PACIFIC GAS AND ELECTRIC COMPANY BAY AREA OPERATIONS & MAINTENANCE INCIDENTAL TAKE PERMIT ENVIRONMENTAL IMPACT REPORT

VOLUME 1. FINAL EIR INTRODUCTION, COMMENTS AND RESPONSES TO COMMENTS

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Introduction

1.1 Purpose

This document contains comments submitted by agencies, organizations, and individuals concerning the December 2020 PG&E Bay Area O&M Incidental Take Permit Draft Environmental Impact Report (DEIR) (SCH #2017122028), responses to those comments, and revisions to the DEIR. The California Department of Fish and Wildlife, Bay Delta Region 3 (CDFW) is the Lead Agency.

State CEQA Guidelines Sections 15088(a) and 15088(b) require that comments raising environmental issues must receive reasoned, good faith, written responses in a Final Environmental Impact Report (FEIR). The purpose of this FEIR is to serve this function. The FEIR is divided into two volumes, Volume 1, *Final EIR Introduction, Comments and Response to Comments*, and Volume 2, Final EIR. Volume I contains two chapters: Chapter 1, *Introduction* and Chapter 2, *Comment Letters and Responses to Comments*. Chapter 2 contains the comments received on the DEIR and responses to these comments. In general, the responses provide explanation or amplification of information contained in the DEIR. The responses and text changes may correct, clarify, and modify text in the FEIR, as appropriate.

1.2 Context

PG&E has submitted an application to CDFW for an ITP under Section 2081(b) of the California Endangered Species Act (CESA). The proposed ITP would provide incidental take coverage for PG&E's operations and maintenance (O&M) activities for natural gas pipelines and electric transmission and distribution lines, minor new construction activities, and habitat management and enhancement activities in a nine-county region (Bay Area) consisting of Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Sonoma, and Solano Counties. The ITP would establish a comprehensive approach to avoid, minimize, and fully mitigate impacts on three covered species: California tiger salamander, Alameda whipsnake, and California freshwater shrimp. The duration of the ITP would be 30 years.

1.3 Project Overview

The proposed ITP would provide incidental take coverage for PG&E's Bay Area O&M activities and minor new construction for natural gas pipelines and electric lines, and would establish a comprehensive approach to avoid, minimize and fully mitigate impacts on three covered species: California tiger salamander, Alameda whipsnake, and California freshwater shrimp where they may occur within the 402,440-acre Permit Area. Please refer to Chapter 2, *Project Description*, for more information about the activities that would be covered by the ITP.

CDFW's issuance of the ITP would not change the need or overall extent of the work that will be required within the next 30 years on PG&E's natural gas and electric systems in the Bay Area, but it would include requirements for avoiding and minimizing take for three covered species, which may

alter the approach for carrying out O&M and minor new construction activities by shifting disturbance area locations, limiting timing, or implementing physical actions to protect the species and their habitat. The ITP would eliminate the need for PG&E to obtain incidental take authorization on a case by case basis when implementing covered activities likely to cause take of the covered species, which would facilitate more efficient implementation of covered activities.

The ITP would establish standardized avoidance and minimization measures, which would shape the way PG&E carries out covered activities, and provide a comprehensive approach to habitat conservation for the three covered species (California tiger salamander, Alameda whipsnake, and California freshwater shrimp) that enables landscape level habitat preservation and enhancement that is more ecologically beneficial. The ITP's comprehensive approach to compensatory mitigation would result in more habitat conservation than would otherwise occur over the 30-year term because many of PG&E's O&M activities would not individually require an ITP and related offsets to species impacts. The Permit Area-wide ITP, as proposed, recognizes that, even with the implementation of avoidance and minimization measures, covered activities are likely to continue to cause incidental take of the covered species, and that take must be minimized and fully mitigated.

1.4 Agency and Public Involvement

CDFW has complied with all noticing and public review requirements of CEQA. This compliance included notification of all responsible and trustee agencies and interested groups, organizations, and individuals that the DEIR was available for review. The following list of actions took place during the preparation, distribution, and review of the DEIR:

- A Notice of Preparation (NOP) for the EIR was filed with the State Clearinghouse in November 2017. The official 30-day public review comment period for the NOP ended on January 24, 2018. The NOP was distributed in particular to governmental agencies, organizations, and persons interested in the proposed O&M ITP.
- AB 52 Tribal Consultation. Assembly Bill (AB) 52 requires consideration of a project's potential to significantly affect a Tribal Cultural Resource (TCR) when preparing an EIR. AB 52 requires that the lead agency provide early notice of projects to tribe(s) and, if requested by a tribe, consultation with requesting tribes to inform the CEQA process. As lead agency, CDFW sent notification letters to requesting tribes for the proposed PG&E Bay Area Incidental Take Permit on November 30, 2017. No tribes requested AB 52 consultation.
- Two public scoping meetings were held on January 8, 2018, and January 9, 2018.
- A Notice of Completion (NOC) and electronic copies of the DEIR were filed with the State Clearinghouse on December 31, 2020.
- The DEIR was also posted CDFW website (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=186273&inline) from December 31, 2020 through February 16, 2021.

