Plan Area, the Proposed Action is not expected to result in a cumulatively considerable effect on visual resources because these activities will be widely distributed across the Plan Area and any potentially cumulatively considerable visual effects will be further reduced with implementation of PG&E's standard environmental practices.

3.13 Unavoidable Adverse Effects

As detailed in this chapter, with implementation of the MRHCP conservation strategy, PG&E's environmental practices, and compliance with state and federal environmental laws and regulations, the Service does not anticipate any unavoidable adverse effects resulting from issuance of the ITP. Issuance of the ITP by the Service and implementation of the MRHCP conservation strategy by PG&E will not substantially change the environmental effects of PG&E's Covered Activities beyond existing baseline conditions, and the MRHCP conservation strategy is designed to provide a net benefit to Covered Species and other species that will benefit from permanent conservation of PG&E's proposed mitigation lands.

Appendix A List of Preparers

APPENDIX A

List of Preparers

The individuals listed herein were involved with the preparation of this Environmental Assessment.

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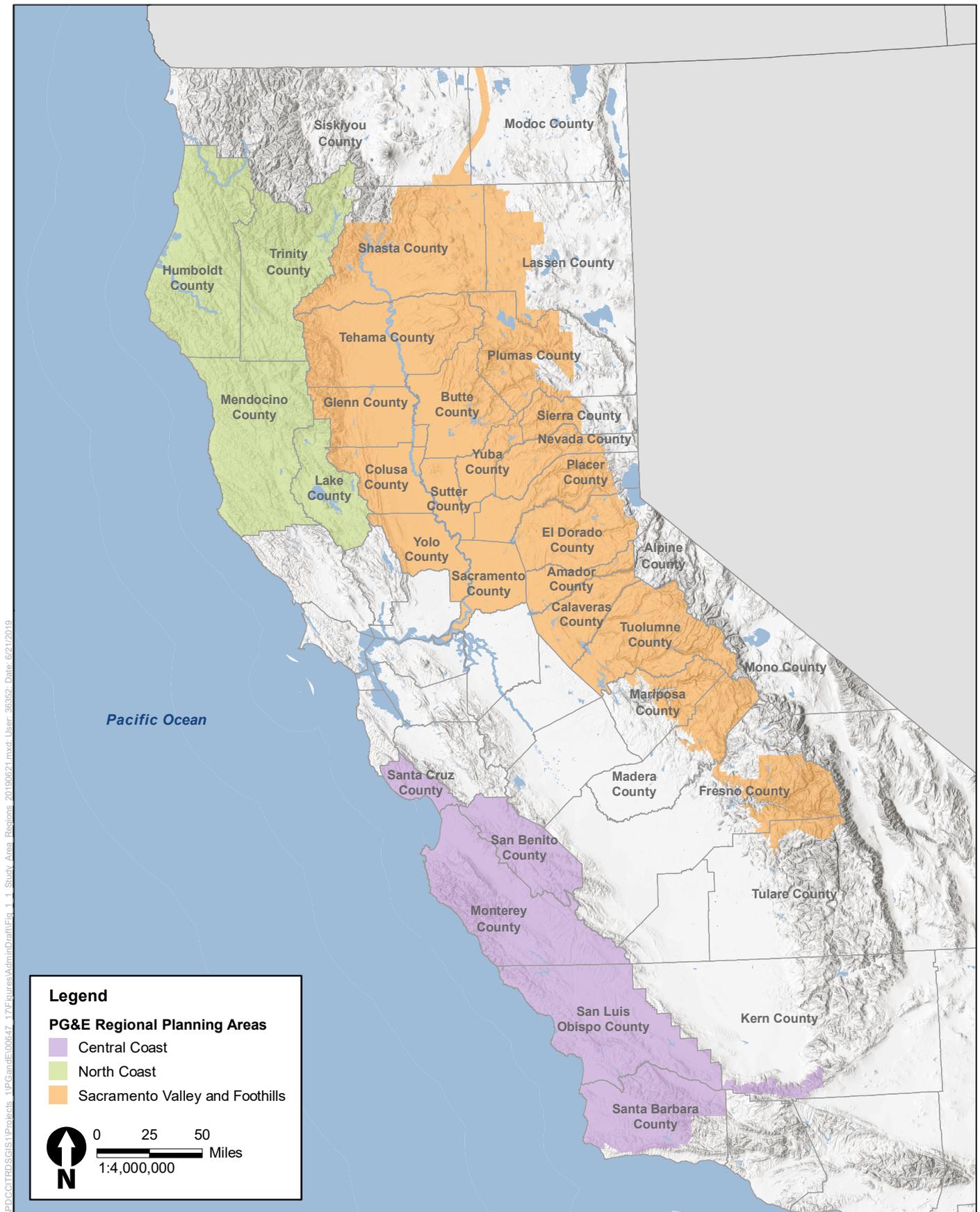
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Appendix C Study Area and PG&E Regional Planning Areas



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Figure C-1
Study Area and PG&E Regional Planning Areas

Appendix D Regulatory Overview

Regulatory Overview

Federal and state laws and regulations¹ relevant to the Environmental Assessment (EA) analysis of the Proposed Action are summarized by resource area below. Regulatory information for resources areas that have been excluded from detailed analysis in this EA is not included. Additional regulatory context and information is provided in Chapter 1, Section 1.4, *Regulatory Context*, of the Multiple Region Operation and Maintenance Habitat Conservation Plan (MRHCP).

D.1 Air Quality

D.1.1 Federal

Clean Air Act. Mandates that the Environmental Protection Agency develop rules and regulations to preserve and improve air quality and delegates specific responsibilities to state and local agencies.

D.1.2 State

California Clean Air Act. (AB 2595, Stats. 1988, Chapter 1568). Requires nonattainment areas to achieve and maintain the state ambient air quality standards by the earliest practicable date and local air districts to develop plans for attaining those standards.

Asbestos Airborne Toxic Control Measure for Construction, Grading, Quarrying, and Surface Mining Operations. Minimizes the generation of asbestos from earth disturbance or construction activities.

D.1.3 Regional

Regional air quality management districts in the Plan Area are responsible for implementing air quality regulations pursuant to delegated state and federal authority, including developing plans and control measures for stationary sources of air pollution to meet the National Ambient Air Quality Standards and California Ambient Air Quality Standards. They also enforce permit programs for the construction, modification, and operation of sources of air pollution.

D.2 Biological Resources

Federal and state regulations relevant to biological resources are discussed in Section 1.4.2 of the MRHCP.

¹ Through Article VII, Paragraph 5 of the California Constitution, the state legislature, vests the California Public Utilities Commission (CPUC) with exclusive jurisdiction over the siting and design of gas and electric facilities. California Public Utilities Code Section 1007.5 and other California statutes and case law detail the nature and extent of this sole discretionary permitting authority. Because state law has preempted the field, PG&E is not subject to local land use planning or zoning requirements. While PG&E's utility related activities are solely regulated by CPUC and are thus not subject to local zoning ordinances, PG&E consults with local cities and counties to ensure that local concerns and issues are considered during the project planning process; construction and O&M activities are developed and implemented in such a way as to comply with existing local zoning ordinances, when feasible.

D.3 Cultural Resources

D.3.1 Federal

National Historic Preservation Act. Addresses potential impacts to historic properties (resources that are eligible for listing on the National Register of Historic Places).

Native American Graves Protection and Repatriation Act. Requires federal agencies to consult with the appropriate Native American Tribes prior to the intentional or inadvertent excavation of human remains and funerary objects on federal and tribal lands.

Archaeological Resource Protection Act. Regulates the excavation of archaeological sites on federal and Indian lands in the United States, and the removal and disposition of archaeological resources.

American Antiquities Act. Prohibits appropriation, excavation, injury, and destruction of “any historic or prehistoric ruin or monument, or any object of antiquity” located on lands owned or controlled by the federal government, without permission of the secretary of the federal department having jurisdiction.

D.3.2 State

Assembly Bill 52. Established that Tribal Cultural Resources must be considered by the lead agency under the California Environmental Quality Act and provided for additional Native American consultation requirements to be undertaken by the lead agency.

Native American Heritage Act. Established the Native American Heritage Commission and protects Native American religious values on state property.

Health and Safety Code and Public Resources Code (PRC). Requires that construction or excavation be stopped in the vicinity of discovered human remains until the county coroner can determine whether the remains are those of a Native American and establishes when a lead agency is required to work with appropriate Native American representatives (as identified by the Native American Heritage Commission) (Health and Safety Code Section 7050.5). Requires consultation with the State Historic Preservation Officer when a project may affect historical resources located on state-owned land (California PRC 5024).

D.4 Environmental Justice

D.4.1 Federal

Executive Order 12898 (*Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*) Issued February 11, 1994, Executive Order 12898 was intended to ensure that federal actions and policies do not result in disproportionately high adverse effects on minority or low-income populations. It requires each federal agency to take “appropriate and necessary” steps to identify and address any such disproportionate effects resulting from its programs, policies, or activities, including those it implements directly and those for which it provides permitting or funding. Additional guidance from the President’s Council on Environmental Quality (1997) clarifies that environmental justice concerns may arise from effects on the natural or

physical environment that produce human health or ecological outcomes or from adverse social or economic changes.

D.4.2 State

PRC Section 71113. Requires the Secretary for Environmental Protection to convene a Working Group on Environmental Justice to identify and address any gaps in existing programs, policies, or activities that may impede the achievement of environmental justice.

Senate Bill 1000. Requires cities and counties that have disadvantaged communities to incorporate environmental justice policies into their General Plans.

Senate Bill 535 and Assembly Bill AB 1550. Directs select proceeds from the state's cap and trade program to improve public health, quality of life, and economic opportunity in disadvantaged and low-income communities, and directs the California Environmental Protection Agency (Cal-EPA) to identify those communities. Cal-EPA asked the Office of Environmental Health Hazard Assessment to develop CalEnviroScreen to identify communities that are most vulnerable to pollution's effects.

D.5 Geology, Soils, and Paleontology

D.5.1 Federal

Earthquake Hazards Reduction Act. Reduces the risks to life and property from future earthquakes through establishment and maintenance of the National Earthquake Hazards Reduction Program.

Disaster Mitigation Act of 2000. Encourages local and state pre-disaster planning and promotes integration of state and local planning to strengthen statewide hazard mitigation.

American Antiquities Act. Several federal agencies such as the National Park Service, Bureau of Land Management, and U.S. Forest Service include fossils as "objects of antiquity." As such, this act prohibits appropriation, excavation, injury, and destruction of fossils and other paleontological resources

Paleontological Resource Preservation Act. Establishes requirements to manage and protect paleontological resources on federal lands by limiting collection of vertebrate fossils and other rare and scientifically significant fossils.

D.5.2 State

Alquist-Priolo Earthquake Fault Zoning Act. Requires the establishment of "earthquake fault zones" along known active faults in California. Regulations on development within these zones are enforced to reduce the potential for damage resulting from fault displacement.

Seismic Hazards Mapping Act. Addresses earthquake hazards other than fault rupture, including liquefaction and seismically induced landslides. Seismic hazard zones are to be mapped by the State Geologist to assist local governments in land use planning.

California Building Standards Code. Provides minimum standards for building design, regulates the excavation of building foundations and retaining walls, and specifies required geological reports.

