

**Findings and Recommendations Pursuant to the Endangered Species Act and
Finding of No Significant Impact Pursuant to the National
Environmental Policy Act for Issuance of a Section 10(a)(1)(B)
Incidental Take Permit (TE 56826C) for Implementation of
the Pacific Gas and Electric Company Bay Area Operations & Maintenance HCP
Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, and
Sonoma Counties, California**

This document includes the U.S. Fish and Wildlife Service's (Service) Findings and Recommendations pursuant to the Endangered Species Act of 1973, as amended (Act), which provide an administrative record of how the proposed Pacific Gas and Electric Company Bay Area Operations & Maintenance Habitat Conservation Plan (HCP) under review satisfies each of the permit issuance criteria under section 10(a)(2)(B) of the Act and in the Service's implementing regulations for the Act (50 CFR §17.22(b)(2) and 17.32(b)(2)). These Findings and Recommendations also include our responses to public comments received, and a recommendation for permit issuance or denial. Parts I – V of this document are relevant to these Findings and Recommendations.

This document also includes a summary of the *PG&E Bay Area Operations and Maintenance Habitat Conservation Plan Environmental Assessment* (EA) conducted pursuant to the National Environmental Policy Act (NEPA) of 1969 (40 CFR §1506.6). It briefly presents why the EA (and other documents made available during the public comment period) supports our Finding of No Significant Impact (FONSI) and the reasons why the proposed action will not have a significant effect on the human environment. Parts I, II, VI, and VII of this document are relevant to this FONSI. The proposed HCP and EA describe the project in detail, together with the conservation measures that would be implemented to avoid, minimize, and mitigate take of 32 proposed Covered Species, including two distinct population segments.

I. DESCRIPTION OF THE PROPOSED ACTION

The Service proposes to issue an incidental take permit (ITP or Permit) to the Pacific Gas & Electric Company (Applicant), under the authority of section 10(a)(1)(B) and section 10(a)(2) of the Act, in nine California counties: Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, and Sonoma Counties. The Applicant seeks an ITP for 19 wildlife species (including two distinct population segments) and 13 plant species (Covered Species) in connection with routine operations and maintenance activities described in the proposed Pacific Gas and Electric Company Bay Area Operations & Maintenance Habitat Conservation Plan (PG&E Bay Area O&M HCP, HCP, or Proposed Action). The applicant has requested a permit term of 30 years.

Upon the issuance of the Permit, the Applicant will receive incidental take authorization for take resulting from 33 activities associated with operation and maintenance (O&M) of PG&E's natural-gas and electric transmission and distribution system (including limited minor expansion of certain facilities) in the 402,440-acre PG&E Bay Area O&M HCP plan area, as summarized in the HCP submitted as part of the Permit application and identified in the Biological Opinion prepared by the Service (Service 2017). The Applicant proposes to implement certain avoidance and minimization measures, and to provide compensatory mitigation when species effects cannot be avoided.

Alternatives Considered in the Environmental Assessment

The Service considered two alternatives in the EA: (1) the No Action; and (2) the Proposed Action. A number of other alternatives were also considered, but eliminated from further consideration for reasons described in Chapter 2, section 2.3, of the EA.

No Action Alternative

Under the No Action Alternative, the HCP would not be implemented, the proposed ITP would not be issued, and there would be no impact on biological communities, special-status species, or waters of the United States as a result of the action. PG&E would continue to implement its current operations and maintenance activities following its current environmental programs and practices, seeking permits on a piece-meal, as-needed basis. Take of Covered Species would occur in a relatively uncoordinated manner as a result of PG&E seeking take authorization for individual activities. The conservation strategy, including acquisition of mitigation lands set aside for Covered Species and protected in perpetuity, would not be implemented.

Proposed Action Alternative

The Applicant is requesting coverage under the Permit for 19 animal and 13 plant species (Covered Species), all of which are federally-listed as threatened or endangered under the Act. The Permit would provide incidental take coverage for 13 endangered animal species: the California freshwater shrimp (*Syncaris pacifica*), Conservancy fairy shrimp (*Branchinecta conservatio*), longhorn fairy shrimp (*Branchinecta longiantenna*), vernal pool tadpole shrimp (*Lepidurus packardii*), Callippe silverspot butterfly (*Speyeria callippe callippe*), Lange's metalmark butterfly (*Apodemia mormo langei*), Mission blue butterfly (*Icaricia icarioides missionensis*), San Bruno elfin butterfly (*Callophrys mossii bayensis*), Sonoma County distinct population segment of the California tiger salamander (*Ambystoma californiense*), San Francisco garter snake (*Thamnophis sirtalis tetrataenia*), California clapper rail (also known as Ridgeway's rail) (*Rallus longirostris obsoletus*), salt marsh harvest mouse (*Reithrodontomys raviventris*), and the San Joaquin kit fox (*Vulpes macrotis mutica*). The HCP would also provide incidental take coverage for six threatened animal species: the vernal pool fairy shrimp (*Branchinecta lynchi*), Delta green ground beetle (*Elaphrus viridis*), Bay checkerspot butterfly (*Euphydryas editha bayensis*), Central California distinct population segments of the California tiger salamander (*Ambystoma californiense*), California red-legged frog (*Rana draytonii*), and the Alameda whipsnake (*Masticophis lateralis euryxanthus*). There are no non-listed, nor candidate species proposed for coverage under the permit.

The permit would provide incidental take coverage for 11 plant species federally-listed as endangered: the Sonoma sunshine (*Blennosperma bakeri*), coyote ceanothus (*Ceanothus ferrisae*), fountain thistle (*Cirsium fontinale* var. *fontinale*), Santa Clara Valley dudleya (*Dudleya setchellii*), Contra Costa wallflower (*Erysimum capitatum* var. *angustatum*), Burke's goldfields (*Lasthenia burkei*), Contra Costa goldfields (*Lasthenia conjugens*), Sebastopol meadowfoam (*Limnanthes vinculans*), Antioch Dunes evening primrose (*Oenothera deltooides howellii*), white-rayed pentachaeta (*Pentachaeta bellidiflora*), and the Metcalf Canyon jewelflower (*Streptanthus albidus* ssp. *albidus*). The HCP would also provide incidental take coverage for 2 species federally-listed as threatened: pallid manzinita (*Arctostaphylos pallida*), and Marin dwarf-flax (*Hesperolinin congestum*). Although take of plant species is not prohibited under the Act and, therefore, cannot be authorized under an incidental take permit, plant species described in this HCP would be included on the permits in recognition of the conservation benefits provided to the species. If at any time during the term of the Permit, any plant Covered Species becomes subject

to the take prohibition under the Act, the Permit shall become effective as to that plant Covered Species and the Applicant shall receive incidental take authorization for that plant. Assurances provided under the "No Surprises" rule at 50 C.F.R. 17.3, 17.22(b)(5) and 17.32(b)(5) will extend to all Covered Species, including all plant Covered Species.

Permit Area

The 402,440-acre PG&E Bay Area O&M HCP action area (Plan Area or Permit Area) includes portions of nine counties including Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, and Sonoma Counties. The Permit Area is the area in which the Permittee is requesting authorization from the Service for Covered Activities (see below) that may result in take of Covered Species. The Permit Area is land defined to include PG&E's gas and electrical transmission and distribution facilities, lands owned by PG&E and/or subject to PG&E easements for these facilities, private access routes to infrastructure associated with O&M activities, minor facility expansion areas, and mitigation areas for impacts resulting from Covered Activities.

Covered Activities

The Covered Activities are the otherwise lawful activities which are described in detail in Chapter 3 of the HCP, including the errata thereto, and the Biological Opinion (Service 2017), are summarized below.

The Permittee is seeking incidental take coverage for 33 on-going O&M and minor new construction activities within the Permit Area and described below.

Operation Activities

Operation activities include inspecting, monitoring, testing, and operating valves, enclosures, switches, and other components of the gas and electrical transmission and distribution systems.

Maintenance Activities

Maintenance activities include repairing and replacing facilities, structures, and access roads. This work includes reconditioning electric transmission and distribution projects and gas pipeline replacement. These activities also include emergency repair and replacement of facilities and structures, and vegetation management, including tree pruning and removal.

Minor New Construction

These activities include installing new or replacement structures to upgrade existing facilities or extend service to new residential or commercial customers. When conducted in natural vegetation or agricultural lands that contain suitable habitat for Covered Species, upgrades to existing facilities and new electric or gas line extensions are limited to 2 miles or less from an existing line. End-to-end extensions exceeding 2 miles would not be covered under the Bay Area O&M HCP. Multiple 2-mile extensions in different geographic areas would be covered, but each would be treated as a separate activity. The size of a minor new construction project would be estimated as the total footprint, expressed in acres. Consistent with the requirements of NEPA, the Bay Area O&M HCP would not allow segmentation of proposed construction to obtain coverage under the Bay Area O&M HCP.

New or replacement structures to upgrade existing facilities are limited to 1.0 acre or less of new gas pressure limiting stations and 0.5-acre or less per electric substation expansion Pipeline and electric line extensions are capped at 2-miles in length. While multiple 2-mile extensions are covered as part of this activity, they must be separate projects and cannot be constructed end-to-end to result in an extension greater than 2 miles in length.

Community Pipeline Safety Initiative

These activities are required by California Public Utility Commission to enhance the operation and safety of PG&E's natural gas transmission system in heavily populated areas and are scheduled to be performed throughout PG&E's service area. The gas pipeline system will be inspected and field tested, and at-risk damaged pipeline segments will be replaced. Covered activities are anticipated to be implemented primarily from 2015 to 2020 in the Plan Area, although some work to ensure gas line integrity may continue beyond 2020. Although PG&E would perform the majority of work in urban areas, some work would be in natural vegetation and in agricultural areas that provide habitat for Covered Species. Pipeline replacement segments are estimated to be typically 4 to 8 miles long; however, some segments may be much shorter.

Covered activities also include new PG&E environmental commitments and conservation measures required under the terms of the HCP.

The Applicant is seeking incidental take coverage associated with the implementation of Covered-Activities by all independent contractors or other third parties if the third party has executed a contract with PG&E that contains enforceable provisions committing the third party to comply with all provisions of the HCP. Since PG&E is the Permittee, PG&E would remain ultimately responsible for all activities carried out by third parties.

The Applicant is also seeking incidental take coverage associated with the acquisition, establishment, and management of compensation lands and conservation easements in furtherance of the Plan's compensation objectives, including biological surveys, as well as the management activities carried out by any independent land manager with whom PG&E has contracted to perform the activities on PG&E's behalf.

Activities Not Covered in the Permit

The HCP specifically does not cover the following: (1) application of herbicides, rodenticides, or fungicides; (2) federally-listed species that may occur within the action area that are not identified as a Covered Species; (3) any activities undertaken by PG&E or an authorized third party that are not Covered Activities under the HCP; (4) PG&E activities on any PG&E facilities outside the action area defined in the Service's Opinion; and (5) the expansion of permanent PG&E facilities unrelated to maintenance, repair, or operation of existing gas pipelines and electric transmission/distribution lines within the action area.

Relationship of Plan to Section 7 Consultations

Covered Activities under the HCP may also be subject to separate section 7 review if those actions are authorized, carried out, or funded by federal agencies. Incidental take for Covered Activities carried out by the Applicant will be subject to the take mitigation, minimization, avoidance and

other measures provided for under the HCP. To the extent that Covered Activities involving a federal nexus are determined to affect federally listed species or adversely modify designated critical habitat and would, as such, require a section 7 consultation with the Service under the Act, incidental take coverage would occur through the section 7 process. Furthermore, federal agencies do not receive “No Surprises” assurances and may be required to provide additional compensation or minimization measures to offset the effects of projects that require federal permits.

Biological Goals and Objectives

The Bay Area O&M HCP biological goals and objectives are organized by maintaining, preserving, or obtaining high-quality habitat with direct benefits for Covered Species. These goals and objectives provide the framework for developing an integrated conservation strategy that identifies specific management and minimization actions. Associated biological goals and objectives for the conservation strategy are as follows.

Goal 1: Maintain habitat quality for Covered Species in the Plan Area by restoring disturbed areas.

Objective 1.1. Re-contour and reseed areas of temporary habitat disturbance that are greater than 0.1 acre with a commercial native grassland seed mix, or a mix otherwise appropriate for the site being restored within 1 year and prior to the onset of the next rainy season.

Goal 2: Contribute to the network of permanently protected and managed lands in the study area that support populations of Covered Species.

Objective 2.1. Increase the amount of lands protected or managed for Covered Species adjacent to existing protected areas (e.g., preserves, mitigation banks, and protected watersheds) or within areas identified as having high priority for conservation through mitigation purchases over the permit term. Table 5-4 lists acreage totals for Covered Species.

Goal 3: Pursue conservation actions that result in clear and direct species benefits (e.g., restoration and recovery projects).

Objective 3.1. Contribute to tidal marsh restoration via in-kind services or monetary contributions to organizations whose missions are to conduct conservation work.

Objective 3.2. Contribute to habitat enhancement and restoration for Covered Species via in-kind services or monetary contributions.

Conservation Strategy

The biological focus of the PG&E Bay Area O&M HCP is to maintain, preserve, and obtain high-quality habitat to provide direct benefits to Covered Species. The conservation strategy is guided by five principles: emphasis on avoidance over mitigation of habitat effects, avoidance and minimization maximized by thorough pre-project internal review processes, preservation of lands with high-quality habitat or of high conservation value, preservation of large, contiguous areas of habitat rather than many small areas, and ensuring mitigation is preserved into perpetuity. The implementation of this approach is expected to result in long-term benefits to Covered Species.

Details regarding the proposed mitigation and minimization measures can be found in Chapter 5 of the Plan. As required under the No Surprises Rule (50 CFR Parts 17 and 22 as modified on February 28, 1998), unforeseen and changed circumstances are also addressed and are discussed in more detail later in this document. The conservation strategy is summarized below:

Environmental Review, Planning, and Screening

The Applicant's avoidance and minimization strategy is dependent upon early planning and review of activities. Early screening allows the applicant's biologists and land planners to redesign or reconfigure various Covered Activities by adjusting or changing access routes, relocating or modifying work areas, minimizing the size of work sites, modifying work practices, and adjusting or changing work periods. The Environmental Review, Planning, and Screening process is further described in Chapter 5, in section 5.4.4 of the HCP, and in Chapter 6, in section 6.2.2.

Modeled Habitat Approach

The HCP's conservation strategy depends heavily upon habitat models that have been developed for each Covered Species. Habitat models have been incorporated into the HCP to streamline the implementation process for Covered Activities, while at the same time capturing incidental take of Covered Species that will occur as a result of Covered Activities. Habitat models were developed utilizing existing commercial data and biological information to assess the likelihood that a Covered Species or its habitat is present at a particular location. PG&E worked closely with the Service and the California Department of Fish and Wildlife (CDFW), to develop and refine the habitat models. The type of modeled habitat that will be affected informs the Applicant's land planners or biologists on how to prescribe the appropriate avoidance and minimization measures (AMM) or best management practices (BMP). The Applicant's biologists and land planners will review the modeled habitat information in the company's GIS system to assess whether a Covered Activity falls within or close to modeled habitat, identify the modeled habitat that will be affected, and identify the location of Map Book zones and hot zones (explained in Sections 5.4.2, 5.4.3, and summarized in the following sections).

Many of the Covered Activities are anticipated to affect less than 0.10-acre per activity. The Applicant has provided estimates of habitat loss and disturbance expected to result from Covered Activities. Certain Covered Activities are expected to result in very small amounts of disturbance of habitat (see Chapter 3 of the HCP for descriptions of activities G3a (fencing), G3b, G5, G6, G7, G8, E5, E6a, E6b, E7, E8b, E9b, E10b, E10c, E11b, and E15). Habitat loss and disturbance resulting from these activities that occurs in modeled habitat will not be actively restored in the field; instead, mitigation will be provided for these activities based upon the pre-determined disturbance estimates. The Applicant will periodically evaluate a small subset of these activities to ensure that average on-the-ground effects are not larger than estimated, as well as to ensure that temporary effects are not, in practice, permanent effects.

Descriptions of modeled habitat, as well as figures depicting areas of modeled habitat, including critical habitat, for each species, are found in Chapter 4 of the HCP.

Vegetation Best Management Practices

The Applicant has proposed an extensive set of BMPs to implement during vegetation management activities, listed in Table 5-2 of the HCP. These measures are not necessarily intended to reduce or avoid take of Covered Species, but in some cases may nonetheless result in avoidance or minimization. For example, BMP 10 requires that vehicles and equipment be refueled offsite. This measure is part of the Applicant's standard operating procedure, and isn't intended to reduce take, but by avoiding spilling toxic fuels in habitat for Covered Species, the BMP may result in reduced effects and/or take of listed species by avoiding unnecessary pollution of their habitat. Vegetation Management BMP implementation is also discussed in section 5.5.1.4.

Field Protocols

Although the applicant intends to mitigate effects within map book zones, the Applicant has also proposed 18 Field Protocols (see Table 5-1), that will apply to all Covered Activities performed in areas of modeled habitat. These field protocols are expected to minimize take of Covered Species within modeled habitat. Table 5-3 of the HCP further describes which activities are subject to Field Protocols, as well as other AMMs.

Species Specific Avoidance and Minimization Measures

Certain Covered Activities will require the implementation of a set of 3 animal-targeted species-specific AMMs, and 1 plant-targeted species-specific AMM. Reconductoring, pole and tower line construction, substation expansions, and pipeline safety enhancements (activities E9, E12-E14, and G16-G18). The species targeted for avoidance by these AMMs are the San Joaquin kit fox, vernal pool invertebrates, both DPSs of the California tiger salamander, California freshwater shrimp, California red-legged frog, San Francisco garter snake, and pallid manzanita.

Hot Zones

Hot Zones are well-defined and relatively small areas containing an extant population of covered wildlife species, where the species would most likely be affected by Covered Activities. Hot zones by species are depicted separately on Figures 4-1, 4-3, 4-7, 4-9, 4-10, 4-11, 4-12, 4-15, and 4-17 in Chapter 4 of the HCP, and are summarized below:

Riparian hot zone: California freshwater shrimp (occupied streams identified in the Service's recovery plan and based on discussions with the California Department of Fish and Wildlife).

Vernal pool hot zone: Longhorn fairy shrimp (critical habitat), Conservancy fairy shrimp (critical habitat).

Butterfly hot zone: Mission blue butterfly and Lange's metalmark butterfly (Antioch Dunes), and Bay checkerspot butterfly and San Bruno elfin butterfly (Coyote Ridge, Tulare Hill, and San Bruno Mountain).

Amphibian hot zone: California tiger salamander (in the Santa Rosa Plain, several key areas in Solano County, and in the vicinity of Stanford University).

Reptile hot zone: San Francisco garter snake (near San Francisco International Airport and Crystal Springs Reservoir, and several other locations on the Peninsula).

Marsh hot zone: California clapper rail and salt marsh harvest mouse (bay fringe marsh habitats and salt ponds).

All activities in hot zones, regardless of size, will be required to avoid and minimize take of Covered Species by implementing appropriate Hot Zone Avoidance and Minimization Measures (listed in Table 5-1), in addition to implementing appropriate species-specific AMMS, field protocols, and vegetation management BMPs. Hot Zone AMMs require pre-activity surveys for habitat features important to the species to be avoided, and involve restricting work periods, avoiding disturbance of habitat by way of buffers or avoidance-mats, planning of least-effect access routes, limiting allowed work equipment, and in some cases, surveying for the species themselves.

Map Book Zones

Similar to Hot Zones, a map book zone is an area of extant, known, or recently confirmed plant occurrences. Specific AMMs, described in HCP Table 5-1, are required for activities occurring in Map Book Zones, along with all applicable vegetation management BMPs, Species Specific AMMs, and Field Protocols. Map book zones are described in detail in HCP sections 5.4.3 and 5.4.4.

Mitigation

The applicant will fund the acquisition, enhancement, management, and restoration of habitat by qualified third parties to mitigate and promote the recovery of Covered Species in the Permit Area. Proposed mitigation is subject to Service review and approval. Habitat preservation will be considered complete when the Service approves a conservation easement, a management plan, the endowment, and the easement holder. Habitat enhancement and restoration efforts may be implemented in partnership with local or regional land trusts where land is already protected but funding or management is lacking to promote species conservation and recovery.

PG&E will provide habitat mitigation in advance of effects on Covered Species. The Applicant will base its mitigation on acreages of estimated and actual habitat losses, and will adjust the timing of acquisitions based on forecasted habitat effects and the amount of mitigation that has previously been implemented. PG&E will provide mitigation for both permanent and temporary effects on modeled habitat.

For the California tiger salamander (Central California DPS), California red-legged frog, and non-core Alameda whipsnake habitat, PG&E will provide mitigation in 5-year increments in advance of effects. Effects on habitat will be mitigated with equivalent or higher-value habitat consistent with the land-cover and habitat data developed for the species that is described in Chapter 2 of the HCP. PG&E may provide habitat mitigation through the following mechanisms (in order of preference).

- Purchase of high-quality habitat.
- Purchase or placement of conservation easements on land appropriate for maintaining Covered Species corridors.
- Purchase of credits from approved mitigation or conservation banks.
- Partnerships with and/or contributions to existing conservation planning and recovery efforts.

- Placement of conservation easements on existing PG&E lands.
- Implementation of and contributions to recovery plan strategies.
- Habitat enhancement and restoration on lands already protected.

Mitigation of Temporary vs. Permanent Habitat Loss

1. Permanent Habitat Loss

Results from any of the following activities or conditions:

- New facilities located in a new ROW (i.e., minor new construction).
- Conversion of the existing land cover type suitable for a Covered Species to a developed land cover type or to a habitat type that would no longer be available for a Covered Species.
- Any activity that causes an effect lasting more than 12 months.
- Any activity that disturbs habitat such that the vegetative cover, soils, topography, and hydrological conditions would not recover within one growing season.
- ROW expansion or management that results in land cover type conversion.
- A long-term, substantial increase in the frequency and magnitude of human-related disturbances such that the habitat is no longer available to the species.

Covered Activities that could result in permanent habitat loss include gas pipeline maintenance and replacement, pole replacements, substation expansions, some vegetation management activities (e.g., ROW clearing), and construction of new permanent access roads where existing roads cannot be utilized or restored.

PG&E will mitigate permanent effects on modeled habitat for Covered Species at a 3:1 ratio (3 acres of habitat protected into perpetuity for every 1 acre permanently lost).

2. Temporary Habitat loss

Temporary habitat loss is attributed to Covered Activities that involve excavation, grading, or stockpiling of soil that alters existing vegetation, soils, topography, and hydrology for a period of days, weeks, or months, but no longer than twelve months. Temporary effects also can result from equipment staging. While these disturbances may have an effect on habitat values for Covered Species, effects on habitat are temporary in nature (less than 1 year) and allow habitat functions and values to return within that year.

The Applicant will provide permanent mitigation, protected into perpetuity, for temporary to offset the effects of temporary habitat loss. Mitigation for temporary habitat loss will be provided at the following ratios:

For all covered invertebrates, California tiger salamander (Sonoma County DPS), San Francisco garter snake, California clapper rail, and salt marsh harvest mouse, a mitigation ratio of 1:1 will be used to mitigate temporary effects on modeled habitat for these species.

- Temporary effects on breeding habitat for California tiger salamander (both Central California and Sonoma County DPSs) and California red-legged frog will be mitigated at a 1:1 ratio.

- Temporary effects within all critical habitat units for all Covered Species will be mitigated at a 1:1 ratio.
- Temporary effects on modeled upland habitat for California tiger salamander (Central California DPS) will be mitigated at a ratio of 0.5:1 when mitigation is provided in 5-year increments in advance of effects. For the first 5 years, mitigation that is not in place prior to any effect will be at a 1:1 ratio.
- Temporary effects on modeled upland (dispersal) habitat for California red-legged frog will be mitigated at a ratio of 0.5:1 when mitigation is provided in 5-year increments in advance of effects. For the first 5 years, mitigation that is not in place prior to any effect will be at a 1:1 ratio.
- Temporary effects on non-core (movement or dispersal) habitat for Alameda whipsnake will be mitigated at a ratio of 0.5:1 when mitigation is provided in advance of effects. For the first 5 years, mitigation that is not in place prior to any effect will be at a 1:1 ratio.
- A mitigation ratio of 1:1 will be used to mitigate temporary effects on Alameda whipsnake core or perimeter core habitat.
- Temporary effects on low-quality/use modeled habitat for San Joaquin kit fox will be mitigated at a ratio of 0.5:1 when mitigation is provided in advance of the effect. If the mitigation is not in place in advance of the effect, the ratio will be 1:1.
- A mitigation ratio of 1:1 will be used for temporary effects on core modeled habitat for San Joaquin kit fox.

The Applicant intends to acquire mitigation in advance of effects to ensure the biological goals and objectives are met; however, should the applicant be unable to fulfill its mitigation commitments in advance of effects on California tiger salamander (Central California DPS), California red-legged frog, and Alameda whipsnake (non-core habitats), the mitigation ratio for these species will increase to 1:1 until mitigation is again provided in advance of effects. Mitigation may occur after effects have occurred on these species for the first 5 years of plan implementation, after which time, all mitigation must occur in advance of effects.

3. Permanent and Temporary Disturbance of Certain Plants within PG&E Right-of-Ways

Permanent Effects

For every annual, perennial, or manzanita plant species that is permanently affected, PG&E will provide mitigation at a 3:1 ratio (3 plants grown or protected for every 1 plant permanently affected). In addition, the general acres of habitat affected will be similar to the mitigation area.

For every acre of permanent effects, the Applicant will provide mitigation at a 3:1 ratio.

Temporary Effects

For every annual, perennial, or manzanita plant species that is temporarily affected, the Applicant will provide mitigation at a 1:1 ratio (1 plant grown or protected for every 1 plant temporarily affected).

For every acre of temporary effects, the Applicant will provide mitigation at a 1:1 ratio.

If effects on perennial species are unavoidable, the Applicant will salvage individual plants in advance of the effect and replant them within the right-of-way. Similarly, if effects on annual plant species are unavoidable, the Applicant will salvage topsoil and replace it within the right-of-way. The Applicant will monitor the success of the replanting of perennial species and recovery of annual species for 3 years, unless the species is shown to have recovered sooner. If during this time the number of individual plants is not equal to or within normal variation of the number of individuals originally removed, the Applicant will pursue other mitigation options to ensure biological goals are met. For perennial species, an option is to propagate replacement stock and plant it within suitable habitat within the right-of-way. For annual plant species, these options vary as follows based on the type of habitat and the availability of mitigation opportunities:

- Wetland plant species – purchase easements or land that benefit plants and consistent with acquisitions made for wildlife species.
- Annual plant species – partner with other organizations that are working to enhance and restore habitat for rare or endangered plants.
- Serpentine endemic species – contribute funds to efforts that will promote and protect listed plant species in Santa Clara County.

For activities affecting more than 0.1-acre in Map Book Zones and for which Species-Specific, Hot Zone, and/or Map Book Zone AMMs are ineffective, or implementation of AMMs is not possible, the Applicant will submit a restoration plan to the Service. Additional measures could include relocating facilities away from occupied habitat on a case-by-case basis as allowable by the operations groups and subject to landowner approval, or removing noxious weeds to expand habitat for annual species. If a conservation easement is not feasible for these lands because private owners are unwilling to allow them, the Applicant will comply with the success criteria to ensure the population persists. Service-approval of the plan and success criteria will be required.

Types of Mitigation

The Applicant has proposed several options to meet its mitigation obligations, all of which require prior approval from the Service.

A. Fee Title and/or Conservation Easements

The applicant may purchase lands in fee. Lands purchased in fee will be protected through a conservation easement or equivalent site protection mechanism approved by the Service, and will include a management plan and associated endowment. In most cases, the Applicant will not own or manage mitigation sites, but will have qualified land conservation organizations hold title or easement and manage the property.

The Applicant may purchase conservation easements from willing. A Service-approved management plan and associated endowment will also be included. In addition to acquiring easements from willing landowners, the Applicant owns several parcels of land that have high conservation values and that may be suitable for mitigation through this method. The

approval process for fee title and easement acquisitions is described in more detail in section 5.6.4 of the HCP.

B. Conservation Partnerships

The Applicant may partner with conservation organizations to further regional conservation efforts. In the Bay Area, many local, state, and federal government organizations and nonprofit organizations have species or habitat conservation as part of their mission. The Applicant may contribute funds to land acquisitions and management to meet mitigation obligations. The Applicant may also contribute to the conservation efforts of local and regional HCPs/NCCPS by making other financial contributions or providing in-kind services to these plans that benefit Covered Species.

Financial and In-Kind Contribution to Local Land Managers

Many federal, state, and local land managers have missions that include the protection and conservation of endangered species. The Applicant may contribute to these efforts by making financial or in-kind service contributions to these organizations if, with Service approval, these contributions are shown to have direct benefits to Covered Species. This type of mitigation will have a discrete timeline for implementation of the restoration project, will result in restoration or habitat enhancement with a demonstrable benefit to Covered Species.

Financial and In-Kind Contribution to Restoration Efforts

Extensive restoration activities by various agencies are underway in the Plan Area that the applicant may aid with financial or in-kind service contributions. For example, the Applicant contributed to the first phase of the South Bay Restoration Project by upgrading the footings of facilities in Alviso Pond A-6 in South San Francisco Bay to facilitate the breaching and restoration of the pond. The Applicant subsequently executed a mitigation credit agreement with the Service that provided 1 acre of credit available initially and then PG&E received the additional 4 acres of mitigation credit when the pond was breached in 2010. These credits can be used solely by the Applicant and can be used for Covered Activities under the HCP. The approval process for contributing to other Conservation Partnerships is described in more detail in section 5.6.4.2 of the HCP.

C. Conservation/Mitigation Banks

The Applicant may purchase credits from a conservation or mitigation bank with the approval of the Service. The approval process for acquiring credits at conservation/mitigation banks is described in more detail in section 5.6.4.3 of the HCP.

D. Habitat Enhancement and Restoration

The Applicant may consider enhancement or restoration projects to serve as mitigation. This approach will be implemented in instances where other mitigation approaches are infeasible or very difficult to achieve. For example, there may be very limited or no opportunities to purchase fee title lands or easements for some wildlife species, such as Lange's metalmark

butterfly, San Bruno elfin butterfly, Callippe silverspot butterfly, and most covered plants. Examples of habitat enhancement or restoration efforts to promote recovery include planting host plants for listed butterflies and relocating or transplanting covered plants. In some instances, other restoration enhancement and restoration efforts for more common species may also serve as mitigation; examples include dredging ponds to make them more suitable for California red-legged frog, creating new aquatic habitat, or contributing to bullfrog eradication efforts. The approval process for habitat enhancement and restoration is described in more detail in section 5.6.4.4 of the HCP.

Selection, Location, and Management of Habitat Mitigation lands

The Applicant intends to prioritize the purchase and preservation of high-quality natural lands, especially those already supporting multiple Covered Species. Lands that do not require intensive management to maintain existing habitat quality and those that provide opportunities for habitat enhancement also will receive high priority for acquisition as mitigation lands. When mitigation for critical habitat is necessary, lands currently designated or proposed for designation as critical habitat, and which have the appropriate primary constituent elements, will be used. The Applicant will work with the Service and overlapping HCP and HCP/NCCP administrators to identify critical or high-threat areas that could be pursued for mitigation and priority conservation. Section 5.6.5 of the HCP contains additional details about selection criteria for mitigation lands.

For some species, factors may render it challenging to demonstrate that habitat is occupied habitat because of population fluctuations (e.g., butterflies); difficulty detecting species (e.g., San Francisco garter snake); or infrequent species occurrence in the study area (e.g., San Joaquin kit fox). In these instances, the mitigation site will be selected based on suitability, as described in Section 5.6.5 of the HCP.

Mitigation management plans will be prepared in consultation with the Service, and will require Service-comment or approval within 60 days of submittal. Specific items required within management plans are listed in section 5.6.5.3 of the HCP.

The Applicant will consider the following factors that may affect both the quality and priority of mitigation lands for Covered Species:

- Large, contiguous areas of habitat will be sought over equal acreage of small, separated areas.
- Mitigation habitat should be surrounded by compatible land uses and/or buffered from adverse adjacent land use.
- Location of mitigation lands should build on other related conservation efforts.
- Mitigation habitat that is in-kind or close to the affected will be sought over distant habitat or to different habitat types.
- Lands that are sensitive to pressures from development or other land use changes and that provide important conservation value due to patch size or habitat corridors are a priority for conservation.