1.4.1 Agency and Public Review of the Draft EIR

Public review began with State Clearinghouse (SCH) publication on 12/31/20, and the stated review period of 45 days ended on 2/16/21. However, during the comment period, one commentor noted that the Notice of Intent (NOI) incorrectly indicated the comment period was expected to close on

January 30, 2021; this was because CDFW initially contemplated a 30-day comment period, but ultimately settled on a 45-day comment period when it submitted the Notice of Completion (NOC) to the SCH. Also, toward the end of the comment period on 2/12/21, CDFW was made aware that it had failed to mail notice to the organizations that had previously requested such notice as required by 15087(a). When made aware of the oversight, CDFW extended the comment deadline for those three groups to 3/17/21, and then to 3/19/21.

This document includes written general responses and specific responses to each comment received on the DEIR. CDFW received four comment letters on the DEIR.

1.4.2 Availability of the Final EIR

This Final EIR will be presented to CDFW for review and potential certification as the environmental document for the Projects. CDFW will provide the Final EIR to the State Clearinghouse to be posted to the CEQAnet Web Portal at https://ceqanet.opr.ca.gov/Project/2017122028, and provide notice of availability of the Final EIR to all agencies that commented on the Draft EIR, pursuant to CEQA Guidelines Section 15088(b). CDFW will also post the Final EIR on the CEQA Notices portion of the CDFW website at https://wildlife.ca.gov/Notices/CEQA.

Chapter 2
Comment Letters and Responses to Comments

2.1 Overview of Comments Received and Approach to Comment Responses

CDFW received five comment letters during the comment period on the DEIR. High-level, general responses have been prepared for common issues that arose in multiple letters, which are provided in Section 2.2, *General Responses*. A copy of each letter is provided in Section 2.3, *Individual Responses*. The letters are organized as shown in Table 2-1. Within each letter, individual comments have been numbered consecutively. For example, Comment 1.1 is the first comment in comment letter 1, received from the Department of Parks and Recreation.

Table 2-1. Comment Letters Received on the Draft EIR

ID#	Organization	Date
1	Department of Parks and Recreation, Diablo Range District	February 12, 2021
2	Delta Stewardship Council	January 21, 2021
3	Citizens Committee to Complete the Refuge	March 19, 2021
4	Center for Biological Diversity	March 19, 2021
5	California Native Plant Society	March 17, 2021

Revisions made to the DEIR in response to comments are presented in the FEIR as text deleted (~~strikethrough~~) and text added (<u>underline</u>) and are referenced by section number, impact number, table number, or page number in the response to comment.

2.2 General Responses

2.2.1 General Response 1: Covered Species

Several commenters recommended covering more species. CDFW cannot require an applicant to cover a particular species in an ITP. Any take, incidental or otherwise, of a state-listed animal species that occurs without authorization is handled as an enforcement matter by CDFW's Law Enforcement Division. CDFW and PG&E coordinated to determine which species should be covered, but ultimately an applicant determines the species for which the applicant is seeking an incidental take permit. More than three species were considered for coverage. The ITP is intended to overlap, both geographically and administratively, with the PG&E federal HCP. 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, frequency of covered activities within the known habitats of the species under consideration, and life history information regarding the species. Through discussions with CDFW, PG&E chose species for inclusion in the ITP that were

state-listed and that have a reasonable possibility of being taken by the covered activities in the ITP Permit Area.

In addition to the criteria noted above, the process of determining which species to cover or not cover was also informed by CDFW and PG&E's experience with other ITPs PG&E has sought for projects in the Bay Area. If additional species become candidate species or are listed, PG&E would evaluate the need to seek incidental take authorization at that time. Following this provision, PG&E would work with CDFW to determine whether a candidate or newly listed species could be affected by covered activities. If so, PG&E and CDFW would discuss whether to amend the ITP to include take coverage for those species or develop a project-specific or new programmatic ITP. Further, CDFW 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 take of the newly listed species. Other state-listed species, such as fish or birds, were not included in the covered species list under the ITP because CDFW and PG&E determined that incidental take from covered activities would occur infrequently enough that authorization could be sought for specific projects. Fully-protected species were not covered, since incidental take authorization cannot be approved by CDFW and covered activities must avoid impacts to species with the fully-protected designation. It should also be noted that when PG&E acquires mitigation lands, these lands will also benefit non-covered species.