California PRC, Chapter 1.7, Section 5097 et sec. Defines any unauthorized disturbance or removal of a fossil site or remains on public land as a misdemeanor and specifies that state agencies may undertake surveys, excavations, or other operations as necessary on state lands to preserve or record paleontological resources.

D.6 Hydrology and Water Quality²

D.6.1 Federal

Clean Water Act, Section 402. Requires all construction projects that disturb more than 1 acre of land to prepare and implement a Storm Water Pollution Prevention Plan. A copy of the plan must be posted at the project site, and a notice of intent to discharge stormwater must be filed with the RWQCB with jurisdiction over the work site.

D.7 Noise and Vibration

No federal or state regulations limit overall environmental noise levels; however, federal and state guidance documents that address environmental noise and regulations for specific noise sources provide some context for the impact analysis. For example, the Federal Highway Administration, Department of Transportation, Federal Railroad Administration, Federal Transit Administration, Federal Aviation Administration, and Federal Interagency Committee on Urban Noise provide regulations and guidelines for noise impacts resulting from federal highways, aircraft usage, railroads, and other development. The California Department of Transportation establishes construction noise exposure/production limits and internal combustion engine requirements.

D.8 Public Health and Environmental Hazards

D.8.1 Federal

Resource Conservation and Recovery Act. Provides the U.S. Environmental Protection Agency authority to control the generation, transportation, treatment, storage, and disposal of hazardous waste, including underground storage tanks storing hazardous substances.

Comprehensive Environmental Response, Compensation, and Liability Act. Provides the U.S. Environmental Protection Agency with the authority to identify hazardous sites, require site remediation, and recover the costs of site remediation from polluters. Also enabled the revision of the National Oil and Hazardous Substances Pollution Contingency Plan, which provides guidelines and procedures needed to respond to releases and threatened releases of hazardous substances, pollutants, or contaminants.

Federal Water Pollution Control Act. Designates hazardous substances and determines quantities of designated hazardous substances that must be reported or that may be discharged into waters of the United States.

² Other federal and state regulations relevant to hydrology and water quality are discussed in Section 1.4.4 of the MRHCP.

U.S. Department of Transportation Hazardous Materials Regulations. Regulates all aspects of hazardous materials packaging, handling, and transportation.

D.8.2 State

Hazardous Waste Control Law. Authorizes Cal-EPA and the Department of Toxic Substances Control to regulate the generation, transportation, treatment, storage, and disposal of hazardous wastes.

Hazardous Substance Account Act. Addresses hazardous waste sites and apportions liability for them.

Occupational Health and Safety. Establishes workplace safety regulations within the state.

Title 26 Toxics of the California Code of Regulations (CCR). Compiles chapters or titles of the CCR that are related to hazardous materials management.

Unified Hazardous Waste and Hazardous Materials Management Regulatory Program.

Consolidates, coordinates, and makes consistent the administrative requirements, permits, inspections, and enforcement activities for hazardous materials programs.

Hazardous Waste Fee Health and Safety Code. Provides definition and guidance on wood waste (includes poles, crossarms, pilings, and fence posts that have been previously treated with a preservative) and its disposal (California Health and Safety Code Chapter 6.5, Section 25143 et seq.).

Rules for Overhead Electric Line Construction. Affords the California Public Utilities Commission (CPUC) with regulatory authority over all aspects of design, construction, operation, and maintenance of electrical power lines and fire safety hazards for utilities subject to their jurisdiction (General Order 95, Section 35).

PRC Sections 4290–4293. Identifies construction, operation, and maintenance requirements to minimize fire hazards for structures located in State Responsibility Areas (SRAs).

Fire Prevention Standards for Electric Utilities. Provides definitions, maps, specifications, and clearance standards for projects under the jurisdiction of PRC Sections 4292 and 4293 in SRAs (CCR Title 14, Sections 1250 1258).

D.9 Visual Resources

D.9.1 Federal

No federal regulations related to aesthetic or visual resources are applicable as the federal government does not explicitly regulate visual resources.

D.9.2 State

California Scenic Highway Program. Establishes highways that are either eligible for designation as scenic highways or have been designated as such with the goal of preserving and protecting the state's scenic highway corridors from changes that would diminish their aesthetic value.

CPUC Section 320. Requires the undergrounding of all future electric and communication distribution facilities proposed to be erected in proximity to any highway designated a state scenic highway (California Public Utilities Code Streets and Highways Code Section 260).

California Coastal Act (CCA). Plans and regulates “development” within the coastal zone. The scenic and visual qualities of coastal areas will be considered and protected as a resource of public importance. Permitted development shall be sited and designed to protect views to and along the ocean and scenic coastal areas, to minimize the alteration of natural land forms, to be visually compatible with surrounding areas, and where feasible to restore and enhance visual quality in visually degraded areas (CCA Se

Appendix E Covered Species Status, Habitat, and Distribution in the Plan Area

Wildlife Species Proposed for Coverage in the MRHCP Plan Area

Species	Federal ¹ and State ² Status	Description and Habitat	Distribution in the Plan Area
Aquatic Invertebrates			
Conservancy fairy shrimp ³ <i>Branchinecta conservation</i>	FE	Found in clay bottomed vernal pools in grassland depressions. Lifecycle occurs entirely within vernal pools that fill frequently and hold water for long periods. Requires hydrologic connectivity between pools for dispersal and wildlife transport over longer distances. The pools are usually large, 1 to 2 acres, and often have turbid water.	Known to occur in Sutter, Tehama, Butte, Glenn, Colusa, Yuba, Placer, Yolo, Solano, Ventura, Stanislaus and Merced counties. Designated critical habitat in the Plan Area is 6 acres.
Longhorn fairy shrimp ³ <i>Branchinecta longiantenna</i>	FE	Found in vernal pools, seasonally ponded areas, and other ephemeral freshwater habitats. Can live in vernal pools that exist for fairly short durations (6–7 weeks in winter and 3 weeks in spring). Disperse through animal transport, hydrologic connections between pools, and wind.	Endemic to California vernal pool habitat in the Central Valley. Known from five separate populations in San Luis Obispo, Merced, Contra Costa, Alameda, and Fresno counties. Designated critical habitat in the Plan Area 79 acres.
Vernal pool fairy shrimp ³ <i>Branchinecta lynchi</i>	FT	Commonly found in vernal pools and other ephemeral habitats in grasslands or basalt flow depressions. Dispersal is through predator consumption and between pools during flood events.	Known to occur from southern Oregon to southern California, the central valley and west to the coast range. Disjunct populations occur in Monterey, San Luis Obispo, Santa Barbara, and Ventura counties. Designated critical habitat in the Plan Area is 5,063 acres.

Species	Federal ¹ and State ² Status	Description and Habitat	Distribution in the Plan Area
Vernal pool tadpole shrimp ³ <i>Lepidurus packardii</i>	FE	Found in ephemeral freshwater pools, swales, alkaline pools, clay flats, and other seasonal wetlands habitats. Disperse by flood events and transport by birds.	Distributed across the Central Valley of California from Shasta County southward to northwestern Tulare County, with isolated occurrences in Alameda and Contra Costa Counties. Designated critical habitat in the Plan Area is 2,822 acres.
Terrestrial Invertebrates			
Morro shoulderband snail ³ <i>Helminthoglypta walkeriana</i>	FE	Commonly found in coastal dune scrub habitat on sandy soils dominated by wood shrubs. Also found in coast live oak woodland, annual grassland, dune lupine-goldenbush, introduced perennial grassland, and European beachgrass series communities on soils of baywood fine sands, active dune sands, and clay. Elevation ranging from 10 to 300 feet.	Range from Morro Strand Beach in northern Morro Bay southward to Montana de Oro State Park and inland to at least Los Osos Creek in eastern San Luis Obispo County. Designated critical habitat in the Plan Area is 41 acres.
Mount Hermon June beetle <i>Polyphylla barbata</i>	FE	Inhabits areas of ponderosa pine-chaparral with loose, sandy soil, and open, sparsely vegetated areas. May also occur in more vegetated areas of chaparral. Silver-leafed manzanita (<i>Arctostaphylos silvicola</i>) is also a good indicator of suitable habitat. Active year round and do not move large distances.	Current populations are restricted to the Zayante sandhills ecosystem in Santa Cruz County and primarily distributed over an area less than 10 square miles. No critical habitat has been designated for this species.
Ohlone tiger beetle <i>Cicindela ohlone</i>	FE	Inhabits areas of remnant stands of native grassland, in particular coastal terrace prairie. Observed primarily on level ground and less frequently on slopes within these grasslands, where the vegetation is sparse or bare ground is prevalent. Found on substrates that consists of shallow, poorly drained clay or sandy clay soils that have accumulated over a layer of bedrock known as Santa Cruz Mudstone.	Presently restricted to coastal terrace habitats, at low to mid-elevations (lower than 1,200 feet) located between the crest of the Santa Cruz Mountains and the Pacific Ocean in Santa Cruz County. Although the potential exists to occur in other locations with similar habitat, the beetle has not yet been found outside this range. No critical habitat has been designated for this species.

Species	Federal ¹ and State ² Status	Description and Habitat	Distribution in the Plan Area
Smith's blue butterfly <i>Euphilotes enoptes smithi</i>	FE	Inhabits coastal sand dunes and coastal scrub on steep slopes along the coast where sand dune strand and coastal scrub dominates. Less frequently, populations have been found in chaparral and woodland habitats and in serpentine grassland areas.	Found in coastal areas of Monterey, San Mateo, Santa Cruz, and San Luis Obispo counties. There is a two part disjunct range along an 80-mile stretch of coast and in a few places extending as much as 10 miles inland. No critical habitat is designated for this species.
Valley elderberry longhorn beetle <i>Desmocerus californicus dimorphus</i>	FT	Endemic to moist valley oak woodlands along the margins of rivers and streams which support its host plant, elderberry (<i>Sambucus</i> spp.) which it is dependent upon. Also found in scattered elderberries next to agricultural lands. Typically, individuals do not migrate far from host plants and are found on and within the trunks, as well as on leaves and flowers.	The species has a patchy, limited distribution in the lower Sacramento and San Joaquin valleys due to historical habitat fragmentation and the current age and quality of elderberry plants. Its current range includes the Central Valley from southern Shasta County south to Fresno County. Designated critical habitat in the Plan Area is 0.35 acres within the city of Sacramento and the American River Parkway.
Zayante band-winged grasshopper ³ <i>Trimerotropis infantilis</i>	FE	Found in the Zayante sandhills in Santa Cruz County in open, sparsely vegetated sandy parklands among chaparral or ponderosa pine stands. Occurs primarily in early successional sand parkland that is relatively flat. Also observed in well-developed ground cover and in areas with sparse chaparral mixed with patches of grasses and forbs	Known only from the Zayante sandhills of Santa Cruz County where extant occurrences are distributed over an area of less than 4 square miles. Designated critical habitat in the Plan Area is 1,082 acres.