The following sections summarize the factors and attributes of specific habitat types affecting suitability of mitigation lands and the resulting management implications. A complete discussion is available in section 5.6.5.1 of the HCP. The suitability of habitat and the ability to maintain it at a

level suitable for Covered Species are considered to be necessary conditions to selecting appropriate mitigation lands. The Applicant will work with the Service to identify mitigation opportunities that will fulfill its mitigation obligations. Specific considerations are summarized as follows:

1. Riparian Habitats and Wetlands

Riparian and wetland habitat sites are desirable because they may provide structural diversity, including over- and understory components. Management will entail control of livestock to ensure it does not degrade important habitat.

Considerations for riparian- and wetland-dependent Covered Species include the following factors:

- Presence of permanent or semi-permanent water for California red-legged frog.
- Presence of rodent burrows or comparable small crevices for California red-legged frog, San Francisco garter snake, and California tiger salamander.
- Absence or control of predatory bullfrogs and nonnative fish for California tiger salamander, San Francisco garter snake, and California red-legged frog.

2. Grasslands

Grasslands can be most beneficial as mitigation lands if they are located adjacent to other preserved or protected areas of grassland habitat. Proximity to aquatic habitats increases the quality of grassland habitat for a number of species that breed in riparian and aquatic habitats but forage or seek shelter in grasslands (e.g., California tiger salamander, California red-legged frog). Other species rely almost completely on grasslands for breeding and foraging habitat and will benefit most from the preservation of large, contiguous grasslands specific to their needs. For individual grassland species, the following other attributes are important considerations for selecting mitigation lands.

- Maintained presence of ground squirrel burrows for San Joaquin kit fox and California tiger salamander.
- Proximity to suitable aquatic breeding sites for California tiger salamander and California red-legged frog that do not support predatory fish and bullfrogs.
- Protection from disking and agricultural uses.
- Restricted use of rodenticides and herbicides.
- Prescribed and managed livestock grazing where needed as a tool to maintain suitable vegetation conditions.

3. Oak Woodlands

Desirable mitigation lands include the valley oak, live oak, and blue oak woodland habitats. Bay Area woodlands contain few oaks because woodcutting and livestock grazing impede their recruitment and growth. Management plans for these preserves will be designed to protect acquired oak woodland mitigation areas and will address these conflicts. Woodland habitats important to Covered Species contain the following characteristics:

- Proximity to water sources for California tiger salamander and California red-legged frog.
- Presence of rodent burrows, rock crevices, or fallen logs for California tiger salamander and California red-legged frog.
- Retention of snags (standing dead trees) and downed woody debris to benefit multiple wildlife species.

4. Shrublands

Management goals for shrublands vary by species and localized habitat types. In general, management goals for shrublands may include the following attributes:

- Exclusion or restriction of livestock.
- Establishment and maintenance of adequate buffers from developed lands or roads (with specific distances based on site-specific conditions estimated by the preserve land manager).
- Monitoring for the presence and control of invasive nonnative plant species.
- Risk assessment and containment of wildfire through management plans. Wildfire has a strong influence on habitat and consequences for both wildlife and public safety.

Biological Surveys and Monitoring

The use of modeled habitat to determine mitigation means that for small activities, few small activities will be preceded by biological surveys and/or monitoring. For those small activities that have been screened identified as a result of the Environmental Review process, and for large activities and activities G9, G10, G11, G12, G13a, G14, G15, G16, G17, G18, E9a, E10d, E12, E13, and E14, biological monitors may be required, may prescribe the appropriate AMMs (Field Protocols, Hot Zone, and Map Book Zone), and will have stop-work authority that will be exercised if a Covered Species is observed or if work may result in direct take of a Covered Species.

HCP Implementation

Implementation of the PG&E O&M HCP is described in Chapter 6 of the HCP; however, Chapters 5 and 6 both describe different aspects of implementation, such as when and how to implement various AMMs, which is described in Chapter 5. This section summarizes implementation items discussed in Chapter 6 of the HCP.

Implementation Structure and Staffing

The Applicant's Environmental Management group is responsible for environmental planning and permitting of all utility infrastructure and projects. The Environmental Management group will be responsible for the overall management of the HCP through a dedicated team of employees that will implement the program. The HCP team will include an HCP administrator and land planning analysts. Direct support to the HCP team will come from company-wide land planners and biologists who will work with the HCP team to ensure successful implementation and compliance of the HCP. Biological monitors and field crews will have direct roles for implementing and following

AMMs in the field. Individual staffing units and their respective responsibilities are described further in section 6.1.1 of the HCP.

Implementation Tasks

Implementation tasks are described in both Chapter 5 and Chapter 6 of the HCP, with Chapter 5 largely focusing on how and when AMMs will be implemented, and how mitigation will be calculated, while Chapter 6 discusses implementation tasks largely to be conducted by the Applicant within its own internal hierarchy. Chapter 6's tasks are summarized below.

1. Education and Training

The Applicant's staff, and contractors acting on behalf of the applicant, will be given annual training and project-specific training.

Annual training is broad and will cover multiple aspects of the HCP Covered Activities, Covered Species, AMMs, compliance, and the conservation strategy. The targeted audience that will receive HCP education and training include construction crew members, project managers, land planners, land management staff, construction contractors, and environmental management staff. Annual training will be conducted either in-person or as computer-based training.

Project-specific training (i.e., tailboards) is specific to a given project and will be provided to staff working on Covered Activities for which AMMs are required, when work is conducted in a hot zone, when species-specific AMMs are required on large projects, and as required when PG&E is working in Map Book zone areas.

2. Monitoring

The Applicant has proposed to monitor compliance, the effects of implementation, and the effectiveness of meeting the biological goals and objectives.

Compliance monitoring will document whether or not the environmental planning, review, and screening process is occurring and effective; confirm that the education and training program for the Applicant's staff and contractors is being implemented properly; ensure that required education and training is being conducted; confirm that biological surveys and monitoring are conducted, including implementation of AMMs and BMPs; and provide an accounting of effects and mitigation.

Effects monitoring will track the effects of Covered Activities on habitat for Covered Species, allowing the applicant and the Service to verify that effects are in-line with the assumptions and estimates used to develop the HCP, largely discussed in Chapter 5 and presented in table 5-3 of the HCP. The applicant's HCP team will confirm that estimates for small activities are accurate by conducting validation studies in years 5, 10, 15, 20, and 25 of HCP implementation. If the Applicant and the Service agree that these validation studies are unnecessary or ineffective, they may agree to reprioritize the Applicant's resources to other areas of effects monitoring.

Effectiveness monitoring will track and assess how well the biological goals and objectives are being met. The Applicant's HCP team will collect, compile, and summarize data from the land

planners and biologists regarding completed Covered Activities, biological surveys, monitoring reports, release to construction documentation, and other information to evaluate overall effectiveness of the program. The HCP team will evaluate the implementation program to determine if it is operating as anticipated, whether or not there are non-cost prohibitive changes, that are consistent with the Applicant's permit, that would increase effectiveness. The HCP team will also identify instances where AMMs were unsuccessful or infeasible, and if so, why they were unsuccessful or not implemented, and the Applicant will coordinate with the Service and other stakeholders to analyze whether or not any parts of the program are not working, and what parts are working well.

The Applicant's HCP team will also monitor its mitigation program to make certain that mitigation lands will contribute to a network of permanently protected and managed lands, and to ensure that these lands are, and continue to be, of benefit to Covered Species, consisted with biological goals 2 and 3, respectively.

3. Reporting

The Applicant's HCP team will prepare annual reports to document permit compliance and implementation of the conservation strategy. Each annual report will summarize the previous calendar year's activities and will be completed by March 31 following the reporting year. The Applicant will submit annual reports to designated representatives of the Service. Contents of annual reports are described in section 6.4 of the HCP.

Effects and Disturbance Accounting

The Applicant's HCP team will keep a running total of annual covered activity effects and Covered Species take, including effects on critical habitat, over the permit term. The HCP team is responsible for recording temporary and permanent effects as reported by the land planners and biologists, as well as the data collected from internal data systems. For effects to wildlife habitat, the Applicant will record habitat losses in acreage or square feet to the nearest hundredth of an acre. For all plant species, PG&E will record all habitat losses as acreage or square feet to the nearest hundredth acre, as individual plant losses, or as both. If restoration plans are ineffective and effects become permanent, these effects will also be tracked. To ensure that effects on Covered Species are not disproportionately large in any 10-year period, PG&E will monitor effects on covered wildlife closely to ensure that the authorized take is not exhausted unevenly throughout the permit term. The following parameters will be monitored:

- One-third of the take authorization will not be exceeded in a 10 year period for California tiger salamander (both the Central California and Sonoma County DPS).
- One-third of the take authorization will not be exceeded in a 10-year period for the California red-legged frog.
- For all other wildlife species, take will not exceed 50 percent of the take authorization in a 10 year period.

These amounts are not intended to be firm 10-year caps because the amount of take will be limited by the overall permit. Rather, these amounts should be considered interim limitations

that could be exceeded by up to 20 percent of the total permitted take if PG&E can demonstrate its effects are dispersed, mitigation is assured, and mitigation is provided ahead of effects.

Mitigation Accounting

The Applicant's HCP team will use estimated habitat loss acreages and actual effect determinations for projects reported from land planners and biologists to calculate the mitigation that is required to offset the prior years' effects by species. Temporary and permanent effects for the reporting year will be mitigated accordingly using: (1) the affected species modeled habitat and (2) the ratio of compensation for that species based on whether the effects are temporary, and mitigated in advance, or permanent. The HCP team will use an internal mitigation accounting reporting system (MARS) to keep track of all annual effects and the mitigation required as part of the conservation strategy. MARS will track and deduct "species-acre credits" from approved mitigation acquisitions. MARS will track all mitigation in order to stay ahead of covered activity effects. If planners find that temporary effects become permanent, the data will be updated in MARS.

Adaptive Management of Mitigation Lands

Adaptive management is a necessary component of habitat conservation plans to ensure the effective management and protection of mitigation lands. In the context of this HCP, adaptive management will focus on managing mitigation lands. Most adaptive management measures will be implemented when conservation actions do not produce the desired outcome or when species or natural-community trends decrease. In these cases, new actions would be implemented to try and improve the outcome for species and communities. For each management plan that is prepared for the HCP, PG&E will include a contingency of approximately 5–10 percent of the total endowment to allow the mitigation land manager to complete the following actions.

- Identify and resolve emerging issues.
- Develop alternative and experimental management strategies.
- Support a monitoring of the new management strategies.
- Incorporate information collected during monitoring to inform the management decision-making process.
- Respond to changed circumstances.

Adaptive management actions will likely take place at the following junctures.

- In response to downward trends in the status of Covered Species or key natural-community attributes.
- When new information from the literature or other relevant research indicates that a feasible and superior alternative method for achieving the biological goals and objectives exists.
- When monitoring indicates that the expected or desired result of a management action did not occur.

As described in Chapter 5, Section 5.6.5.3, most land management will focus on simple and proven management and enhancement actions. Adaptive management decisions will be based on the data collected as part of ongoing monitoring and management.

Changed Circumstances

Changed circumstances evaluated in the HCP include a range of human and natural factors that could adversely affect Covered Species and the value of the mitigation lands. Specific factors analyzed in the HCP include vandalism, fire, floods, landslide and wind/water erosion, earthquakes, drought, climate change, invasive species, and multiple factors occurring at once. Changed circumstances will be addressed through the adaptive management provisions or the implementation of remedial measures described for each changed circumstance in section 6.6.2.1 of the HCP. The Applicant would be required to provide planned responses to the changed circumstances identified in the HCP in accordance with the Service's "No Surprises" rule at 50 C.F.R. 17.22(b)(5) and 17.32(b)(5). The HCP identifies ten specific changed circumstances that may occur. Eight of the changed circumstances apply to types of environmental events or events outside the control of the Applicant: vandalism; fire; flood; landslides and wind/water erosion (not anticipated to occur); drought; earthquakes; invasive species; and the occurrence of multiple changed circumstances. The HCP provides that in the event of a changed circumstance, the Applicant shall, with the concurrence of the Service, determine the extent of damage, and identify and implement an appropriate response, if any is needed. Funding will be provided through the Applicant's endowment maintenance money, or at Applicant's own expense, with funds provided as described in Chapter 6 of the HCP.

Unforeseen Circumstances

Unforeseen circumstances is defined in 50 CFR 17.3 as changes in circumstances affecting a species or geographic area covered by a conservation plan that could not reasonably have been anticipated by the Applicant or Service during the plan's negotiation and development, and that result in a substantial and adverse change in the status of the Covered Species.

In the event of an unforeseen circumstance, the Service will notify the Applicant in writing to describe the unforeseen circumstance and its anticipated effects on Covered Species. The notice must demonstrate that the unforeseen circumstance is having, or is likely to have, a significant adverse effect on a Covered Species, based on the best scientific and commercial data available. The following factors will help determine whether or not a previously unidentified event constitutes an unforeseen circumstance:

- Percentage of the range of a Covered Species adversely affected by the Bay Area O&M HCP.
- Percentage of the range of a Covered Species mitigated by the Bay Area O&M HCP.
- Ecological significance of that portion of the range affected by the Bay Area O&M HCP.
- The level of knowledge about the affected species.
- The degree of specificity of the pertinent AMMs and mitigation measures under the Bay Area O&M HCP.
- Whether failure to adopt additional conservation measures would appreciably reduce the likelihood of survival and recovery of the affected species.

Pursuant to the “No Surprises” rule, the Service will not require any additional land, water, or other natural resources without the consent of the Applicant in the event an unforeseen circumstance occurs. If the Service determines that an unforeseen circumstance has occurred and that additional land, land restrictions, or financial compensation beyond that required under the HCP are needed to conserve the Covered Species, the Applicant will not be obligated to provide the additional measures without its consent. Pursuant to 50 C.F.R. 17.22(b)(8) and 17.32(b)(8) the Service retains the authority to revoke the Permit, in response to an unforeseen circumstance or otherwise, if we find that continuation of the take permitted under the permits would appreciably reduce the likelihood of the survival and recovery of a listed species.

II. PUBLIC COMMENT

The Service published a Notice of Intent to prepare an Environmental Impact Statement (EIS) in the *Federal Register* on November 7, 2006 (71 FR 65123). The Service published a Notice of Availability withdrawing our 2006 Notice of Intent to prepare an EIS, availability of the draft EA, draft HCP, and receipt of an application for an incidental take permit by the Applicant in the *Federal Register* on March 24, 2017 (82 FR 15063). Publication of the notice initiated a 30-day comment period that ended on April 24, 2017. The Service received 19 public comments during this period. At the request of several commenters, the Service extended the public comment period on the draft HCP for an additional 60 days and held public workshops on June 12 and 19, 2017. The public comment period on the draft EA was deemed sufficient and was not extended. The Service received an additional 6 public comment letters on the draft HCP were received during the additional 60-day comment period and two public comment cards were provided during the two workshops. All comments are summarized and responded and are included as an attachment to this document.

III. INCIDENTAL TAKE PERMIT CRITERIA – ANALYSIS AND FINDINGS

Findings for Permit Issuance Criteria

1. The taking will be incidental.

The Service finds that the take of Covered Species will be incidental to otherwise lawful activities. Incidental take will result from the categories of Covered Activities described above in Part I of these Findings. Any take resulting from these Covered Activities will be incidental to, and not the purpose of, these otherwise lawful activities.

2. The Permittee will, to the maximum extent practicable, minimize and mitigate the impacts of taking listed species and other Covered Species.

The Service finds that the Applicant will minimize and mitigate the impacts of the taking of Covered Species to the maximum extent practicable. The Permittee has developed the HCP and its associated conservation strategy pursuant to the incidental take permit requirements at 50 CFR 17.22(b)(2) and 50 CFR 17.32(b)(2), which require measures to minimize and mitigate the effects of issuing permits. The impacts of the taking will be minimized, mitigated and monitored in accordance with measures identified in Chapter 3 (Covered Activities), Chapter 5 (Conservation Strategy) and Chapter 6 (Implementation and Funding) of the Plan (PG&E 2017). To make the finding that the conservation measures minimize and mitigate the impacts of take to the maximum extent practicable, the Service must first evaluate whether the measures identified in the conservation strategy are rationally related

to the level of take anticipated under the HCP. In effect, the minimization and mitigation measures need to address the biological needs of the Covered Species in a manner commensurate with the impacts to the species allowed under the HCP. It is the Service's determination that the level of minimization and mitigation provided for in the HCP compensates for the impacts of taking of each Covered Species that will or could potentially occur under the Plan.

The Applicant has placed an emphasis on avoidance and minimization of the effects of Covered Activities on Covered Species as the Applicant's highest priority. Prioritizing avoidance and minimization over mitigation is expected to provide incentive to the Applicant by reducing the costs of plan implementation that would otherwise be incurred by securing permanent mitigation.

Habitat loss (as well as direct mortality and injury to some of the Covered Species) is anticipated to occur throughout the life of the plan. While habitat losses and number of individuals can only be estimated, the HCP sets maximum limits (i.e., caps) on the amount of take that can occur by species. The Applicant will mitigate temporary and permanent habitat loss with permanent conservation, either through direct acquisition of land which will subsequently be protected in perpetuity with a conservation easement, or through recording of conservation easements on non-owned land. Temporary disturbance may occur more than once in a single location, but with periods of no disturbance in between (sometimes years). Temporary disturbances generate permanent mitigation, even though during the interim time periods, the habitat is available to Covered Species. The Applicant may also purchase credits from conservation banks or fund existing local conservation efforts. The overall impacts associated with Covered Activities are expected to be small with respect to individual Covered Species, as well as diffuse throughout the plan area. The conservation expected to be gained will be large in comparison, planned for maximum species benefit, and coordinated with pre-existing conservation efforts throughout the plan area. While coordinating with other conservation efforts are not relied on to make our findings, the Service expects additional benefits to be afforded to individual Covered Species addressed under this HCP as well as those addressed through other conservation strategies (such as other HCPs and conservation strategies).

Adverse effects to Covered Species are fully described in the Service's Intra-Service Biological Opinion (Service 2017) and the conclusions are consistent with this Finding.

3. The Permittee will ensure that adequate funding for the Habitat Conservation Plan and procedures to deal with unforeseen circumstances will be provided.

The Service finds that the HCP includes adequate procedures for determining the occurrence of, and responses to, both changed and unforeseen circumstances. The Applicant has identified, described, and provided responses in the HCP for nine changed circumstances (vandalism, fire, floods, landslide and wind/water erosion, earthquakes, drought, climate change, invasive species, and multiple factors occurring at once) that may affect Covered Species or their habitats, and can reasonably be anticipated and planned for in the HCP. The HCP uses an adaptive management strategy and funding to respond to the specified changed circumstances.

The Applicant is responsible for funding full implementation of the HCP as described in Chapter 6 of the HCP. The following costs components, described in detail in section 6.9.1, were identified in association with implementation of the HCP: staffing, funding of the validation study, and training costs (see HCP Table 6-1); biological surveys and avoidance and minimization measures, which are

covered by the project budgets each time a Covered Activity is undertaken; mitigation (see tables 6-2 and 6-3); and monitoring and reporting costs, which are funded as part of the responsibilities of land planners and biologists, and are thus also captured in table 6-1. All funding for these items will be fully covered by the Applicant's gas and electricity rates, i.e., will be paid for by the Applicant's customers (see HCP Section 6.9.3). Because all HCP funding is rate-based, funding will be assured to keep pace with expenditures.

In the event of Unforeseen Circumstances during the permit term, amendments to the HCP may be proposed by either the Applicant or the Service to address these circumstances. The Applicant and the Service will work together to identify opportunities to redirect resources to address Unforeseen Circumstances. However, consistent with the Service's "No Surprises" regulations at 50 CFR 17.22(b)(5) and 17.32(b)(5), in the event of an unforeseen circumstance, and assuming the Plan is being properly implemented, the Applicant may be required to make modifications within the conserved lands or to the HCP's conservation strategy, but only if such modification will not involve the commitment of additional land, water, or other resources beyond the level agreed to under the HCP, unless the Applicant consents to such additional mitigation.

Based on the information about available financial resources, we find the Applicant has ensured adequate funding for implementation of the HCP.

4. The taking will not appreciably reduce the likelihood that the species will survive and recover in the wild.

The Service finds that the proposed taking will not appreciably reduce the likelihood of the survival and recovery of the Covered Species in the wild. The Act's legislative history establishes the intent of Congress that this issuance criterion be identical to a finding of "no jeopardy" pursuant to Section 7(a)(2) of the Act and the implementing regulations pertaining thereto (50 CFR §402.02). As a result, the Service has reviewed the HCP under section 7 of the Act. In the Intra-Service Biological Opinion (Service 2017), the Service reviewed the current status for the Covered Species; their environmental baseline in the action area; and, the direct, indirect and cumulative effects of the proposed action, including the adverse effects and all avoidance, minimization, and mitigation measures. As indicated in the Service's Intra-Service Biological Opinion, the Service concluded that issuance of an incidental take permit for the Covered Species associated with implementation of the proposed HCP is not likely to jeopardize the continued existence of the Covered Species. The rationale for this conclusion is discussed in detail in the Intra-Service Biological Opinion (Service 2017). The rationale for these conclusions is discussed in detail in the Service's Intra-Biological Opinion (Service 2017), and were based on the following facts:

- a. The effects of Covered Activities on listed species are small for each instance, and are expected to be distributed throughout the Permit Area, minimizing the effects on Covered Species resulting from any single covered activity.
- b. Emphasize in the HCP for having large intact mitigation parcels that benefit multiple species, rather than small parcels of fragmented habitat.
- c. The Applicant has provided incentive to avoid effects to Covered Species as the highest conservation priority, and mitigate any impacts that cannot be avoided.

- d. Most anticipated disturbance is expected to be temporary and the Applicant has proposed to permanently conserve lands valuable to each Covered Species' conservation to offset the effects of the temporary disturbance.
- e. The Applicant will work with existing, overlapping HCPs and HCP/NCCPs to further their conservation goals, and to maximize the benefits of its mitigation obligations (as noted above the Service is not basing its determination that the proposed HCP minimizes and mitigates to the maximum extent practicable based on this; merely noting it here as an additional benefit to Covered Species).

5. Other measures, as required by the Director of the Fish and Wildlife Service, as necessary or appropriate for the purposes of the plan will be met.

The Service finds that the HCP has incorporated all elements necessary or appropriate for issuance of a section 10(a)(1)(B) permit and other elements otherwise required by the Service.

6. The Service has received the necessary assurances that the plan will be implemented.

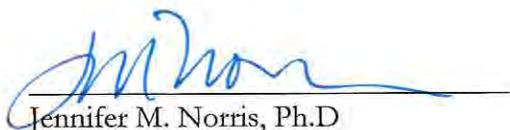
The Service finds that the HCP provides the necessary assurances that the Pacific Gas and Electric Company can carry out their proposed HCP.

IV. GENERAL CRITERIA AND DISQUALIFYING FACTORS – ANALYSIS AND FINDINGS

The Service has no evidence that the permit application should be denied on the basis of criteria and conditions set forth in 50 CFR §13.21(b)-(c).

V. RECOMMENDATION ON ISSUANCE OF PERMIT

Based on these findings with respect to the permit application, the HCP, and the EA for this project, I recommend issuance of a section 10(a)(1)(B) ITP to the Applicant for incidental take of the Covered Species in accordance with the Pacific Gas and Electric Company's Bay Area Operations & Maintenance Habitat Conservation Plan in Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, and Sonoma Counties, California.



Jennifer M. Norris, Ph.D
Field Supervisor
Sacramento Fish and Wildlife Office
U.S. Fish and Wildlife Service

10/2/2017
Date

VI. FINDING OF NO SIGNIFICANT IMPACT – NEPA DECISION

Effects on the Human Environment

The attached EA was prepared to analyze and disclose potential environmental impacts pursuant to NEPA. The draft EA was modified with the Final HCP and the attached document titled *Environmental Assessment Errata* and combined represent the Final EA. Only the EA, the *Environmental Assessment Errata*, and those documents made available during the public comment period were used in this FONSI. The EA supports the following findings:

Agricultural Resources

The Proposed Action (issuance of a ITP; see Section I above) will result in minimal amounts of conversion of agricultural lands to non-agricultural use. Permanent conversion of agricultural land may arise from activities such as facility expansions and construction of new facilities. The EA, based on the Applicant's estimates, identifies permanent conversion of agricultural land to non-agricultural use will be at the rate of approximately 1 acre per year, on average, and we have based our analysis of significance on this amount. Covered Activities under the HCP may temporarily disturb agricultural land through several Covered Activities, mainly vegetation management, patrols and inspections, and pipeline segment repair or replacements.

Some of these conversions could require the cancellation of Williamson Act contracts over small (<2.5 acres) areas. Mitigation lands may also be located on lands under Williamson Act contracts, which may result in the contracts on those lands being cancelled. However, this potential conflict is addressed because lands eligible for a Williamson Act contract are likely to be less desirable to fulfill the mitigation needs of the Applicant, and the inventory of lands within the Bay Area available to the Applicant is thought to be large enough that the Applicant will rarely need to cancel a Williamson Act contract. Acquisition of mitigation lands is by willing seller, and individual land owners with Williamson Act contracts would not be required to cancel the contract nor sell their lands as mitigation for the HCP. Additionally, several Covered Species may also benefit from certain agricultural activities that Williamson Act contracts would be established to protect (such as grazing), and so maintaining, rather than cancelling, Williamson Act contracts may be attractive to the Applicant because of the tax benefits conferred by the contracts.

The Service considers the small amount of permanent loss and the temporary nature of the majority of the disturbances to be a negligible impact on this resource category, and we do not anticipate significant conflicts with Williamson Act contracts as a result of the Proposed Action.

Air Quality and Climate Change

1. Generation of Substantial Air or Greenhouse Gas Emissions

Covered Activities, including management activities on habitat mitigation lands, will generate air and greenhouse gas (GHG) emissions, which may result in degraded air quality and contribute to climate change. Covered Activities will generate varying levels of vehicle- and equipment-related pollutants and fugitive dust depending on the type and duration of the activity, as summarized below.

- Vehicles (e.g., trucks, helicopters and fixed-wing light aircraft, and all-terrain vehicles) used for employee access to sites and for inspection patrols will generate criteria pollutant and GHG emissions.
- Heavy machinery (e.g., cranes, excavators, and scrapers) for construction and maintenance of PG&E facilities and infrastructure will generate criteria pollutant and GHG emissions.
- Smaller equipment (e.g., chainsaws and generators) will generate criteria pollutant and GHG emissions.
- Painting and asphalt paving will generate evaporative ROG emissions.
- Ground-disturbing activities (e.g., grading, excavation, and construction of roadways) will generate emissions of fugitive dust (PM10 and PM2.5).
- Vehicles and equipment traveling on unpaved roads and offroad will generate emissions of fugitive dust (PM10 and PM2.5).

Specifics regarding the types and number of vehicles/equipment, duration of use, and frequency of use are impossible to predict at this time, but it is anticipated that the Applicant's activities will continue as currently conducted. The type and number of vehicles and equipment, duration of use, and frequency of use are anticipated to be similar to the Applicant's current O&M and minor new construction practices under existing conditions. Emissions from these Covered Activities are expected to decline over the 30-year life of the HCP as the Applicant replaces its vehicles and construction equipment with more efficient, less polluting models. No new permanent emission-generating facilities are anticipated (nor covered) under the Proposed Action and any replacement would be in-kind, except that emissions would likely be less due to improvements in technology. O&M activities associated with emergency response are the same (i.e., the amount and extent) as the other Covered Activities, except with respect to timing and urgency of completing the work. However, actual emergency responses are generally infrequent and temporary. Maintenance patrols occur on a regularly scheduled basis in compliance with CPUC requirements and on an as-needed basis.

For all Covered Activities and activities on habitat mitigation lands, the Applicant will implement appropriate AMMs and BMPs identified in the HCP, comply with its existing land use and air quality environmental practices. Since Covered Activities and O&M activities will be similar to existing conditions and implemented under the No Project Alternative, there would be no net increase in construction or operational emissions. Accordingly, neither construction nor operation of the project will generate net criteria pollutant or GHG emissions, relative to the No Project Alternative. There will be no significant adverse effects on air quality or climate change.

2. Exceedance of Federal General Conformity Thresholds

While the Plan Area is located in a nonattainment and maintenance area for the National Ambient Air Quality Standards, the federal action addressed in this EA is the issuance of an incidental take permit. The federal action will not directly result in emissions of criteria pollutants, nor will it result in indirect emissions because the Service does not exercise continuing control over any development activities that would result in emissions after issuance of the permit. In this case, the federal action associated with the Service's issuance of an ITP is a necessary first step to any development activity (and associated emissions) that will ultimately occur independent to of Service control. Thus, a conformity determination is not required for

this federal action undertaken by the Service and there would be no significant adverse effect on air quality.

3. Air Quality and Greenhouse Gas Benefits from Habitat Mitigation Lands

The designation of habitat mitigation lands may enhance air quality in the Plan Area by preserving large areas of open space and protecting the lands from development and other activities. Mitigation land will consist of high-quality open space that provides habitat for the Covered Species. The Applicant will designate these lands in accordance with the conservation strategy in the Bay Area O&M HCP, which will ensure the highest quality land is preserved in perpetuity. Protecting the land from development ensures stored carbon in soil and plant biomass is not released and that the lands will continue serving as a natural GHG sink. The preservation of large expanses of vegetated lands would therefore help enhance air quality in the region and provide an overall benefit to air quality and GHG emissions.

4. Exposure to Sensitive Receptors to Toxic Air Contaminant (TAC) Emissions from Covered Activities

Diesel-powered construction equipment and heavy-duty trucks would create diesel exhaust emissions that could expose receptors to increase health risks. However, most of the Covered Activities are not expected to occur within close proximity (i.e., 1,000 feet) to sensitive receptors. These activities would also be limited in duration and occur relatively infrequently. Exposure is expected to be the same under the No Action Alternative as they will be under the Proposed Action, and as such, there will be no net change in TAC emissions and associated health risks. The Applicant will also implement BMPs described in the HCP to further reduce TACs. Accordingly, none of the Covered Activities are expected to expose sensitive receptors to TAC emissions.

5. Odor Generation from Covered Activities

Covered Activities will often involve the use of gasoline- and diesel-powered equipment that emits exhaust fumes and involves painting or asphalt paving, which have a distinctive odor during application. These activities would take place intermittently throughout the work period, and the associated odors are expected to dissipate within the immediate vicinity of the work area. Persons near the work area may find these odors objectionable. Exposure is expected to be the same under the No Action Alternative as they will be under the Proposed Action, and as such, there will be no net change in odor generation or exposure as the result of our action. Additionally, the Applicant has committed to implementing AMMs and BMPs described in the HCP. Because of the infrequency of the emissions, rapid dissipation of the exhaust into the air, and short-term nature of the activities in a single work area, and implementation of appropriate AMMs and BMPs, none of the Covered Activities are expected to result in objectionable odors that affect a large number of people. We anticipate no significant effects relative to the No Action Alternative.

Biological Resources

1. Impacts on Federally-listed Species

Plants and Their Habitat

The Service anticipates that all federally-listed plants within the plan area that will potentially be affected by Covered Activities, will be Covered Species. Covered activities will damage populations or individuals of federally-listed plants, and their habitat. Vegetation removal and pipeline replacement, and replacement of electrical poles and towers have the greatest potential to affect covered plants. In addition to direct loss of habitat, habitat for listed plants may be impaired or degraded by Covered Activities by introducing non-native, invasive plants, or plant-based diseases into the Permit Area. Site enhancement and restoration, as called for in the HCP's conservation strategy, could temporarily impact covered plants in similar fashion to other ground-disturbing activities.

Covered Activities may disturb an aggregate total of 6 acres of designated critical habitat for the Contra Costa wallflower, Contra Costa goldfields, and Antioch Dunes evening primrose. The largest habitat impacts are forecast for designated critical habitat for the Antioch Dunes evening primrose and the Contra Costa wallflower, at 0.48 percent loss of designated critical habitat; the other species will lose 0.20 percent of critical habitat or less if the maximum amount of habitat loss projected occurs. The Service views the small percentage loss in critical habitat as a less than significant impact to critical habitat for these species.