2.2.2 General Response 2: Avoidance Measures (Covered and Noncovered Species)

Several commenters expressed concern that the Field Protocols (FP), Best Management Practices (BMP), Hot Zone Species-Specific Avoidance and Minimization Measures (AMMs), Applicant Proposed Measures (APMs), and Mitigation Measures (MM) are not sufficiently specific, do not avoid impacts to biological resources, or are not subject to oversight or enforcement by CDFW.

FPs and BMPs (see Tables 2-3 and 2-4 of this EIR) are part of PG&E's existing environmental program and are included in PG&E's existing environmental screening process, which is described in the FEIR, in Section 2.9, *Overview of PG&E's Environmental Review Process*. These measures are general in nature and are designed to minimize disturbance, guide vegetation management activities, avoid and minimize impacts to biological resources, and protect water quality. In addition, PG&E has identified areas (called "Hot Zones") where covered species are known to occur and where covered activities are likely to affect them. Species-specific AMMs will be implemented in these Hot Zone areas or for certain activities to minimize impacts to ITP-covered species and these AMMs would be conditions of the ITP. Additional species-specific AMMs would be implemented to minimize impacts to other species that are covered by PG&E's O&M HCP, but not subject to the ITP. All three species proposed to be covered by the ITP (California freshwater shrimp, California tiger salamander, and Alameda whipsnake) are also HCP-covered species because they are both state and federally listed. The HCP covers an additional 15 wildlife and 13 plant species. Additional APMs are incorporated into the proposed project to avoid and minimize the spread of invasive plants, avoid sensitive natural communities and other areas that may contain sensitive species, protect special-status plant and animal species during covered activities, require reporting to CDFW when encounters with covered species occur, and in some cases require reporting to CDFW when non-covered wildlife is encountered.

PG&E's environmental review process includes redesign or relocation of proposed work activities or adjusting access routes or work periods to avoid or minimize impacts to sensitive biological resources. During this process, the applicable measures to avoid and minimize impacts are identified and incorporated in the work plan for a specific activity.

PG&E created species-specific habitat models with input from USFWS and CDFW to be aligned with other regional conservation plans and strategies in the Bay Area to estimate the amount of habitat within the Permit Area and the potential impacts on ITP- and HCP-covered species. PG&E may periodically update the modeled habitat to ensure it accurately represents the habitat available for the ITP- and HCP-covered species. For example, if the base layer for land cover types is updated, PG&E may update its habitat models based on a more current land-cover data set. Similarly, if PG&E receives more robust wetland data for Santa Rosa Plain or Solano County, this data could be integrated to better assist PG&E in avoiding wetland habitats. Further, if it becomes apparent that certain areas of the modeled habitat are inaccurate (e.g., urban areas with no natural vegetation), then PG&E may revise the model in that specific area.

Biological surveys and monitoring would be limited for most, if not all, small, covered activities, because habitat models would drive the assessment of potential impacts and the required mitigation. However, for larger activities, PG&E would follow its existing work streams, in which a team of planners and biologists would conduct site assessments to position laydown areas, access routes, and exclusion zones. Also, for these larger activities, PG&E would employ biologists to evaluate activities in hot zones and determine the need for additional surveys or monitoring.

As required by the HCP, biologists and biological monitors may prescribe site-specific AMMs and have the authority to stop work if an HCP-covered species is observed or if work is conducted in a way that may cause harm to a covered species. The ITP would similarly be conditioned for the three ITP-covered species. Biologists and biological monitors would assist with the identification and implementation of exclusion zones, work zones, and access routes. The biologist or biological monitor would ensure that all construction employees adhere to the species- and site-specific AMMs, APMs, FP, and BMPs. If the biologist or onsite biological monitor detect or observe any special-status species before, during, or after construction, records of the detection or observation would be created and maintained in PG&Es databases and included in the annual reporting to CDFW as part of the ITP. If permission is granted from the landowner, the records would also be submitted to the CNDDB.