Species	Federal ¹ and State ² Status	Description and Habitat	Distribution in the Plan Area
Amphibians			
California red-legged frog ³ <i>Rana draytonii</i>	FT SSC	Requires cool-water habitat in pools, streams, ponds, marshes, sag and dune ponds, stock ponds and lagoons with emergent and submergent vegetation. Most abundant in habitats with pools at least 2 feet deep, slow moving water with dense, shrubby riparian or emergent vegetation. Upland habitat within 2 miles of aquatic habitat used for dispersal.	Isolated populations are documented in the Sierra Nevada, north coast and northern Transverse ranges. Remains locally abundant in portions of the San Francisco Bay Area, central coast but only isolated populations in the northern coast, Sierra Nevada, and northern Transverse ranges. Designated critical habitat in the Plan Area is 13,013 acres.
California tiger salamander ³ Central Valley DPS (CV) Santa Barbara DPS (SB)	FT ST (CV) SE (SB)	Requires two major habitat components: aquatic breeding sites and terrestrial aestivation or refuge sites. Inhabits valley and foothill grasslands and the grassy understory of open woodlands. Breed and lay eggs primarily in vernal pools and other ephemeral ponds that fill in winter and often dry out by summer. Requires dry-season refugia such as ground squirrel burrows within 1.3 miles of pools used for breeding.	Endemic to California. Mostly found in the Central Valley and Sierra Nevada foothills from Yolo to Kern County and in the coastal valleys and foothills from Sonoma County south to Santa Barbara County. Within the coastal range, occurs from San Mateo County south to San Luis Obispo County, with isolated populations in Sonoma and Santa Barbara counties. Designated critical habitat in the Plan Area for the CV DPS is 1,382 acres and for SB DPS, 237 acres.
Foothill yellow-legged frog <i>Rana boylei</i>	F- Under Review SSC	Inhabits streams and rivers with sunny, sandy, and rocky banks, deep pools, and shallow riffles in a variety of habitats, including woodlands, conifer forests, valley-foothill riparian, coastal scrub, chaparral, and wet meadows. Tadpoles require at least three to four months of water to complete metamorphosis. Found in areas from sea level to 6,000 feet elevation.	Occurs in most Pacific drainages from the Santiam River in Oregon to the San Gabriel River in Los Angeles County and in the interior foothills and mountains from the Oregon border into southern California. Expired occurrence in Butte, Yuba, and Napa counties. No critical habitat has been designated.

Species	Federal ¹ and State ² Status	Description and Habitat	Distribution in the Plan Area
Mountain yellow-legged frog ³ (Northern DPS) <i>Rana muscosa</i>	FE SE	Diurnal and highly aquatic and are usually found close to water. In the Sierra Nevada, found on sunny riverbanks, creeks, meadow streams, isolated pools, and lake borders.	Northern DPS ranges from Fresno to Tulare County. Designated critical habitat in the Plan Area is less than 1 acre.
Santa Cruz long-toed salamander <i>Ambystoma macrodactylum croceum</i>	FE SE, SFP	Inhabits terrestrial and aquatic habitats. Terrestrial habitats include upland coastal scrub and woodland areas and riparian vegetation. During the rainy season, inhabit well vegetated shallow ephemeral and perennial freshwater ponds to reproduce. During the dry season, inhabit small mammal burrows, under leaf litter, rotten logs, fallen branches, and along the root system of plants.	Found in southern Santa Cruz County and northern Monterey County and documented in 24 breeding sites; 17 located in Santa Cruz County and 7 in Monterey County. Breeding was documented at 19 of the known locations. No critical habitat has been designated.
Sierra Nevada yellow-legged frog ³ <i>Rana sierrae</i>	FE ST	Found on sunny river banks, creeks, meadow streams, isolated pools, and lake borders in the high Sierra Nevada. At lower elevations along the west slope of the Sierra Nevada (<6,500 feet) they primarily occupy low to high gradient streams ranging from chaparral to montane zones.	Occurs in the Sierra Nevada at elevations of 4,500–12,000 feet. Ranges from north of the Feather River (Butte and Plumas counties), south through the Sierra Nevada to Fresno County. Designated critical habitat in the Plan Area 1,146 acres.
Yosemite toad ³ <i>Anaxyrus canorus</i>	FT SSC	Found primarily in montane wet meadows and in seasonal ponds associated with lodgepole pine and subalpine forests and high elevation lakes. While active they seek cover under rocks in streambeds or other nearby water, and occasionally will seek refuge in burrows during the summer season.	Endemic to the Sierra Nevada mountain range. Populations occur from near Grass Lake in El Dorado County south to the Tulare County. The elevation range is from 4,800 to 12,000 feet. Designated critical habitat in the Plan Area is 208 acres.

Species	Federal ¹ and State ² Status	Description and Habitat	Distribution in the Plan Area
Reptiles			
Blunt-nosed leopard lizard <i>Gambelia sila</i>	FE SE, SFP	Prefers open habitats that are flat and sparsely vegetated on the valley floor and foothills. Also inhabits alkali playa and valley saltbush scrub on scattered parcels most commonly composed of annual grassland and valley sink scrub. Generally absent from steep areas, dense vegetation, or areas subject to seasonal flooding. Uses small mammal burrows to provide shelter from predators, temperature extremes and to lay eggs during the early summer.	Found in the San Joaquin Valley and foothills in scattered parcels of undeveloped land on the valley floor. Extant occurrences range from Merced county to Santa Barbara and Ventura counties, Occupy elevations ranging from 100 to 2,400 feet. No critical habitat has been designated.
Giant garter snake <i>Thamnophis gigas</i>	FT ST	Endemic to emergent wetlands in the Central Valley. Found in densely vegetated ponds near open hillsides or seasonal ponds with emergent and bankside vegetation. Also occurs in marshes, sloughs, ponds, small lakes, and low-gradient waterways such as small streams, irrigation and drainage canals, and rice fields. They require permanent water during the active season and may use rodent burrows for aestivation.	Currently the range extends from near Gridley in Butte County to Mendota Wildlife Area in Fresno County. There are currently 13 recognized populations in the Sacramento Valley and isolated locations in the San Joaquin Valley. The population is limited to ponds, sloughs, marshes and rice fields in these remnant areas. No critical habitat has been designated.
Birds			
Marbled murrelet ³ <i>Brachyramphus marmoratus</i>	FT SE	Found mostly at sea but they come onshore to nest. In California they nest only in old growth conifer trees or forests with old-growth components. Nesting can occur at elevations up to 5,020 feet but typically occurs below 3,610 feet and within approximately 8 miles of the coastline. In summer, they forage close to shore, in shallow water on small fish.	Breed on the western Aleutian Islands and Alaska along the coast to central California. The Monterey coast is the extreme southern limit of the known breeding range. Reported sightings along the central coast have been concentrated within a 6-mile radius of Point Año Nuevo in Santa Cruz County. Designated critical habitat in the Plan Area is 1,119 acres.

Species	Federal ¹ and State ² Status	Description and Habitat	Distribution in the Plan Area
Northern spotted owl ³ <i>Strix occidentalis caurina</i>	FT ST	Use a wide variety of habitats but generally rely on mature forested habitats that contain required nesting, roosting, and foraging habitat. Mature and old-growth forests provide available nest sites, cover to decrease the likelihood of predation, thermoregulation, and prey availability. Nesting habitat provides nesting structures, weather protection, and cover from predators.	Occurs in most of the major types of coniferous forest from southwestern British Columbia through western Washington, western Oregon, and northern California south to the San Francisco Bay Area, wherever suitable habitat still exists. Designated critical habitat in the Plan Area is 2,566 acres.
Mammals			
Giant kangaroo rat <i>Dipodomys ingens</i>	FE SE	Inhabits annual grassland and shrub communities with various soil types on slopes up to 22%. Inhabited areas receive an average of 6–7 inches of rain and are free from flooding. Changes in rainfall have been linked to expansions and declines in the populations.	This species occupies only 5% of their former range. The current distribution is fragmented into six major geographic regions of which three are in the Plan Area: San Luis Obispo, Fresno and Santa Barbara Counties No critical habitat has been designated.
Point Arena mountain beaver <i>Aplodontia rufa nigra</i>	FE SSC	This species occupies a variety of vegetation communities including coastal scrub, coastal bluff-scrub, northern riparian scrub, northern dune scrub, freshwater seep, north coast riparian and closed-cone conifer forests. Sites are characterized by moderate slopes, friable soils, in plant communities prevalent with herbaceous vegetation. Lives in underground burrows.	Found only in an approximate 33 square mile area in western Mendocino County, California. The range includes areas 5 miles inland from the Pacific Ocean, extending from a point 2 miles north of Bridgeport Landing to a point 5 miles south of the town of Point Arena. No critical habitat has been designated.

Species	Federal¹ and State² Status	Description and Habitat	Distribution in the Plan Area
San Joaquin kit fox <i>Vulpes macrotis mutica</i>	FE ST	Since agriculture has replaced much of the Central Valley preferred habitat, the fox has adapted to living in marginal areas such as grazed and non-grazed grasslands, tilled and fallow fields, irrigated row crops, orchards, and urban areas. They prefer areas with loose-textured soils suitable for den excavation or with rodent burrows. May also use structures such as culverts, abandoned pipelines, and well casings as den sites.	Known range extends through the valley floor in Kern, Tulare, Kings, Fresno, San Joaquin, Madera, Merced and Stanislaus counties. In the valleys of the Coast Ranges, known to occupy watersheds in Monterey, San Benito, San Luis Obispo, Santa Clara, and Santa Barbara counties. No critical habitat has been designated.

Source: MRHCP Chapter 1, Table 1-2; MRHCP Species Accounts Appendix B1 and B1; MRHCP Chapter 4, Table 4-10.

Source for state and federal listing: <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109406&inline>

¹ Federal status abbreviations:

FE = listed as endangered.

FT = listed as threatened.

²State status abbreviations:

SE = listed as endangered.

ST = listed as threatened.

SFP = listed as state fully protected

SSC = listed as state species of special concern

³ 14 Species with critical habitat (See Appendix I, Table I-4)

Plant Species Proposed for Coverage in the MRHCP Plan Area

¹ Species	Federal ² /State Status ³	Description and Habitat	Distribution in Plan Area
Perennial Trees and Shrubs			
Ione manzanita <i>Arctostaphylos myrtifolia</i>	FT	Evergreen, perennial shrub of the heath family (Ericaceae) which is an obligate seeder. Primarily found in Gabbro Chaparral and scattered in rock outcrops in chaparral and black oak woodland in fluvial, estuarine and shallow marine deposits. Known elevation ranges from 230 to 2,525 feet	Restricted to the Ione soil formation in Amador and Calaveras Counties in the central Sierra Nevada foothills. The 15 documented occurrences are within the Sacramento Valley region.
Pine Hill ceanothus <i>Ceanothus roderickii</i>	FE SR	Evergreen shrub of the buckthorn family (Rhamnaceae). Found in chaparral and cismontane woodland, often on serpentine and gabbroic soils between elevations of 850 and 2,070 feet.	Endemic to the northern Sierra Nevada foothills in the north, central and south areas of the Pine Hill formation in El Dorado County. The species is restricted to gabbro soil openings in chaparral.
Pine Hill flannelbush <i>Fremontodendron decumbens</i>	FE SR	Evergreen shrub in the mallow family. Primarily found in gabbro chaparral and on scattered rock outcrops in chaparral and black oak woodland. Capable of sprouting from roots and seed.	Restricted to gabbro soils along the Sierra Nevada foothills. Specifically, the species' primary range is within the proximity of Pine Hill and grows in elevation range of 1,394 to 2,493 feet.
Herbaceous Annuals/Perennials			
Stebbins' morning-glory <i>Calystegia stebbinsii</i>	FE SE	Grows within the gabbroic northern mixed chaparral habitat type at elevation range of 607 to 3,583 feet. Associated with chaparral on gabbro soils and grows in chaparral openings.	Distributed within two populations in the Pine Hill soil formation of Eldorado and Nevada Counties. The species is known from 15 occurrences, of which 14 are presumed extant.