There are 9 federally-listed plants within the Permit Area that are not Covered Species under the HCP. These plants are not likely to be found where any Covered Activities will be implemented, and avoidance measures intended to avoid impacts to covered plants are expected to result in complete avoidance of non-covered federally-listed plants.

The HCP describes an extensive list of BMPs, Field Protocols, and AMMs that will be regularly implemented in plant Map Book Zones and throughout the larger plan area. These measures are expected to minimize impacts to listed plants. Where impacts to listed plants are unavoidable, the HCP's conservation strategy calls for the protection of areas containing covered plants, offsetting impacts through on-site restoration, and the planting of new plants or salvaging of plants that may otherwise be destroyed.

The emphasis on avoidance where possible, and implementation of minimization measures and mitigation where avoidance is not possible, is expected to reduce impacts on federally-listed plants to a less-than significant level.

Vernal Pool Invertebrates and Their Habitat

Conservancy fairy shrimp, longhorn fairy shrimp, vernal pool fairy shrimp, vernal pool tadpole shrimp, and the Delta green ground beetle may be impacted by Covered Activities that occur near or within vernal pool matrix habitat. The applicant has estimated that few Covered Activities are projected to occur near habitat for these species over the life of the permit. These species may be affected by the construction of pipeline trenches through vernal pools, movement of equipment across vernal pools, and other Covered Activities that disturb soil and/or affect natural hydrology and drainage patterns. These species may also be affected by the discharge of pollutants either directly within, or within a distance close enough to be transported to, vernal pools, or by the introduction of invasive species.

Covered Activities in designated critical habitat for these species is projected to result in an aggregate maximum loss of 17 acres of critical habitat over the 30-year permit term, which amounts to less than 1 percent loss of critical habitat for each covered vernal pool invertebrate. The Service views this fraction of a percent of loss of critical habitat as a less-than significant impact to critical habitat for these species.

The HCP describes an extensive list of BMPs, Field Protocols, and AMMs that will be regularly implemented in modeled habitat, Hot Zones, and throughout the larger plan area. These measures are expected to minimize impacts to vernal pool invertebrates. Where impacts to these species are unavoidable, the HCPs conservation strategy calls for the on-site restoration of habitat where possible, offsetting per-acre impacts by purchase of credits at approved mitigation banks or by direct acquisition of land or conservation easements on land containing these species.

The emphasis on avoidance where possible, and implementation of minimization measures and mitigation where avoidance is not possible, is expected to reduce impacts on vernal pool invertebrates to a less-than significant level.

Covered Butterflies and Their Habitat

Adults, eggs, larvae, and pupae may be impacted Covered Activities occurring in grasslands, dunes, or coastal chaparral ecosystems that support host plants for the Lange's metalmark butterfly, bay checkerspot butterfly, Mission blue butterfly, San Bruno elfin butterfly, and the Callippe silverspot butterfly. Vehicle and equipment access through habitat, ground disturbance near or on host plants, or other activities that disturb soil and vegetation in close proximity to host plants may result in direct impacts through the destruction of host plants, and any eggs, larvae and pupae that reside on or around them. Destruction of plants will result in reduced ability for adults to carry out their lifecycle. Increased dust may impair the ability of host plants to support larvae and eggs.

The HCP describes an extensive list of BMPs, Field Protocols, and AMMs that will be regularly implemented in modeled habitat, Hot Zones, and throughout the larger plan area. These measures are expected to minimize impacts to federally-listed butterfly species. Where impacts to these species are unavoidable, the HCPs conservation strategy calls for the on-site restoration of habitat where possible, offsetting per-acre impacts by purchase of credits at approved mitigation banks or by direct acquisition of land or conservation easements on land containing these species.

The emphasis on avoidance where possible, and implementation of minimization measures and mitigation where avoidance is not possible, is expected to reduce impacts on covered butterfly species to a less-than significant level.

No critical habitat has currently been designated for the Callippe silverspot butterfly, Mission blue butterfly, San Bruno elfin butterfly, or Lange's metalmark butterfly; therefore none will be impacted. Covered Activities could result in 4 acres of permanent loss and 62 acres of temporary disturbance of Bay Checkerspot butterfly critical habitat, out of a total of 18, 293 acres designated; this represents a permanent loss of 0.02 percent of designated

critical habitat. The Service views this fraction of a percent of loss of critical as a less-than significant impact to critical habitat for this species.

California Freshwater Shrimp, California Tiger Salamander, California Red-Legged Frog, San Francisco Garter Snake, California clapper Rail, Salt Marsh Harvest Mouse, and Their Habitats

The California freshwater shrimp, California tiger salamander, California red-legged frog, San Francisco garter snake, clapper rail, and salt marsh harvest mouse may be affected by Covered Activities that occur in or near their habitat. Facility modifications or replacements, equipment access, vegetation management activities, or other actions that cause ground disturbance or vegetation removal in or near their habitat could cause loss of habitat and injury or death of individuals. Upslope disturbances that alter drainage patterns or increase sediment deposit into watersheds and water bodies; stream bank collapses; the discharge of pollutants into wetlands, streams, or adjacent uplands; and the introduction of invasive species or diseases, could reduce habitat quality and availability for these species.

Covered Activities occurring in uplands may also impact the California tiger salamander, California red-legged frog, San Francisco garter snake, and salt marsh harvest mouse. California tiger salamanders occupying burrows in uplands within 2,600 feet of aquatic habitat may be killed directly, entombed, or injured by Covered Activities. California red-legged frogs may be encountered dispersing within at least 1.7 miles of streams and ponds, and may be killed by vehicle strikes or other means within that distance. San Francisco garter snakes and their young may be injured or killed in burrows during ground disturbing portions of Covered Activities, or struck by vehicles or otherwise injured or killed while traveling through uplands.

The HCP describes an extensive list of BMPs, Field Protocols, and AMMs that will be regularly implemented in modeled habitat, Hot Zones, and throughout the larger plan area. These measures are expected to minimize impacts to these species. Where impacts to these species are unavoidable, the HCPs conservation strategy calls for the on-site restoration of habitat where possible, offsetting per-acre impacts by purchase of credits at approved mitigation banks or by direct acquisition of land or conservation easements on land containing these species.

The emphasis on avoidance where possible, and implementation of minimization measures and mitigation where avoidance is not possible, is expected to reduce impacts on these species to a less-than significant level.

Covered Activities will result in the permanent loss of up to 39 acres, and temporary disturbance to 507 acres of designated critical habitat for the Central California Distinct Population Segment of the California tiger salamander (out of a total 199,109 acres designated); 5 acres of permanent loss, and 29 acres of temporary disturbance to designated critical habitat for the Sonoma County Distinct Population Segment of the California tiger salamander (out of a total 47,383 acres designated); and the permanent loss of up to 55 acres, and temporary disturbance to 584 acres of designated critical habitat for the California red-legged frog (out of a total 1.6 million acres designated); this represents a permanent loss of 0.01 percent (Central DPS), 0.01 percent (Sonoma County DPS), and 0.003 percent

(California red-legged frog) of designated critical habitat. The Service views this fraction of a percent of loss of critical as a less-than significant impact to critical habitat for these species.

Alameda Whipsnake and Its Habitat

Covered Activities that disturb or destroy chaparral scrub habitats, such as vegetation removal, off road access, or any ground-disturbing Covered Activities, may impact the Alameda whipsnake. Removal of vegetation may remove cover, exposing Alameda whipsnakes to increased predation. Disturbance of rock outcroppings, landscape features known to be important to the species, may reduce reproductive success. Disturbance of habitat during colder times of the year may result in injury or mortality of the species.

Covered Activities may result in the permanent loss of up to 33 acres and temporary disturbance of 162 acres of designated critical habitat for the species out of a total of 62,680 acres designated; this represents a permanent loss of 0.05 percent of designated critical habitat. The Service views this fraction of a percent of loss as a less-than significant impact to critical habitat for this species.

The HCP describes an extensive list of BMPs, Field Protocols, and AMMs that will be regularly implemented in modeled habitat, Hot Zones, and throughout the larger plan area. These measures are expected to minimize impacts to the Alameda whipsnake. Where impacts to these species are unavoidable, the HCPs conservation strategy calls for the on-site restoration of habitat where possible, offsetting per-acre impacts by purchase of credits at approved mitigation banks or by direct acquisition of land or conservation easements on land containing this species.

The emphasis on avoidance where possible, and implementation of minimization measures and mitigation where avoidance is not possible, is expected to reduce impacts on the Alameda Whipsnake to a less-than significant level.

San Joaquin Kit Fox and Its Habitat

San Joaquin kit foxes are thought to exist within the plan area at a low population density. Covered Activities that are undertaken in grassland habitats may kill or injure individuals, destroy dens, reduce pray populations, harass San Joaquin kit foxes to the extent it alters their behavior, or degrade their habitat. There is no designated critical habitat for this species within the permit area.

The HCP describes an extensive list of BMPs, Field Protocols, and AMMs that will be regularly implemented in modeled habitat, Hot Zones, and throughout the larger plan area. These measures are expected to minimize impacts to the San Joaquin kit fox. Where impacts to this species are unavoidable, the HCPs conservation strategy calls for the on-site restoration of habitat where possible, offsetting per-acre impacts by purchase of credits at approved mitigation banks or by direct acquisition of land or conservation easements on land containing this species.

The emphasis on avoidance where possible, and implementation of minimization measures and mitigation where avoidance is not possible, is expected to reduce impacts on the San Joaquin kit fox to a less-than significant level.

Federally-Listed Fish

No federally-listed fish species have been proposed for coverage under the HCP. Federally listed fish occur within the Permit Area: the Central California coast coho salmon, Northern California steelhead, and the California coastal Chinook salmon. Covered Activities may have impacts on these species; however, the Applicant has not requested, and the Service has not granted take coverage. In order to perform work in habitat for these species, the Applicant will be required to obtain authorization from the U.S. Army Corps of Engineers (Corps). The Corps would then be responsible for disclosing the impacts of its permit action pursuant to NEPA, and effects on these species and their habitat would be handled through later consultation between the Corps and the National Marine Fisheries Service.

2. Impacts to MBTA Birds and Their Habitat

Covered Activities could disturb nesting activity of migratory birds or result in nest destruction or abandonment and injury or mortality of breeding birds or young. Any of the native habitats, as well as structures, such as poles or bridges, in the Plan Area could support nesting birds. Removal of understory vegetation during site preparation for Covered Activities could affect ground-nesting birds, such as California quail, killdeer, and burrowing owl, and removal of trees and structures could affect other nesting birds, such as sparrows, western scrub jay, mourning dove, wrens, woodpeckers, and red-tailed hawk. Noise generated by heavy equipment and general human presence and activities near active nests could result in nest abandonment or disturb nesting activities. Permanent vegetation removal could result in a loss of nesting habitat for migratory birds, but the overall permanent loss of habitat would be minor compared to available habitat and the extent of remaining habitat in the Plan Area.

Certain AMMs, such as Field Protocol 18 and BMP 16, are specifically intended to avoid impacts to bird species, including MBTA-Listed Birds. Implementation of the HCPs AMMs are expected to reduce impacts to migratory birds to a less-than significant level. Additionally, although not relied on for the purposes of this analysis or our determination, the Applicant also has an approved Avian Protection Plan and implements a Nesting Bird Management Plan that are also expected to further reduce impacts to migratory birds.

Cultural Resources

Fifteen tribal authorities, listed in section 3.4.2.1 of the EA, were contacted as part of the Service's compliance with Secretarial Order 3206. The Service's Notice of Intent and Notice of Preparation were provided to each of the 15 tribal authorities, and no comments were received from any tribal authorities in response. 26 tribal authorities were also notified in June 2015, also in compliance with Secretarial Order 3206, but no comments were received. A records search of the Sacred Lands File did not indicate the presence of any known Native American cultural resources within the plan area; however, lack of records does not indicate absence, and with the large size of the plan area, it is probable that Native American cultural resources are undiscovered within the plan area. Any

ground-disturbing Covered Activities, including those to manage habitat mitigation lands, have the potential to expose and subsequently damage undiscovered cultural resources or human remains.

Many of the applicant's facilities and structures may be eligible for designation as historic resources; however, most of the Covered Activities would take place within existing ROWs or in immediately adjacent areas. Future activities are unlikely to affect cultural resources on the surface and have a low potential to disturb or damage buried cultural resources or human remains. Minor new construction activities, including limited expansion of electric substations and extension of natural gas pipelines and electric transmission and distribution lines, and upgrades to existing pipelines would require varying levels of excavation and ground disturbance. Larger ground-disturbing activities have a higher potential to disturb or damage cultural resources or human remains, particularly in previously undisturbed or less disturbed areas.

The Applicant will follow all applicable laws protecting cultural resources and human remains, as well as the measures identified in section 3.4.2.2 of the EA. Avoidance measures are also described in the HCP, one of which requires that the Applicant stop work if cultural resources are discovered. The Applicant also employs a number of cultural resource specialists, all of which meet the Department of Interior's Professional Qualification Standards for archaeology and architectural history. With these measures in place, impacts to cultural resources would be minimized and reduced to a less-than significant level.

Environmental Justice

Covered Activities can result in environmental justice impacts on minorities or low-income residents within the plan area. The populations of several counties within the plan area have higher percentages of African-American, Asian, Native Hawaiian, and Pacific Islander residents than the state as a whole. However, the elevated populations of these groups are not high enough to qualify as a "meaningfully greater" than that of the surrounding region, and thus do not qualify as "minority areas" on a county-wide scale. Portions of the areas within the Permit Area do qualify as "minority areas."

The precise locations of where Covered Activities may be undertaken cannot be known because the Applicant's need to perform Covered Activities is on an as-needed basis. However, the Applicant's existing environmental justice program will apply to most Covered Activities. The Applicant has an existing program to identify environmental justice concerns, and to then coordinate outreach to affected interest groups to avoid, minimize, or mitigate such issues. This program would be applied on an activity-by-activity basis to Covered Activities under the plan. All projects that require prior approval by the California Public Utility Commission (CPUC) or any other state agency require an environmental justice review. In addition, the Applicant's facilities provide services to all of the 9 Bay Area Counties, regardless of socioeconomic status or race, age, etc., of the customers. The Applicant has an exclusive franchise to provide natural gas and electricity to customers within these counties and are required by the State of California to serve anyone that requests these services within the Applicant's service territory. O&M activities are not expected to disproportionately affect one group over another, because all customers would be effected eventually. Therefore, the Service expects any environmental justice impacts would be less-than significant.

Geology, Soils, and Paleontology

1. Increased Potential Surface Fault Rupture, Ground Failure, or Seismic Groundshaking

Portions of the Permit Area could be subject to a surface fault rupture, seismic-induced landslides, or other ground failure in the event of the work area. The entire Permit Area could be subject to groundshaking as a result of seismic activity at nearby faults. The impacts that would be associated from these effects are safety risks to personnel working in, on, and around facilities, as well as fires and service disruptions caused by damage to electric or gas infrastructure. These risks apply to any Covered Activities.

The Applicant evaluates the geology, paleontology, and soils at worksites where new or replacement facilities are constructed. The Applicant designs its facilities to comply with CPUC and California building code requirements, and substations are constructed to conform to Institute of Electrical and Electronics Engineers 693 standards. These codes and standards stipulate many measures to reduce earthquake-related risk.

It is not possible to completely eliminate risks arising from seismic activity. The Applicant conforms to all applicable standards and codes. Furthermore, most Covered Activities are performed on existing infrastructure; thus, the Service's action will not significantly increase risks associated with seismic activity. Therefore, the Service expects this impact to be less-than significant.

2. Increased Potential for Slope Failure

The impacts associated with slope failure are safety risks to personnel and damage to facilities. Covered Activities may also inadvertently result in increased risk of slope failure. The same standards and codes described in the Increased Potential Surface Fault Rupture, Ground Failure, or Seismic Groundshaking section above apply to this category as well. Additionally, site-specific geotechnical studies routinely undertaken by the applicant will evaluate local landslide risk and guide design to minimize this risk.

The Applicant conforms to all applicable standards and codes. Furthermore, most Covered Activities are performed on existing infrastructure, and are currently ongoing; thus, the Service's action will not significantly increase risks associated with slope failures. Therefore, the Service expects this impact to be less-than significant.

3. Increased Potential for Exposure of Structures to Expansive Soils

Soils in the Plan Area with high clay content pose a risk to facilities and personnel from shrink-swell behavior. Facilities could be damaged from expansive soils if they are not properly designed or installed to account for shrink-swell. Facility damage could also expose personnel to safety risks and result in indirect effects from fire or other hazards. Some habitat mitigation lands may contain expansive soils, but no facilities would be constructed on lands that could be damaged by shrink-swell, and the safety risk to monitoring personnel is considered low.

The Applicant will conduct geotechnical studies for Covered Activities that involve facility construction in areas with expansive soil conditions. The Applicant's environmental programs

will ensure minimal effects in response to expansive soils. Furthermore, most Covered Activities are performed on existing infrastructure, and are currently ongoing; thus, the Service's action will not significantly increase risks associated with expansive soils. Therefore, the Service expects this impact to be less-than significant.

4. Increased Potential for Accelerated Soil Erosion and Loss of Topsoil

Covered Activities that involve vegetation removal, excavation, grading, fill placement, and other ground disturbance could accelerate soil erosion and result in the loss of topsoil. The potential for accelerated soil erosion is particularly high where native soils are exposed (i.e., low vegetative cover) and in areas that have soils with moderate to high erosion potential, such as on steep terrain. New or expanded facilities are more likely to be located in previously undisturbed areas and would be more likely to result in accelerated erosion and the loss of topsoil. Maintenance or upgrades to existing facilities would primarily disturb soils in previously disturbed areas, such as along existing right's-of-way, and around existing facilities where the soils have become compacted from use. Vehicle and equipment access for Covered Activities could disturb soils along existing roads and in undisturbed areas between facilities where roads have not been designated. Activities in previously disturbed areas would have minimal effects on soil, but activities in undisturbed areas could accelerate erosion and result in a loss of topsoil. The overall extent of ground disturbance from Covered Activities in natural vegetation is estimated at less than 35 acres annually, including temporary and permanent disturbance, which is relatively minor.

Some habitat mitigation lands may contain soils susceptible to erosion, but no facilities would be constructed on the lands that could accelerate erosion, and the safety risk to monitoring personnel is considered low.

Field Protocols, BMPs, and other AMMs described in the HCP are designed to minimize these effects. Many Covered Activities also involved a very small project footprint, which is expected to limit the extent of these effects in many cases. Therefore, the Service expects this impact to be less-than significant.

5. Paleontological Resources

Some geologic units within the Permit Area have the potential to contain paleontological resources. Any ground disturbing Covered Activities have the potential to expose, and possibly damage, undiscovered paleontological resources. This risk is greatest for minor new construction activities occurring in previously undisturbed areas. Routine O&M activities such as patrols and inspections are quite unlikely to result in impacts to paleontological resources.

The Applicant's existing Soils and Geology program includes a requirement that a staff geologist or contract paleontologist be contacted in the event a paleontological discovery is made. If such a discovery occurs, the Applicant's program entails implementing prescribed protective measures at the job site. Emergency repairs may prohibit any stop-work orders from being issued; however, such repairs would be expected to happen on existing facilities, at which any paleontological resources would have been expected to have been discovered upon initial installation.

The Applicant's existing environmental programs are designed to ensure minimal impacts to paleontological resources. Furthermore, most activities occurring under the HCP will be to existing facilities where paleontological resources would likely have been previously discovered. Therefore, the Service expects this impact to be less-than significant.

Hydrology and Water Quality

1. Surface Water Impacts due to Increased Rate or Amount of Runoff, or Degrading Water Quality.

Covered Activities could require temporary drainage crossings; placement of fill or other material into drainages or wetlands; or other activities that result in the diversion, obstruction, or alteration of water bodies. These activities could affect drainage patterns in the Plan Area, alter flow regimes, and degrade water quality. Access to existing facilities or locations of new facilities could require the installation of a temporary crossing across over streams and wetlands. Construction of new or expanded facilities across drainages or wetlands may require the placement of fill material into the feature or excavation of material from the feature to install the facility. Pipeline installation is expected to take place at a deeper elevation than drainages in wetlands and may be accomplished with the use of trenchless techniques, but in the event that excavation in the feature is necessary, temporary diversions or other obstructions to flow may be necessary during the construction period. Overhead utility lines span drainages and wetlands, but poles or other structures may need to be placed in or near the features. These activities could result in temporary or permanent alterations to the bed or banks of affected features and could alter drainage patterns across the affected area.

Activities that disturb soil or require the use of fuel or other hazardous materials at work sites could introduce pollutants to the environment that could be carried in stormwater runoff to surface waters. Ground disturbance in particular can result in accelerated soil erosion, which can increase sediment delivery to surface waters and degrade water quality. Activities in or near streams and other water features could loosen and mobilize bed and bank materials, which could result in suspended sediment in the receiving waters. Facilities inspections would require fuels, lubricants, and hydraulic fluid for the vehicles used to patrol PG&E infrastructure. Maintenance and repair activities would require vehicle fuels, lubricants, adhesives, waterproofing compounds, and hydraulic fluid for vehicles and equipment and could also require concrete, epoxy, paints, and/or asphalt paving. Minor new construction activities would use similar hazardous substances. Specific hazardous material use at each site would vary and would depend on the facility need. The discharge of pollutants into water bodies could degrade water quality and affect beneficial uses of the downstream water bodies.

Covered Activities that affect the bed or bank of waters of the state or waters of the United States could be subject to compliance with Fish and Game Code Section 1602 and the permitting requirements of Sections 401 and 404 of the federal Clean Water Act. Compliance with applicable federal and State laws, the Environmental Programs described above, and the implementation of several AMMs in the HCP will ensure minimal impacts on surface waters in the Plan Area. Therefore, the Service expects this impact to be less-than significant.

2. Groundwater Impacts Resulting From Reduced Infiltration

Some Covered Activities will result in the conversion of permeable surfaces to impermeable surfaces, which could locally increase stormwater runoff and reduce groundwater infiltration. Localized decreases in infiltration could result in long-term effects, such as increased runoff, elevated flood hazard, and/or accelerated erosion. Groundwater infiltration is important for recharging groundwater aquifers and maintaining groundwater supply.

When taken together, Covered Activities may produce a large total area of impermeable surfaces, but the majority of each affected area would be small (i.e., a single power pole replacement) and the affected areas would be distributed over a large geographical area, thus reducing the individual effects associated with each activity. The largest areas of impermeable surface would result from new or expanded substation facilities, which would typically amount to less than 3 acres per expansion, but would also be distributed over a large geographic area. These sorts of new construction activities are expected to occur infrequently over the 30-year permit term. The Service therefore expects the increase in runoff and reduction in groundwater recharge associated with all Covered Activities to be very small at the areas where they occur. Compliance with applicable federal and State laws, the Applicant's existing environmental programs, and the implementation of several AMMs described in the HCP will ensure minimal impacts on ground waters in the Permit Area. Therefore, the Service expects this impact to be less-than significant.

3. Increased Flood Risk

Some existing facilities located in or near floodplains, and 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 of drainages. Maintenance of existing facilities could require access through the floodplain or minor work in the floodplain. Construction of new or expanded facilities, such as excavation activities and installation of the facilities, could take place in the floodplain. These activities could expose workers to safety risks from flood hazards and expose facilities to flooding, which could damage the facilities or result in obstructions to drainages in the event of a flood. In general, new or expanded facilities likely to be located in floodplains would either be placed underground or would be small and highly unlikely to obstruct flood flows.

New or expanded facilities that must be located in floodplains would be designed and constructed to meet or exceed flood-resistant construction standards established by the CPUC in its General Orders 95, 128, and 112E. These standards ensure that flood conveyance capacities are maintained and that the facilities do not result in additional safety hazards or increased risk through impedance or redirection of flood flows.

Compliance with applicable federal and State laws, the Applicant's existing environmental programs described, and the implementation of AMMs described in the HCP will ensure minimal flood plain effects in the Permit Area. Therefore, the Service expects this impact to be less-than significant.

Noise

Noise associated with Covered Activities may be generated primarily by small equipment, such as chainsaws and generators; vehicles, such as all-terrain vehicles, trucks, fixed-wing aircraft, and

helicopters; and heavy machinery, such as cranes, excavators, scrapers, and other tractors. Table 3-21 of the EA describes noise levels associated with many types of equipment used to conduct Covered Activities.

Noise impacts associated with a specific activity are dependent upon the type of activity, the types and number of pieces of equipment in use, the noise level generated by the various pieces of equipment, the duration of the activity, the distance between the activity and any noise-sensitive receivers, and possible shielding effects that might result from local topography, vegetation, or buildings. Because the proposed HCP is a 30-year operating conservation program, information regarding the range of Covered Activities is known, but site-specific information is not. For individual O&M and minor new construction activities that may occur during the 30-year permit term, the specific types and number of vehicles and equipment at a given site, and their duration and frequency of use, are not available. The same is true for activity-specific noise levels. However, noise levels for these activities are expected to be similar to levels for existing O&M and minor new construction currently implemented by the Applicant. In most instances, existing O&M activities are temporary and sporadic, although some, such as patrols, are regularly scheduled; others, such as emergency maintenance, occur on an “as-needed” basis. With the exception of larger maintenance activities and minor new construction projects, O&M and construction noise generation is expected to be intermittent and very short-term in nature. The Applicant would continue to employ its current slate of BMPs under all alternatives. If local standards cannot be met, the company will make every effort to work out a mutually satisfactory compromise for noise abatement and/or mitigation.

In light of the CPUC requirement to conform to local standards where feasible, and with PG&E’s existing noise BMPs in place, most activities that would be enabled under the proposed HCP are not expected to substantially expose persons to generate noise levels in excess of standards established in a local general plan or noise ordinance or applicable standards; result in a substantial permanent increase in ambient noise levels in the work vicinity; or result in a substantial temporary or periodic increase in ambient noise levels in the work vicinity.

Some O&M and minor new construction activities (in particular, those that require multiple pieces of heavy equipment and those that occur in close proximity to sensitive residential, school, hospital, or recreational land uses) would have the potential to generate noise in excess of local general plan or noise ordinance standards. For example, a bulldozer (85 dB at 50 feet) and grader (85 dB at 50 feet) operating concurrently would result in a combined noise level of 88 dB at 50 feet, exceeding the noise standards of many jurisdictions. This is a potentially significant impact. The significance of that impact would be reduced through implementation of the Applicant’s standard business practices and BMPs, which will be incorporated into all O&M and minor new construction activities that would be enabled under the proposed HCP. The business practices and BMPs the Applicant has included as part of the proposed HCP reflect will substantially reduce the potential for significant intermittent occurrences of higher levels of construction noise.

Once constructed, new minor facilities will generate noise related to the operation of power transformers, switchyards, and other equipment. Additional, albeit fairly minor, noise would be generated by vehicles used for inspection and maintenance visits to new facilities. In most instances, the types of facilities that would be constructed under the proposed HCP operate well within local standards. Likewise, in designing, constructing, and operating new minor facilities, the Applicant carries forward its obligations under the CPUC, including its regular business practices and BMPs. Typical practices include consulting and coordinating with local jurisdictions to minimize and lessen

noise effects; implementing a range of noise reduction BMPs, as appropriate; and responding quickly to public complaints or concerns about noise effects. Implementation of the AMMs included in the HCP will ensure minimal noise and vibration effects as a result of construction and operations. Therefore, the Service expects this impact to be less-than significant.

Public Health and Environmental Hazards

1. Impacts from Hazardous Materials and Risks of Hazards to People or the Environment

Many Covered Activities involve the use of hazardous substances such as fuels and lubricants for vehicles and equipment; paints; solvents; and epoxies. Minor new construction and pipeline upgrades will likely require additional substances such as paving media. Hazardous substances will be transported to work areas, where they would be used on-site in designated areas. Some of these activities, including transportation of hazardous substances, may take place near sensitive locations, such as schools and hospitals.

The transport and use of hazardous substances poses a risk to people and the environment in the event of an accident or spill. For example, vehicles could leak or spill fuel, brake fluid, and lubricants. Spills could occur during fueling or servicing activities or during delivery of fuels and other substances to work sites, with the potential to contaminate soil and surface- or groundwater and potentially resulting in toxic effects on vegetation, wildlife, workers, and the general public. Substances such as solvents, paints, and epoxy could pose similar concerns if accidentally released or improperly handled or disposed of.

During all activities, the Applicant will comply with applicable state and federal laws, regulations, and requirements pertaining to hazardous materials and hazardous wastes; implement AMMs and BMPs identified in the HCP; and continue to implement its existing environmental practices. With compliance with, and implementation of appropriate measures, the potential for hazardous materials used or transported for Covered Activities to result in substantial effects on the environment or pose health or safety risks to the public will be minimized. Furthermore, since most Covered Activities already occur, with the exception of minor new construction, the Service's action does not significantly increase impacts to public health or risk of environmental hazards. Therefore, the Service expects this impact to be less-than significant.

2. Hazards from Activities on Sites with Known Hazardous Materials Contamination

Some of the Applicant's existing facilities may be located on or near known hazardous material sites, but new facilities will not be located on sites with known hazardous materials contamination unless the site has already been fully remediated prior to construction. Because of the diversity and distribution of sites with known hazardous materials contamination in the Plan Area, it is possible that O&M activities would take place on contaminated sites, although the Applicant currently minimizes such activities. The Applicant's policies, as well as regulatory requirements dictate that only appropriately trained and qualified personnel work on sites with known contamination, thereby minimizing the potential for health or safety risks. The Applicant's existing environmental programs provide for education and training of personnel regarding hazardous materials, protocols for handling hazardous materials and for responding to a spill incident, and monitoring of hazardous conditions. The Applicant has proposed AMMs in the HCP that address fire hazard, hazards associated with refueling at a construction site, and

use of herbicides (herbicides are not included as Covered Activities). The Applicant's AMMs will ensure minimal impacts. Therefore, the Service expects this impact to be less-than significant.

3. Impedance of Emergency Response or Access

Some roadways in the Plan Area are rural in nature, with narrow lanes or a minimal number of lanes. Some Covered Activities could adversely affect traffic flow by requiring temporary lane or road closures, or by moving construction equipment on roadways, resulting in traffic safety hazards. Lane or road closures may be necessary during pipeline replacement or installation, and such closures could impede emergency access in areas where alternative routes are not readily available. For facilities located along roads, many activities would take place along the road shoulders and would not impede access. Even a small number of construction traffic trips on such roadways could adversely affect traffic flow; heavy, slow-moving construction equipment is of particular concern. Similarly, in rapidly expanding urban/suburban areas, where traffic congestion is often an existing problem, additional traffic, including heavy equipment and/or truck traffic, may significantly impact traffic flow.

To address potential adverse effects on traffic flow and safety, the Applicant is committed to a range of industry-standard BMPs to reduce effects of construction trip generation on traffic flow and safety. These include:

- providing through access for emergency vehicles or notifying emergency service providers in advance of any needed lane or route closures;
- maintaining access for private roads;
- providing adequate off-road parking and staging for vehicles, equipment, and materials throughout the work period;
- restricting all construction parking and staging to right-of-way (ROW) and pre-approved staging areas, and keeping construction equipment in designated staging areas when not in use;
- posting construction warning signs in advance of the construction area and at intersections that provide access to the construction area;
- 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; and
- avoiding key commute routes and "rate-limiting" intersections during peak traffic periods, and working with local jurisdictions to identify the routes and intersections that should be avoided, and appropriate alternate travel routes or times.

In addition to the BMPs described above, the Applicant will also be required to operate vehicles in accordance with the terms of Caltrans encroachment permits when activities occur in a Caltrans right-of-way. Finally, the larger-scale activities that pose the greatest concern for traffic flow are expected to occur infrequently.

In summary, because traffic impedance associated with most Covered Activities would be comparatively small and of short duration, and in view of the traffic control commitments in place, activities enabled by the proposed action are not expected to result in a substantial increase in traffic congestion, significant traffic safety hazards, or impedance of emergency

response. Implementation of AMMs described in the HCP and the Applicant's existing environmental programs will ensure minimal impacts. Therefore, the Service expects this impact to be less-than significant.