¹Species	Federal²/State Status³	Description and Habitat	Distribution in Plan Area
Layne's ragwort <i>Packera layneae</i>	FT SR	Perennial and herbaceous dicot that displays an early successional life history. Occupies communities dominated by conifers, shrubs, and herbaceous species. Inhabits temporary openings on rocky gabbro or serpentine soil. Plant density was observed to be the highest on moderate (10-15%) slopes.	Highest occurrence density is within a 40,000-acre area of western El Dorado County that includes the Pine Hill formation and adjacent serpentine outcrops. A few other populations in El Dorado County, Yuba County and Tuolumne County.
Beach layia <i>Layia carnosa</i>	FE SE	A succulent, annual herb in the sunflower family (Asteraceae). Restricted to the sparse openings in beach sand dunes, where the species occupies an elevation from 0 to 100 feet. Colonizes scarcely vegetated, stabilized dunes.	Occurs along coastal California from Santa Barbara north to Humboldt County.
San Benito evening-primrose <i>Camissonia benitensis</i>	FT	Grows in relatively stable alluvial terraces or outwashes below 4,500 feet. Restricted to serpentine, subject to frost-heaving and with a minimal cover of surface gravel. Grows amongst other annuals in areas with less than 25 percent shrub cover such as manzanita.	Restricted to serpentine outcrops within San Benito County, western Fresno County, and on the border of San Benito County and Monterey County.
Monterey spineflower ¹ <i>Chorizanthe pungens</i> var. <i>pungens</i>	FT	Found in maritime chaparral, coastal live oak woodlands, coastal scrub, grasslands, and recent coastal dune habitats. Occupies sandy soils derived from ancient stabilized dunes from the Pleistocene era.	Species is endemic to central coastal region of California in Monterey, Santa Cruz, and San Luis Obispo counties. Designated critical habitat in the Plan Area is 18,829 acres, all of which are in the Central Coast Region.
Robust spineflower ¹ <i>Chorizanthe robusta</i> var. <i>robusta</i>	FE	An annual, dicot of the buckwheat family. Grows in sandy soils on coastal dunes and inland sites such as grasslands, maritime chaparral and oak woodlands. Thrives with minimal cover by nonnative species.	Ranges from Alameda to Monterey County. Designated critical habitat in the Plan Area is 469 acres, all of which is within the Central Coast Region.

¹Species	Federal²/State Status³	Description and Habitat	Distribution in Plan Area
Kern mallow <i>Eremalche parryi subsp. kernensis</i>	FE	An annual dicot of the mallow family. Occupies arid grassland and saltbush scrub habitats below 2,000 feet. Typically grows in areas of less than 25 percent shrub cover from 2,000 to 3,000 feet, Commonly associated with desert tea. Over 3,000 feet, typically grows in juniper woodlands amongst California juniper.	Known from Kings, San Luis Obispo, Santa Barbara, Ventura, Tulare and Kern Counties. The majority of the known occurrences are east of the Sierra Madre Mountains and centered around the Carrizo Plain National Monument.
Sand gilia <i>Gilia tenuiflora ssp. arenaria</i>	FE ST	An annual herb in the phlox family. Found in fog belt areas, but also extends to inland areas. Along the coast, found on rear dunes, near the dune summit in level areas, and on depressions or slopes in wind-sheltered openings in low-growing dune scrub vegetation. Found at elevations up to 800 feet.	Distributed in discontinuous populations and its range extends from the Monterey Peninsula north to Sunset Beach State Park in Santa Cruz County.
Yadon’s rein orchid ¹ <i>Piperia yadonii</i>	FE	A perennial, herbaceous monocot of the Orchid Family. Grows on sandy loam soils in coastal coniferous forests with a relatively open canopy of Monterey pines. Can also be found on ridges in maritime chaparral growing within dwarfed Hooker’s manzanita. Occurs at elevations between 30 and 1,360 feet.	Restricted to the central California coast in Monterey County, from the vicinity of Monterey Bay south to Big Sur. Approximately 2,117 acres of critical habitat were designated in Monterey County between the Monterey Peninsula and Big Sur. Designated critical habitat in the Plan Area is 2,117 all of which is in the Central Coast Region.

Source: PG&E MRHCP Appendix B-2, MRHCP Chapter 4 and California Department of Fish and Wildlife, CNDDDB list of Protected Species, August 6, 2018.

¹Species with critical habitat. All three species are located in the Central Coast Region.

²Federal status abbreviations:

FE = listed as endangered.

FT = listed as threatened.

³State status abbreviations:

SE = listed as endangered.

ST = listed as threatened.

SR = listed as rare.

Appendix F PG&E Environmental Practices

PG&E Environmental Practices

F.1 Overview

Pacific Gas and Electric Company (PG&E) employs a large and diverse staff of environmental and regulatory compliance professionals whose primary roles are to ensure that activities are completed in compliance with applicable environmental and natural resource laws and regulations.

Environmental staff screen and review projects and activities when natural resources could be impacted, and they routinely develop and prescribe environmental protection measures that are implemented during PG&E's routine operations, maintenance, and construction activities. When required, environmental staff obtain ministerial and discretionary permits. When all permits have been obtained, PG&E issues a release to construction, and environmental staff assist project staff in implementing the any permit conditions and environmental protection measures. An overview of PG&E's environmental review practices and screening process is available in Chapter 1, Section 1.6, of the Multiple Region Operations and Maintenance Habitat Conservation Plan (MRHCP). Additional information regarding PG&E's standard practices for each resource area is provided below.

F.1.1 Air Quality and Climate Change Practices

As part of its general environmental awareness practices, PG&E includes information on air quality, such as legal requirements, vehicle operation restrictions, and measures to minimize fugitive dust. In addition, PG&E implements measures to minimize air pollutant emissions during construction and maintenance activities, such as encouraging construction workers to carpool to the job site to the extent feasible, minimizing unnecessary construction vehicle idling time, maintaining construction equipment in proper working conditions in accordance with PG&E standards, minimizing construction equipment exhaust by using low-emission or electric construction equipment where feasible, minimizing welding and cutting by using compression of mechanical applications where practical and within standards, and encouraging use of natural gas-powered vehicles for passenger cars and light-duty trucks where feasible and available.

PG&E is committed to decreasing its greenhouse gas (GHG) emissions and has already instituted several operational changes in an effort to decrease the organization's carbon footprint. In addition to complying with mandatory GHG inventory reporting requirements by the California Air Resources Board and the U.S. Environmental Protection Agency, PG&E voluntarily reports a more comprehensive emissions inventory to The Climate Registry, a nonprofit organization that assists organizations in reporting emissions in order to manage and reduce them. PG&E has committed to a 55 percent renewable energy target by the year 2031, and also has been working to reduce GHG emissions from its vehicle fleet by deploying alternative fuel vehicles, including hybrid-electric bucket trucks and compressed natural gas vehicles. PG&E is continuing to invest in new vehicles and technologies that further reduce GHG emissions from its vehicle fleet. Some of these efforts include the deployment of bucket trucks equipped with electric power take-off, which allows crews to operate the trucks without idling the engines, and installing electric vehicle chargers at PG&E facilities to promote the adoption of electric vehicles by employees.

F.1.2 Biological Resources Practices

To promote conservation and comply with all federal and state regulations protecting biological resources, PG&E employs terrestrial and aquatic biologists with special expertise in botany, vernal pools, fisheries, wetland delineations, herpetology, ornithology, mammalogy, and marine biology. Biologists work directly with project managers, land planners, construction crews, and engineers in the operation, maintenance, and construction of PG&E infrastructure to ensure regulatory compliance and protection of biological resources. Biologists screen, review, and carry out complex evaluations that can have differing levels of scope and oversight, depending on the type of activity, the extent of ground disturbance, the location of utility facilities, and the proximity to known or suspected biological resources.

As part of standard construction compliance practices, biologists also provide training to PG&E employees and contractors using three approaches—Habitat Conservation Plan training, Avian Protection Plan/Nesting Bird Management Plan training, and project-specific biological resource trainings. Collectively, these trainings aid in the identification of biological resources; establish best practices for working in proximity to biological resources, including nesting birds; and highlight steps to take in the event of an inadvertent discovery of a sensitive species.

In addition, the biologist or their consulting expert will work closely with the crews in the field to confirm the location and protection of exclusion zones and to coordinate any required biological construction monitoring.

F.1.3 Cultural Resources Practices

PG&E's standard practices and procedures promote preservation and comply with all federal and state regulations protecting cultural resources. PG&E employs cultural resource specialists (CRSs), all of whom meet the Secretary of the Interior's Professional Qualification Standards for archaeology or architectural history. The CRS team has extensive experience identifying, evaluating, and treating a wide variety of historic and prehistoric resources using National Register of Historic Places and California Register of Historic Resources criteria. CRS work directly with internal project managers, land planners, construction crews, and engineers in the operation, maintenance, and construction of PG&E infrastructure to act as active stewards of the cultural resources that exist within PG&E's properties and rights-of-way. CRSs screen, review, and carry out studies that can have differing levels of scope and oversight depending on the type of activity, the extent of ground disturbance, the location of utility facilities, and the proximity to known or suspected cultural or archaeological resources. PG&E CRSs work in conjunction with a multidisciplinary team to conduct the environmental screening process (as described in Section 1.6.2 in the MRHCP), develop appropriate protection measures (as described in Section 1.6.3 in the MRHCP), and release work activities to construction (as described in Section 1.6.4 in the MRHCP).

General cultural resources practices required for all PG&E efforts consist of minimizing ground disturbance, keeping vehicles on existing roads, leaving artifacts where they are found, reporting potential cultural resources and any accidental damage to resources to the CRS, removing only materials brought onsite, and promoting individual accountability for the avoidance and protection of resources.

Where a significant intact resource is known and could be affected, PG&E develops and implements measures to either avoid or minimize impacts, such as reaching out to affected communities; finding

alternate work locations or access routes; replacing utility facilities in the same location to minimize ground disturbance; flagging work area limits and establishing work exclusion zones where vehicles, staging, or construction are prohibited; training construction crews; assigning an archaeological and/or Native American construction monitor for activities within known or suspected archaeological sites; and performing archaeological recovery and interpretation when impacts cannot be avoided.

If cultural material, such as chipped or ground stone, historic debris, or building foundations, is discovered during ground-disturbing activities (other than emergency activities that cannot feasibly be interrupted), all activities will cease within 100 feet of the find until a qualified cultural resources professional can assess the significance of the find and, if necessary, develop appropriate treatment measures in consultation with PG&E, other appropriate agencies, and tribal representatives. Treatment may include measures such as limiting work, avoiding the site, capping the site, or conducting data recovery excavation.

In the rare event that human remains are discovered, PG&E complies with the requirements of Section 5097.98 of the California Public Resources Code, which stipulates halting further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until the county coroner has been contacted to determine that no investigation of the cause of death is required. If the coroner determines that the remains are Native American, the following steps are implemented.

1. The coroner will contact the Native American Heritage Commission.
2. The Native American Heritage Commission will identify the person or persons it believes to be the most likely descendant of the deceased Native American.
3. The most likely descendant will make recommendations to the landowner or the person responsible for the excavation work of the means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods, unless the Native American Heritage Commission was unable to identify a descendant or the descendant failed to make a recommendation within 24 hours after being notified by the commission.

When emergency repairs are needed, PG&E is required to conduct them as rapidly as possible to ensure continuity of service and protect public safety. As a result, it is typically infeasible to incorporate cultural resources studies, avoidance measures, or treatment into the emergency repairs process. However, if PG&E discovers or disturbs cultural resources during emergency work, PG&E follows up with appropriate treatment measures to address impacts and avoid additional damage in the future. These measures may involve conducting recovery excavations, capping the site to avoid further disturbance of artifacts, or other procedures. If a find is determined to be significant, the qualified cultural resource professional will determine the appropriate parties to contact, and will meet with those parties to determine the appropriate course of action. Significant cultural resource materials recovered are subject to scientific analysis and professional museum curation, and are documented in a report prepared by the qualified cultural resource professional according to current professional standards.

F.1.4 Environmental Justice Practices

PG&E's Corporate Environmental Justice Policy states that PG&E is committed to:

- Comply with the letter and spirit of environmental justice laws and regulations in PG&E's operation.
- Set high standards of environmental performance to minimize environmental impacts from PG&E operations.
- Work diligently to address all environmental justice issues.
- Incorporate environmental justice considerations in the purchase of existing facilities and the planning and development of new facilities.
- Work with stakeholders to ensure that future development around PG&E facilities is compatible with their existing and planned facility use.
- Maintain open and responsive communications with all stakeholders.
- Communicate and reinforce PG&E's environmental justice values within the corporation.
- Accept responsibility for PG&E's operations, and, in so doing, work collaboratively with PG&E's neighbors and surrounding communities.

Specifically, PG&E's environmental justice practices include conducting educational training regarding environmental justice issues; promoting and disseminating environmental justice educational materials; identifying potentially significant existing and future environmental justice concerns; and coordinating and planning outreach to affected interest groups to evaluate potential measures to avoid, minimize, or mitigate environmental justice concerns.

F.1.5 Geology, Soils, and Paleontological Resources Practices

PG&E evaluates the geology and soils at worksites where new or replacement facilities are constructed. The purpose of the investigation is to provide a geologic basis for the development of appropriate project design. Investigations typically consider geologic structure, including primary and secondary seismic hazards as defined by the State of California; soils; slope stability; previous history of excavation and fill placement; earthwork recommendations; and any other topics identified by PG&E's design engineer(s), the geotechnical engineer, or the project engineering geologist.

If significant paleontological resources are discovered during earthwork, work will stop within 100 feet of the find and the crew foreman will contact the PG&E CRS, who will consult with a paleontologist to evaluate and manage the resource. If the discovery is determined to be significant, PG&E will implement measures to protect, document, and/or recover the paleontological resource as appropriate. Work will not resume within 100 feet of the find until approval by the PG&E CRS.

F.1.6 Hydrology and Water Quality Protection Practices

As part of its environmental awareness training program, PG&E includes specific information on protecting water quality, such as legal requirements to protect water quality, work practices that could adversely affect water quality, water quality permitting requirements and thresholds, and best management practices (BMPs) to minimize the potential for water quality effects. A Water Quality Pollution Prevention training program is given to employees who regularly implement water quality BMPs. BMPs for the protection of surface waters (including water bodies with defined bed/banks as

well as vernal pools and swales) are described in PG&E's *Good Housekeeping Activity Specific Erosion and Sediment Control Plan*.

All activities requiring the use or disposal of water are conducted in compliance with current regulatory requirements. These include the federal Clean Water Act; California's Porter-Cologne Water Quality Control Act and requirements of the State Water Resources Control Board and Regional Water Quality Control Boards; and local (county and/or city) regulations and policies.

F.1.6.1 Storm Water Pollution Prevention Plans

In compliance with Clean Water Act Section 402, PG&E prepares and implement a storm water pollution prevention plan (SWPPP) whenever an operations and maintenance activity triggers the need (e.g., disturbs more than 1 acre) for a NPDES General Permit for Discharge of Storm Water Associated with Construction Activities (Construction General Permit Order 2009-0009-DWQ) from the State Water Resources Control Board. A copy of the SWPPP must be posted at the project site, and a notice of intent to discharge stormwater must be filed with the Regional Water Quality Control Board (RWQCB) with jurisdiction over the work site. A SWPPP includes a description of site runoff and drainage characteristics, as well as BMPs for preventing pollution of storm drains and surface waters by sediment and hazardous materials, such as construction-site housekeeping practices, scheduling ground disturbance during the dry season when possible, stabilizing disturbed and exposed soils, spill prevention and response practices, and preventing track out of soils onto paved surfaces.

In addition, for projects that disturb less than 1 acre of soil or which are otherwise exempt from requirements for a NPDES General Permit for Discharge of Storm Water Associated with Construction Activities, PG&E implements activity-specific Erosion and Sedimentation Control Plans. These plans contain measures similar to those in a SWPPP.

F.1.6.2 Statewide Natural Gas Utility Permit

To comply with the Statewide Natural Gas Utility Permit, PG&E takes the following actions.

- Establish and implement appropriate BMPs.
- Ensure that all planned discharges comply with the terms and requirements of the Statewide Natural Gas Utility Permit, including all applicable effluent limitations.
- Take all necessary steps to review and update the effectiveness and adequacy of the control measures and BMPs.
- Keep BMP manuals updated and available on the applicable project site for all system operators.
- Conduct monitoring and reporting in compliance with the provisions and requirements in the Monitoring and Reporting Program described in the Statewide Natural Gas Utility Permit.
- Maintain self-monitoring reports, including compliant and non-compliant discharge monitoring information and have information available upon request by the State Water Resources Control Board and RWQCB.
- Submit an annual report to the applicable RWQCB and all reporting information required by the Monitoring and Reporting Program.

- Notify the applicable RWQCB pursuant to the notification requirements in the Monitoring and Reporting Program.

F.1.7 Land Use and Planning Practices

PG&E employs land planners to ensure that projects are built in compliance with applicable state and federal laws and regulations. PG&E consults with local (county and city) jurisdictions concerning land use issues and local agency concerns. PG&E also obtains ministerial permits, such as grading and encroachment permits when necessary.

F.1.8 Noise and Vibration Practices

PG&E makes every feasible effort to comply with local noise and vibration standards. If local standards cannot be met, the company makes every effort to work out a mutually satisfactory compromise for noise abatement/mitigation. During operations and maintenance and construction activities, PG&E project managers and construction leads are responsible for implementing a variety of BMPs as needed, depending on the nature of the activity. Typical practices include conducting work during daytime hours; using standard equipment with noise control devices (e.g., mufflers) that meet manufacturers' specifications; using "quiet" equipment (i.e., equipment designed with noise control elements); installing portable barriers to shield compressors and other small stationary equipment where necessary; installing sound barriers for pile-driving activity, where practicable; identifying "sensitive receptors" who might be disturbed by construction noise and notifying them in advance of upcoming work; and responding promptly to complaints raised by adjacent residents.

F.1.9 Public Health and Environmental Hazards Practices

PG&E complies with applicable state and federal laws, regulations, and requirements pertaining to hazardous materials and hazardous wastes. Relevant regulations include the following, the Federal Toxic Substances Control Act; Clean Water Act; Clean Air Act; Solid Waste Disposal Act; and Comprehensive Environmental Responsibility, Compensation, and Liability Act. PG&E's hazardous materials practices consist of promotion and dissemination of educational materials via training sessions, and on job sites as necessary; implementation of legal protocols for hazardous materials handling to avoid and minimize public, worker, and environmental exposure; and monitoring and reporting of environmental impacts associated with construction or ongoing operational activities.

As part of its environmental awareness training program, PG&E includes specific information on hazardous materials, such as definitions of hazardous materials; legal requirements for hazardous materials storage, transportation, and handling; agency oversight; and BMPs to minimize the potential for hazardous materials effects, including avoiding onsite hazardous materials storage and fueling and maintenance of vehicles, handling materials according to product instructions, and having spill kits available on the worksite at all times when hazardous materials are in use.

In the event of a spill or release of hazardous materials, work is stopped immediately, and cleanup measures are implemented as necessary to remediate the spill and protect terrestrial ecosystems, surface water quality and aquatic ecosystems, groundwater quality, and human health. Adjacent land uses and emergency responders are notified immediately in the event of a substantial spill or release.

In addition to complying with state regulatory requirements, PG&E has implemented a Community Wildfire Safety Program, which includes a dedicated center that monitors wildfire risk in real time and coordinates prevention and response efforts, an expanded network of PG&E weather stations to enhance weather forecasting and modeling, enhancement and acceleration of vegetation management work, and establishment of fire defense zones in high fire-threat areas.

F.1.10 Transportation and Circulation Practices

PG&E implements a variety of traffic control measures and commitments for all activities to ensure that they do not unduly impede traffic flow or affect emergency response. These include ensuring that emergency access and response times are maintained during work periods; maintaining access for private roads; providing adequate off-road parking and staging for vehicles, equipment, and materials throughout the work period; posting construction warning signs; and restricting all non-emergency construction traffic, including haul and delivery trucks, to normal daytime business hours (unless a local jurisdiction identifies a need for off-hours routing to avoid impacts on peak-hour commute traffic).

F.1.11 Visual Resources Practices

Environmental staff evaluates potential visual impacts when changes in heights or appearance of utility infrastructure could affect the aesthetics of a given facility, as well as the local environment where the facility is located. If a potential substantial visual impact is identified, design plans may be modified to reduce impacts on the local visual landscape.

PG&E also minimizes visual disturbance by requiring work crews to maintain sites in a clean and orderly condition, store building materials and equipment in construction staging areas or away from public view, and remove construction debris promptly at regular intervals.

Appendix G Impact Assessment Criteria Table

Impact Assessment Criteria Table

Resource Topic	Impact Criteria
Agricultural Resources	<ul style="list-style-type: none"> • The proposed action would result in an adverse effect if it would result in substantial conversion of active or zoned agricultural lands to a non-agricultural use.
Air Quality and Climate Change	<ul style="list-style-type: none"> • The proposed action would result in an adverse effect if: <ul style="list-style-type: none"> ○ emissions from construction or operation would violate adopted ambient air quality standards or contribute to an existing air quality violation, or ○ it would expose receptors to substantial pollutant concentrations or nuisance odors.
Biological Resources	<ul style="list-style-type: none"> • The proposed action would result in an adverse effect if it would: <ul style="list-style-type: none"> ○ result in substantial direct mortality or substantial loss or degradation of habitat, including designated critical habitat, for any species classified by state or federal regulations as rare, threatened, endangered ○ substantially reduce the naturally occurring population of any plant or animal species below levels for maintaining viability at the local or regional level, either through direct mortality or substantial habitat loss or modification.
Cultural Resources	<ul style="list-style-type: none"> • The proposed action would result in an adverse effect if it would alter the characteristics that qualify a property for eligibility to the National Register of Historic Places (as defined under Section 106 of the National Historic Preservation Act).
Environmental Justice	<ul style="list-style-type: none"> • The proposed action would result in an adverse effect if it would substantially and disproportionately affect minority or low-income populations as defined by the EPA.
Geology, Soils, and Paleontology	<ul style="list-style-type: none"> • The proposed action would result in an adverse effect if it would expose people or structures to a substantially greater potential for loss of property, personal injury, or death related to: <ul style="list-style-type: none"> ○ Earthquake fault rupture ○ Strong seismic ground shaking ○ Liquefaction ○ Seismic-related ground failure ○ Slope instability (landslides) ○ Soft, loose, or compressible soils • The proposed action would result in substantial soil erosion or the loss of topsoil. • The proposed action would result in an adverse effect on paleontological resources if it would directly or indirectly destroy unique vertebrate fossils or other fossils of scientific importance.