4. Increased Wildfire Hazards

Some Covered Activities involve equipment that could ignite nearby vegetation and cause a wildfire, creating a hazard for people and structures in the vicinity of the work area. Activities in areas of wildland/urban interface pose a greater risk to developed areas if a wildfire is ignited as a result of Covered Activities. Wildfire is not a risk in urban areas, but man-made fire could pose a risk to people or structures. More than 50 percent of the Bay Area has a high to extreme risk of wildfire, and the Applicant's activities in high-risk areas could increase wildfire hazards, particularly during the dry season. New electrical facilities may also pose a hazard if the facilities become damaged and result in sparks that ignite vegetation or nearby structures; this potential is considered low because of the designs of the facilities and compliance with applicable building codes and CPUC regulations. Designation of habitat mitigation lands would not increase wildfire hazards, but the lands may be subject to natural wildfires, which could temporarily affect habitat quality. The Applicant has committed to including funding for habitat restoration in its mitigation management plans to address this changed circumstance.

The Applicant takes precautions during its activities to minimize the risk of wildfire from construction or operation. During all activities, the Applicant will implement AMMs and BMPs identified in the HCP and consult with local and state jurisdictions regarding wildfire hazards in accordance with its existing land use and planning practices. Most Covered Activities, with the exception of minor new construction, are currently conducted, so the Service's action does not represent an increase of these activities within the Permit Area. With these commitments, along with the fact that most Covered Activities are currently implemented, Covered Activities would not increase risks associated with wildfire hazards. Therefore, the Service expects this impact to be less-than significant.

Visual Resources

1. Changes in Visual Setting

Covered Activities will result in varying levels of ground disturbance and changes in the visual setting of the Permit Area. Temporary changes to the visual setting will result from ground disturbance any ground disturbing Covered Activities; vegetation removal and ground clearing; the use of vehicles, personnel, and supplies in undeveloped areas; glare generated by reflections from metal and glass vehicle surfaces; and introduction of high-intensity nighttime construction lighting.

Vegetation removal creates a temporarily denuded surface that may contrast strongly with the surrounding area in terms of color and visual texture. Grading modifies work sites by producing barren cut and/or fill areas; it may also create slopes that are unnaturally steep or unnaturally flat compared to the surrounding area. Depending on the nature of the surrounding vegetation, vegetation impacts could continue to be apparent for some time; topographic alterations will likely be longer term.

Construction-related changes in the visual setting are expected to primarily be temporary and minimal effects on the visual quality of the area because many Covered Activities are maintenance related actions associated with existing facilities. The Applicant requires work crews to follow good construction site housekeeping practices to minimize construction-related visual disturbance, such as maintaining sites in a clean, orderly condition; storing building materials and equipment in construction staging areas and/or away from public view; and promptly removing construction debris at regular intervals. Disturbed areas are also revegetated or returned to their pre-disturbance conditions, which will ensure minimal alterations to the visual setting over the long term.

Longer term changes will result from new or modified facilities, such as taller facilities in urban areas or a new substation in a rural area. These facilities will alter the visual setting of the area and will be more noticeable in scenic areas where fewer existing facilities or buildings are located. New or modified facilities may create conflicts in areas with sensitive viewer groups, such as residential areas where new or larger facilities could block views of surrounding areas or in open space areas where new or modified facilities might be noticeable from scenic viewpoints.

For new or modified facilities that could adversely modify the visual setting over the long term, the Applicant will coordinate with the local jurisdictions and landowners to ensure the compatibility of its facilities with surrounding uses. New or modified facilities will also be small in size and rarely constructed, and will not result in extensive disturbance or substantial alterations to the visual setting. The facilities will be consistent with the Applicant's existing facilities in the area and will simply be extensions of those facilities, with minimal potential for substantially altering the visual quality of the local area. Therefore, the Service expects this impact to be less-than significant.

2. Impacts to Visual Resources Associated with Scenic Highways

Covered Activities may be implemented along or near designated or eligible scenic highways in the Permit Area, as detailed in Table 3-23. CPUC regulations prohibit the installation of overhead distribution facilities within 1,000 feet of the right-of-way of any officially designated state or county scenic highway if the facilities would be visible to travelers on that highway. Because of this restriction, underground facilities are more likely along scenic highways, and installation of such facilities would result in temporary disturbance along the highway corridor. Construction activities near the highway could be visible to travelers and could result in temporary degradation of the visual resources along the highway. The Applicant's current practices provide for minimization of disturbance and restoration of the disturbed area following construction, which will minimize long-term effects on visual resources along scenic highways.

The Applicant will also consult with local jurisdictions to ensure that new facilities are as consistent with, and appropriate to, the visual setting as possible. In siting needed new facilities, the Applicant will work with appropriate agencies to avoid or minimize impacts on visual resources within eligible and designated scenic highway corridors. If facilities must be located within these corridors, the Applicant will work with the local authority to identify and implement appropriate measures that are feasible and compatible with CPUC regulations. Therefore, the Service expects this impact to be less-than significant.

3. Introduction of Substantial New Sources of Light or Glare

Covered Activities could take place at any time of the day and may require nighttime lighting during construction or for security purposes. In addition, new facilities that introduce pavement, cement, metal, glass, painted wood, and/or other potentially reflective surfaces could create a new source of glare in the local area. Depending on the design of new facilities and the nature of surrounding land uses, increases in glare or nighttime lighting could pose a concern for drivers and could disturb viewers or wildlife in scenic or rural areas. Some light and glare effects cannot be avoided, but the Applicant will implement measures to minimize the duration of the effects, as they relate to construction activities, and coordinate with local jurisdictions to minimize long-term effects through modifications in design or facility location. The Applicant also currently implements Dark Sky Initiative to reduce light pollution, and new facilities will incorporate dark sky-friendly components to minimize light pollution, including glare and nighttime fugitive light, ensuring minimal effects.

4. Changes in Visual Setting from Habitat Mitigation Lands

The designation of habitat mitigation lands will preserve high-quality open space in the Permit Area and maintain the land's aesthetic values. Mitigation land will be protected from development and other substantial land alterations that could degrade the quality of the visual setting. As a result, over the long term, the Proposed Action will preserve and improve the quality of natural open space in the Permit Area, resulting in aesthetic benefits.

NEPA Cumulative Impacts

Agricultural Resources

Above-ground upgrades and expansions, and new aboveground facilities, could require footprints of less than three acres. As such, the Proposed Action will result in conversion of small areas of agricultural land to non-agricultural use to support installation of new facilities, expansion of existing facilities, and acquisition of new ROWs. Any such upgrades and expansions occurring on designated agricultural land will result in the permanent conversion of small areas of farmland to non-agricultural use. According to the Applicant, permanent conversion of agricultural land will occur at a rate that averages approximately 1 acre per year throughout the Plan Area over the 30-year term of the HCP. However, the majority of agricultural land conversions are temporary. Such levels of land conversion are minor compared to the total acreage of farmlands in the project area. The 30-acre loss of agricultural land over the course of the 30-year term of the HCP, when added to the loss associated with other development projected to occur in the Permit Area, would be a less than cumulatively considerable.

As part of the HCP Conservation Strategy, some additional land will be acquired to support habitat mitigation under the proposed HCP; although, as discussed in the HCP, this will affect only grazing lands. Lands can only be acquired from willing sellers, and most lands identified for compensation use would likely continue to be grazed after acquisition, and thus would not undergo a change in use. Moreover, in contrast to a residential development or other similar projects, the Proposed Action would not result in the loss or conversion of agricultural land to urban or other developed use. Because of the commitment to manage mitigation lands for biological benefit, the physical attributes of unirrigated grassland that may be acquired under the Proposed Action would not be

lost or otherwise altered. Consequently, habitat mitigation is not expected to result in any significant physical impact on agricultural land on an incremental basis, nor would habitat mitigation result in a cumulatively considerable contribution to regional agricultural conversion impacts.

Air Quality and Climate Change

Most of the Plan Area is in nonattainment for federal and/or state ozone, PM₁₀, PM_{2.5}, and CO standards. Significant cumulative effects are thus considered to exist for these pollutants. The analysis of cumulative effects addresses the potential for emissions of ozone precursors, PM_{2.5}, PM₁₀, or CO under the Proposed Action to constitute a cumulatively considerable contribution to existing effects. Light vehicles, heavy trucks, heavy construction equipment, and small motor-powered equipment all may emit ozone precursors. In addition, painting and paving activities can emit ozone precursor gases. PM (fugitive dust) will be generated during ground-disturbing activities such as vegetation removal, excavation, grading, and fill placement, and by vehicles and equipment traveling on unpaved roads and off-road. Vehicle and equipment exhaust gases (“tailpipe emissions”) will also contribute a small amount of PM and CO.

It is not possible to predict the precise numbers and types of vehicles needed or the duration and frequency of their use at this time, but the Service expects the Applicant to continue to implement its activities approximately as it currently does, with the same environmental commitments and regulatory compliance protection in place. The overall activity level will likely increase somewhat over the 30-year permit term as development proceeds and the demand for electricity and natural gas service increase, though individual activities would continue to be short-term and intermittent. In addition, the Applicant’s internal combustion and diesel equipment fleet is expected to become cleaner overall over the long term, as older equipment obsolesces and is replaced with newer equipment. O&M activities associated with emergency response are the same (i.e., the amount and extent) as the other Covered Activities, except with respect to timing and urgency of completing the work.

Ozone precursors, PM, and CO will be generated from Covered Activities. Emissions from individual activities will be minimized with implementation of the AMMs and BPMs, and long-term emissions of all Covered Activities will also be minimized. Moreover, since Covered Activities and O&M activities would be similar to existing conditions and implemented under the No Project Alternative, there will be no net increase in construction or operational emissions. Accordingly, neither construction nor operation of the project will generate net criteria pollutant emissions, in excess of regulatory cumulative thresholds. The Proposed Action is therefore not considered likely to make a cumulatively considerable contribution to existing effects on ozone, PM, or CO levels in the Permit Area.

O&M and minor new construction will require transportation and construction activities that use and combust fossil fuels, generating CO₂, CH₄, and N₂O, from diesel and gasoline combustion. The Applicant’s fleet complies with existing air quality standards and will implement future GHG emission standards. O&M and minor new construction activities will generate small amounts of GHG emissions, principally, as a component of tailpipe emissions. Vehicle and equipment use will be intermittent and short-term, with substantially more down time than time in operation. Emission reductions will also occur through improved engine efficiency overtime and the Applicant’s compliance with air quality district measures and implementation of their own environmental programs and practices. Current implementation of the Applicant’s existing environmental programs

and practices has reduced GHG emissions. Moreover, as discussed above, since Covered Activities and O&M activities would be similar to existing conditions and implemented under the No Project Alternative, there would be no net increase in construction or operational GHG emissions. Accordingly, neither construction nor operation of the project would generate net GHG emissions, relative to the No Project Alternative that would have a cumulatively considerable impact.

Biological Resources

Like much of the rest of California, the Permit 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 and accelerating urbanization have been the primary factors in the loss of the Permit Area's native grassland, scrub, woodlands, forests, and riparian/wetland habitats. As a result of this land conversion, of the 402,440-acre Permit Area, 61 percent of land cover types are in urban areas, 32 percent are in natural land-cover types (i.e., forest, grassland, riparian, shrubland, wetland, dune, and barren/ruderal), and 7 percent are in agricultural areas. The Permit Area's aquatic habitats have been affected by various types of pollutants, including agricultural and petro chemicals, pollutants delivered via urban runoff, and increased sediment delivery resulting from ground disturbance during 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 would be minimal especially in relation to the overall Permit Area (i.e., the impacts are small and diffuse), as well as the total acreage associated with the nine Bay Area counties.

Covered Activities will contribute to habitat modifications and impacts to the 31 Covered Species (including designated critical habitat), as well as other federally-listed species (plants, wildlife, and fish) and migratory birds not covered in the HCP. Development and other construction activities in the Plan Area will also affect habitats and individual plants or wildlife, resulting in cumulative impacts on federally listed species and their habitats across the Plan Area. In compliance with the Act, other lead agencies and project proponents will be required to consult with or request incidental take permits from the Service if the activity is not covered by another approved HCP. As part of those processes, measures similar to those described in the proposed Bay Area O&M HCP would be expected to be implemented to avoid or minimize take of federally listed species and impacts on the species or their habitats. The Proposed Action's contribution to impacts to the 31 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 nine Bay Area counties. This is because the HCP includes measures which adequately minimize and mitigate the impacts within the Permit Area.

A cumulative loss of modeled habitat for the 31 Covered Species may occur initially, but it would be offset by the conservation strategy in the Plan (i.e., restoration, enhancement, and protection of high quality habitat in the Plan Area), similar to the proposed HCP conservation strategy, ensuring a minimal loss of habitat across the Permit Area over the long term. 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.

AMMs implemented during construction activities will protect known federally listed plant populations and minimize disturbance to federally listed wildlife and migratory birds, reducing take or impacts on individual plants and wildlife. For plants, plant salvage and new plantings in a

restoration area, similar to those measures described in the proposed HCP conservation strategy, would offset direct impacts on populations or individuals. Limited operating periods and pre-construction surveys in combination with protection buffers around active wildlife nests, dens, roosts, or other sensitive locations, similar to those described in the proposed HCP, would minimize the potential for direct impacts on wildlife.

Covered Activities under the Proposed Action are not expected to result in a cumulatively considerable contribution to regional loss of natural habitats or impacts on non-covered individual plants or wildlife, and the proposed HCP is expected to result in a net long-term benefit with regard to providing compensatory mitigation to offset cumulative regional habitat loss. It will also result in corollary benefits to common and special-status plants and wildlife using the habitats preserved and protected.

Cultural Resources

Ground disturbance required for some O&M activities and for construction of new infrastructure will potentially damage or destroy buried cultural materials. O&M activities disturb comparatively small footprints and primarily affect ROW corridors that have already been disturbed, but there is still some potential for additional disturbance to adversely affect unknown buried resources. However, the Applicant intends to continue its existing environmental program and will implement AMMs, in addition to complying with all federal and state regulations for the protection of cultural resources. Any Covered Activity that would result in ground disturbance would trigger the screening process (referred to as an automated environmental assessment or AEA), would require cultural resources studies in advance of ground disturbance, and would result in application of AMMs. Consequently, although there is some potential for minor new construction activities under the Proposed Action to contribute to a cumulative loss of cultural resources in the Plan Area, the contribution would be avoided, minimized, and mitigated to the extent practicable. As such, any residual effect would not represent a cumulatively considerable contribution, nor would it result in a cumulatively considerable effect.

Environmental Justice

Incremental effects related to environmental justice are expected to be minimal. The analysis presented in Section 3.5 of the EA considered effects over the entire Plan Area throughout the 30-year permit term, including implementation of PG&E's existing environmental justice program. The Proposed Action will not result in a cumulatively considerable effect.

Geology, Soils, and Paleontology

1. Geology and Soils

O&M activities enabled by the Proposed Action would be conducted in or immediately adjacent to the Applicant's existing ROWs, which have undergone varying degrees of disturbance and thus do not represent an important topsoil resource. As a result, Covered Activities are not expected to make a cumulatively considerable contribution to loss of topsoil resources in the Permit Area.

Minor new construction projects could be sited outside existing ROWs, and could have footprints of as much as several acres, so there is a potential for topsoil to be lost due to erosion as a result of at least some of these activities. Most if not all new facilities would be constructed near existing infrastructure, and some of the sites would likely already be disturbed, offering little topsoil value. Construction on sites contiguous with open space or agricultural land could result in loss of undisturbed topsoil resources. Overall, losses would be small enough that they are evaluated as minor on an activity-by-activity basis with implementation of measures contained in the HCP and the Applicant's existing environmental programs and AMMs, and they are not expected to be cumulatively considerable.

2. Paleontological Resources

Geologic units within the Permit Area have the potential to contain significant paleontological resources. Many Covered Activities that would be enabled by the proposed action will result in some degree of ground disturbance and thus could damage paleontological resources if any are present at the work site. This is most likely to occur where ground disturbance is greater and the work site has not experienced substantial prior disturbance. The greatest potential for cumulative impacts arises from new minor construction, habitat enhancement, restoration, and creation activities that are likely to occur on previously undisturbed or largely undisturbed parcels. In most cases, new minor construction will require preparation of a site-specific geotechnical investigation. The potential for significant effects on paleontological resources as a result of routine O&M activities is lower, because ground disturbance associated with these activities is typically confined to existing ROWs and immediately adjacent areas, which have already undergone some level of disturbance associated with installation and maintenance of existing infrastructure. The Applicant's Soils and Geology Program includes a requirement for notification of a staff geologist or contract paleontologist in the event a discovery is made, and implementing any prescribed protective measures at a job site where a paleontological discovery is made. As a result, Covered Activities are not expected to make a cumulatively considerable contribution to loss of paleontological resources in the Plan Area.

Hydrology and Water Quality

Water resources in the Permit Area are subject to several cumulative effects: progressive modification of natural drainage patterns in much of the nine-county region; groundwater overdraft, particularly in the Delta region of Contra Costa and Solano counties; degradation of surface water quality in a number of drainage systems throughout the Plan Area; and localized degradation of groundwater quality. The Proposed Action would not result in substantial drainage modifications and thus is not expected to make a considerable contribution to cumulative drainage modification effects, nor would it alter patterns of groundwater use or result in new demand for groundwater.

Many, if not all, Covered Activities enabled under the Proposed Action would result in some degree of ground disturbance, with the potential to increase sediment delivery via runoff to surface water bodies. Increased sediment delivery is a potential concern because it can increase water turbidity, degrade habitat quality for some native species, alter stream function, and increase infrastructure and channel maintenance costs.

The Applicant intends to continue the company's existing program of erosion and sediment control measures, and will also continue to comply with requirements of the federal Clean Water Act (CWA), including preparation of a Storm Water Pollution Prevention Plan (SWPPP) for activities with the potential to disturb more than 1 acre. With these measures in place, sediment generated by individual activities should be effectively reduced; however, erosion and sediment movement would not be entirely eliminated, and sediment delivery could be locally and temporarily increased. The potential for increases would be greater with minor new construction because of the increased extent and duration of disturbance.

Excess sediment load delivered to area waterways would primarily be confined to fine sediment. Fine sediments may be carried long distances in suspension but would eventually drop out of transport in backwaters or when river or stream drainage empties into standing water. Because the duration of increased delivery would be temporary, sediment from different sites would be delivered in discrete pulses, and one pulse would be expected to move through the local system and settle out of transport before the next arrived. Thus, from a short-term water quality perspective, the effects of increased sediment loading as a result of on land work are not expected to be cumulatively considerable.

Depending on the nature and location of O&M and minor new construction and the degree of success achieved by erosion control measures, the net contribution of sediment to area waterways over the 30-year permit term could vary from a negligible amount to a more substantial level. However, in light of the continuing protection that would be afforded by the Applicant's water quality program and the requirements of the federal CWA, sediment generated by O&M and minor new construction is not expected to result in a cumulatively considerable contribution to regional water quality degradation in impaired systems over the permit term, nor is the likely level of increase in sediment delivery expected to create a new, significant additive cumulative effect on systems not already identified as impaired.

In-channel work could also increase sediment mobility and water turbidity, with some potential for adverse effects on water quality. However, sediment containment measures would continue to be used for all activities under the Proposed Action. With these measures in place, sediment generated by individual activities should be effectively reduced but would not be entirely eliminated; on some job sites, sediment mobility could be locally and temporarily increased. Moreover, almost any construction below the ordinary high water mark of any stream or wetland will require the Applicant either to obtain a permit from the Corps under CWA Section 404, a water quality certification from the RWQCB, and a streambed alteration agreement from CDFW. In light of the Applicant's existing environmental program and AMMs, and the additional protection provided by the expected regulatory agency review processes, water quality effects associated with individual activities are expected to be minor. The long-term additive effect of in-channel work and the Proposed Action's contribution to regional water quality concerns are also expected to be minor. No cumulatively considerable contribution is expected as a result of in-channel work, nor is the likely level of increase expected to create a significant additive cumulative effect on systems not already identified as impaired.

Covered Activities will entail handling and use of a wide variety of substances that could degrade surface water and/or groundwater quality in the event of a spill, including fuels, lubricants, epoxy and other adhesives, paints, waterproofing compounds, asphalt paving, and herbicides. In light of the Applicant's existing environmental program and AMMs for water quality protection, hazardous

materials handling, and herbicide use, and the additional protection provided by the SWPPP requirement, water quality effects related to spills/releases of hazardous materials are expected to be minimal. The potential for a cumulatively considerable contribution to regional water quality degradation in impaired systems is also considered minor, and would be further reduced by regulatory requirements for cleanup and remediation of hazardous materials spills. The likely additive effect is not expected to represent a cumulatively considerable effect.

Noise and Vibration

For individual O&M and minor new construction activities that may occur during the 30-year permit term, the specific types and number of vehicles and equipment at a given site, and their duration and frequency of use, are not available. The same is true for activity-specific noise levels. Noise levels for these activities are expected to be similar, however, to levels for existing O&M and minor new construction currently implemented by the Applicant. In most instances, existing O&M activities are temporary and sporadic.

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

Public Health and Environmental Hazards

Various O&M and minor new construction activities will involve the handling and use of hazardous materials. For example, facilities inspections would require fuels, lubricants, and hydraulic fluid for the vehicles used to patrol PG&E infrastructure. Maintenance and repair activities would require vehicle fuels, lubricants, and hydraulic fluid for vehicles and equipment, and could also require concrete, epoxy, paints, and/or asphalt paving. Minor new construction activities could use any of the substances identified above for the O&M program, as well as additional paints, adhesives, waterproofing compounds, and other substances needed for specific projects. Spills or releases of any of these substances could result in localized contamination and could also contribute to degradation of surface- and groundwater quality.

The Applicant states that it complies with all applicable state and federal laws, regulations, and requirements pertaining to hazardous materials and hazardous wastes, and has an ongoing hazardous materials safety program that requires staff and contractors to follow BMPs. In addition, for activities with the potential to disturb an area greater than 1 acre, the federal Clean Water Act requires the preparation of a SWPPP that includes a Spill Prevention and Response Plan that 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.

In light of the Applicant's existing environmental program and AMMs and BMPs, and the additional protection provided by the SWPPP requirement, adverse effects related to spills/releases of hazardous materials are expected to be minimal. To create an additive cumulative effect, multiple spills or releases would need to occur in the same area or in hydrologically connected areas. This is considered unlikely, but could occur because ROWs represent areas where similar activities are repeated over the long term. There is a minor potential for additive cumulative effects related to

hazardous materials use along PG&E's ROW corridors. Because of regulatory clean-up and remediation requirements, the additive cumulative effect, if any, is not expected to be cumulatively considerable.

Visual Resources

Covered Activities may result in short-term visual effects during construction, including removal of vegetation, alteration of land forms, and introduction of reflective or illuminated objects. Long-term, operational visual effects may also occur as a result of construction of larger or taller structures, some of which may require nighttime illumination for security purposes or may reflect sunlight. While many Covered Activities would not be readily visible from beyond the immediate vicinity of a construction site, in other instances—due to close proximity to an urbanized area or a roadway or being located on a prominent hillside—Covered Activities could have a long-term visual effect. However, because of the Applicant's existing environmental program and AMMs included in the HCP, the cumulative effect of Covered Activities is not expected to be cumulatively considerable.

Foreseeable actions that could result in cumulative impacts were analyzed in the EA and the Service determined that the Proposed Action would not significantly contribute to cumulative impacts.

Conclusions

In accordance with the National Environmental Policy Act of 1969, as amended, and the Council on Environmental Quality's Regulations for Implementing the Procedural Provisions of NEPA (40 CFR §1500-1508), the Service has found that based on the analysis in the Final EA (composed of the draft EA, *Environmental Assessment Errata*, and our Response to Public Comments) the proposed Action would not result in significant impacts to the physical and biological resources in the *Pacific Gas and Electric Company Bay Area Operations & Maintenance Habitat Conservation Plan* Permit Area, or in the surrounding area and would not significantly affect the quality of the human environment (40 CFR §1501.4 (e), 1508.13). Therefore, an Environmental Impact Statement is not required.

It is my determination that the Proposed Action is not a major Federal action significantly affecting the quality of the human environment under section 102(2)(c) of the NEPA. Accordingly, an Environmental Impact Statement on the proposed action is not required. An Environmental Assessment has been prepared in support of this finding and is incorporated by reference and attached. The Final EA and these Findings/FONSI is also available from the Service's Sacramento Fish and Wildlife Office and will be made available on the Sacramento Fish and Wildlife Office's web page.



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10/2/2017

Date

LITERATURE CITED

[Service] U.S. Fish and Wildlife Service. 2017. Biological Opinion; Issuance of a Section 10(a)(1)(B) Permit to the Pacific Gas and Electric Company for the Pacific Gas And Electric Company Bay Area Operations & Maintenance Habitat Conservation Plan. Sacramento, California.

[PG&E] Pacific Gas and Electric Company. 2017. Pacific Gas and Electric Company Bay Area Operations & Maintenance Habitat Conservation Plan. Prepared by ICF International.

Master and Specific Responses on PG&E's Bay Area O&M HCP and the Service's Environmental Assessment

During the initial comment period, the Service received 18 comment letters. Comment letters were from an association, 5 local government agencies, 12 non-profit organizations. During the extended comment period on the HCP, the Service received 7 comment letters and 2 comment cards. Additional comment letters were from 1 federal agency, 1 local government agency, 4 non-profit organizations and a member of the public. Two comment cards were submitted during the extended comment period at the June 12, 2017 HCP workshop. Many of the comments addressed similar issues regarding the Environmental Assessment (EA) and the Habitat Conservation Plan. Responses to common concerns are summarized in the *Master Responses* section. Responses to the individual comments of each letter follow in the *Specific Responses* section.

Master Responses

Master Response 1: Comment Period

Several commenters requested the public comment period be extended for the *PG&E Bay Area Operations & Maintenance Habitat Conservation Plan* (HCP or O&M HCP) comment period, and some also requested an extension of both the HCP and EA comment period. Commenters indicated that the comment period was too short to adequately review the HCP and/or the EA. Commenters also expressed concern that the size of the documents necessitated an extension of the public comment period. Under the federal Endangered Species Act (ESA or Act), the required public comment period for HCPs is 30 days, and Service policy and guidance recommends comment periods that vary from 30 to 90 days, depending on the scope of the analysis (generally based on the type of National Environmental Policy Act (NEPA) document prepared). Additionally, under NEPA, a public comment period, if required, varies from 30 to 90 days depending on the scope of the analysis. The Service's section 10 Handbook (issued December 23, 2016) recommends a 30-day comment period for EA-level NEPA documents. The Service extended the public comment period on the HCP for an additional 60 days and hosted two public workshops to provide for additional public input on the HCP. The Service considers the public comment periods for both documents to be satisfactory.

Master Response 2: Request to Prepare an EIS

Several commenters requested that the Service prepare an Environmental Impact Statement (EIS). They made this request based on the perception of significant environmental impacts from operations and maintenance (O&M) activities and the context and intensity of these impacts. Commenters further suggested that an EIS should be prepared for this regional HCP because an EIS was prepared for other regional HCPs, such as the *Santa Clara Valley Habitat Plan* and the *East Contra Costa County Habitat Conservation Plan and Natural Community Conservation Plan* (East Contra Costa HCP/NCCP). One of the purposes of an EA, is to provide agency decision makers with the information necessary to determine whether the agency needs to prepare an EIS or if an EA is sufficient. An EIS may be necessary when an agency action would result in significant impacts on the human environment. However, the Council on Environmental Quality guidance allows for preparation of an EA and use of a mitigated Finding of No Significant Impact (FONSI) and allows the agency to comply with NEPA's procedural requirements and avoid the need to prepare an EIS (see referenced case law below). The O&M HCP's conservation strategy and the limited level of permanent habitat loss to be authorized by the permit provide the basis for conducting the NEPA

evaluation through an EA and FONSI. The analysis in the EA indicates that permanent and temporary disturbance of suitable habitat would be mitigated in advance at ratios that offset the potential impacts on covered species. An additional measure to prevent the spread of *Phytophthora spp.*, an additional condition was added to a Hot Zone measure to prevent the spread of weeds in butterfly habitat, additional Service review of minor new construction work, and notification of community groups for work in Edgewood Park was incorporated into the O&M HCP as a result of public comments to further reduce potential effects and ensure they are not significant. Consequently, reliance on the conservation strategy, including its associated mitigation, to find no significant impact is appropriate and is supported by case law and policy guidance. *See, e.g., Friends of Endangered Species, Inc. v. Jantzen*, 760 F.2d 976, 987 (9th Cir. 1985) (“[C]ourts have permitted the effect of mitigation measures to be considered in determining whether preparation of an Environmental Impact Statement is necessary.”); *Or. Nat. Desert Ass’n v. Singleton*, 47 F. Supp. 2d 1182, 1193 (D. Or. 1998) (“[T]he ‘mitigated FONSI’ is upheld when the mitigation measures significantly compensate for a proposed action’s adverse environmental impacts.”); *City of Auburn v. United States*, 154 F.3d 1025, 1033 (9th Cir. 1998) (“Regarding mitigation, it is clear that an agency may condition its decision not to prepare a full EIS on adoption of mitigation measures.”). *See also*, Council on Environmental Quality *Final Guidance for Federal Departments and Agencies on the Appropriate Use of Mitigation and Monitoring and Clarifying the Appropriate Use of Mitigated Findings of No Significant Impact* (76 Fed. Reg. 7843 (Jan. 21, 2011)) (“[A]n agency does not have to prepare an EIS when the environmental impacts of a proposed action can be mitigated to a level where the agency can make a FONSI determination, provided that the agency or a project applicant commits to carry out the mitigation, and establishes a mechanism for ensuring the mitigation is carried out.”); U.S. Fish and Wildlife Service and National Marine Fisheries Service. 2016. *Habitat Conservation Planning and Incidental Take Permit Processing Handbook*. Washington, DC. P. 13-8. (“If the applicant provides sufficient assured conservation actions, to avoid significant impacts on the environment, we may be able to comply with NEPA’s procedural requirements by issuing an EA and a Finding of No Significant Impact (FONSI), or mitigated FONSI.”)

PG&E engages in O&M activities on existing facilities and has been conducting these activities for many years throughout the Bay Area. PG&E complies with the Act on individual projects when needed and has infrequently but periodically needed biological opinions (pursuant to section 7 of the Act) or applied for section 10(a)(1)(B) permits and prepared HCPs for projects. The O&M HCP represents a more standardized way to address take, otherwise prohibited by section 9 of the Act, that is reasonable certain to result from activities that are ongoing to maintain gas and electric services to Bay Area residents. The context of regional and site-specific effects would vary, and current analysis in the HCP and EA demonstrate that the effects of the projects would be appropriately avoided, minimized, and mitigated.

Each HCP developed to support a section 10(A)(1)(B) permit is unique. Direct comparisons between one HCP and another or one HCP’s NEPA document and another to determine the scope of NEPA analysis is not appropriate. However, because several commenters identified other HCPs in the area as the basis for why they believe the Service should prepare an EIS, the Service provides the following brief comparison. The *Santa Clara Valley Habitat Plan* authorizes take resulting from the permanent loss of 17,975 acres of suitable habitat, and the East Contra Costa HCP/NCCP authorizes take resulting from the permanent loss of 13,029 acres of suitable habitat. The incidental take addressed by both of these HCPs is largely from new development. In contrast, the PG&E O&M HCP address the take of covered species resulting from an aggregate total of no more than 732.3 acres of permanent habitat loss, and these acreages are located primarily in existing, previously disturbed rights-of-way (i.e., the majority of incidental take associated with the PG&E O&M HCP would be primarily related to existing activities and not from new development). This level of permanent habitat loss amounts to less than 0.03% of natural land-cover types across 9 counties over 30 years. Further, most impacts from PG&E’s O&M HCP would be temporary, would not result from new facility footprints, and recover annually. For these reasons, and the reasons described above, the

Service determined an EA and FONSI are appropriate, and the Service does not need to prepare an EIS.