Resource Topic	Impact Criteria
Hydrology and Water Quality	<ul style="list-style-type: none"> • The proposed action would result in an adverse effect if it would: <ul style="list-style-type: none"> ○ violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality; ○ substantially alter the existing drainage pattern of the site or area, including the alteration of the course of a stream or river, or substantially increase the amount of impervious surfaces or the amount of runoff in a manner that would exceed the capacity of stormwater systems or cause substantial erosion, siltation, surface water pollution, or flooding onsite or offsite; ○ substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin.
Land Use	<ul style="list-style-type: none"> • The proposed action would result in an adverse effect if it would: <ul style="list-style-type: none"> ○ physically divide an established community; ○ substantially conflict with existing land use.
Noise and Vibration	<ul style="list-style-type: none"> • The proposed action would result in an adverse effect if it would: <ul style="list-style-type: none"> ○ expose persons to noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies; ○ expose persons to excessive groundborne vibration or groundborne noise levels; ○ cause a substantial permanent increase in ambient noise levels in the project vicinity above baseline conditions; ○ cause a substantial temporary or periodic increase in ambient noise levels in the project vicinity above baseline conditions.
Public Health and Environmental Hazards	<ul style="list-style-type: none"> • The proposed action would result in an adverse effect if it would: <ul style="list-style-type: none"> ○ create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials; ○ create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials to the environment; ○ expose people or structures to a significant risk of loss, injury, or death involving wildland fires.
Public Services	<ul style="list-style-type: none"> • The proposed action would result in an adverse effect if it would result in substantial adverse physical impacts associated with the provision of new or physically altered governmental services or facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for: fire protection police protection, schools, parks, or other public facilities.
Public Utilities	<ul style="list-style-type: none"> • The proposed action would result in an adverse effect if it would: <ul style="list-style-type: none"> ○ cause substantial environmental effects by requiring the construction or expansion of water, wastewater treatment, stormwater drainage, electric power, natural gas, telecommunications, or solid waste disposal facilities; ○ impair the attainment of solid waste reduction goals established in relevant statutes and regulation.

Resource Topic	Impact Criteria
Recreation	<ul style="list-style-type: none"> • The proposed action would result in an adverse effect if it would: <ul style="list-style-type: none"> ○ substantially reduce or restrict recreational access, use, or opportunities in the Plan Area; ○ increase the use of existing recreational facilities such that substantial physical deterioration of the facility would result or be accelerated.
Socioeconomics	<ul style="list-style-type: none"> • The proposed action would result in an adverse effect if it would substantially change economic activity within the study area.
Transportation and Circulation	<ul style="list-style-type: none"> • The proposed action would result in an adverse effect if it would: <ul style="list-style-type: none"> ○ substantially increase vehicle miles traveled on the local transportation system; ○ result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks; ○ substantially increase hazards because of a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment); ○ result in inadequate emergency access; ○ conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.
Visual Resources	<ul style="list-style-type: none"> • The proposed action would result in an adverse effect if it would substantially degrade the existing visual character or quality of public views of the site and its surroundings

Appendix H Air Quality Attainment Status in the Study Area

Air Quality Attainment Status in the Study Area

California is divided into 15 air basins based on geographic features that create distinctive regional climates. Meteorological and topographical conditions, as well as atmospheric conditions (e.g., wind speed, wind direction, and air temperature gradients) interact with the physical features of the landscape (e.g., mountains) to determine the movement and dispersal of air pollutants within and between air basins.

The Plan Area spans 11 air basins—Lake County, Lake Tahoe, Mojave Desert, Mountain Counties, North Central Coast, North Coast, Northeast Plateau, Sacramento Valley, San Joaquin Valley, and South Central Coast. The climate of northern coastal California is characterized by cool summers and mild winters with frequent fog and significant amounts of rain. In coastal areas, the ocean helps to moderate temperatures year-round. Further inland, the summers are hotter and drier and the winters colder and snowier. Climate varies considerably with elevation and proximity to the Sierra ridge. The pattern of mountains and hills causes a wide variation in rainfall, temperature, and localized winds. Climate along the central and southern coasts is strongly influenced by its proximity to the Pacific Ocean. The speed and direction of local winds are controlled by the location and strength of the Pacific high-pressure system and other global weather patterns, topographical factors, and circulation patterns that result from temperature differences between the land and the sea.

Regional air districts oversee local air quality regulations within air basins to ensure the requirements of federal and state air quality laws are met. Compliance with federal and state air quality laws is accomplished primarily through air districts adopting air quality attainment plans and issuing air quality analysis guidance. Each air district in California has also adopted its own rules and regulations to comply with state and federal laws. Depending on the quantity and types of air pollutants that will be emitted, O&M activities and minor new construction associated with the proposed Plan may be subject to air district rules and regulations.

Existing air quality conditions within the Plan area can be characterized in terms of the federal and state air quality standards by monitoring data collected. The United States Environmental Protection Agency (USEPA) and California Air Resources Board (CARB) maintain an extensive network of monitoring stations throughout California. Measurements of criteria pollutant concentrations at monitoring stations are used to designate regions throughout California as attainment, maintenance, or nonattainment with the national ambient air quality standards (NAAQS) and California ambient air quality standards (CAAQS). Table 1 summarizes the current federal and state attainment status of counties within the Plan area and identifies the applicable air basins and air districts.

Table 1. Regional Air Basin, Air District, and Federal and State Criteria Pollutant Attainment Designations for Counties in the Plan Area

County	Air Basin	Air District	Federal Attainment Status (NAAQS)	State Attainment Status (CAAQS)
Amador	Mountain Counties	Amador	A – All pollutants	N – O3 U – PM2.5, PM10, CO A – All other pollutants
Butte	Sacramento Valley	Butte	N – O3 A – All other pollutants	N – O3, PM2.5, PM10 A – All other pollutants
Calaveras	Mountain Counties	Calaveras	N – O3 A – All other pollutants	N – O3, PM10 U – PM2.5, CO A – All other pollutants
Colusa	Sacramento Valley	Colusa	A – All pollutants	N – PM10 U – CO A – All other pollutants
El Dorado	Lake Tahoe and Mountain Counties	El Dorado	N – O3* A – O3,* All other pollutants	N – O3, PM10 U – PM2.5, CO A – All other pollutants
Fresno	San Joaquin Valley	San Joaquin Valley	N – O3, PM2.5 M – PM10 A – All other pollutants	N – O3, PM2.5 A – All other pollutants
Glenn	Sacramento Valley	Glenn	A – All pollutants	U – CO A – All other pollutants
Humboldt	North Coast	North Coast Unified	A – All pollutants	N – PM10 A – All other pollutants
Kern	San Joaquin Valley and Mojave Desert	San Joaquin Valley and Eastern Kern	N – O3, PM2.5,* PM10* M – PM10* A – PM2.5,* All other pollutants	N – O3, PM2.5,* PM10 A – All other pollutants U – PM2.5,* CO*
Lake	Lake County	Lake County	A – All pollutants	A – All pollutants
Lassen	Northeast Plateau	Lassen	A – All pollutants	N – PM10 U – CO A – All other pollutants
Madera	San Joaquin Valley	San Joaquin Valley	N – O3, PM2.5 M – PM10 A – All other pollutants	N – O3, PM2.5, PM10 A – All other pollutants
Mariposa	Mountain Counties	Mariposa	N – O3 A – All other pollutants	N – O3, PM10* U – PM2.5, PM10* A – All other pollutants
Mendocino	North Coast	Mendocino County	A – All pollutants	N – PM10 A – All other pollutants

County	Air Basin	Air District	Federal Attainment Status (NAAQS)	State Attainment Status (CAAQS)
Modoc	Northeast Plateau	Modoc	A – All pollutants	N – PM10 U – CO A – All other pollutants
Monterey	North Central Coast	Monterey Bay Unified	A – All pollutants	N – O3, PM10 A – All other pollutants
Nevada	Mountain Counties	Northern Sierra	N – O3* A – O3,* All other pollutants	N – O3, PM10 U – PM2.5, CO A – All other pollutants
Placer	Sacramento Valley, Lake Tahoe, and Mountain Counties	Placer	N – O3* A – O3,* All other pollutants	N – O3, PM10 U – PM2.5, CO A – All other pollutants
Plumas	Mountain Counties	Northern Sierra	N – PM2.5* A – PM2.5,* All other pollutants	N – PM10 U – O3, PM2.5 A – All other pollutants
Sacramento	Sacramento Valley	Sacramento Metro	N – O3 M – PM10 A – All other pollutants	N – O3, PM10 A – All other pollutants
San Benito	North Central Coast	Monterey Bay Unified	A – All pollutants	N – O3, PM10 U – CO A – All other pollutants
San Luis Obispo	South Central Coast	San Luis Obispo	N – O3* A – O3,* All other pollutants	N – O3, PM10 A – All other pollutants
Santa Barbara	South Central Coast	Santa Barbara	A – All pollutants	N – O3, PM10 U – PM2.5 A – All other pollutants
Santa Cruz	North Central Coast	Monterey Bay Unified	N – PM10* A – All other pollutants	N – O3, PM10 A – PM2.5 U – All other pollutants
Shasta	Sacramento Valley	Shasta	A – All pollutants	N – O3, PM10 U – CO A – All other pollutants
Sierra	Mountain Counties	Northern Sierra	A – All pollutants	U – O3, PM2.5, PM10, CO A – All other pollutants
Siskiyou	Northeast Plateau	Siskiyou County	A – All pollutants	U – CO A – All other pollutants
Sutter	Sacramento Valley	Feather River	N – O3* A – O3,* All other pollutants	N – O3, PM10 A – All other pollutants

County	Air Basin	Air District	Federal Attainment Status (NAAQS)	State Attainment Status (CAAQS)
Tehama	Sacramento Valley	Tehama	A – All pollutants	N – O3, PM10 U – PM2.5, CO A – All other pollutants
Trinity	North Coast	North Coast Unified	A – All pollutants	U – CO A – All other pollutants
Tulare	San Joaquin Valley	San Joaquin Valley	N – O3, PM2.5 M – PM10 A – All other pollutants	N – O3, PM2.5, PM10 A – All other pollutants
Tuolumne	Mountain Counties	Tuolumne	A – All pollutants	N – O3 A – All other pollutants
Yolo	Sacramento Valley	Yolo-Solano	N – O3 A – All other pollutants	N – O3, PM10 U – PM2.5 A – All other pollutants
Yuba	Sacramento Valley	Feather River	A – All pollutants	N – O3, PM10 U – CO A – All other pollutants

Sources: USEPA 2018; CARB 2018.

- * = designation applies to a portion of the county.
- A = attainment.
- CAAQS = California ambient air quality standards.
- M = maintenance.
- N = nonattainment.
- NAAQS = national ambient air quality standards.
- U = unclassified.
- O3 = ozone.
- NO2 = nitrogen dioxide.
- SO2 = sulfur dioxide.
- Pb = lead.
- PM10 = particulate matter less than or equal to 10 microns in diameter.
- PM2.5 = particulate matter less than or equal to 2.5 microns in diameter.

California Air Resources Board. 2018. Area Designation Maps/ State and National. Last Revised: December 28, 2018. Available: <<https://www.arb.ca.gov/desig/adm/adm.htm>>. Accessed: June 24, 2019.

United States Environmental Protection Agency. 2018. Nonattainment Areas for Criteria Pollutants. Last Revised: September 30, 2018. Available: <<https://www.epa.gov/green-book>>. Accessed: October 31, 2018.

Appendix I Covered Species Impact Analysis

Covered Species Impact Summary Tables

Table I-1. Summary of Estimated Impacts on Covered Plant Species from Covered Activities over 30 years

Covered Plant Species	CNDDDB Habitat Crossed by PG&E Facilities (acres)¹	Amount of Impact on Occupied Habitat over 30 years (acres)²	Percent of Habitat Potentially Impacted by Covered Activities³	Amount of Impact on Individual Plants over 30 years⁴
Ione Manzanita	6,582	12.25	0.19	64
Pine Hill ceanothus	1,203	3.67	0.31	33
Pine Hill flannelbush	243	1.19	0.49	2
Stebbins' morning-glory	720	2.31	0.32	787
Layne's ragwort	1,172	2.86	0.24	103
Beach layia	2,912	0.32	0.01	143
San Benito evening-primrose	229	0.37	0.16	1,888
Monterey spineflower	14,172	46.6	0.33	4,376
Robust spineflower	210	1.3	0.62	3,765
Kern mallow	15,614	10.5	0.07	1,226
Monterey gilia	3,628	6.6	0.18	6,266
Yadon's rein orchid	2,125	2.1	0.10	64

¹Source: MRHCP, Chapter 2, Table 2-12. This figure represents the total size of CNDDDB plant population polygons intercepted by PG&E facilities in the Plan Area, including portions of the polygons that extend beyond the Plan Area.

²Source: MRHCP Chapter 4, Table 4-35

³Percent calculated based on the total size of all CNDDDB plant population polygons from column 1

⁴Sources: MRHCP Chapter 4, Table 4-35

I-2

Summary of Estimated Impacts on Critical Habitat for Covered Plant Species

Table I-2. Summary of Estimated Impacts on Critical Habitat for Covered Plant Species

Covered Plant Species	Designated Critical Habitat (acres)¹	Critical Habitat Impacted by Covered Activities¹	Percent of Critical Habitat Impacted by Covered Activities
Monterey spineflower	11,055	321	2.90
Robust spineflower	469	21	4.48
Yadon's rein orchid	2,117	117.7	5.56

¹Source: MRHCP Table 2-13 and Chapter 4, Section 4.2.10.6, *Plants, Impacts on Critical Habitat*

Notes:

All species with designated critical habitat are in the Central Coast Region.

All other covered plant species do not have designated critical habitat.

Table I-3. Total 30-Year Impacts and Percent of Impacts in Relation to all Habitat in the Study Area for Covered Wildlife Species

Species Habitat	Modeled Habitat in Plan Area (acres)¹	Modeled Habitat in Study Area (acres)²	Total 30-Year Permanent Impact Acreage³	Total 30-Year Temporary Impact Acreage³	Percent of Permanent Impacts in Relation to All Habitat²	Percent of Temporary Impacts in Relation to All Habitat²
Aquatic Invertebrates						
Conservancy fairy shrimp suitable habitat	2,260	106,581	7.5	57.92	0.01	0.05
Longhorn fairy shrimp suitable habitat	905	57,312	3.32	21.06	0.01	0.04
Vernal pool tadpole shrimp suitable habitat	13,472	614,581	42.0	338.57	0.01	0.06
Vernal pool fairy shrimp suitable habitat	13,472	614,581	42.0	338.57	0.01	0.06
Terrestrial Invertebrates						
Morro shoulderband snail suitable habitat	293	4,899	3.00	6.00	0.06	0.12
Mount Herman June beetle suitable habitat	577	7,739	7.50	22.50	0.10	0.29
Ohlone tiger beetle suitable habitat	720	10,340	7.50	22.50	0.07	0.22
Valley elderberry longhorn beetle suitable habitat	2,997	108,640	78.93	281.67	0.07	0.26
Smith's blue butterfly suitable habitat	2,890	171,473	15.25	72.69	0.01	0.04
Zayante band-winged grasshopper suitable habitat	577	7,739	3.59	15.15	0.05	0.20
Amphibians						
California red-legged frog breeding habitat	5,497	254,913	48.00	186.00	0.02	0.07
California red-legged frog upland habitat	22,673	1,014,440	127.50	640.52	0.01	0.06

Species Habitat	Modeled Habitat in Plan Area (acres)¹	Modeled Habitat in Study Area (acres)²	Total 30-Year Permanent Impact Acreage³	Total 30-Year Temporary Impact Acreage³	Percent of Permanent Impacts in Relation to All Habitat²	Percent of Temporary Impacts in Relation to All Habitat²
California tiger salamander (Central Coast DPS) breeding habitat	1,171	75,491	5.91	29.13	0.01	0.04
California tiger salamander (Central Coast DPS) upland habitat	45,036	2,504,760	248.81	1,145.71	0.01	0.05
California tiger salamander (Santa Barbara County DPS) breeding habitat	6	194	0.02	0.14	0.01	0.07
California tiger salamander (Santa Barbara County DPS) upland habitat	3,334	212,150	11.77	77.01	0.01	0.04
Foothill yellow-legged frog breeding habitat	417	50,442	1.69	9.88	0.00	0.02
Foothill yellow-legged frog dispersal habitat	5,012	575,339	20.23	118.76	0.00	0.02
Mountain yellow-legged frog suitable habitat	16	19,444	0.60	3.00	0.00	0.02
Santa Cruz long-toed salamander breeding habitat	71	1,044	3.00	3.00	0.29	0.29
Santa Cruz long-toed salamander upland habitat	1,176	11,464	15.00	45.00	0.13	0.39
Sierra Nevada yellow-legged frog suitable habitat	194	185,618	0.68	4.48	0.00	0.00
Yosemite toad suitable habitat	0	5,936	0.50	2.00	0.01	0.03
Reptiles						
Blunt-nosed leopard lizard suitable habitat	2,209	167,733	13.28	57.56	0.01	0.03
Blunt-nosed leopard lizard core habitat	4,019	477,623	17.52	96.75	0.00	0.02

Species Habitat	Modeled Habitat in Plan Area (acres)¹	Modeled Habitat in Study Area (acres)²	Total 30-Year Permanent Impact Acreage³	Total 30-Year Temporary Impact Acreage³	Percent of Permanent Impacts in Relation to All Habitat²	Percent of Temporary Impacts in Relation to All Habitat²
Giant garter snake potential aquatic habitat – wetland and marsh	2,416	137,263	12.75	90.00	0.01	0.07
Giant garter snake upland habitat	6,758	167,751	38.01	300.00	0.02	0.18
Giant garter snake aquatic habitat – rice	8,345	444,185	50.48	300.00	0.01	0.07
Birds						
Marbled murrelet suitable habitat	2,488	358,826	45.00	82.50	0.01	0.02
Northern spotted owl suitable habitat	22,036	5,525,990	165.00	660.00	0.00	0.01
Mammals						
Giant kangaroo rat suitable habitat	5,565	324,802	30.00	150.00	0.01	0.05
Point Arena mountain beaver suitable habitat	177	9,210	3.00	7.50	0.03	0.08
San Joaquin kit fox high-value suitable habitat	3,038	216,417	15.00	90.00	0.01	0.04
San Joaquin kit fox moderate-value suitable habitat	5,665	308,845	29.06	141.49	0.01	0.05
San Joaquin kit fox low-value suitable habitat	39,670	1,887,710	213.86	1,003.00	0.01	0.05

¹Source: MRHCP Chapter 4, Table 4-6

²Source: MRHCP Chapter 4, Table 4-36

³Source: MRHCP Chapter 4, Table 4-9

Note: Values less than 0.01% are indicated as 0.00%

I-4

Summary of Estimated Impacts on Critical Habitat for Covered Wildlife Species

Table I-4. 30-Year Permanent and Temporary Impacts on All Critical Habitat for Covered Wildlife Species

Covered Species	All Designated Critical Habitat (acres) ¹	Total Critical Habitat in Study Area (acres) ²	Total Critical Habitat in Plan Area (acres) ¹	Max 30-Year Perm Impacts on Critical Habitat in Plan Area (acres) ¹	Max 30-year Temp Impacts on Critical Habitat in Plan Area (acres) ¹	Modeled 30-year Perm Impacts on Critical Habitat (acres) ¹	Modeled 30-year Temp Impacts on Critical Habitat (acres) ¹	Percent of Max for Temp/Perm Combined for All Designated Critical Habitat	Percent of Max for Temp/Perm Combined for Critical Habitat in the Study Area
Aquatic Invertebrates									
Conservancy Fairy Shrimp	161,786	4,349	6	6	6	0.00	0.00	0.01	0.28
Longhorn Fairy Shrimp	13,557	9,591	79	1.80	10.20	0.32	1.84	0.09	0.13
Vernal Pool Fairy Shrimp	597,821	307,785	5,063	42.00	338.70	18.00	110.43	0.06	0.12
Vernal Pool Tadpole Shrimp	228,785	121,215	2,822	30.00	285.30	7.54	71.66	0.14	0.26
Terrestrial Invertebrates									
Morro Bay shoulderband snail	2,566	2,556	41	3.00	6.00	3.00	6.00	0.35	0.35
Valley elderberry longhorn beetle	515	515	0.35	0.35	0.35	0.00	0.00	0.14	0.14
Zyante band-winged grasshopper	10,560	10,560	1,082	3.60	15.30	3.60	15.30	0.18	0.18
Amphibians									
California red-legged frog	1,636,609	768,094	13,013	175.50	826.50	82.56	420.88	0.06	0.13

Covered Species	All Designated Critical Habitat (acres)¹	Total Critical Habitat in Study Area (acres)²	Total Critical Habitat in Plan Area (acres)¹	Max 30-Year Perm Impacts on Critical Habitat in Plan Area (acres)¹	Max 30-year Temp Impacts on Critical Habitat in Plan Area (acres)¹	Modeled 30-year Perm Impacts on Critical Habitat (acres)¹	Modeled 30-year Temp Impacts on Critical Habitat (acres)¹	Percent of Max for Temp/Perm Combined for All Designated Critical Habitat	Percent of Max for Temp/Perm Combined for Critical Habitat in the Study Area
California tiger salamander Central Coast DPS	199,109	54,007	1,382	254.70	1175.10	7.56	35.09	0.72	2.65
California tiger salamander Santa Barbara DPS	11,182	11,182	237	11.73	77.40	0.83	5.50	0.80	0.80
Mountain yellow-legged frog	221,498	104,744	0	0.00	0.00	0.00	0.00	0.00	0.00
Sierra Nevada yellow-legged frog	1,082,146	758,663	1,146	0.60	4.50	0.60	4.50	0.00	0.00
Yosemite toad	750,926	396,333	208	0.00	0.00	0.00	0.00	0.00	0.00
Birds									
Marbled murrelet	3,698,100	392,607	1,119	45.00	82.50	20.74	39.35	0.00	0.03
Northern spotted owl	9,577,969	1,318,883	2,566	165.00	660.00	19.21	76.83	0.01	0.06

¹ Source: MRHCP Chapter 4, Table 4-10

² Source: MRHCP Chapter 2, Table 2-13 and Section 2.3.5

Note: Values less than 0.01% are indicated as 0.00%

Appendix J Other Regional Habitat Conservation Plans in MRHCP Plan Area

Other Regional Habitat Conservation Plans in MRHCP Plan Area

The following regional HCP in the Plan Area have been approved or are being considered for approval by the Service.