Master Response 3: Permit Duration

Several commenters recommended a permit with a shorter duration. One commenter recommended a 5-year permit term and another recommended a 15-year permit term, because the Service cannot predict environmental conditions for listed species over a longer duration. PG&E initially proposed a 50-year permit duration given that the facilities will exist on the landscape for the foreseeable future. The Service's revised section 10 Handbook (issued December 23, 2016; p. 12-8) includes several factors that should be considered when identifying an appropriate permit duration, including: duration of covered activities; ability to determine the effects on covered species; level of uncertainty related to the conservation strategy and long-term survivability of the covered species; how well the monitoring and adaptive management program address risk and uncertainty; and whether the proposed funding strategy is sufficient for the proposed permit duration. The Service considered these factors, as well as uncertainty related to climate change, uncertainty regarding long-term species distributions, and the applicant's need to carry out O&M activities over a long period of time, and recommended a 30-year permit duration, which is the proposed permit term in the HCP. 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 is contrary to the long-term conservation objectives associated with this HCP because a shorter permit would not allow the same landscape-scale conservation in advance of impacts. Further, the HCP contains a monitoring and adaptive management process that will track and allow responses to changing environmental conditions over the duration of the permit, which allows for the permit to be monitored over time. If any covered activities are determined to potentially jeopardize the continued existence of a covered species, the Service would be required to re-evaluate the effects of covered activities on that species, regardless of the length of any permit. The Service has determined that a 30-year permit duration is appropriate.

Master Response 4: Covered Species

Many commenters recommended covering more species. The Service's revised section 10 Handbook (issued December 23, 2016; p. 7-5) includes several factors that should be considered when identifying covered species, including identifying those listed species that are likely to be taken. However, the Handbook also notes that all covered species "must have sufficient background information" in order to conduct an adequate effects analysis from the proposed covered activities. The Handbook also notes that although the Service encourages applicants to address listed plants, take prohibitions under section 9 of the Act are not generally applicable to plants. The Service cannot require an applicant to cover any particular species in an HCP. Any take, incidental or otherwise, of a federally listed animal species that occurs without authorization is handled as an enforcement matter by our Office of Law Enforcement. The Service and PG&E worked closely to determine which species should be covered, but ultimately an applicant determines the species for which the applicant is seeking an incidental take permit. As noted by some of the commenters, many species were considered for coverage. However, the final list of covered species was refined through the application of the criteria used to decide on inclusion of species: range of the species proposed for coverage, potential for impact on the species proposed for coverage, listing status of the species proposed for coverage, and life history information regarding the species (see Section 1.5.2 of the HCP). Through discussions with the Service, PG&E chose species for inclusion in the HCP that were federally listed and that are reasonably certain to be taken by the covered activities in the HCP.

In addition to the criteria noted above, the process of determining which species to cover or not cover was also informed by the Service and PG&E's experience with PG&E's 2007 *San Joaquin Valley Operations and Maintenance Habitat Conservation Plan* (San Joaquin Valley O&M HCP), as well as

with implementing other programmatic biological opinions, project-specific low-effect HCPs, and various environmental programs and plans to avoid and minimize impacts on sensitive species. If additional species are listed, as noted under Section 6.6.2.1 of the HCP, PG&E would evaluate the need to seek incidental take authorization at that time. Following this provision, PG&E would work with the Service to determine whether a newly listed species could be affected by covered activities. If so, PG&E and the Service would discuss whether to amend the HCP to include take coverage for those species. Further, the Service would provide technical assistance to identify possible modifications to the permit and, until the permit is amended, PG&E would develop and implement measures to avoid the likelihood of jeopardy or take of the newly listed species. It should be noted that listed fish were not included because direct impacts on federally listed fish (or their habitat) would require a permit under Section 404 of the Clean Water Act or Section 10 of the Rivers and Harbors Act, which would trigger consultation with the Service or the National Marine Fisheries Service (NMFS) under section 7 of the ESA. Given the relatively few U.S. Army Corp of Engineer permits each year that would likely trigger consultation for fish, NMFS indicated it would conduct project-specific analyses as needed. Federally listed birds, with the exception of the Ridgway's rail, were not included in the covered species list under the HCP because the Service and PG&E determined that incidental take from covered activities was not reasonably certain (see Master Response 7, *Avian Impacts*). The covered plant species list was similarly refined based on listing status and proximity of facilities to known plant populations; additional detail on the plant analysis is provided in a Master Response 8, *Plant Impacts and Mitigation*. It should also be noted that when PG&E acquires mitigation lands, these lands will also benefit non-covered species. Non-covered species are not authorized to be taken under the HCP.

Master Response 5: Modeled Habitat

Some commenters expressed concern regarding the use of habitat suitability models. The Service required PG&E to use habitat suitability models to estimate amount of acreages likely to be affected by covered activities. The development of habitat models is described in HCP Section 2.3.4, *Species Habitat Models*. PG&E worked closely with the Service through an extensive process to develop and refine the habitat models. These models are based on models developed for other regional conservation planning efforts. Specifically, modeled habitat data from the East Contra Costa HCP/NCCP, *Santa Clara Valley Habitat Plan*, *Solano Habitat Conservation Plan*, *East Alameda County Conservation Strategy*, and the *Santa Rosa Plain Conservation Strategy* were incorporated. Where data gaps existed, PG&E worked collaboratively with the Service and California Department of Fish and Wildlife (CDFW) to expand the habitat models. Other regional models have been available for public review in the past; they are essentially based on land-cover and species life-history requirements. The application of the models errs on the side of the species by assuming that areas identified by the model are actually suitable and occupied by the species. In many instances, this approach results in mitigation for habitat that is not of high quality, not suitable for or being used by the species, and for which there is no legal requirement to provide mitigation. The approach results in more mitigation than may otherwise be required. These models can be improved and enhanced over time, but they currently represent important habitat areas where PG&E may impact covered species. As described in HCP Section 5.4.1.2, *Updates to the Habitat Models*, PG&E will "review the habitat models for wildlife species once every 10 years, or more frequently as habitat model data becomes available. ... Similarly, [U.S. Fish and Wildlife Service] USFWS may recommend integration of additional information into the habitat models and PG&E will incorporate this information."

Master Response 6: Impact Analysis

Several commenters indicated the impact analysis was inadequate because work location information was too general, was based on modeled habitat, and did not include site-specific species data. The Service worked closely with PG&E to formulate an approach to evaluate the potential

effects associated with O&M activities. As described in greater detail below, the method for analysis was based on PG&E's facility corridors. Specific work locations vary within the facility corridor from year to year and the O&M HCP applies a criteria-based approach that ensures the applicable Avoidance and Minimization Measures (AMMs) will be applied and the remaining take and associated impacts will be mitigated. This approach, coupled with a limit on the total amount of take authorized, and reporting and tracking mechanisms to stay below the take limits, provides a planned and coordinated approach for addressing covered activities within the Plan Area. Further, these estimates are conservative for most species over the course of the 30-year permit duration.

Utilizing a modeled habitat approach to impact analysis was appropriate for a large Plan Area and the activities proposed for coverage. Because PG&E is required by state and federal law to inspect and maintain its facilities, maintenance could occur anywhere along a facility corridor. The impact analysis for wildlife was based on an intersection of facility corridors with modeled habitat, and modeled habitat was identified based on multiple data sets including land-cover data, species habitat requirements, and species habitat models developed as part of other regional HCPs (see O&M HCP Section 2.3.4, *Species Habitat Models*). For example, the Alameda whipsnake model was based on the life history needs of the Alameda whipsnake and core, perimeter core and dispersal habitats; the O&M HCP's model used the same land-cover types as those from the ecological models developed for the East Contra Costa HCP/NCCP, which also underwent Service and public review. The O&M HCP impact analysis also describes the life history and distribution of each species, direct impacts, permanent impacts on habitat, temporary impacts on habitat, critical habitat impacts, and indirect impacts.

Plant "take" estimates and impacts were based on aerial photography review and, in some instances, field surveys of known plant populations. The impact analysis for plants was based on site-specific population information in relation to PG&E's facilities. This information, plus activity size estimates, and suitable habitat in close proximity to the facilities were used to estimate the disturbance to plant occurrences. Similar to covered wildlife, this approach likely results in an overestimate of the amount of "take" and impacts on the covered plant species.

Most covered activities have estimates of habitat loss resulting from each instance of a covered activity. During implementation, small activity impacts will be calculated and tracked based on the amount of disturbance of a given covered activity within modeled habitat, regardless of actual habitat quality at the location of a covered activity. This approach could result in PG&E mitigating for small disturbances in areas that are marginal or low quality, as well as high quality habitat. Identification of large activity impacts will be based on PG&E's review of the habitat models, site-specific habitat evaluations, and at-the-site observations of ground disturbance.

The O&M HCP differentiated between temporary and permanent habitat impacts. These are defined in the HCP for both wildlife and plants, and PG&E is required to track its annual temporary and permanent impacts for both. In addition to the definitions of temporary and permanent habitat disturbance, we have also included additional protections for perennial plants by including definitions of temporary disturbance and permanent loss of individual plants. Temporary disturbance and permanent loss of individual perennial plants trigger per-plant mitigation, which is cumulative with the 1:1 and 3:1 ratios incurred from temporary or permanent disturbance, respectively, of habitat for perennial plants. Further, To confirm that the estimates for small activities are accurately portrayed and have not changed over time, PG&E will conduct a validation study by reviewing 25 to 50 activities in implementation years 5, 10, 15, 20 and 25 (HCP Section 6.9.1.1, *Implementation*). This information will be used by PG&E and the Service to verify disturbance estimates and inform future monitoring and reporting efforts. The impact analysis for plants was based on site-specific population information in relation to PG&E's facilities. More detail regarding the plant impact analysis is described in Master Response 8, *Plant Impacts and Mitigation*. The Service will monitor and evaluate these impacts via annual reports, an audit study, and site-specific reviews if needed.

Master Response 7: Avian Impacts

Several commenters stated that the HCP should cover both listed and non-listed bird species to address collision and electrocution from electric facilities. PG&E follows an Avian Protection Plan (APP), which is based on guidelines issued by the Avian Power Line Interaction Committee, for all new facilities to ensure they are bird-safe. PG&E has an extensive program for retrofitting older facilities to address collision and electrocution. Based on such measures, PG&E determined that incidental take of most federally listed bird species (Ridgway's rail is an exception) was not reasonably certain to result from the covered activities and coverage under the HCP was not required. For the non-listed bald and golden eagles, PG&E decided to obtain take coverage under the Bald and Golden Eagle Protection Act (BGEPA) instead of through a section 10(a)(1)(B) incidental take permit. 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. Therefore, PG&E's decision to apply for a BGEPA permit complies with Service regulation, policy, and guidance. 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 the Migratory Bird Treaty Act (MBTA) and PG&E's APP. For context, the Service understands the APP includes the following components:

- Risk assessment process to identify high-risk areas for collision and electrocutions.
- Bird-safe construction requirements for all new construction/reconstruction work in "raptor concentration zones."
- Retrofits installed on all poles where collisions or electrocutions have been reported.
- Proactive retrofit program in areas with collisions or electrocutions.
- Implementation of a Nesting Bird Management Plan to establish buffers or work restrictions.
- Outreach and research in coordination with various avian organizations.

The Service's action is focused on reducing the potential for impact on Ridgway's rail. PG&E concluded there is a reasonable certainty to affect this ground nesting species, but there is a limited operating period to minimize potential impacts on nesting rails. Please see Master Response 4, *Covered Species*.

Master Response 8: Plant Impacts and Mitigation

Several commenters expressed concerns about plant impacts. The Service and PG&E worked closely to assess potential impacts on covered plant species. Ultimately, the covered species list was selected based on the listing status of the species and the potential for species to be affected by covered activities. Non-federally listed plants and those outside of areas to be affected by covered activities were not included. The Act's section 9 prohibitions regarding take do not generally apply to federally listed plant species. Take of federally listed plant is limited to: import export from the United States; remove and reduce to possession from areas under federal jurisdiction; maliciously damage or destroy on areas under federal jurisdiction; or remove, cut, dig up, or damage or destroy on any other area in knowing violation of any law or regulation of any state or in the course of any violation of a state criminal trespass law. Because "take" of federally listed plants is not prohibited, the Service does not issue take authorization for plants. However, the Service does conduct an analysis to ensure that an applicant's proposed covered activities will not jeopardize the continued existence of federally listed plant species. The Service's review process includes a jeopardy assessment for federally listed species; currently the Service expects that the project would not have significant impacts under NEPA.

The HCP's plant-specific AMMs are designed to ensure that impacts are avoided and minimized, and that residual impacts are mitigated. As noted in the HCP, mitigation for impacts on covered plants will also include a restoration plan and mitigation process to ensure that impacts are addressed. Although some commenters said that the measures did not go far enough, the measures provide a solid foundation for protecting covered plants and mitigating impacts. The Service will require an additional protection measure to prevent the spread of plant pathogens. This measure is as follows:

Plant-08: PG&E will follow current best management practices to prevent the spread of phytophthora when working on gas transmission facilities in the Map Book Zone for coyote ceanothus in Santa Clara County. PG&E will clean equipment (i.e., vehicles, equipment, tools, footwear, and clothes) at designated cleaning stations before and after leaving these work locations. All PG&E staff and subcontractors working in these areas will be trained on the risks of spreading phytophthora and will work to minimize the unnecessary movement of soil and plant materials when in this area. PG&E will also take care to prevent the spread or contamination during plantings or restoration activities. (See Phytophthoras in Native Habitats Working Group Recommendations, October 2016, for more information.)

Plant impacts will be avoided, minimized and mitigated based on pre-project surveys, future site-specific evaluations, modifying work activities to minimize impacts, and developing site-specific restoration plans that are subject to Service review and approval.

Master Response 9: Invasive Species

Several commenters raised concerns regarding the spread of invasive plant species. The presence of invasive species within PG&E's right-of-way is part of the existing setting. The environmental baseline for the O&M HCP takes into account the current state of habitat areas combined with maintenance activities that have and continue to occur on a daily, weekly, monthly or annual basis. While we recognize the occurrence and spread of invasive or noxious weeds is a concern in much of the state, issuance of a take permit would not increase PG&E's potential contribution to the spread of noxious weeds; many of these roads are also multi-purpose and have multiple users. PG&E implements a variety of techniques to avoid and minimize the spread of noxious weeds including using the smallest possible construction footprint; minimizing ground disturbance in all areas and particularly in sensitive areas; keeping vehicles on existing roads as much as possible; maintaining clean worksites; implementing measures to control and minimize the spread of noxious weeds by using weed-free materials and washing equipment to remove invasive plants or seeds prior to working in a project site; using exclusion fencing or flagging to alert crews to the presence of sensitive habitats and to serve as protection; requiring crews to stay within a designated work area; and/or keeping the removal of vegetation to the minimum work area possible.

As the EA acknowledges there is the potential for PG&E's activities to spread noxious weeds and potentially directly and indirectly affect covered species habitat. However, these effects will be localized and detectable through the HCP's monitoring program. Although not relied on to make a determination, ongoing relationships with local, state, and federal conservation land owners are further likely to help detect any residual effects. Through this HCP, the Service and PG&E will continue to work together to determine if changes to PG&E's practices are needed to improve invasive species controls.

Master Response 10: Cumulative Impacts

Several commenters expressed concern about cumulative impacts. The Service has determined that the cumulative impact assessment is adequate as described in Chapter 4 of the EA. Cumulative impacts on biological resources are described beginning on page 4-7 of the EA: "The analysis of cumulative impacts on biological resources within the Plan Area is based on a review of ABAG's regional Plan Bay Area 2040 and an evaluation of the following HCPs and other conservation

planning efforts for the Bay Area region: East Alameda Conservation Strategy; East Contra Costa County HCP and NCCP; San Bruno Mountain Area HCP; *Santa Clara Valley HCP and NCCP*; Santa Rosa Plain Conservation Strategy; and Solano HCP. 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 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, of the 402,440-acre Plan Area, 61% of land cover types are in urban areas, 32% are in natural land-cover types (i.e., forest, grassland, riparian, shrubland, wetland, dune, and barren/ruderal), and 7% are in agricultural areas. ...The Proposed Action's contribution to this cumulative effect would be minimal compared to the Plan Area, as well as the total acreage associated with the nine Bay Area counties."

Overall, the covered activities reflect the pre-project environmental conditions in the Plan Area and the proposed HCP is expected to result in a net long-term benefit with regard to providing compensatory mitigation to offset cumulative regional habitat loss. It would also result in corollary benefits to common and special-status plants and wildlife using the habitats preserved and protected.

Master Response 11: Avoidance Measures

Several commenters expressed concern that the Avoidance and Minimization Measures (AMMs) are not specific enough and do not avoid impacts. The Service and PG&E worked closely to develop measures that are effective and reasonable. PG&E's current environmental screening and review process (described in O&M HCP Section 1.6, *Environmental Screening Processes*) will be complemented and augmented by the process described in HCP Section 5.4, *Environmental Review, Planning, and Screening Process*. The environmental screening process is the first step in the process and ensures that impacts are avoided or minimized upfront. This process may involve redesign or relocation of proposed work activities, as well as adjusting access routes or work periods. Field Protocols (FP) are implemented for all work activities to avoid and minimize impacts on sensitive resources and habitats. These protocols cover all aspects of the work including training of crews, access/worksites management, erosion control, and natural resource protection. Best Management Practices (BMPs) consist of 62 separate requirements to avoid and minimize impacts from vegetation management activities. Further, when performing work in Hot Zones (animals), species-specific AMMs are implemented to minimize impacts on covered species. These AMMs may involve additional site-specific surveys, limits on work periods or equipment types, and also include specific AMMs for certain types of work performed in wetlands or grasslands of eastern Alameda and southeastern Contra Costa Counties. If the work is within a Map Book zone (plants), specific plant AMMs are implemented to minimize impacts on covered plants. Field Protocols, BMPs, and AMMs, detailed in Table 5-1 in the HCP, provide specific direction to employees and contractors. As an example, FP-18, which requires that active bird nests with eggs or chicks be avoided, also requires that a crew member or contractor who finds such a nest to contact PG&E's Avian Protection Program manager or biologist or land planner for further guidance. Likewise, BMP 19 requires not only that potential cultural resources be left untouched, but that if the resources must be moved to complete the work, work must be stopped and the cultural resources program manager be contacted and appropriate applicable laws followed. Additionally, these various measures are similar to standard measures found in other HCPs within the region.

Collectively, these measures serve to reduce impacts on covered species. Conducting additional surveys and monitoring for activities that are currently occurring on existing facilities is unnecessary. For the low-risk utility activities covered in this HCP, such as pole replacements in low-quality habitats on road shoulders, species will benefit more from acquisition of habitat (that is protected into perpetuity) than from habitat surveys and extensive monitoring. Given the small individual footprints of the covered activities, the Service and PG&E developed an approach that de-

emphasized surveys and monitoring of numerous small activities in order to emphasize funding long-term regional conservation efforts on a larger scale. The overall conservation strategy approach is specific by providing consistency in how PG&E conducts its work, interacts with Service, and mitigates for its effects. This approach is more effective than project-by-project permitting.

Master Response 12: Mitigation

Several commenters requested more information on the location of potential mitigation sites and requested mitigation occur within the same watersheds as the impact or within specific locations (such as within county and federal park lands). The HCP's mitigation approach is described in HCP Section 5.6, *Habitat Mitigation*. Exact mitigation locations will depend on the type of mitigation approach used (i.e., fee title purchase of land, partnerships, purchase of credits at Service approved conservation banks, or habitat enhancement/restoration) and are subject to Service review and approval. Additionally, although the Service has analyzed a maximum amount of habitat loss and disturbance anticipated for each covered species, the actual amount of habitat loss and disturbance may vary by county. Actual impacts may be lower than the regional forecasts, but identification of actual impacts will determine where mitigation is needed and implemented. The HCP includes some conceptual locations identified in HCP Figure 5-4 and Table 5-7, but exact locations will depend on PG&E's ability to find mitigation lands and develop suitable mitigation proposals with conservation land managers. All mitigation proposals will be provided to the Service, for review and approval, in advance of mitigation acquisition. The HCP's mitigation strategy for wildlife is summarized in Section 5.6.2.3 and in Table 5-4 of the HCP. The strategy plants is summarized in Section 5.6.2.4 and in Table 5-5. Collectively, if impacts occur as estimated, approximately 4,800 acres of habitat would be permanently conserved for wildlife, and approximately 50 acres of habitat would be permanently conserved for plants. PG&E will work cooperatively with the Service, and other conservation land managers and stakeholders to identify and develop mitigation opportunities throughout the Bay Area. The Service supports the mitigation approach described within the HCP because it will ensure mitigation is implemented before activities, provides landscape conservation, centralizes and coordinates PG&E's mitigation efforts, and will result in larger mitigation purchases.

Master Response 13: Minor New Construction

Several commenters expressed concern about the inclusion of minor new construction in the HCP. Minor new construction is intended to encompass the upgrade or replacement of existing facilities or provide short (2 miles or less) gas or electric line extensions to provide service to new residential or commercial users in locally approved developments. It is different than large new construction where more than 2 miles of new right-of-way is secured. Minor new construction includes two gas activities (G14, Pressure Limiting Station Installation and G15, New Customer/Business Pipeline Extensions) and four electric activities (E12, New Distribution and Transmission Line Construction or Relocation for wood or steel poles, E13, Tower Line construction, E14 Substation Expansion, and E15, Underground Line Construction). Most of this work is expected to be in close proximity to existing corridors.

As a worst-case assessment, this work could result in about 2 acres of permanent impacts per year and 0.5 acres of temporary impacts per year. In the past 6 years of implementation of PG&E's San Joaquin Valley O&M HCP, this type of work resulted in only 2.5 acres of permanent impacts and 8.4 acres of temporary impacts. These totals are lower than the Bay Area forecast for permanent impacts but higher for temporary impacts. The Bay Area O&M HCP acreage limit is also subject to individual species take caps, which, in some cases, may preclude a minor new construction activity within a covered species' habitat. For example, the maximum amount of permanent habitat loss for the Mission blue butterfly and San Bruno elfin butterfly is 2 acres, while other species such as the California freshwater shrimp have maximum permanent habitat loss capped at less than 0.30 acre over the 30-year permit term. Overall, the Service expects this work to be quite minor. However, to

verify this and in response to public comments, the Service and PG&E added a process to the HCP under which the Service and PG&E will review the specific details of minor new construction projects to ensure PG&E's activities are within the scope of analysis and no new significant impacts or take of non-covered species is resulting. This process was added to the HCP in Table 5-1:

For minor new construction activities less than 2 miles in length, excluding upgrades and replacements, (G15, E12, E13, and E15), PG&E will notify the USFWS of the anticipated project and provide a summary of the activity. The summary will include information on HCP measures to avoid, minimize and mitigate the effects of the project on covered species, confirm there is adequate take authorization remaining for the covered species, and confirm that activity does not have a reasonably certain likelihood of take of listed non-covered species. If the USFWS has concerns about the work they will notify PG&E within 5 business days and resolve the concerns within 10 days.

The total amount of permanent disturbance associated with minor new construction is estimated at under 200 acres (e.g., 168.3 acres) over 30 years. Although specific locations are not known, it can be assumed that these service extensions will be located in proportion to existing modeled habitat throughout the Plan Area and that impacts will be similar to those described in the HCP and EA. PG&E's annual report will summarize the impacts associated with this activity and the Service will be able to verify these effects. The criteria based approach, coupled with additional review, provides sufficient detail to support an analysis of impacts associated with minor new construction.

Master Response 14: Growth-Inducing Effects

Some commenters raised concerns that expansions associated with minor new construction could induce growth. PG&E is mandated by the California Public Utilities Commission (CPUC) to provide gas and electric service to anyone, within PG&E's service territory, who requests service, and is not the catalyst for growth. In fact, the opposite is true. Regional development is the catalyst for needing new transmission and distribution facilities. PG&E's minor new construction is not eliminating barriers to development like the development of a new supply of water, nor do PG&E's minor construction activities lead to growth in areas not previously approved for growth by local agencies. PG&E does not control the pace or placement of private development; local agencies do. Although PG&E has a mandate to provide safe gas and electric power to consumers throughout its service territory, PG&E's minor new construction occurs only in response to local agency decisions about growth and development. PG&E's electrical facilities are not built until the actual need is imminent. Additionally, the O&M HCP does not cover new power supplies, such as new power plants, new wind facilities, or new solar facilities.

Master Response 15: Overlap with Other HCPs

Commenters noted that PG&E's Plan Area overlaps existing HCPs and provides an opportunity for collaboration with other permit holders on regional conservation goals and objectives.

Upon issuance of the incidental take permit for PG&E's HCP, PG&E would employ the PG&E AMMs identified in the HCP and would mitigate any unavoidable impacts according to the terms of the O&M HCP and incidental take permit. Similarly, any unavoidable take resulting from PG&E O&M activities would be reported under the PG&E HCP procedures and would count against the take limits in the PG&E HCP. The take authorization provided to PG&E would not be deducted from others entities' HCPs. PG&E would not be subject to the requirements of other HCP. Prior to working in others' conservation areas (e.g., FP-05) PG&E will notify the conservation landowner to discuss methods to minimize its effects. PG&E's conservation strategy was designed to stand alone and to complement the conservation strategies of other regional HCPs. PG&E will be able to make acquisitions or contribute funding toward the acquisition and management of important conservation areas within the boundaries of other HCPs.

As described in HCP Section 5.4.1.2, *Updates to the Habitat Models*, PG&E will "review the habitat models for wildlife species once every 10 years, or more frequently as habitat model data becomes

available. ... Similarly, USFWS may recommend integration of additional information into the habitat models and PG&E will incorporate this information.” PG&E will integrate species, habitat, and conservation information into its GIS system to help ensure that impacts on sensitive areas are avoided and minimized.

Master Response 16: PG&E’s Other Plans and Processes

Commenters stated that the Draft EA did not include copies of PG&E’s other plans and processes that are referenced in the document, including the PG&E APP, Nesting Bird Management Plan (NBMP), and Good Housekeeping Activity Specific Erosion and Sediment Control Plan, and that the Service was required to make these other plans available to the public during the comment period. Although the Draft EA discusses as background how PG&E implements these other plans, neither the HCP nor the Service’s EA rely on these other plans when evaluating or making determinations about the potential effect of the proposed federal action (issuance of the HCP section 10 permit) on non-covered species. The Service noted in the EA that PG&E’s implementation of these plans would be the same under the No Action Alternative and under the proposed action. Because the Service did not rely on PG&E’s other plans for our analysis or our determinations, neither NEPA nor section 10 (c) of the Act require that documents the Service did not use be made available for public comment.

Master Response 17: Climate Change

Commenters noted that the Draft EA does not adequately analyze the impacts of climate change on the covered species. The EA does evaluate the air quality effects of the program and PG&E’s compliance with local, state, and federal air quality standards (see analysis beginning on page 3.2-1 of the Draft EA). The EA indicates that PG&E’s habitat mitigation lands provide air quality and GHG benefits (page 3.2-18). Covered activities within the HCP will help PG&E respond to climate change effects on its facilities. The HCP does address climate change in Section 6.6.1.1, *Specific Changed Circumstances*, and has included this analysis as a changed circumstance for the overall conservation efforts. The Service will also evaluate climate change issues in our intra-service section 7 biological opinion prepared for the permit decision. The flexible mitigation acquisition strategy described in the HCP will allow the Service and PG&E to coordinate on mitigation lands and emphasize, where appropriate, mitigation in areas that will benefit species in light of climate change.

Master Response 18: Coordination with Other Agencies

Commenters noted the need for the Service to coordinate with other agencies with jurisdiction over the resources and lands that could be affected by PG&E’s O&M activities. The Service and PG&E have coordinated with multiple federal and state agencies in the development of the HCP and EA.

The Service and PG&E worked collaboratively with CDFW for more than 11 years, initially planning on a combined HCP and state incidental take permit. CDFW reviewed drafts of the HCP and was instrumental in developing the AMMs, habitat models, and overall conservation strategy. However, PG&E ultimately decided to pursue separate federal and state permitting processes and, in April 2015, submitted an application to CDFW for a Section 2081(b) incidental take permit under the California Endangered Species Act (CESA).

Overall, PG&E’s HCP will not change the utility’s obligation to comply with all state and federal laws and permitting requirements, nor will it change the obligations of state and federal agencies to comply with relevant laws and regulations. Approval of the HCP and issuance of a take permit by the Service will not change permitting triggers or conflict with implementation of other environmental laws. Similarly, the HCP will not change the terms of PG&E’s land rights for existing facilities, or any notification and coordination procedures that have been established (or maybe established in the future) with the many public and private landowners crossed by PG&E’s existing facilities.

In the event that a PG&E O&M covered activity would affect waters of the United States, PG&E would continue to pursue appropriate permits from the U.S. Army Corps of Engineers under Section 404 of the Clean Water Act, and the corresponding Section 401 water quality certification from the appropriate Regional Water Quality Control Board. Issuance of a Section 404 permit would trigger a section 7 consultation process with the Service or NMFS if the activity may affect federally listed species. If adverse effects would result from a covered activity, the consultation process would conclude with the issuance of one or more biological opinions; however, it is anticipated that an approved HCP would allow for a streamlined section 7 consultation process. Through that consultation process, the Service and the U.S. Army Corps of Engineers can determine whether PG&E's HCP can provide a streamlined framework for avoidance, minimization, and mitigation of potential adverse effects on federally listed species associated with the activity.

PG&E met with NMFS regarding anadromous fish and the potential to cover them in the HCP; however, NMFS declined to participate because it preferred to review activities on a project-by-project basis given the small number of in-water projects conducted by PG&E that could impact anadromous fish.

The Service and PG&E also spoke with several National Park Service staff (including Point Reyes National Seashore staff, and Golden Gate National Recreation Area staff), and San Francisco Bay National Wildlife Refuge staff regarding the HCP and EA. The Service also hosted a briefing for staff of several National Parks in the Bay Area on the HCP. The Service had multiple coordination meetings with several members of the Service's San Francisco National Wildlife Refuge and the Service's Bay Delta Fish and Wildlife Office. PG&E's HCP will not affect a federal agency's responsibility and authority to manage federal lands according to the requirements of the agency's authorizing act and adopted management plans and policies. If a PG&E O&M activity requires issuance of a new permit or land right on federal lands, the land-managing agency is required under section 7 of the Act to consult with the Service or NMFS if the activity may affect federally listed species. If a covered activity would result in adverse effects, the consultation process would conclude with the issuance of one or more biological opinions. Through that consultation process, the Service and the federal land-managing agency can determine whether PG&E's HCP can provide a streamlined framework for avoidance, minimization, and mitigation of potential adverse effects on federally listed species associated with the activity. If the Service determines that the HCP measures are not sufficient for the specific activity, the Service can elect to prepare an activity-specific biological opinion to conclude the federal agency's section 7 consultation. Similarly, the federal land-managing agency can specify additional protection measures as conditions of the permit or land right that triggered the section 7 consultation.

Many of PG&E's routine O&M activities are exempt from the requirement to obtain a coastal development permit; however, for those that are not, PG&E routinely obtains, and will continue to obtain, coastal development permits from the local coastal permitting authority or the California Coastal Commission, depending on the location of the specific activity. Issuance of the HCP will not change PG&E's obligations to obtain coastal development permits.

Master Response 19: Issuance Criteria

Several commenters indicated that the Service should not issue a permit and the project did not conform to the issuance criteria. The Service's permit issuance criteria in the Act are:

1. The taking will be incidental.
2. The applicant will, to the maximum extent practicable, minimize and mitigate the impacts of such taking.
3. The applicant will ensure that adequate funding for the plan will be provided.

4. The taking will not appreciably reduce the likelihood of survival and recovery of the species in the wild.
5. Such other measures that the Services may require as being necessary or appropriate for purposes of the plan.

The Service will determine whether the HCP meets the issuance criteria in its section 10 findings and recommendations. If the Service finds the HCP meets the issuance criteria the Service will issue a permit.