J.1 Approved HCPs

J.1.1 Green Diamond Resource Company Timberlands & Northern Spotted Owl Habitat Conservation Plan (NSO HCP) 1992.

The NSO HCP was prepared by the Green Diamond Resource Company, a commercial timber company that owns and manages approximately 365,152 acres of timberland in northern California. The HCP was approved by the USF&W Service in 1992 to authorize incidental take of the northern spotted owl (*Strix occidentalis caurina*) in conjunction with lawful timber harvesting on the firm's properties in Del Norte, Humboldt, Mendocino, and Trinity counties. The level of incidental take authorized by the ITP, 50 owl pairs, was the amount of take estimated to occur under the HCP during the first 10 years of the permit's 30-year term which expires in 2022. Additional take authorization would be addressed through a comprehensive review after the first 10 years of implementation. By implementing the NSO HCP, the land owners have 30-year permits from the Service and CDFW that authorize incidental take of covered species for this time period.

J.1.2 Green Diamond Aquatic Habitat Conservation Plan and Candidate Conservation Agreement with Assurances (AHCP/CCAA) 2007.

The Green Diamond AHCP/CCAA was developed for management of Green Diamond's core northern California timberlands. It protects seven aquatic species within their plan area of 417,000 acres located in Humboldt and Del Norte Counties in California. The plan targets resource conservation of aquatic species and provides substantial protection of riparian forest stands and geologically unstable areas resulting in little or no timber harvest in substantial portions of Green Diamond timberlands. The take authorization term for this HCP is 50 years and will expire in 2057. By implementing the AHCP/CCAA, the land owners have 50-year permits from the Service and CDFW that authorize incidental take of covered species for this time period.

J.1.3 Humboldt Redwood Company HCP (HRC HCP) 1999.

The Humboldt Redwood Company inherited a functioning Habitat Conservation Plan (HCP) that went into effect in 1999 that includes approximately 211,700 acres in Humboldt County, California. The HRC HCP contains multiple operating and monitoring measures for protecting and conserving sensitive wildlife species and their habitat within the plan area, which includes a comprehensive road and hillslope conservation plan designed to reduce sediment input into streams to protect fish

habitat. The HRC HCP also minimizes and mitigates impacts of covered timber activities on individual species. The marbled murrelet (*Brachyramphus marmoratus*) and northern spotted owl (*Strix occidentalis caurina*) are the covered species for the terrestrial strategy, and the measures for these two species are designed to benefit a broad range of other species in the company's managed forests. The Plan's aquatic habitat conservation strategy covers four fish species. Measures for these species focus on habitat conditions in fish-bearing streams and extend outward to encompass riparian zones and entire watersheds. The ITP covers a 50-year term and identifies lands that will be conserved for protected species. By implementing the HRC HCP, the above-mentioned land owners have 50-year permits from the Service and CDFW that authorize incidental take of covered species for this time period.

J.1.4 Natomas Basin Revised HCP and Litigation Resolution (NB HCP)- City of Sacramento, Sutter County, and Natomas Basin Conservancy 2003.

The NB HCP includes a 53,537-acre area interior to the toe of levees surrounding the Natomas Basin, located in the northern portion of Sacramento County and the southern portion of Sutter County. The NB HCP is a regional plan that establishes a multispecies conservation program to minimize and mitigate the expected loss of habitat values and incidental take of covered species that could result from urban development, operation and maintenance of irrigation and drainage systems, and management activities associated with The Natomas Basin Conservancy. The NB HCP covers 15 wildlife species and 7 plant species and the permit term is 50 years. The entities that may rely upon the NB HCP in their individual applications for federal and state incidental take permits include the City of Sacramento, Sutter County, Reclamation District No. 1000, Natomas Central Mutual Water Company, and the Natomas Basin Conservancy. Measures to minimize and mitigate the effects of development on covered species includes limiting development to 15,517 acres within the city and county, in addition to 1,983 acres of Metro Air Park development in Sacramento County. By implementing the NB HCP, the above-mentioned entities have 50-year permits from the Service and CDFW that authorize incidental take of covered species for that time period.

J.1.5 Natomas Basin Metro Air Park HCP 2002.

Natomas Basin Metro Air Park HCP (MAP HCP), which is contained within the much larger NB HCP Plan Area, calls for participation in the multi-species regional conservation program established under the NB HCP to minimize and mitigate the expected loss of habitat values for Covered Species due to development of the Metro Air Park industrial park. The MAP HCP plan area includes approximately 2,015 acres of agricultural land, wetlands, and irrigation and drainage ditches which is located immediately east of the Sacramento Metropolitan Airport. The MAP HCP includes the incidental take of the federally threatened giant garter snake (*Thamnophis gigas*) and the valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*) along with 12 currently unlisted species that are subject to take in the plan area. The term of the ITP is 50 years. By implementing the NB HCP, the above-mentioned entities have 50-year permits from the Service and CDFW for that time period.

J.1.6 South Sacramento Habitat Conservation Plan (SSHCP) 2018.

The SSHCP is a regional effort that will streamline federal and state permitting processes for covered activities while creating a preserve system to protect habitat, open space, and agricultural lands. The SSHCP will allow project proponents to simplify and expedite the state and federal Endangered Species Act permitting process and will provide a more programmatic approach. In addition, a separate but parallel multi-tiered permitting program was developed to streamline Clean Water Act Section 404 and 401 permitting processes and a Master Streambed Alternation Agreement will be prepared to address Section 1602 of the California Fish and Game Code. The SSHCP plan area encompasses 317,656 acres located in the South Sacramento area of which 36,282 acres would become part of an interconnected preserve system, including approximately 1,000 acres of vernal pool habitat. Twenty-eight plant and wildlife species, and their natural habitats, will be conserved under the plan. The SSHCP authorizes the plan permittees, including Sacramento County, the City of Rancho Cordova, City of Galt, Sacramento County Water Agency, and the Southeast Connector Joint Powers Authority, an Incidental Take Permit for activities and projects they conduct over a 50-year permit period.

J.1.7 Yolo Habitat Conservation Plan/ Natural Community Conservation Plan (Yolo HCP/NCCP) 2018.

The Yolo HCP/NCCP is a conservation plan to provide federal Endangered Species Act permits and associated mitigation for infrastructure and development activities identified for construction over the next 50 years in Yolo County. The Plan will coordinate mitigation to maximize benefits to 12 identified sensitive species, as well as conserve 8,000 acres of additional habitat conservation beyond mitigation. These conservation efforts will be coordinated to ensure that lands are selected consistent with a strategy based on biological criteria, including the selection of lands that provide habitat to multiple species. The Yolo Habitat Conservancy, which consists of Yolo County and the incorporated cities of Davis, West Sacramento, Winters, and Woodland, will implement this conservation strategy in coordination with the California Department of Fish and Wildlife, and the U.S. Fish and Wildlife Service, as well as the Yolo Habitat Conservancy's Advisory Committee. This approach will streamline the permitting process, improve species conservation while complying with existing state and federal laws, promote agricultural preservation, and assist in the completion of economic development activities associated with existing local land use plans. The Service and CDFW have both issued 50-year permits that authorize take of covered species in the plan area. This approach will allow the permittees to coordinate future mitigation requirements into one comprehensive program.

J.2 Draft HCPs Currently being Considered by the Service

J.2.1 Butte Regional Conservation Plan (BRCP). 2019

The BRCP is both a federal Habitat Conservation Plan and a state Natural Community Conservation Plan that provides streamlined state and federal endangered species and wetlands permitting for transportation projects, land development, and other covered activities over the proposed 50-year permit terms. It also provides comprehensive species, wetlands, and ecosystem conservation for 38 covered wildlife, fish, and plant species and contributes to the recovery of endangered species. The

BRCP plan area includes portions of Butte County and the cities of Chico, Oroville, Gridley, and Biggs. The BRCP will replace the existing “project-by-project” environmental permitting process with a coordinated regional approach to conservation and regulation that would benefit species and habitat conservation, wildlife agencies, and project proponents alike. The BRCP will ensure that all impacts on protected species are mitigated and will contribute to the recovery of species and the conservation of the ecosystems on which they depend through a managed system of conservation easements. Additional benefits of the BRCP are the preservation of open space and ongoing farming and ranching economies in the Plan Area that will maintain much of the rural character of the local area.

J.2.2 Western Placer County Habitat Conservation Plan/ Natural Community Conservation Plan. 2018.

The Placer County Conservation Program (PCCP) is a framework to protect, enhance, and restore the natural resources in specific areas of western Placer County, while streamlining state and federal environmental permitting for covered activities over the 50-year permit term. Within this landscape-level framework, the PCCP will achieve conservation goals for 14 special-status species and natural communities, comply with state and federal environmental regulations, accommodate anticipated urban and rural growth, and permit the construction and maintenance of needed infrastructure. The plan area is focused on areas of future growth and covers approximately 201,000 acres of Western Placer County. Within the PCCP plan area, 50,000-60,000 acres within the available acquisition area will become part of a reserve system, which will preserve many acres of vernal pool habitat for protection of sensitive species. Over the 50-year permit term for the plan, the PCA will acquire approximately 47,300 acres for natural and semi-natural community protection and restoration, including at least 33,000 acres in the Valley and at least 14,300 acres in the Foothills. Within that land, the PCA will restore from 4,405 to 6,220 acres of natural communities. The PCCP is also designed to ensure that land will be managed to continue to support the survival and well-being of the covered species, as well as the survival of hundreds of other species that are dependent on the same habitat. The PCCP includes three separate but complementary components that support two sets of state and federal permits: the *Western Placer County Habitat Conservation Plan and Natural Community Conservation Plan*; *Western Placer County Aquatic Resources Program*; and the *Western Placer County In-Lieu Fee Program*. The permittees include Placer County, the City of Lincoln, South Placer Regional Transportation Authority, Placer County Water Agency, Placer Conservation Authority, which was established to implement the PCCP. Other parties may elect to seek coverage under the PCCP as “Participating Special Entities.”

Appendix K Federally Recognized Tribes

Federally Recognized Tribes

This list includes federally recognized tribes from a list provided by the Native American Heritage Commission on August 9, 2019 for Fresno, Mendocino, Colusa, Mariposa, Modoc, San Luis Obispo, Santa Barbara, Sutter, Glenn, Lake, Monterey, Shasta, Yuba, Butte, Calaveras, Kern, Madera, Santa Cruz, Sierra, El Dorado, Placer, Sacramento, Tulare, Amador, Humboldt, Plumas, San Benito, Yolo, Nevada, Tuolumne, Lassen, Siskiyou, Tehama, and Trinity counties.

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