Master Response 20: Alternatives

Several commenters expressed concern about the range of alternatives. The range of alternatives identified in the EA, Alternative 1. Proposed Action, and Alternative 2. No Action, is sufficient to meet the requirements of NEPA. Additional alternatives were not selected because they did not meet the purpose and need or reduce environmental effects. The range of alternatives is guided by the permit application and the statutory framework governing permit issuance decisions. For HCPs, the Service and NMFS can approve or deny an application, but not impose substantially new or different conditions on the applicant. The Service and NMFS have recognized the mandatory nature of this statutory framework, stating in the HCP Handbook that if the Service or NMFS “determines, after considering public comment, that the HCP is statutorily complete and that permit issuance criteria have been satisfied, it must issue the permit.”¹

The courts have indicated that, although NEPA requires consideration of a “no action” alternative and identification of a preferred alternative, there is no requirement for a minimum number of alternatives (See, e.g. *Native Ecosystems Council v. United States Forest Serv.*, 428 F.3d 1233, 1245 (9th Cir. 2005)) (“...The statutory and regulatory requirements that an agency must consider ‘appropriate’ and ‘reasonable’” alternatives does not dictate the minimum number of alternatives that an agency must consider.”)

Master Response 21: Covered Activities

Many commenters had questions about and expressed concern regarding the covered activities. Although take of a listed animal species is prohibited under section 9 of Act, the Service has no authority to compel any individual or entity to cover any particular activity in an HCP. Any take, incidental or otherwise, that occurs without authorization is handled as an enforcement matter by our Office of Law Enforcement. Covered activities include gas and electric operation and maintenance activities and minor new construction in the Plan Area that may result in take of covered species. These activities are described HCP Chapter 3, *Covered Activities*. Non-covered activities include major new projects, pesticide and herbicide applications, energy production and energy delivery. Many commenters indicated they thought avian electrocutions should be covered, implying that energy delivery should be covered. Operation of the electric lines (i.e., energy delivery), conducting electricity through lines, is not a covered activity because PG&E determined that incidental take of listed avian species in the Plan Area was not reasonably certain. Some commenters questioned why pesticide and herbicide application is not covered. Current Service policy does not recommend including pesticide use (including insecticides, fungicides, rodenticides, and herbicides) as a covered activity in HCPs. The Service is working with U.S. Environmental Protection Agency to evaluate the effects of pesticide and herbicides on covered species as part of a larger national program. Once these consultations are complete, it is possible that Service policy regarding pesticide use will change. PG&E did not seek coverage for this activity and PG&E has informed the Service that it follows label application requirements for certified pesticide applicators

¹ HCP Handbook, Page 1-5.

and adheres to BMPs. By not covering this activity, PG&E will not have take authorization. Some commenters recommended minor new construction not be a covered activity, (see Master Response 13, *Minor New Construction*) and others expressed concern regarding specific gas line work (see Master Response 22, *Edgewood Park and Natural Preserve*).

Master Response 22: Edgewood Park and Natural Preserve

The HCP provides take authorization for all covered species for all covered activities in the Plan Area. Edgewood Park and Natural Preserve is in the Plan Area. We have heard the numerous concerns regarding Edgewood Park and Natural Preserve and Line 109, and we must stress that issuance of the incidental take permit will not authorize the construction of a pipeline replacement within the Park or relocation outside the Park; rather, our permit will authorize only the take associated with pipeline repair or replacement activities. Our understanding is that the pipe has been strength tested and there is no current project under development to replace or relocate the line. Additionally, any replacement or relocation project would be subject to other discretionary permits and land rights approvals. Thus, any replacement or relocation would be subject to an environmental review under the California Environmental Quality Act (CEQA) and the public would have the opportunity to provide further input at that time. Depending on its specifications, the eventual project's federal ESA compliance may be covered by this HCP, a project-specific HCP, or through a separate section 7 interagency consultation. However, because of public concern, and to ensure that the public is engaged in future work within this area, PG&E has agreed to include additional text in the HCP regarding work in this area. New text was added to Table 5-1: "When PG&E is planning a new gas pipeline extension or pipeline replacement project in Edgewood Park, PG&E will meet with the USFWS and affected stakeholders during the planning phase to provide an opportunity for input."

Master Response 23: Measure to Control the Spread of Phytophthora

Several commenters expressed concern regarding the spread of Phytophthora. The Service reviewed the plant occurrence data and PG&E facility data, and determined that additional protection was merited in Santa Clara County for coyote ceanothus. Protections were not instituted in the East Bay because of the urbanized nature of the occurrence data, lack of below ground facilities, limited extent of above ground facilities near habitat, and feasibility of the measures in relation to the activity. A new measure was added to Table 5-1:

PG&E will follow current best management practices to prevent the spread of Phytophthora when working on gas transmission facilities in the Map Book Zone for coyote ceanothus in Santa Clara County. PG&E will clean equipment (i.e., vehicles, equipment, tools, footwear and clothes) at designated cleaning stations before and after leaving these work locations. All PG&E staff and subcontractors working in these areas will be trained on the risks of spreading Phytophthora and will work to minimize the unnecessary movement of soil and plant materials when in this area. PG&E will also take care to prevent the spread or contamination during plantings or restoration activities. (See Phytophthoras in Native Habitats Working Group Recommendations, October 2016 for more information.)

Specific Responses

National Park Service

NPS 1: As a private applicant, PG&E followed the required process and is not required to pre-consult with other federal agencies. The Service is using the current comment period to inform its

evaluation and decision on the HCP application. Please see Master Response 4, *Covered Species*, Master Response 5, *Modeled Habitat*, and Master Response 11, *Avoidance Measures*.

NPS 2: PG&E has stated that it has worked closely with the National Park Service on many projects and will continue to coordinate on future maintenance work; this will include seeking input on access and reviewing avoidance and minimization measures. The National Park Service also noted that other federally-listed species exist within its areas of jurisdiction that were not included for coverage in the HCP. The Service notes that PG&E does not have coverage for those species, including the northern spotted owl (*Strix occidentalis caurina*) and Myrtle's silverspot butterfly (*Speyeria zerene myrtleae*), PG&E will need to obtain incidental take authorization for individual activities that are reasonably certain to take those species, whether on or off of lands under National Park Service jurisdiction. Measures in the HCP intended to avoid certain non-covered species do not, in and of themselves, grant incidental take coverage for those species. In areas under National Park Service jurisdiction, the likely avenue for obtaining incidental take authorization is through the section 7 process. For areas under National Park Service jurisdiction, the HCP does not impede the National Park Service's ability to enforce its own land use requirements, in addition to measures set forth in the HCP. Please see Master Response 4, *Covered Species*, and Master Response 5, *Modeled Habitat*.

NPS 3: The NPS appears to be proposing that maintenance activities only be conducted between July 15 and January 15. The Service encourages PG&E to work during the flight season to avoid direct mortality of adult butterflies, because the flight season is when individual butterflies are most visible. Most O&M covered activities are of a short duration and do not permanently remove habitat. When a project would result in permanent habitat loss, the Service typically recommends projects avoid the flight season, because the eggs, larvae, or earlier instar larva would be taken regardless. However, when activities are of short duration and temporary in nature, the Service typically recommends work occur during the flight season so work crews and biological monitors are more readily able to avoid areas with individuals. The commenter is correct that the AMM identified a "flight period" that is incorrect for several butterfly species. However, this was a typographic error and should have been "work window." The correct flight season for each butterfly species is noted in each species' account. The correct dates and work window were used for identifying effects on the covered butterfly species. We are not proposing to extend the flight period, but will correct the AMM to "work window" or similar language to reflect when the Service prefers this work be conducted for the majority of covered activities. PG&E is required to maintain its infrastructure and the AMM was developed to maximize the protection of host plants, eggs, larvae, and adult butterflies while allowing PG&E to have some latitude in accessing its facilities throughout the year. Given the life history requirements of early developing eggs and larvae and the tight relationship to host plants, the primary means to protect the butterfly is achieved by avoiding impacts on host plants altogether. However, when plants cannot be avoided, the least amount of butterfly impacts (minimization of the impacts) from the majority of covered activities is best achieved when larvae have undergone metamorphosis into adult butterflies and have dispersed.

NPS 4: The Service agrees that additional measures may be appropriate under other permitting requirements, and we note that the HCP does not alter or usurp the National Park Service's authority to manage its lands as it sees fit and the laws it administers allow.

NPS 5: The HCP provides PG&E several options for mitigating habitat loss and disturbance. The HCP has been developed specifically to encourage collaboration with other conservation partners in the Plan Area, including the National Park Service. PG&E may collaborate with the National Park Service to meet its mitigation obligations, subject to Service approval.

American Gas Association

AGA 1: Comment noted. The Service agrees with the commenter, that HCPs provide a better conservation outcome for covered species than a project-by-project basis.

AGA 2: Comment noted. The Service agrees with the commenter, that landscape level HCPs have multiple benefits for both applicants and species, while allowing for a streamlined approach to permitting and ensuring public safety and energy delivery.

AGA 3: Comment noted. The Service agrees with the commenter, that an EA is the appropriate level of NEPA for this O&M HCP.

AGA 4: Comment noted.

County of San Mateo Parks Department (CSMPD)

CSMPD 1: Please see Master Response 1, *Comment Period*.

CSMPD 2: Please see Master Response 1, *Comment Period*.

County of San Mateo Parks Department (CSMPD) #2

CSMPD #2 – 1: Please see Master Response 5, *Modeled Habitat*, and Master Response 15, *Overlap with Other HCPs*. The species models did include known species occurrence data from San Bruno Mountain.

CSMPD #2 – 2: The species models did include known species occurrence data from San Bruno Mountain, and the commenter's reference that the Service focused the model on the East Bay is incorrect. The HCP did not rely on a single species expert when developing the models. The models incorporate the Service's expertise on all the covered species and are based on relevant data from Service recovery plans and 5-year reviews. The figures depicting the results of the habitat models for the HCP are not all at the scale that would show all modeled habitat.

The average flight distance, rather than the maximum flight distance, was selected because it is a more accurate depiction of the area likely to be inhabited by the species and potentially affected by work within PG&E's facility corridors and access to these corridors. We understand and agree that species can range farther. However, the models are largely based on vegetative cover and not flight distance for this species. Although we have analyzed effects on this species based upon average flight distance, take of this species will be accounted for and mitigated based on vegetative cover. We expect use of the models to result in mitigation for this species in areas where the species occurs in very low numbers (and is possibly absent), while also accounting for all areas where the species is known to be present. The Service acknowledges that all of San Bruno Mountain is sensitive habitat for multiple butterfly species and all covered species habitat loss and disturbance resulting from covered activities on San Bruno Mountain will be mitigated. Furthermore, all of PG&E's facilities in undisturbed habitat are within areas identified as modeled habitat.

CSMPD #2 – 3: Please see Figure 4-10 from the HCP which indicates that San Bruno Mountain is suitable habitat and also a hot zone (Hot Zone #3) for the San Bruno elfin butterfly, Callippe silverspot butterfly, and Mission blue butterfly. Please see Master Response 15, *Overlap with Other HCPs*, and the response to CSMPD #2-2. The minimum mapping unit is not relevant given the park lands are considered suitable habitat.

CSMPD #2 – 4: The Service acknowledges that there may be additional information on habitat suitability; however, all facilities on San Bruno Mountain have been identified to exist in suitable habitat. Therefore, additional information is not needed in the species account. Please see Master Response 5, *Modeled Habitat*, and responses to CSMPD #2 – 2 and 3.

CSMPD #2 – 5: Please see response to CSMPD #2 – 2 and 3 and NPS-3. Because all of San Bruno Mountain is considered suitable habitat, a hot zone, and considered occupied additional updates to the models are not necessary at this time. The Service welcomes additional data from CSMPD and will forward that data for PG&E's use when conducting future work.

CSMPD #2 – 6: Please see Master Response 9, *Invasive Species*. The environmental baseline for PG&E's HCP takes into account the current state of habitat areas combined with maintenance activities that have and continue to occur on a daily, weekly, monthly, or annual basis. We recognize that the spread of invasive or noxious weeds is not only a local issue but a statewide problem as well.

CSMPD #2 – 7: Please see Master Response 11, *Avoidance Measures*, and Master Response 15, *Overlap with Other HCPs*.

CSMPD #2 – 8: Please see Master Response 15, *Overlap with Other HCPs*.

CSMPD #2 – 9: We concur that, because some impacts on serpentine habitat take longer than 1 year to restore, the impacts would be considered permanent by definition. At this time neither the Service nor PG&E propose to modify the covered activities to limit individual projects to a specific footprint or size, because the take limits would apply regardless. For example limiting pipeline replacement to something less than 2 miles to potentially keep impacts on serpentine species to 4 acres would not reduce the impacts because the take limits for serpentine species still apply and would not exceed the maximum allowed under the O&M HCP. Please see Master Response 22, *Edgewood Park and Natural Preserve*.

CSMPD #2 – 10: Please see Master Response 9, *Invasive Species*.

CSMPD #2 – 11: The Service will require that PG&E integrate additional noxious weed training into Hot Zone 3. The additional text added to Hot Zone 3 reads, "PG&E will avoid and minimize the introduction or spread of noxious weeds from vehicular traffic through employee education, minimizing off-road travel, and inspecting vehicles to be sure they are not transporting observable noxious weeds." We are not proposing to extend the flight period, because in this measure the period described serves as a shorter limiting operating period for PG&E work. PG&E is required to maintain its infrastructure for public safety and reliability and the AMM was developed to maximize the protection of host plants, eggs, larvae, and adult butterflies while allowing PG&E to have some latitude in accessing its facilities throughout the year. Given the life history requirements of early developing eggs and larvae and the tight relationship to host plants, the primary means to protect the butterfly is achieved by avoiding impacts on host plants altogether. However, when plants cannot be avoided, the least amount of butterfly impacts (minimization of the impacts) is best achieved when larvae have undergone metamorphosis into adult butterflies and can disperse and be seen above ground. PG&E will continue to work with local, state, and federal conservation land managers to carry out its maintenance activities.

CSMPD #2 – 12: Please see Master Response 11, *Avoidance Measures*. At this time the Service is not proposing to modify the Field Protocols, but PG&E will continue to work with local, state, and federal conservation land managers to carry out its maintenance activities.

With respect specifically to reducing FP-07 from a 15 mph to a 10 mph speed limit to reduce dust, while the Service acknowledges that a slower vehicle may reduce dust, FP-07 is meant to reduce effects on covered butterfly species and not eliminate effects. FP-07 is more restrictive and protective of listed butterflies than the Service's standard minimization measure for listed butterflies, which is to limit vehicles to 20 mph.

CSMPD #2 – 13: Please see Master Response 11, *Avoidance Measures*. At this time the Service is not proposing to modify the Field Protocols or the Best Management Practices.

CSMPD #2 – 14: Please see Master Response 20, *Alternatives*. The commenter is unclear whether the statement about alternatives is meant for the HCP or for the EA. However, the reference to the section being four pages suggests the comment is in reference to the HCP Chapter 7, *Alternatives Analysis*. The Act requires an applicant for a section 10(a)(1)(B) permit to disclose the alternatives to the proposed incidental take that the applicant considered and why the alternative was not selected. It does not require an analysis of feasibility.

CSMPD #2 – 15: The Service will make a determination whether the funding is adequate and assured when we complete our section 10 findings and recommendation. Additionally, the Service disagrees with the commenter's assertion that the impacts associated with the O&M HCP are an underestimate and that the models are deficient. PG&E will work with conservation partners, including San Bruno Mountain HCP, to satisfy mitigation requirements for butterfly impacts. It is possible that conservation funds could be used to enhance habitat on San Bruno Mountain.

CSMPD #2 – 16: Please see Master Response 15, *Overlap with Other HCPs*. Requiring PG&E to provide funding to a third party that is not directly related to mitigating the impact of the taking is not within the scope of the Service's jurisdiction. The Service also does not see the need to have a third party monitor because the Service oversees implementation of all permitted HCPs, including the surrounding overlapping HCPs with the O&M HCP. Furthermore, the Service, at any time, may inspect activities to observe HCP implementation.

East Bay Municipal Utility District (EBMUD)

EBMUD 1: Please see Master Response 15, *Overlap with Other HCPs*. The Service did not omit data or species presence information from the East Bay Municipal Utility District's HCP. The same Service lead on developing, implementing, and reviewing annual reports for the EBMUD HCP was the lead on the development of the PG&E O&M HCP. However, the commenter is correct that specific reference to the EBMUD HCP was not made in the list of existing planning documents.

EBMUD 2: Please see Master Response 15, *Overlap with Other HCPs*.

EBMUD 3: Please see Master Response 15, *Overlap with Other HCPs*.

EBMUD 4: Please see response to EBMUD 1 with respect to potential omission of EBMUD data. Additionally, the HCP provides for an ongoing mechanism to incorporate additional data. The Service and PG&E will work to make sure relevant additional data from the EBMUD program is integrated into the HCP. With respect to one HCP being different from another, the Service is required to consider the proposed HCP relative to the proposed impact of the taking. While the Act requires mitigation to be to the maximum extent practicable, the Service must also consider whether the proposed mitigation is commensurate to the impact of the taking; this means evaluating each individual HCP on its own merits, and does not require that HCPs that address similar species, activities, or are in close proximity to each other are the same. It is acceptable that one HCP is different from another. However, it should be noted that the Service and PG&E utilized existing habitat modeling from surrounding and overlapping regional HCPs and conservation strategies. EBMUD's low-effect HCP did not utilize habitat modeling to the same extent that the East Contra Costa HCP/NCCP and the *East Alameda County Conservation Strategy*; in comparison to those habitat models and the PG&E O&M HCP, the EBMUD low-effect HCP estimated habitat at a much lower amount. PG&E will integrate species, habitat, and conservation information into its GIS system to help ensure that impacts on sensitive areas are avoided and minimized.

EBMUD 5: Please see response to EBMUD 4.

EBMUD 6: Please see response to EBMUD 4.

EBMUD 7: Please see response to EBMUD 4.

EBMUD 8: Please see Master Response 15, *Overlap with Other HCPs*, and the response to EBMUD 4. PG&E will mitigate for its impacts on core, perimeter core and dispersal habitat. The estimates in the PG&E O&M HCP are much more conservative than EBMUD's own low-effect HCP, and likely to overestimate the potential for habitat loss. As described in the HCP, there will be additional habitat evaluation and review for large activities. PG&E's work in scrub habitat will be evaluated in advance, and impacts will be reported annually. PG&E is subject to the limits in its plan and EBMUD is subject to the limits in its plan. Please see Master Response 15, *Overlap with Other HCPs*.

EBMUD 9: PG&E is open to a wide range of opportunities to satisfy its mitigation requirements. It will track the location of impacts and where mitigation is provided. The commenter also stated that take should be mitigated within the same watershed and suggested EBMUD's Oursan Ridge Conservation Bank as an appropriate conservation bank to acquire credits. However, the commenter did not provide any information to support why they believe mitigation should occur within the same watershed. The Service does not believe species mitigation needs to be implemented within the same watershed where impacts are occurring with respect to California red-legged frog or Alameda whipsnake. However, the Service will assure that mitigation addresses the species and habitats affected. EBMUD may require mitigation measures beyond those in the HCP for impacts of covered activities on its lands.

EBMUD 10: PG&E is required to maintain its facilities and may need to remove scrub habitat. The HCP evaluates these effects and provides appropriate mitigation. With respect to the EBMUD low-effect HCP's requirements, the commenter is correct that within the watersheds within EBMUD lands the objective for Alameda whipsnake in the EBMUD low-effect HCP is to maintain no more than a 1% loss of whipsnake habitat (coastal scrub and chaparral). The PG&E O&M HCP does include both temporary and permanent loss of whipsnake habitat, however this is spread out over the entire range of whipsnake within the permit area. All permanent loss of whipsnake habitat resulting from the O&M HCP is not expected to occur within the same watershed and the Service does not expect this to result in a conflict with the EBMUD low-effect HCP. The Service and PG&E will work with EBMUD to ensure there is not a conflict.

EBMUD 11: Please see responses to EBMUD 1 and 4.

EBMUD 12: Hot Zones were primarily created to address narrowly distributed species and small-unique populations. PG&E is aware of the extensive suitable habitat on EBMUD lands and is required to contact EBMUD before doing work in accordance with FP-05. The Service does not propose to extend the Hot Zones to EBMUD lands.

EBMUD 13: Please see response to EBMUD 8. Based on annual reports and potential impacts, the Service will request that PG&E include better resolution data when evaluating effects on EBMUD lands. Some data differences are due to the resolution of the land-cover data used.

EBMUD 14: The acreage does include potential disturbances on EBMUD lands.

EBMUD 15: PG&E will restore riparian areas with compatible vegetation subject to landowner permission. If covered species (e.g., California red-legged frog) habitat is affected, then the impact will be mitigated. Additionally it should be noted, that the Service cannot require mitigation for resources not subject to the Service's jurisdiction and steelhead are not covered by the O&M HCP; any take of species under the jurisdiction of NMFS would be address on a case by case basis through a consultation with NMFS.

EBMUD 16: Table 4-5 indicates some vegetation management activities may affect California red-legged frog habitat. These activities may affect covered species, but the HCP was developed to ensure implementation of avoidance and minimization measures and mitigation. It should also be noted that Table 4-5 referenced in the commenter's letter identified potential effects related to species habitat. It does not specify direct mortality or injury of a covered species. Driving on roads is

unlikely to affect species habitat. Although driving may result in direct impacts on individuals, implementation of FP-02 and FP-03 would ensure driving impacts are avoided and minimized.

EBMUD 17: The comment is unclear, it does not explain what "...conditions frequently encountered..." do not align with the rationale in the O&M HCP. PG&E will follow the measures outlined in the HCP and will mitigate its effects when it removes scrub habitat.

EBMUD 18: The commenter states that "the table" does not include impacts from vehicles, vegetation removal, or road grading for Alameda whipsnake. The comment is unclear which table is being referenced. Table 4-5, which is noted in the commenter's previous comment, describes impacts on species habitat, not direct effects on individuals. Section 4.2.3.1, also mentioned in the comment, discusses all effects on Alameda whipsnake, including potential effects on individual snakes. Table 4-5 does not need to be revised; it is intended to indicate which activities are most likely to result in effects on habitat. During implementation of the HCP, PG&E will implement the totality of the conservation plan to avoid, minimize, and mitigate its effects on these species.

EBMUD 19: Please see responses to EBMUD 4 and 8.

EBMUD 20: Each HCP for which the Service issues a section 10(a)(1)(B) permit has been subject to its own analysis based on the particulars of that HCP's covered activities, effects, and project-specific constraints. The Service's decision to issue a permit for one HCP does not require the Service to make the same decision for any other project, especially those with different covered activities, effects, and project-specific constraints. Such a limitation would be arbitrary and may prevent the Service from acting in the best interest of a given listed species, or securing the best conservation options available in a given situation. The Service understands that sometimes specific conservation measures may be used so frequently for activities that may affect federally listed species (either section 7 or 10) that they may be viewed by some as a standard. However, the Service is required to evaluate each project on its own merits and some "standard" conservation measures may be required to be altered, or entirely different conservation measures used to avoid and minimize adverse effects on listed species. Thus, different HCPs can, and often do, have different requirements. Please also see Master Response 15, *Overlap with Other HCPs*. PG&E avoids impacts on nesting birds by implementing limited operating periods and prescribing buffers when working around or near active bird nests.

EBMUD 21: Please see response to EBMUD 9.

San Francisco Water Power Sewer

SFWPS 1: PG&E is aware of the requirements to notify and seek approvals for work on SFPUC lands, including restoration. PG&E will continue to work with SFPUC according to the terms of existing land rights for PG&E's existing facilities.

SFWPS 2: Comment noted. PG&E will collaborate with fee title land holders and Service to secure mitigation lands.

Santa Clara Valley Habitat Agency

SCVHA 1: Comment noted.

SCVHA 2: Comment noted. The Service appreciates the opportunity to partner with the Santa Clara Valley Habitat Agency to implement conservation objectives across multiple HCPs.

SCVHA 3: Comment noted. The Service agrees with the commenter that both HCPs working together will likely result in substantial additional benefits to both HCPs and species beyond that required by either HCP individually.

Solano County Water Agency

SCWA 1: Comment noted.

SCWA 2: Comment noted. The Service appreciates the opportunity to partner with the Solano County Water Agency to meet conservation objectives across different HCPs. The Service agrees that implementation of both plans in a collaborative manner will complement each HCP.

California Council of Environmental and Economic Balance (CCEEB)

CCEEB 1: Comment noted

CCEEB 2: Comment noted

Center for Biological Diversity (CBD)

CBD 1: The Service is satisfied the HCP is appropriately detailed. The Service has been working with PG&E on this HCP for several years and the HCP represents a framework to address take arising from certain O&M activities.

CBD 2: Please see Master Response 4, *Covered Species*, and Master Response 7, *Avian Impacts*.

CBD 3: The Service disagrees that direct, indirect, and cumulative effects have not been adequately identified or analyzed. The Draft EA addresses these impacts beginning on page 3.3-24. Please also see Master Response 2, *Request to Prepare an EIS*, Master Response 6, *Impact Analysis*, and Master Response 10, *Cumulative Impacts*.

CBD 4: The Center for Biological Diversity expressed concern that the Service was choosing to extend the public comment period for the HCP, but not the EA. The commenters stated that the public comment period should be extended for the EA as well as the HCP because shortcomings in the HCP are expected to be reflected in the EA. Although it is correct that a substantial change in the HCP may necessitate a change in the EA, the Service has concluded that no substantial changes to the EA are needed. The commenter has not identified previously undisclosed significant impacts. Despite these facts, the Service notes that, although we chose to extend the comment period for the HCP in an effort to maximize public involvement in the HCP's development, we are not legally compelled to extend the public comment period on either document.

CBD 5: The Service has considered all comments submitted on the EA. See the responses to specific comments submitted by Committee to Complete the Refuge (CCCR) #1 and CCCR #2 (prepared by Shute Mihaly and Weinberger LLP).

CBD 6: Please see Master Response 2, *Request to Prepare an EIS*, Master Response 4, *Covered Species*, Master Response 11, *Avoidance Measures*, and Master Response 21, *Covered Activities*. With regard to the commenter's statement that a habitat conservation plan must first avoid, then minimize, and fully mitigate impacts, the commenter appears to be confusing the requirements of CEQA and the California Endangered Species Act with NEPA and the federal Endangered Species Act. The federal Act requires a conservation plan first minimize and then mitigate to the maximum extent practicable the impact of the taking. The Act does not require avoidance first and does not require an applicant to "fully mitigate," which is a state requirement for state-listed endangered species. However, a key component of this O&M HCP is avoidance, and the HCP is designed to avoid effects on federally listed species first and then mitigate the any remaining impacts of the taking

CBD 7: Please see Master Response 2, *Request to Prepare an EIS*.

CBD 8: Please see Master Response 4, *Covered Species*, and Master Response 21, *Covered Activities*. The Service recognizes that there are important and unique localized habitats for covered species that must be protected and that there are areas with high densities of covered species that must be protected. However, implementation of the framework outlined in the HCP will avoid, minimize, and mitigate potential effects. The acreage of affected habitat is an appropriate surrogate for take and there will be individual take limits within the permit to ensure that the effects do not exceed those analyzed. The commenter also asserted that the HCP must include information relating to the sex, age, and number of individuals of the species to be taken. However, the Service is not required to analyze the take with this level of specificity if the information cannot be reasonably obtained. The Service has long utilized amount of habitat as a surrogate for number of individuals to be taken. Both the Service's section 7 Handbook and the Service's revised section 10 Handbook (issued December 23, 2016) discusses the use of habitat as a surrogate several times. The revised section 10 Handbook (p. 8-3) states that the "justification for use of a surrogate can be in the intra-Service consultation, the HCP, or we can reference recovery planning documents, such as a recovery plan or species status assessment." In preparing its biological opinion, the Service will quantify the amount of take of covered species pursuant to the Act, regulation, policies, and guidance.

CBD 9: Please see Master Response 6, *Impact Analysis*, Master Response 13, *Minor New Construction*, Master Response 19, *Issuance Criteria*, and Master Response 21, *Covered Activities*. Chapter 4 of the HCP goes into detailed descriptions of the range of O&M activities and minor new construction that could be implemented in the Plan Area, and provides an estimate of how often these activities are likely to occur. O&M activities could be required anywhere in the Plan Area, which is defined by the location of PG&E's existing gas and electric infrastructure plus a buffer (see O&M HCP Section 1.5.1). Therefore, the HCP addresses the potential for covered O&M activities to be implemented in any given location in the Plan Area.

CBD 10: Please see response to CBD 8. It is often not practical to measure take in terms of numbers of individuals of the species. The HCP Handbook recognizes this, stating "it is not always practical to survey and count affected wildlife populations directly. More often we use a surrogate measure, such as acres of habitat or a measurable ecological condition that we define and use to express incidental take authorized by a permit." (U.S. Fish and Wildlife Service and National Marine Fisheries Service. 2016. *Habitat Conservation Planning and Incidental Take Permit Processing Handbook*. Washington, D.C. P. 8-3). The Service will follow the HCP Handbook and the newly revised incidental take regulations in determining the appropriate use of surrogates, including habitat, for measuring and tracking incidental take. (See 80 Fed. Reg. 26832 (May 11, 2015) – Interagency Cooperation – Endangered Species Act of 1973, as Amended; Incidental Take Statements. Final rule).

CBD 11: Please see responses to CBD 8 and 10.

CBD 12: The HCP address federally listed animal species that are reasonably certain to be taken as a result of the covered activities under the Service's jurisdiction. As noted in Section 3.3.1.2 of the Draft EA, there is a potential that a specific O&M project could effect a federally listed fish species under the jurisdiction of the NMFS because they do occur within the Plan Area. However, the need for PG&E to consult with NMFS is rare, and the Service stated in the Draft EA that addressing these species on a landscape scale would be speculative. As a result, any individual project that potentially effects a species under NMFS's jurisdiction would be addressed as it is now, on a case by case basis either through section 7 or 10 of the Act. As the revised HCP Handbook notes: "if a landowner or project proponent's activities will potentially impact an ESA-listed species, they should be advised to conduct the activities in a manner that avoids take, seek an incidental take permit for take anticipated from their activities, or obtain take authorization through a different ESA mechanism (e.g., section 7 consultation if there is an appropriate federal nexus). Note that if incidental take of ESA-listed species is not anticipated from a landowner or project proponent's activities, an incidental take permit is not needed or appropriate." (U.S. Fish and Wildlife Service and National Marine Fisheries Service. 2016. *Habitat Conservation Planning and Incidental Take Permit Processing*

Handbook. Washington, D.C. Page 3-2). As the commenter notes, the revised HCP Handbook states that take of ESA-listed species can be addressed if it is “covered by another ESA mechanism” (Handbook p. 7-3). If an activity would result in take of an ESA-listed, non-covered species, PG&E will need to seek separate take authorization for those activities. Please also see the response to CBD 8.

CBD 13: Please see the response to CBD 12. Please also see Master Response 4, *Covered Species*. The Service will determine whether PG&E has minimized and mitigated to the maximum extent practicable in our Findings and Recommendations prior to making a permit decision. The HCP Handbook does not alter the statutory requirement for HCPs to minimize and mitigate to the maximum extent practicable. The Service does not agree with the Center’s characterization of the “no net loss” standard, but the issue is not relevant to the HCP under consideration.

CBD 14: Please see Master Response 13, *Minor New Construction*, Master Response 14, *Growth-Inducing Effects*, and Master Response 21, *Covered Activities*. Also it should be noted that the HCP does not cover “unlimited” numbers of covered activities, as the commenter asserts. HCP Table 4-1 identifies both the likely annual frequency and size of disturbance of each covered activity. Although it is correct to say that estimated frequency is not a cap on the number of activities, PG&E will be subject to the take limits (i.e., cap) identified in the HCP.

CBD 15: The presence of PG&E’s existing gas and electric facilities and associated access roads and boardwalks in the Plan Area is part of the existing setting. Any impacts from their presence on the landscape are permanent impacts that resulted from their historic construction and are part of the baseline condition. The covered species impact analysis in Chapter 4 of the HCP addresses ongoing activities required to actively and safely operate and maintain these existing facilities. The commenter also states that FP-8 and FP-10 “do little to prevent expansion of these threats,” with “these threats” being those from poles and lines that provide perches for predators. This Service disagrees with this statement, because FP-8 is meant to reduce trash at a work site (including food that could attract predators like raccoons and feral cats) and FP-10 is meant to reduce the amount of time work crews are present at a particular site, which is also expected to reduce the likelihood of attracting predators to the area as a result of the activity.

CBD 16: The HCP includes those covered activities needed to maintain existing infrastructure, including boardwalk repair and replacement and tower repair and replacement. Unauthorized use of the boardwalks is trespassing (and thus illegal) and PG&E installs gates and signage to minimize trespassing. PG&E limits its operating period and avoids working during the clapper rail nesting season to minimize impacts on Ridgway’s rail. It has also created a marsh hot zone to ensure all work in marsh habitat is reviewed prior to beginning work.

CBD 17: Please see Master Response 4, *Covered Species*.

CBD 18: PG&E will seek coverage for fish when needed. It should be noted that listed fish were not included in the O&M HCP because direct impacts on fish habitat would require a permit under Section 404 of the Clean Water Act or Section 10 of the Rivers and Harbors Act, which would trigger consultation with the Service or NMFS under section 7 of the ESA. Additionally, NMFS indicated impacts on fish would be addressed in project-specific consultations under section 7 of the Act should take authorization of fish be needed. Please see Master Response 4, *Covered Species*, and the response to CBD 12.

CBD 19: Please see the response to CBD 18.

CBD 20: Please see Master Response 4, *Covered Species*, and Master Response 7, *Avian Impacts*.

CBD 21: Please see Master Response 4, *Covered Species*, and Master Response 7, *Avian Impacts*. Covered activities under the HCP will be evaluated through an environmental screening process that includes the avoidance and minimization of impacts. The HCP further contains extensive measures

to minimize and mitigate incidental take. Consequently, the HCP does follow the three-step sequence of avoid, minimize, and mitigate.

CBD 22: Please see Master Response 4, *Covered Species*, and Master Response 7, *Avian Impacts*.

CBD 23: Please see Master Response 4, *Covered Species*, and Master Response 7, *Avian Impacts*.

CBD 24: Please see Master Response 4, *Covered Species*, and Master Response 7, *Avian Impacts*.

CBD 25: Please see Master Response 11, *Avoidance Measures*, and Master Response 16, *PG&E's Other Plans and Processes*.

CBD 26: Please see Master Response 5, *Modeled Habitat*, Master Response 12, *Mitigation*, Master Response 13, *Minor New Construction*, and Master Response 21, *Covered Activities*.

CBD 27: Please see Master Response 13, *Minor New Construction*.

CBD 28: Please see Master Response 16, *PG&E's Other Plans and Processes*. All AMMs, and BMPs relevant to the analysis and the Service's permitting decision have been included in the Draft HCP and EA.

CBD 29: Please see Master Response 9, *Invasive Species*.

CBD 30: The Service has coordinated with other federal agencies both during and before the public review process (including the National Park Service, the Environmental Protection Agency, the Service's National Wildlife Refuges, and the Service's Bay Delta Fish and Wildlife Office). The Service is considering and responding to all comments on the HCP and EA.

CBD 31: PG&E is obligated to comply with all applicable environmental laws. Future permits under the Clean Water Act would be coordinated as they are now directly between PG&E and the U.S. Army Corps of Engineers and or the Regional Water Quality Control Board, as appropriate. The decision by the Service to issue a permit or not does not change the statutory or regulatory requirements of Sections 404 or 401 of the Clean Water Act, nor any applicable state law.

CBD 32: Please see Master Response 7, *Avian Impacts*. Internal coordination with the migratory bird program occurred during the development of the HCP. PG&E has submitted an Eagle Conservation Plan to the Service in support of an application for a take permit under the BGEPA. Consistent with Service guidance, an HCP applicant can choose whether to cover golden eagles under the BGEPA or to cover the species under an HCP that includes ESA-listed species. As such, the golden eagle is not required to be included in the HCP. There is no requirement to cover non-listed avian species in the HCP, and the measures PG&E implements to ensure compliance with the Migratory Bird Treaty Act similarly are not required to be included in the HCP.

CBD 33: The commenter's statement that implies the Service is required to consult with the state regarding land acquisition for mitigation under section 7 or 10 of the Act is incorrect. The coordination provision is generally accepted to refer to land acquisition by the federal government (such as National Wildlife Refuges). Also the commenter's statement that "neither document demonstrates that USFWS or PG&E solicited the advice or guidance of CDFW" is also incorrect. As noted throughout the HCP (in Sections 1.1, 1.5.1, 2.3.1, 2.3.4, 4.1.3.1, and 5.4.2) both the Service and PG&E coordinated with CDFW on development of the HCP. During development of the HCP, there was extensive coordination with CDFW, and staff from CDFW participated in numerous meetings and reviewed draft HCP chapters as well as developing the habitat models. Although California Fish and Game Code Section 2080.1 allows for CDFW to issue consistency determinations on the Service's issuance of a section 10(a)(1)(B) permit, at this time CDFW typically does not issue consistency determinations and for this, among other reasons, PG&E decided to pursue separate federal and state permitting processes and in April 2015 submitted an application to CDFW for an O&M Section 2081(b) incidental take permit under CESA.

CBD 34: The commenter stated that the Service is required to obtain a consistency determination from the California Coastal Commission for issuance of the section 10 permit for the HCP. A consistency determination under the Coastal Zone Management Act is not needed for this permit. 16 United States Code Section 1456(c)(1); 15 Code of Federal Regulations Part 930.30. Please see Master Response 18, *Coordination with Other Agencies*. The Center stated that the HCP is flawed because the Service has not assured compliance with local and state laws and regulations. The Service's permit authorizes incidental take of federally listed animal species in association with PG&E's activities, but it does not authorize PG&E's activities. PG&E is responsible for ensuring that its O&M activities comply with all applicable legal requirements. The HCP Handbook states that the applicant is responsible for complying with other applicable local, state, and federal laws and the Services may accept an applicant's assertions of lawfulness:

For most activities we consider in HCP review, the Services can readily accept an applicant's certification regarding the lawfulness of their activities. Typical construction, timber management, mineral extraction, or other land management activities usually do not raise questions of lawfulness. For such routine activities, we must stay mindful that we do not enforce State and local laws authorizing the activity. This means that we do not generally evaluate an applicant's compliance with local requirements. . . .

U.S. Fish and Wildlife Service and National Marine Fisheries Service. 2016. *Habitat Conservation Planning and Incidental Take Permit Processing Handbook*. Washington, D.C. Page 3-18.

The HCP Handbook guidance regarding applicant compliance with other laws is consistent with the courts' interpretation of the ESA. (See, e.g. *Ctr. for Biological Diversity v. United States Fish & Wildlife Serv.*, 450 F.3d 930 (9th Cir. 2006) ("the Service is not required to ensure [applicant] compliance with federal and state law before issuing an ITS" [incidental take statement])).

CBD 35: Please see the response to CBD 13.

CBD 36: The Service disagrees with the commenter that there is not adequate enforcement associated with this permit. If the Service determines issuance of a permit is appropriate, the permit will include clear language regarding the Service's expectations of PG&E. Please see Master Response 13, *Minor New Construction*, and Master Response 21, *Covered Activities*. The HCP does not give PG&E discretion in determining which AMMs to apply to covered activities to minimize impacts. Rather, it clearly requires implementation of all Field Protocols when working in the Plan Area, as well additional measures that will be prescribed for work in specific locations (e.g., hot zones, Map Book zones, and near wetlands and vernal pools). The hot zone and Map Book zone AMMs provide sufficient oversight by a qualified biologist without the need for additional presence by Service staff in the field during covered activities. If the Service issues a permit, the Service will continue to work with PG&E over the life of the permit.

CBD 37: Please see Master Response 1, *Comment Period*, and Master Response 2, *Request to Prepare an EIS*.

CBD 38: Please see Master Response 1, *Comment Period*.

CBD 39: Please see Master Response 1, *Comment Period*. The Center for Biological Diversity stated that the 30-day public comment period is not in keeping with the recommendations of the 2016 Handbook, and noted that our Handbook states that for regional HCPs, the comment period is a minimum of 60 days. Although the Service acknowledges that the study area appears to be large, the impacts are expected to be small in individual size, diffused throughout the study area, and result almost entirely from O&M of existing facilities on disturbed areas. Additionally, covered activities will impact a small fraction of the total study area. Nonetheless, in response to early public comments, the Service extended the comment period on the HCP by 60 days, 30 days longer than our Handbook requires. This amounts to a total comment period of 90 days, which we consider to be sufficient.

CBD 40: Please see Master Response 1, *Comment Period*, and Master Response 2, *Request to Prepare EIS*.

CBD 41: When a Notice of Intent (NOI) for a joint Environmental Impact Report/EIS was published in the Federal Register in 2006 to kick-off the development of the Bay Area O&M HCP, the Service expected that the scope of the HCP would warrant preparation of an EIS. However, after receiving no comments from the public at that time, and after further consideration of the covered species and the maintenance activities that are proposed for coverage, the Service determined an EA was the more appropriate NEPA process to follow. The Service specifically noted this in the Notice of Availability for the Draft EA and Draft HCP on March 24, 2017, and the Service withdrew our intent to prepare an EIS. An NOI is not required for an EA.

CBD 42: Please see Master Response 2, *Request to Prepare an EIS*.

CBD 43: Please see Master Response 13, *Minor New Construction*, and Master Response 21, *Covered Activities*.

CBD 44: Please see Master Response 2, *Request to Prepare an EIS*.

CBD 45: Please see Master Response 10, *Cumulative Impacts*.

CBD 46: The Service evaluated impacts on covered species as a result of the proposed action on pages 3.3-24 to 3.3-33 of the EA. The cumulative impact analysis begins on page 4-7 of the EA. Please also see Master Response 6, *Impact Analysis*.

The commenter's statement that "the HCP will authorize large numbers of projects over a 30-year period" is incorrect. A conservation plan is required when an applicant applies for an incidental taker permit under section 10(a)(1)(B) of the Act. Neither the HCP nor an incidental take permit authorize an activity. The HCP essentially provides a blueprint for how an applicant will mitigate impacts on covered species, and an incidental take permit only authorizes take of federally listed animals resulting from one or more covered activities, not the underlying activities.

CBD 47: See Master Response 14, *Growth-Inducing Effects*.

CBD 48: The baseline established in the EA accurately reflects the limit of the Service's authority over the covered activities, and it is appropriate to assume that PG&E's O&M activities would continue to occur under the No Action Alternative. The baseline conditions are summarized in the Environmental Setting sections for all resources in Chapter 3 of the EA, and for biological resources beginning on page 3.3-7. Overall, the EA used baseline information based on land-cover types and species occurrence data. Species baseline information is also provided in the HCP in the life history and distribution information in HCP Chapter 4, *Covered Species Impact Analysis*, and in HCP Appendix B, *Species Accounts*.

CBD 49: The EA does not imply that some covered activities would not occur. The EA specifically assumes that O&M activities would continue with or without the HCP because PG&E is required by state law to maintain its facilities for public safety. Additionally PG&E has an obligation to serve, meaning PG&E must serve anyone who requests service within PG&E's service territory. While project-by-project permitting is "challenging and difficult" PG&E has operated under this framework for years.

CBD 50: As describe in response to CBD 49, PG&E can reasonably be expected to continue to conduct its maintenance work with or without the HCP. Therefore, under the No Action Alternative, these activities are assumed to also occur.

CBD 51: The Center stated that the baseline information on covered species was insufficient and that the Service should require protocol level surveys for all covered species to improve upon the baseline information. The best available information for this HCP is the habitat suitability models, which provide a sufficient basis for evaluating potential impacts on species and are employed for

this purpose by most regional HCPs (e.g., *Santa Clara Valley Habitat Plan* and *East Contra Costa HCP/NCCP*). (See Master Response 5, *Modeled Habitat*). These models not only include occurrence data from the California Natural Diversity Database, but also the Service's own information supplied in Recovery Plans, 5-year status reviews, and listing rules. There is no requirement for protocol level surveys to establish species baseline prior to HCP submittal. In addition, such surveys would not be reasonable over a large Plan Area and would become outdated within a few years. Also, the Service does not have survey protocols for all federally listed species.

CBD 52: Please see Master Response 17, *Climate Change*.

CBD 53: Please see Master Response 18, *Coordination with Other Agencies*.

CBD 54: Please see Master Response 18, *Coordination with Other Agencies*.

CBD 55: Please see Master Response 18, *Coordination with Other Agencies*.

CBD 56: Please see Master Response 18, *Coordination with Other Agencies*.

CBD 57: Issuance of the section 10 permit by the Service does not authorize the underlying activities and will not lead to impacts on water quality. However, the Service did evaluate impacts on hydrology and water quality in Section 3.7 of the EA. The analysis concludes on page 3.7-17 of the Draft EA with the following: "Compliance with applicable federal and State laws, the Environmental Programs described above, and the following AMMs will ensure minimal impacts on surface waters in the Plan Area: FP-11, BMP-10, BMP-23, BMP-26, BMP-30, BMP-61." PG&E will continue to comply with other federal and state laws when projects trigger those requirements. Water quality effects on covered species are also evaluated in the EA and HCP.

CBD 58: Please see the response to CBD 57.

CBD 59: Please see the response to CBD 57. PG&E obtains Clean Water Act Section 404 permits when needed and obtains approximately 50 permits per year throughout its service territory, one-third of which is in the Bay Area.

CBD 60: The commenter indicated there should be more analysis of pipeline ruptures. Covered activities include the maintenance of pipelines to ensure they are in safe working order. Ruptures are considered an emergency situation and rupture repairs are not a covered activity. However, PG&E is obligated to address the hazard to maintain and ensure public safety. If habitat is disturbed as part of the pipeline repair (a covered activity), impacts would be mitigated according to the HCP. Potential effects related to pipeline rupture are the same under the HCP and the No Action Alternative and, therefore, the evaluation in the EA is sufficient.

CBD 61: Please see Master Response 16, *PG&E's Other Plans and Processes*.

California Native Plant Society (CNPS)

CNPS 1: The Service believes the EA and HCP are appropriate and adequately analyze impacts.

CNPS 2: Comment noted. The Service has considered all comments submitted on the EA. See the responses to the Committee for Green Foothills letters.

CNPS 3: After reviewing known species locations as part of the Map Book screening process, PG&E determined it could avoid impacting San Mateo thornmint. Five wood poles are located approximately 180 feet from suitable habitat and PG&E has marked its facilities to avoid future impacts. The Service will evaluate potential effects on San Mateo thornmint in its intra-Service biological opinion.

CNPS 4: At one point PG&E considered covering Tiburon Indian paintbrush. However, after reviewing known species locations as part of the Map Book screening process, PG&E determined,

after site reviews, that this plant is not present near its facilities. The Service will evaluate potential effects on San Mateo thornmint in its intra-Service biological opinion.

CNPS 5: Please see Master Response 4, *Covered Species*, and responses to CNPS 3 and 4.

California Native Plant Society #2

CNPS #2 – 1: Please see Master Response 1, *Comment Period*.

CNPS #2 – 2: PG&E's HCP has not been developed to satisfy both CESA and ESA obligations and the Service, a federal entity, has no authority to administer or enforce CESA. Please also see the response to CBD 33.

CNPS #2 – 3: Each HCP the Service approves has been subject to its own analysis based on the particulars of that HCP's covered activities, effects, and project-specific constraints. The decision to include a number of species in one HCP does not compel the Service to make the same decision for any other project, especially those with different covered activities, effects, and project-specific constraints. Please see Master Response 1, *Covered Species*, and Master Response 8, *Plant Impacts and Mitigation*.

CNPS #2 – 4: The comment incorrectly defines permanent impacts. Permanent impacts do not mean "absence of species." The Service evaluated direct and indirect impacts associated with PG&E's maintenance activities.

CNPS #2 – 5: Comment noted; however, at this time the Service does not intend to conduct additional public meetings on the HCP.

Citizen's Committee to Complete the Refuge (CCCR)

CCCR 1: Comment noted. The Service has considered all comments submitted on the EA. See the responses to the Committee for Green Foothills letters and the Center for Biological Diversity comment letter.

CCCR 2: The scope of the HCP changed, the scope of the impacts changed, and Service's section 10 guidance changed, all resulting in an analysis that supports the preparation of an EA. An NOI is not required for an EA.

CCCR 3: The Service publicly noticed the HCP. The Service also maintained a list of organizations to be notified but inadvertently did not notice CCCR; therefore, the Service decided to extend the comment period on the HCP. Please also see Master Response 1, *Comment Period*.

CCCR 4: See response to CCCR 3.

CCCR 5: The Service believes there is sufficient information to justify an EIS. The Service is evaluating the effects of issuing a permit for covered species. Please see Master Response 1, *Covered Species*, and Master Response 7, *Avian Impacts*.

CCCR 6: Please see Master Response 2, *Request to Prepare an EIS*.

CCCR 7: Please see Master Response 2, *Request to Prepare an EIS*, and Master Response 4, *Covered Species*.

CCCR 8: Please see Master Response 4, *Covered Species*, Master Response 7, *Avian Impacts*, and Master Response 16, *PG&E's Other Plans and Processes*.

CCCR 9: Please see Master Response 16, *PG&E's Other Plans and Processes*.

CCCR 10: Please see Master Response 4, *Covered Species*, Master Response 7, *Avian Impacts*, and Master Response 13, *Minor New Construction*.

CCCR 11: The Service disagrees that the measures in O&M HCP Table 5-1 and Table 5-2 are inadequate to protect covered species. These measures will protect covered species by ensuring crews are trained, access and worksite management is appropriate, erosion is limited, wetlands and other natural resources are protected, and that resources in Hot Zones are protected. These measures will also benefit other species by minimizing habitat disturbance, although they are not specifically intended to protect non-covered species. For example, limiting off-road travel, observing limiting operating periods, designating appropriate laydown areas will also benefit non-covered species.

A qualified biologist will review the work and will monitor the work within Hot Zones and Map Book zones, if necessary, based on the site conditions and work needed. Biologists have the ability to halt work. These zones were created to raise the awareness of staff and crews and to avoid potential impacts on covered species. The Service agrees that various PG&E staff have different qualifications and crews are identified as responsible staff because they will need to implement the measures described in the HCP. Crews will have attended an environmental training and will be aware of setback distances from wetlands (i.e., pond, streams, vernal pools, and other water features). When needed, biologists are involved and can provide guidance on how to identify and avoid sensitive resources. Land planners are also involved in high-level screening and permit assessment and development.

CCCR 12: Please see Master Response 4, *Covered Species*, Master Response 7, *Avian Impacts*, and Master Response 16, *Need to Provide PG&E's Other Plans and Processes*.

CCCR 13: Through routine patrols, inspections, and information from the public PG&E learns about areas of possible risk to birds. PG&E is making many efforts to proactively and reactively maintain and upgrade its lines to minimize impacts on birds. PG&E considers engineering solutions and appropriate retrofits when it finds that there are consistent and ongoing avian problems. Comment noted.

CCCR 14: This comment does not specifically address any deficiencies in the HCP or EA. See Master Response 4, *Covered Species*.

CCCR15: Please see Master Response 11, *Avoidance Measures*.

CCCR16: PG&E is not proposing to add a measure to limit the use of herbicide coverage near vernal pools because the Service will not provide and PG&E is not seeking take authorization for applying herbicide. Further, PG&E states that it is highly unlikely PG&E would need to apply herbicides in a vernal pool landscape.

CCCR 17: The Service concurs and PG&E has modified BMP 12 to specify restoration will be implemented in grassland and will not be performed in serpentine habitat and soils.

CCCR 18: The Service understands the challenges with relocation and restoration, and the limited success that has occurred for some federally listed plant species. However, if the work must proceed and plants will be "taken", PG&E has proposed an approach to mitigation that will address the potential impacts and requires monitoring to ensure proposed success criteria are met.

CCCR 19: Please see Master Response 23, *Measure to Control the Spread of Phytophthora*.

CCCR 20: Please see Master Response 8, *Plant Impacts and Mitigation*. It is acceptable that there are differences in the numbers of occurrences and number of individuals presented in different plans; this may be a function of the plans being prepared at different times and of additional surveys that have been conducted for the species. This discrepancy should not affect the conservation strategy of each plan, because each plan will have its own specific biological goals and objectives. Assuming an equal density of plants across a potential area was a way to conservatively assume that a larger number of individuals could be affected. Additionally the O&M HCP was developed in a way to be complementary with other surrounding or overlapping HCPs.

CCCR 21: The commenter is conflating changed circumstances associated with long-term species survival with changed circumstances associated with securing and managing mitigation lands in the Plan Area for species survival. The Service is obligated to analyze changed circumstances with respect to the implementation of the mitigation associated with the conservation strategy. It has adequately analyzed these potential changes, including vandalism, fire, floods, landslide and erosion, earthquakes, drought, climate change, invasive species, and diseases and pathogens that could occur on mitigation lands. No additional analysis is needed.

CCCR 22: Please see Master Response 2, *Request to Prepare an EIS*.

CCCR 23: Please see Master Response 2, *Request to Prepare an EIS*.

CCCR 24: Please see Master Response 7, *Avian Impacts*.

CCCR 25: Please see Master Response 7, *Avian Impacts*.

CCCR 26: Please see Master Response 2, *Request to Prepare an EIS*, Master Response 4, *Covered Species*, and Master Response 7, *Avian Impacts*. The Service will not provide and PG&E is not proposing to cover the use of herbicides.

CCCR 27: Please see Master Response 7, *Avian Impacts*. PG&E also has a Special Use Permit with the Service that allows PG&E to remove nests during emergencies.

CCCR 28: Please see Master Response 7, *Avian Impacts*.

CCCR 29: Please see Master Response 7, *Avian Impacts*.

CCCR 30: Please see Master Response 4, *Covered Species*.

CCCR 31: Please see Master Response 4, *Covered Species*.

CCCR 32: Please see Master Response 4, *Covered Species*.

CCCR 33: Please see Master Response 4, *Covered Species*.

CCCR 34: Please see Master Response 4, *Covered Species*.

CCCR 35: Please see Master Response 4, *Covered Species*.

CCCR 36: Please see Master Response 4, *Covered Species*.

CCCR 37: Please see Master Response 4, *Covered Species*.

CCCR 38: Please see Master Response 4, *Covered Species*.

CCCR 39: Please see Master Response 4, *Covered Species*.

CCCR 40: Please see Master Response 4, *Covered Species*.

CCCR 41: Please see Master Response 4, *Covered Species*.

CCCR 42: Please see Master Response 4, *Covered Species*.

CCCR 43: Please see Master Response 4, *Covered Species*.

CCCR 44: Please see Master Response 4, *Covered Species*.

CCCR 45: Please see Master Response 4, *Covered Species*.

CCCR 46: Please see Master Response 4, *Covered Species*.

CCCR 47: Please see Master Response 4, *Covered Species*.

CCCR 48: Please see Master Response 4, *Covered Species*.

CCCR 49: Please see Master Response 4, *Covered Species*.

CCCR 50: Please see Master Response 13, *Minor New Construction*. It appears that the commenter has misunderstood EA Table 1-3. Table 1-3 does not show the amount of expected impact associated with each type of covered activity; rather, Table 1-3 describes the potential portion of the Plan Area within which various facilities are located or could be expected to be built. In the case of minor new construction, the table states that minor new construction may occur anywhere within a 3,014-portion of the Plan Area containing various natural land-cover types, not that there will be 3,014 acres of loss or disturbance within natural land cover types. The Service does not anticipate, and PG&E has not proposed 3,014 acres of habitat loss or temporary disturbance associated with minor new construction.

CCCR 51: Application of herbicides, rodenticides, and fungicides is not a covered activity. The Service policy is not to authorize incidental take as a result of applying herbicides, insecticides, rodenticides, and fungicides that the Environmental Protection Agency has approved if EPA has not completed section 7 consultation with the Service.

CCCR 52: Please see Master Response 4, *Modeled Habitat*.

CCCR 53: Please see Master Response 5, *Modeled Habitat*. The models use CNDDDB as only one component of the data input. Protocol surveys are not reasonable to implement for all covered activities, and the Service does not have protocol surveys for all federally listed species.

CCCR 54: The Service is satisfied with the definition and that Hot Zones will serve the desired objectives of protecting covered species. In portions of the Plan Area that are outside of a Hot Zone but within modeled habitat, effects on covered species will be minimized primarily by means of Field Protocol implementation and habitat mitigation. Burrowing owls are not a covered species and Hot Zones are not specifically intended to address burrowing owls or any other non-covered species (although there will be ancillary benefits to non-covered species). PG&E will obtain take authorization separately for non-covered species, as appropriate from the proper state and/or federal agency. Comment noted.

CCCR 55: Habitat is used as a surrogate for take and local demographic populations are accounted for through the use of Hot Zones.

CCCR 56: Please see the response to CCCR 55.

CCCR 57: The Service is satisfied with the definition and that Map Book zones will serve their desired objectives of protecting covered plant species. Comment noted.

CCCR 58: The exceptions to the models are narrowly defined to include two primary items: urban lands and lands that are clearly not habitat. Please see HCP Section 5.4.1.1, *Exceptions to the Use of the Models*.

CCCR 59: The models are being used as a baseline indicator of habitat, not the presence of species. It would be impracticable to conduct surveys for all covered activities.

CCCR 60: Please see Master Response 5, *Modeled Habitat*. Dispersal distances were included in the HCP to indicate the potential for impacts on the species. Larger dispersal distances for CTS may occur, but the density of species at those distances will also be lower. The primary basis for the habitat model for this species is vegetative cover, not distance from potential or known breeding habitat, which in some cases will result in AMM implementation and mitigation for habitat outside of the known dispersal distance of the species. As such the models are adequate for minimizing take of both distinct population segments of the California tiger salamander, as well as all other covered species for which models have been developed. No changes to the impact analysis are proposed.

CCCR 61: Please see the response to CCCR 60.

CCCR 62: The Service recognizes that there are important and unique localized habitats that must be protected for covered species and there are areas with high densities of covered species that

must be protected. However, we believe implementation of the framework outlined in the HCP will avoid, minimize, and mitigate potential effects. It is impracticable to conduct protocol surveys in all work areas. Habitat is an appropriate surrogate for take and there will be individual take limits within the permit to ensure that the effects do not exceed those analyzed. For the purposes of NEPA, the baseline condition is that these activities are currently occurring. The Service will make its determination whether the HCP meets issuance criteria (including whether PG&E has minimized and mitigated to the maximum extent practicable) in our Findings and Recommendations.

CCCR 63: Please see Master Response 7, *Avian Impacts*.

CCCR 64: PG&E continues to work with the Service's Migratory Bird program to avoid and minimize its impacts and assess risks to existing facilities. PG&E addresses risk to migratory birds through proactive and reactive measures to prevent future and ongoing risk. Facilities existing on the landscape, electric current running through power lines, and gas running through pipelines are not covered activities. Avian collisions and electrocutions associated with these aspects of PG&E's business operations are not covered activities in this HCP. Please see Master Response 7, *Avian Impacts*.

CCCR 65: This is beyond the extent of the Service's action and covered activities. Power purchase agreements are reviewed by the California Public Utilities Commission and the permitting and construction of specific renewable projects undergo environmental review consistent with local, state, and federal regulations.

CCCR 66: Please see the response to CCCR 65. Please also see Master Response 13, *Minor New Construction*.

CCCR 67: Comment noted. The Service will remove references that are not supported by citations.

CCCR 68: For the purposes of NEPA, the baseline condition is that these activities are currently occurring. Please also see Master Response 10, *Cumulative Impacts*.

CCCR 69: Please see the response to CCCR 68.

CCCR 70: Please see Master Response 4, *Covered Species*, Master Response 10, *Cumulative Impacts*, and the response to CCCR 64.

CCCR 71: Please see Master Response 4, *Covered Species*, and Master Response 10, *Cumulative Impacts*. Mitigation funds will be prioritized for land acquisition based on the covered species habitat effects. Electric power pole retrofits are not included as mitigation proposed under the HCP; instead it is part of PG&E's other commitments and permit obligations.

CCCR 72: Please see the response to CCCR 71.

CCCR 73: Please see the response to CCCR 71.

CCCR 74: Please see the response to CCCR 71.

CCCR 75: Please see the response to CCCR 71. PG&E contributes to non-profit wildlife organizations to assist with incubation of eggs, and the rehabilitation and release of young or injured birds and wildlife.

CCCR 76: Please see the response to CCCR 17 regarding BMP 12.

CCCR 77: Please see the response to CCCR 9.

CCCR 78: Please see the response to CCCR 9.

CCCR 79: Please see the response to CCCR 20.

CCCR 80: Please see the response to CCCR 20.

CCCR 81: Please see the response to CCCR 9.

CCCR 82: Please see the response to CCCR 9.

CCCR 83: PG&E will develop Service-approved restoration plans should Coyote ceanothus or other plant species be affected by covered activities. No changes are proposed to this measure.

CCCR 84: Please see the response to CCCR 9.

CCCR 85: PG&E's proposal is to avoid impacts on plants. If impacts result from covered activities, PG&E will then develop a Service-approved restoration plan to ensure that impacts are mitigated. PG&E will also be acquiring habitat for covered wildlife species, and some of these mitigation lands may include covered plant species. Additional funding is not needed at this time.

CCCR 86: Please see the response to CCCR 9.

CCCR 87: Comment noted.

Citizens Committee to Complete the Refuge (CCCR) #2

CCCR #2 – 1: Maintaining the confidentiality of the confidential GIS data is crucial to protecting PG&E's existing and proposed facilities from potential vandalism or attack. Therefore, facility maps were not provided. PG&E worked closely with the Service to identify which species had the greatest potential to be affected by covered activities and were reasonably certain to be taken. The impact analysis is based on facility corridors and access to these corridors, so there is specific information regarding the location of impacts.

CCCR #2 – 2: Please see Master Response 4, *Covered Species*. Table A-1 in O&M HCP Appendix A, *Species Considered*, references the process, described in HCP Section 1.5.2, *Covered Species*, that was used to determine which species were covered; the "yes" and "no" portions of that table tell the reader which criteria discussed in Section 1.5.2 were met or not met.

CCCR #2 – 3: Please see Master Response 16, *PG&E's Other Plans and Processes*.

CCCR #2 – 4: Please see Master Response 4, *Covered Species*, and Master Response 13, *Minor New Construction*. PG&E is already doing much of this work and has a staff of planners, biologists, and other specialists who help permit, review, and plan the work.

CCCR #2 – 5: Please see Master Response 7, *Avian Impacts*.

CCCR #2 – 6: Please see Master Response 11, *Avoidance Measures*, and the response to CCCR 11.

CCCR #2 – 7: PG&E funds a cost recovery position with the Service to support all PG&E activities. This position will also provide oversight to HCP implementation. The Service is confident that the HCP provides a framework for cooperative evaluation of impacts. The Service is considering making PG&E's annual reports public.

CCCR #2 – 8: We are confident that there are adequate enforcement mechanisms within the HCP. The Service has the ability to suspend the permit if the conditions are not being adhered to.

CCCR #2 – 9: PG&E has developed training materials to implement the HCP and is prepared to train thousands of Bay Area staff. PG&E has an HCP team that will assume responsibility for implementing the O&M HCP. Please see Master Response 22, *Edgewood Park and Natural Preserve*.

Committee for Green Foothills #1 (CFG)

CGF 1: Please see Master Response 1, *Comment Period*.

CGF 2: The scope of the HCP changed, the scope of the impacts changed, and Service section 10 guidance changed, all resulting in an analysis that supports the preparation of an EA. An NOI is not

required for an EA. The Service did extend the public comment period for the Draft HCP for an additional 60 days (for a total of 90 days) and held two public workshops.

Committee for Green Foothills #2 (CGF) (prepared by Shute, Mihaly and Weinberger LLP)

CGF #2 – 1: Please see Master Response 1, *Comment Period*.

CGF #2 – 2: Please see Master Response 2, *Request to Prepare an EIS*, Master Response 4, *Covered Species*, and Master Response 11, *Avoidance Measures*.

CGF #2 – 3: Please see Master Response 19, *Issuance Criteria*.

CGF #2 – 4: Chapters 2 and 4 of the HCP provide information in sufficient detail to be able to analyze the effects of the project. For example, in Chapter 2, there is extensive information regarding land-cover and land cover types, including maps. This information was used to build the habitat models and quantify the extent of species habitat within the Plan Area. Table 2-3 includes the extent of habitat within the study area, the nine counties, and the Plan Area. Table 2-4 shows the habitat by facility type; Table 2-5 shows the regional location of modeled habitat by County. In Chapter 4, Table 4-2 shows the extent of modeled habitat within the facility corridors. The Service did not include more detailed maps because of the programmatic nature of the HCP. Further, because of the size of the Plan Area and PG&E's restrictions regarding public dissemination of facility data, additional maps were not included.

CGF #2 – 5: Please see Master Response 22, *Edgewood Park and Natural Preserve*.

CGF #2 – 6: Please see Master Response 4, *Covered Species*, and Master Response 6, *Impact Analysis*. HCP Appendix A includes a list of species that were considered for analysis.

CGF #2 – 7: Please see Master Response 5, *Modeled Habitat*, and Master Response 6, *Impact Analysis*. The Service will require that PG&E integrate the best available data to support future project-specific evaluations. However, the data used in the EA and HCP is adequate to provide sufficient analysis and evaluation of potential species effects, and to provide a cap for the take that will be authorized.

PG&E is not proposing to cover San Mateo thornmint as the plant is located in an area that is unlikely to be affected by maintenance activities. Five wood poles are located approximately 180 feet from suitable habitat and PG&E has marked its facilities to avoid future impacts. After reviewing known species locations as part of the Map Book screening process, PG&E determined it could avoid impacting this species. The Service will evaluate the effects of covered activities on this species (as well as other federally listed species) in its biological opinion. Please see Master Response 4, *Covered Species*.

CGF #2 – 8: The Service disagrees that the measures in Table 5-1 and Table 5-2 are inadequate to protect covered species. These measures will protect covered species by ensuring crews are trained, access and worksite management is appropriate, erosion is limited, wetlands and other natural resources are protected, and that resources in Hot Zones are protected. Further, to confirm that the estimates for small activities are accurately portrayed and have not changed over time, PG&E will conduct a validation study by reviewing 25 to 50 activities in implementation years 5, 10, 15, 20 and 25. This will help inform how PG&E implements its program in the future and if AMMs need to be modified. When rare plants are affected a Service-approved restoration plan will describe the timing of site-specific restoration efforts. Please see Master Response 11, *Avoidance Measures*.

CGF #2 – 9: Please see Master Response 7, *Avian Impacts*. The AMMs (including Field Protocols and BMPs) are designed to be implemented along with other avian avoidance measures PG&E uses to comply with with the Service's Migratory Bird Program.

CGF #2 – 10: BMPs are intended for vegetation management crews working on vegetation management activities. Ground disturbance is not anticipated, but this measure is adequate because

crews are trained and have experts on call when a resource is found. Please see Master Response 11, *Avoidance Measures*.

CFG #2 – 11: The Service is concerned about the spread of all pathogens and appropriate measures to combat its spread. The Service is working with PG&E to determine what is effective and implementable with respect to preventing the spread of plant pathogens such as phytophthora. Please see Master Response 23, *Measure to Control the Spread of Phytophthora*. Preliminary review indicates PG&E's activities are unlikely to jeopardize any of the covered plant species. Please also see Master Response 16, *PG&E's Other Plans and Processes*.

CFG #2 – 12: The Service recognizes the limitations of CNDDDB. BMPs are intended for vegetation management crews working on vegetation management activities. This measure helps ensure crews are trained and know that potential resources may be nearby; often a biologist also assists vegetation management crews to let them know of potential nearby resources. The BMPs are intended to minimize the effects of covered activities by adding a layer of avoidance of covered species. The BMPs are not intended to provide complete avoidance of covered species. Mitigation in the form of land acquisition or habitat restoration is the primary means of minimizing the effects of covered activities because the Service views habitat loss as the primary threat to the survival of all covered species. Avoidance measures such as the BMPs are expected to further minimize the effects of covered activities on covered species. The BMP is adequate.

CFG #2 – 13: Please see Master Response 9, *Invasive Species*.

CFG #2 – 14: PG&E's HCP includes an analysis of the effects of repairing and replacing boardwalks. PG&E installs new gates as needed, and based on priority, to restrict access to the boardwalks. The Service and PG&E are evaluating ways of altering boardwalks to further reduce their effects on marsh species as potential mitigation for marsh-dwelling covered species, such as installing gates to prevent trespass on boardwalks. If existing boardwalks are replaced with boardwalks that have a larger footprint than the existing condition, the acreage difference between the existing and new boardwalk will be considered a permanent habitat loss. PG&E will be required to mitigate that loss according to the means established in the HCP. Regarding bird effects, please see Master Response 4, *Covered Species*, and Master Response 7, *Avian Impacts*.

CFG #2 – 15: HCP Section 6.3, *Monitoring*, outlines the monitoring that is required and includes compliance, effects, and effectiveness monitoring. The Service will determine if the HCP (including all applicable BMPs, AMMs, and mitigation measures) will meet issuance criteria in our Findings and Recommendations.

CFG #2 – 16: The Service will monitor PG&E progress through annual reporting and 5-year validation studies. PG&E's HCP Administrator will also monitor the outcomes of the Service-approved restoration plans. If restoration fails, and project activities result in permanent impacts, PG&E will mitigate for the permanent impact. If listed plants are in serpentine areas, PG&E will need to prepare a Service-approved restoration plan.

CFG #2 – 17: Please see Master Response 16, *PG&E's Other Plans and Processes*.

CFG #2 – 18: Although not a requirement of the HCP, PG&E currently funds the equivalent of two full-time positions at the Service through cost recovery agreements. This funding has allowed Service staff to focus on implementation of PG&E's San Joaquin Valley O&M HCP, and will likewise allow Service staff to adequately implement the Bay Area O&M HCP, including review of annual reports, enforcement of AMMs, and conferring to approve mitigation or otherwise manage the HCP. In addition to quarterly meetings between PG&E and the Sacramento Fish and Wildlife Office, on average the Service has also communicated with PG&E staff on at least a monthly basis. Since Congress appropriates agency budgets annually, any anticipated reduction in the Service's budget over the proposed 30-year permit term is speculative. The Service believes it is adequately funded to implement its mission and the Act.

CFG #2 – 19: Please see Master Response 2, *Request to Prepare an EIS*.

CFG #2 – 20: Please see Master Response 2, *Request to Prepare an EIS*.

CFG #2 – 21: Please see Master Response 4, *Covered Species*, and Master Response 8, *Plant Impacts and Mitigation*.

CFG #2 – 22: Please see Master Response 2, *Request to Prepare an EIS*, and Master Response 5, *Modeled Habitat*.

CFG #2 – 23: Please see Master Response 2, *Request to Prepare an EIS*, Master Response 6, *Impact Analysis*, and Master Response 11, *Avoidance Measures*.

CFG #2 – 24: Please see Master Response 1, *Comment Period*, Master Response 2, *Request to Prepare an EIS*, Master Response 6, *Impact Analysis*, and Master Response 20, *Alternatives*.

CFG #2 – 25: Please see Master Response 20, *Alternatives*.

CFG #2 – 26: Please see Master Response 4, *Covered Species*, and Master Response 19, *Issuance Criteria*.

CFG #2 – 27: The purpose and need is appropriately defined in the incidental take permit application. Please see Master Response 20, *Alternatives*.

CFG #2 – 28: PG&E's HCP has not been developed to satisfy both CESA and ESA obligations. Initially, PG&E had worked closely with CDFW and Service staff on earlier versions of the HCP. However, PG&E decided to pursue separate federal and state permitting processes and in April 2015, submitted an application to CDFW for an O&M Section 2081(b) incidental take permit under CESA (see the response to CBD 33). Additionally, PG&E's HCP does not integrate Clean Water Act Section 404 and Section 401 permitting for impacts on waters of the United States. The HCP, if approved and permitted, would authorize the incidental take of covered plant and wildlife species that potentially occupy wetlands in the Bay Area. However, PG&E would still be required to maintain compliance with Section 404 of the Clean Water Act through the Nationwide Permit process or other relevant permits. Please see Master Response 18, *Coordination with Other Agencies*.

Friends of Edgewood Park (FEP)

FEP 1: Please see Master Response 1, *Comment Period*.

Golden Gate Audubon Society (GGAS)

GGAS 1: Please see Master Response 1, *Comment Period*.

GGAS 2: Please see Master Response 2, *Request to Prepare an EIS*.

GGAS 3: Please see Master Response 4, *Covered Species*.

GGAS 4: Please see Master Response 20, *Alternatives*.

GGAS 5: Please see Master Response 4, *Covered Species*, and Master Response 6, *Impact Analyses*.

GGAS 6: PG&E utilizes qualified biologists to direct the implementation of appropriate measures when working in Hot Zones for Wildlife or Map Book Zones for plants, as outlined in the AMMs. Please see Master Response 11, *Avoidance Measures*.

GGAS 7: Please see Master Response 3, *Permit Duration*.

Golden Gate Audubon Society #2 (GGA #2)

GGA #2 – 1: Please see Master Response 6, *Impact Analysis*, Master Response 5, *Modeled Habitat*, Master Response 7, *Avian Impacts*, and Master 11, *Avoidance Measures*. Please see also responses to the Center for Biological Diversity letter and the Committee for Green Foothills letters.

GGA #2 – 2: Please see response to GGA #2 – 1. The Service and PG&E worked together to develop an HCP that is practical and implementable and will meet the permit issuance criteria. Major changes are not proposed at this time. The HCP does not need to include baseline research. Adaptive management is appropriate for conservation lands but not the overall conservation strategy. Because the HCP is for existing facilities, research and extensive biological monitoring are not reasonable or necessary. PG&E will be required to conduct three types of monitoring: compliance, effects, and effectiveness monitoring. Effects monitoring specifically tracks and organizes the impacts of the covered activities on the covered species habitat. The HCP administrator will be responsible for ensuring that impact estimates are being evaluated and revised as necessary. To confirm that the estimates for impacts of small activities are accurate and that impacts have not changed over time, PG&E will conduct a validation study by reviewing 25 to 50 activities in implementation years 5, 10, 15, 20 and 25. Please see Master Response 6, *Impact Analysis*, Master Response 10, *Cumulative Impacts*, and Master Response 12, *Mitigation*.

GGA #2 – 3: The Service believes that the HCP conforms to the requirements of section 10 of the Act. Impacts, avoidance, minimization, and conservation are described in detail in the O&M HCP. The Service will make a final determination regarding whether the HCP meets issuance criteria in its Findings and Recommendations prior to making a decision to issue the permit or not. Regarding use of herbicides, please see Master Response 21, *Covered Activities*. Regarding the number, age, and sex of covered species, please see responses to CBD 8 and GGA 2-4.

GGA #2 – 4: The Service is required to prepare a biological opinion for issuance of a section 10(a)(1)(B) permit and will prepare a biological opinion on the federal action of issuance of a take permit prior to making a permit decision. The commenter asserts that the Service's biological opinion must include information relating to the sex, age, and number of individuals of the species to be taken. However, the Service is not required to analyze the take with this level of specificity if the information cannot be reasonably obtained. The Service has long utilized amount of habitat as a surrogate for number of individuals to be taken. In preparing its biological opinion, the Service will quantify the amount of take of covered species pursuant to the Act, regulation, policies, and guidance.

GGA #2 – 5: The Service believes there is sufficient information in the HCP to address the impacts on covered species. Multiple 2-mile end-to-end extensions are not covered. Please see Master Response 13, *Minor New Construction*.

GGA #2 – 6: PG&E uses an environmental screening process, and the Service has determined this is adequate assurance that PG&E will avoid and minimize the impacts of large projects on covered species.

GGA #2 – 7: The HCP uses habitat impacts as a surrogate for the take of covered species. Direct take, in the form of injury and mortality, of individuals of covered species is expected to be rare but may occur, as described in the HCP and EA. Hoffman Marsh is considered suitable habitat in the habitat model.

GGA #2 – 8: The conservation strategy for Ridgway's rail is appropriate given the types of effects covered in the HCP. PG&E will be providing permanent conservation to mitigate both temporary and permanent impacts. The Service will make a final determination as to the adequacy of the HCP and its proposed mitigation in our Findings and Recommendations prior to issuing a permit or not.

GGA #2 – 9: Please see Master Response 4, *Covered Species*. Further, this is not an NCCP and reserve design is not a required element for the federal incidental take permit. The commenter's assertion that the revised HCP handbook requires the Service to coordinate one HCP with another is incorrect. However, the Service recognizes the prudence of such coordination, and the conservation strategy for the O&M HCP was designed with the concept of coordinating mitigation with overlapping HCPs. With regard to the commenter's assertion that the rationale for not including non-federally listed species must be documented, neither the Act nor its implementing regulations require non-federally listed species, including state-listed species and state species of special concern, to be covered in a section 10(a)(1)(B) incidental take permit. The Service cannot require non-federally listed species be addressed as a covered species in an HCP.

GGA #2 – 10: The Service will analyze the effects of covered activities on covered species in our decision documents, including our Findings and Recommendations and biological opinion, prior to making a permit decision. Please see Master Response 7, *Avian Impacts*.

GGA #2 – 11: The Service inquired with PG&E regarding the incident described. PG&E retrofitted the subject pole in August of 2012. The photo shows that the pole was retrofitted with proper equipment to prevent future electrocutions. In addition, please see response to Master Response 7, *Avian Impacts*.

GGA #2 – 12: Please see Master Response 4, *Covered Species*, Master Response 5, *Modeled Habitat*, Master Response 6, *Impact Analysis*, and Master Response 11, *Avoidance Measures*. There are no conservation measures proposed for any species listed in Appendix A that are not also covered species because the Service does not have the authority to require conservation measures for non-covered species. Table A-1 in O&M HCP Appendix A, *Species Considered*, references the process, described in HCP Section 1.5.2, *Covered Species*, that was used to determine which species were covered; the "yes" and "no" portions of that table tell the reader which criteria discussed in Section 1.5.2 were met or not met. The table is intended to be read in the context of Section 1.5.2 to show how a given species was included or excluded for coverage in the HCP.

GGA #2 – 13: PG&E is a private party applicant that has been working with the Service over several years to develop the Bay Area O&M HCP. Unlike other regional HCPs that are developed by County agencies where public participation is part of those planning processes (beyond the requirements of the Act or NEPA), PG&E, as a private applicant, followed the process required by the Service. Further, the Service extended the public comment period on the HCP an additional 60 days (for a total of 90 days) and hosted two public workshops to provide additional information on PG&E's HCP. Please see Master Response 1, *Comment Period*. With regard to the Nesting Bird Management Plan, please see Master Response 16, *PG&E's Other Plans and Processes*.

GGA #2 – 14: The Service has adequately characterized the baseline conditions associated with PG&E's anticipated activities over the next 30 years. The HCP includes the latest available regional land-cover data and the analysis is based on habitat models that are also land-cover based. PG&E will report on its annual impacts and the Service will review the annual report and inspect project work locations (when needed). In addition, the PG&E and the Service will conduct monthly and quarterly coordination meetings. The impact analysis is based on the life history requirements of the covered species and potential maintenance activities impacts on covered species' habitats.

GGA #2 – 15: Independent third-party monitors are not required or mandated by the Act, or its implementing regulations. The Service has the ability to inspect project work locations if necessary, and will review the annual reports, including the 5-year assessments. The Service will use this information to assess PG&E compliance with the HCP and progress toward its take limits and conservation strategy. Please see response to GGA #2 - 2. The commenter is confusing the requirements for a state NCCP with that of a federal HCP.

GGA #2 – 16: The commenter confuses and consolidates multiple components of the HCP process and requirements. Please see Master Response 3, *Permit Duration*, regarding issues related to the

permit term. “Adaptive management” and “changed and unforeseen circumstances” are specific terms that relate to mitigation land management requirements and not to implementation of covered activities.

GGA #2 – 17: Please see Master Response 3, *Permit Duration*.

GGA #2 – 18: Please see Master Response 12, *Mitigation*.

Golden Gate Audubon Society #3, Pam Young (GGA #3)

GGA #3 – 1: Please see Master Response 13, *Minor New Construction*.

GGA #3 – 2: Please see Master Response 13, *Minor New Construction*.

Marin Audubon Society (MAS)

MAS 1: Please see Master Response 3, *Permit Duration*.

MAS 2: PG&E will be required to conduct three types of monitoring: compliance, effects, and effectiveness monitoring. Effects monitoring specifically tracks and organizes the impacts of the covered activities on the covered species habitat. The HCP administrator will be responsible for ensuring that impact estimates are being evaluated and revised as necessary. To confirm that the estimates for small activities are accurate and that impacts do not change over time, the HCP team will conduct a validation study by reviewing 25 to 50 activities in implementation years 5, 10, 15, 20 and 25. Please see Master Response 6, *Impact Analysis*, Master Response 10, *Cumulative Impacts*, and Master Response 12, *Mitigation*.

MAS 3: The purchase of mitigation or conservation credits is an acceptable form of compensatory mitigation to offset the impacts from the proposed covered activities. Although PG&E has indicated its preferred option is to offset impacts through the purchase (either individually or through joint partnership) of lands that can be set aside for long-term conservation and management, there may be a need to purchase some credits to “jump start” the advanced mitigation requirements. It may also be necessary to purchase credits to compensate for effects on some covered species for which habitat loss projections are very small, and resulting individual land acquisitions impractical. Please see Master Response 12, *Mitigation*.

MAS 4: Regarding ongoing maintenance of boardwalks in the Bay, we have discussed these specifics with PG&E. PG&E has indicated that it currently waits for the Ridgway’s rail nesting season to end before installing new gates in certain areas.

We understand that PG&E is increasing the width of its boardwalks to provide better safety and stability for the work crews that must walk on the boardwalks routinely. Current designs call for widths anywhere between 4 and 8 feet wide, with or without safety handrails. We do not believe this is an excessive increase in surface area for the use in which it is intended. The Service and PG&E are evaluating ways of altering boardwalks to reduce effects on marsh species as potential mitigation for marsh-dwelling covered species, such as by installing gates to prevent trespass on boardwalks. If existing boardwalks are replaced with boardwalks that have a larger footprint than the existing condition, the acreage difference between the existing and new boardwalk footprint will be considered to be a permanent habitat loss and mitigated based on the means established in the HCP.

MAS 5: Please see Master Response 7, *Avian Impacts*.

MAS 6: Comment noted. Please see the response to MAS 3.

MAS 7: Comment noted.

San Francisco Bay Keeper (SFBK)

SFBK 1: Comment noted.

Save Mount Diablo (SMD)

SMD 1: Please see Master Response 1, *Comment Period*. Minor changes will be made to the HCP to address issues raised by commenters, but these will not require additional or new analysis in the EA.

SMD 2: Please see Master Response 4, *Covered Species*.

SMD 3: Maintaining the confidentiality of the GIS data is crucial to protecting PG&E's existing and proposed facilities from potential vandalism or terrorist attack. Therefore, facility maps were not provided to the Service.

SMD 4: Please see Master Response 12, *Mitigation*, and Master Response 21, *Covered Activities*.

Sierra Club (SC)

SC 1: See Master Response 1, *Comment Period*.

SC 2: Please see Master Response 2, *Request to Prepare an EIS*, and Master Response 17, *Climate Change*.

Sierra Club 2 (SC)

SC #2 – 1: Please see Master Response 4, *Covered Species*, Master Response 7, *Avian Impacts*, and Master Response 16, *PG&E's Other Plans and Processes*.

SC#2 – 2: Comment noted.

SC#2 – 3: Please see Master Response 2, *Request to Prepare an EIS*.

Yerba Bioadvocacy (YB)

YB 1: PG&E is a private party applicant that has been working with the Service over several years to develop the Bay Area O&M HCP, and unlike other regional HCPs that are developed by County agencies where public participation (beyond that required by the Act or its implementing regulations) is part of those planning processes. The process PG&E followed of working with the Service directly to develop an HCP that would then receive public review is typical of a private party HCP application. Once an application for a section 10(a)(1)(B) permit is received by the Service, it is our obligation to prepare the appropriate effects analysis as part of our NEPA requirements. We extended the public comment period on the HCP an additional 60 days (for a total of 90 days) and hosted two public workshops to provide additional information on PG&E's HCP. Please see Master Response 1, *Comment Period*.

YB 2: The applicant is the entity that is required to manage implementation of its HCP once the Service issues an incidental take permit. The development of an HCP is an entirely voluntary process and, although take of a listed animal species is prohibited under section 9 of the Act, the Service has no authority to compel any individual or entity to develop an HCP or to seek incidental take authorizations. PG&E must demonstrate that it has the financial means to implement the O&M HCP as part of the Service's permit issuance criteria. Please see Master Response 19, *Issuance Criteria*. The Service believes that the HCP, if a permit is issued, will be an asset to PG&E that is in PG&E's best business interest to support and maintain. Furthermore, implementation of and compliance with an HCP is non-discretionary once a permit has been issued. The Service has the authority to suspend the permit at any time if PG&E fails to comply with the permit.

YB 3: Please see the response to YB2.

YB 4: Please see the response to YB1 and Master Response 5, *Modeled Habitat*.

YB 5: Please see Master Response 8, *Plant Impacts and Mitigation*.

YB 6: Please see Master Response 8, *Plant Impacts and Mitigation*.

YB 7: As part of the Map Book Zone development, PG&E employed a two-step process to estimate impacts of covered activities on covered plant species. First, a GIS-based analysis was conducted by overlaying the plant location data onto PG&E facility location data layers to determine where a covered activity could affect a plant species' habitat or occurrence. Wherever a PG&E facility crossed or came within 200 feet of a plant species occurrence, a more detailed analysis of individual species occurrences was performed using aerial photography interpretation to examine possible impacts on individual plant occurrences. Second, Map Book Zones, which are areas with extant, known, or recently confirmed plant occurrences, were identified by a series of one-time botanical surveys. As part of the surveys in the Edgewood Park and Natural Preserve area, white-rayed pentachaeta were identified at a single location in the vicinity of two electric distribution wood poles in the triangular area bounded by Cañada Road, Interstate 280, and Edgewood Road. PG&E has marked its facilities in the location of these plants to alert field crews to their presence. In this location, PG&E will implement the plant AMMs to ensure impacts on this plant species are minimized.

The commenter also asserted that all serpentine grassland within Edgewood Park should be considered potentially occupied by white-rayed pentachaeta and because covered activities could effect this species. However, as noted in the Service's listing rule and most recent 5-year status review for white-rayed pentachaeta since 1995, only one known occurrence of this species exists (the "Triangle" near Interstate 280 in Edgewood Park). A possible second unverified occurrence was noted in the Service's most recent 5-year status review on west side of Upper Crystal Springs Reservoir. The Service is unaware of a potential third occurrence of White-rayed Pentachaeta "east of currently documented populations" as the commenter suggests. The commenter did not provide any information to substantiate the claim or provide specific information regarding the location that would allow the Service to verify the statement. The Service disagrees that all serpentine grassland within Edgewood Park constitutes potential habitat for this species. However, all of Edgewood Park is identified as a Map Book Zone, which requires additional pre-activity surveys that would detect White-rayed Pentachaeta (or any other federally listed species) if present. Therefore the Service does not expect effects on White-rayed Pentachaeta.

YB 8: The incidental take authorization PG&E is seeking for its impacts over 30 years are conservative and cannot be exceeded without an amendment. PG&E's estimates of its impacts on covered species from future O&M impacts are meant to provide a reasonable basis for its incidental take request, please see Master Response 5, *Modeled Habitat*, and Master Response 6, *Impact Analysis*. According to the HCP, if pre-disturbance conditions do not return in 1 year, mitigation will be reassessed at permanent ratio rather than a temporary ratio.

YB 9: The commenter expressed concern that Bay checkerspot butterfly habitat in Edgewood Park and Natural Preserve is not considered part of the established Hot Zone for this species. Edgewood Park is included as a Hot Zone. According to the HCP: "To account for the reintroduction at Edgewood Park, and potential future reintroductions or recolonizations in other portions of San Mateo County, covered activity impact estimates are given for both counties...Established Bay checkerspot butterfly hot zones include patches of habitat in Santa Clara County (i.e., the east hills from southern San Jose south to an area south of the city of Morgan Hill) and *Edgewood Park in San Mateo County*. Gas and electric transmission and distribution lines pass through these hot zones."

YB 10: The commenter expressed concern regarding disparate numbers of impacts or take for the Marin dwarf flax, an annual herb. The numbers are intentionally different because in one instance they are an estimate and in the second instance they are PG&E's "take" request. As was mentioned in

response to YB 7, part of PG&E's approach to estimating its 30-year take request for plant species relied on a stepwise process that included desktop analysis and ground-truth surveys. Each of the plant locations for the element occurrences listed in the HCP is noted to be highly variable between years. PG&E then adjusted the final take amounts to reflect its take request over the next 30 years. The take request in Table 4-20 are the numbers the Service will use when evaluating the impacts of the take, preparing decision documents (including biological opinion and finding and recommendations). The HCP is structured to ensure that no more than 20% of an occurrence would be affected. The Service will make its determination regarding the potential effects on Marin dwarf flax in our biological opinion and findings and recommendations prior to determining whether to issue a permit or not. As stated in the HCP, impacts from activities on more than 0.1 acre will be assessed after construction is completed, and actual ground disturbance measurements will be reported and used for mitigation purposes. Additionally, a restoration plan would be prepared if impacts on covered plant species are anticipated which would result in assessing whether impacts are temporary or permanent.

YB 11: Please see Master Response 8, *Plant Impacts and Mitigation*. The commenter asserted that mitigation for both Marin dwarf flax and white-rayed pentachaeta should be "far more extensive." However, the commenter did not provide any information to substantiate the claim or propose any measures to increase mitigation for these species. Comment noted.

YB 12: The measure for the Hot Zone 5 AMM is correct. PG&E is required to maintain its infrastructure and the AMM was developed to maximize the protection of host plants, eggs, larvae, and adult butterflies while allowing some take. The commenter appears to believe that by not working during the flight season, all take of Bay checkerspot butterfly would be avoided. This is incorrect since larvae diapause in the vicinity of their larval host plants. Limiting work to outside of the flight season would only reduce effects on adults. However, for a number of covered activities, (especially those of short duration), being able to easily identify larvae host plants and adults means individual activities are more likely to minimize (or avoid) disturbance of take of individuals. However, when plants cannot be avoided, the least amount of butterfly impacts (minimization of the impacts) is best achieved when larvae have undergone metamorphosis into adult butterflies and can disperse and/or be seen above ground.

YB 13: PG&E determined that extant populations of natural or restored San Mateo thornmint would not be impacted from O&M activities. Five wood poles are located approximately 180 feet from suitable habitat and PG&E has marked its facilities to avoid future impacts. The restoration plot referenced at Edgewood Park and Natural Preserve would not be impacted from any work that would occur on the nearby electric distribution poles in this area. Additionally, the poles in this area are cleared to prevent vegetation from growing and creating a fire hazard to the facilities. The Service will make a final determination of potential effects of covered activities on this species in our biological opinion prior to our decision to issue a permit or not. Please see Master Response 4, *Covered Species*.

YB 14: The covered activity descriptions provided by PG&E are not standards, they are typical descriptions for how PG&E conducts those activities in a variety of environments. For the purpose of estimating the amount of impacts resulting from all covered activities on an annual basis, PG&E selected impact estimates which were not too conservative and not too restrictive in order to determine the average annual impacts that could result each year. These annual impact estimates were then extrapolated over the term of the HCP to estimate a 30-year total. PG&E's actual on the ground impacts for its pipeline replacement activities will trigger requirements for compensatory mitigation. PG&E will not be able to exceed its overall take authorization for each covered species without an amendment to the HCP.

YB 15: The environmental baseline for PG&E's HCP takes into account the current state of habitat areas combined with maintenance activities that have and continue to occur on a daily, weekly, monthly or annual basis. We recognize that the spread of invasive or noxious weeds is not only a

local issue but a statewide problem as well. However, as a matter of practicability, PG&E was encouraged to suggest a threshold that could reasonably delimit temporary impacts from permanent ones. It has been a common practice by resource agency staff to ascribe habitat disturbances that persist less than 12 months as a temporary impact, which typically include some level of site restoration to return the affected area to pre-project conditions. While we recognize that local conditions and climatic variation can affect the rate at which an area recovers, ultimately, it was clearer to isolate permanent impacts from temporary ones and we believe that site restoration combined with compensatory mitigation more than offsets the nature of the temporary impacts.

PG&E's HCP approach to avoiding and minimizing impacts on covered plants relies on awareness of designated areas known as map book zones, areas with protected plant species that have a very narrow distribution and a small population. These areas represent approximately 150 locations in the Bay Area (or ~5.2% of the Plan Area), totaling less than 5,200 acres with a median size of approximately 7 acres. The HCP is correct in that PG&E will provide mitigation at the permanent impact ratio when it is unable to avoid impacts from small activities. Therefore, compensatory mitigation for unavoidable impacts in a Map Book Zone for small impacts has the net benefit of providing long-term species protection. Conversely, PG&E utilizes a large staff of environmental permitting professionals, such as biologists, land planners and cultural resource specialists, to review, plan, and permit large projects that typically have long planning horizons and timelines and the need for additional work space that is not typically required on small projects less than 0.10 acres. Therefore, the need to conduct additional surveys is based solely on the need to properly site additional work spaces or lay down areas so that any potential impacts on covered plants in a Map Book Zone are avoided or minimized.

YB 16: Please see Master Response 11, *Avoidance Measures*, and Master Response 12, *Mitigation*.

YB 17: Please see Master Response 12, *Mitigation*. The Service has not asserted that preservation of larger habitats should come at the expense of smaller habitats; rather, we are recognizing a basic tenet of conservation biology that larger preserves tend to be of greater benefit than smaller preserves. Consequently, we have stated that preserving large areas of habitat is preferable to preserving small areas of habitat. That should not be interpreted to mean that we will prohibit acquisition of small areas of habitat entirely. Instead, these are guiding principles for how mitigation will be evaluated during HCP implementation. Each mitigation proposal will be evaluated by the Service in the context of what is best for the species for which mitigation has been proposed.

YB 18: Please see Master Response 5, *Modeled Habitat*.

YB 19: Please see Master Response 8, *Plant Impacts and Mitigation*.

YB 20: OM& HCP Section 3.2.2.10, *Cleanup and Restoration*, makes clear that "...cleanup and restoration of the ROW to achieve compatibility with pre-existing vegetative conditions, in accordance with standard procedures approved by federal and state regulatory authorities" is the final phase of pipeline installation. In its on-going efforts to reclaim overgrown or inaccessible pipeline ROWs, PG&E will clear these areas of incompatible vegetation and provide mitigation if covered species habitat is present. This clearing is being done to maintain access to facilities for public safety and reliability.

YB 21: Please see Master Response 20, *Alternatives*.

YB 22: Please see Master Response 20, *Alternatives*.

YB 23: PG&E has been encouraged for years by the Service to develop regional HCPs to cover the very types of projects that PG&E has permitted individually, and on a project by project basis, with the Service. In order to legally take a federally listed species in the absence of a section 7 consultation, section 10 is the only avenue open to project proponents. Consequently, development of an HCP is the appropriate mechanism. The Service has determined that addressing PG&E's impacts on covered species at a landscape level will result in the best-planned, most comprehensive

method to conserve covered species. For efficiency and comprehensiveness, the Service put great stock in the value that HCPs provide to covered species. HCPs are voluntary and require a long-term commitment to development and implementation, and we are obligated to work with any applicant that chooses to prepare one. As a private entity, PG&E followed the required process. It is our responsibility as a federal agency to ensure that the public is given an opportunity to comment on the HCP and the EA, and we are compelled to issue PG&E a permit if it meets the permit issuance criteria.

YB 24: Please see Master Response 22, *Edgewood Park and Natural Preserve*.

Denise Louie

DL 1: Please see Master Response 3, *Permit Duration*, Master Response 4, *Covered Species*, Master Response 9, *Invasive Species*, and Master Response 11, *Avoidance Measures*.

DL 2: Restoration plans will be approved by the Service and will take into account local considerations.

DL 3: The commenter raises a variety of issues related to site and plant restoration. Restoration plans will be approved by the Service and will take into account local considerations. Restoration actions on local, state, or federal lands will also involve those parties. As noted in other responses, the Service believes these issues and concerns are manageable.

DL 4: Please see Master Response 4, *Covered Species*.

DL 5: Please see Master Response 4, *Covered Species*.

Danny Bernardini

DB 1: Comment noted.