CDFW worked with PG&E on a list of APMs that would be implemented for the covered activities under the proposed ITP. As shown in Table 2-3 of this FEIR, several APMs were revised to clarify that avoidance and minimization measures would apply to all special-status species, not just the three ITP-covered species, in the Permit Area. California's fish and wildlife resources, including their habitats, are held in trust for the people of the state by CDFW (Fish and Game Code § 711.7). CDFW has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and the habitats necessary for biologically sustainable populations of those species (Fish and Game Code § 1802). To support protection of trust resources and respond to commenters' concerns regarding special-status species, the APMs related to special-status species were revised (e.g., APM BIO-2) and new APMs have been included in the FEIR that include measures related to minimizing the spread of invasive plant species in minor new construction (APM BIO-3a), Western Burrowing Owl Avoidance (APM BIO-6a), and San Joaquin kit fox/American badger Avoidance (APM BIO-9).

In addition, the impact discussion in the FEIR clarifies that the impacts to the ITP-covered species from issuance of the ITP are significant. Additional mitigation measures to minimize the risk of take of ITP-covered species (MM BIO-2, MM BIO-3, and MM BIO-4) have been included in the FEIR and would be conditions of the ITP. An explanation is provided regarding how the mitigation measures would reduce the impacts to less-than significant levels.

The overall mitigation strategy for the ITP provides consistency in how PG&E conducts its work, interacts with CDFW, and mitigates for its project's effects. This approach is more effective than project-by-project permitting because it provides consistency to PG&E's O&M and minor new construction activities and provides greater benefits to covered species through early conservation of larger mitigation parcels. If an ITP is issued, CDFW will oversee PG&E compliance with all terms and conditions of the ITP.

2.2.3 General Response 3: On-site Restoration and Revegetation

Several commenters stated that on-site restoration should require preparation of a vegetation restoration plan with measurable success criteria and adaptive management strategies to restore all temporarily disturbed native vegetation to pre-project or better conditions. They also questioned whether any seed mix would be approved by CDFW, along with any restoration plans that should be developed by a qualified restoration specialist.

Restoration actions on local, state, or federal lands would involve applicable agencies. Not all temporary disturbance results in bare ground conditions that require revegetation. Based on experience to date, most instances of restoration are likely to involve reseeding native species in areas of non-native annual grassland that have been disturbed by work activities. As noted in the Final EIR, FP-14 was modified to indicate California annual grassland species will be used. The contents of the seed mix may vary but are comprised of California annual grassland and native species. Use of weed-free native plant seed mixes is intended to more rapidly recover grass/herbaceous layers in work areas that have depleted groundcover. This is considered preferable to allowing the primarily non-native seed bank to recover or from new invasive plant species from becoming established. Non-native grasses, for example, will likely retake such areas within several seasons. Ongoing maintenance of these areas (i.e., to maintain native species composition of restored areas) is not practical in small, widely distributed work areas throughout the Permit Area. However, to ensure that the impacts of minor new construction are temporary, PG&E added APM BIO-3a to minimize the spread of invasive plant species and ensure these areas are restored.

The intent of AMMs, FPs, BMPs, and APMs is to avoid disturbance to native vegetation and complex sensitive resources, such as vernal pools that may require restoration, especially where there are reasonable measures available to avoid and minimize impacts. It should be noted that native trees or other vegetation in a right-of-way (ROW) that conflict or potentially conflict with utility infrastructure have been removed as standard practice; they cannot be restored or allowed to regrow in ROW, which should be considered 'baseline' conditions.

As described in the Final EIR, PG&E's practice is to return project sites to pre-project conditions and reseed sites with California annual species, as described above (FP-14), that are compatible with utility ROWs.

2.2.4 General Response 4: CDFW Oversight

Commentors stated concerns that there is inadequate agency oversight demonstrated in the DEIR and proposed ITP. CDFW appreciates the commentors' concern regarding the degree to which the applicant will be able to conform to proposed FP, BMP, and other processes.

Due to the CPUC requirements for maintaining electrical and natural gas infrastructure, the majority of the O&M and minor new construction covered by the ITP would be consistent with PG&E's current activities. However, over the 30-year permit timeframe, as described in Chapter 2 of this EIR, the ITP would condition PG&E's covered activities, which may affect the environment within the Permit Area.

CDFW is the regulatory authority that may issue the PG&E Bay Area O&M ITP for California tiger salamander, Alameda whipsnake, and California freshwater shrimp. Therefore, CDFW has authority to enforce the conditions of the ITP for the covered O&M and minor new construction activities and their potential environmental impacts on the three ITP-covered species. In addition, CDFW is a trustee agency and has jurisdiction by law over natural resources affected by the ITP which are held in trust for the people of the State of California. CDFW's trustee agency role relates to the fish and wildlife of the state, native plants, and game refuges, ecological reserves, and other areas administered by CDFW. Furthermore, as CEQA lead agency, although CDFW does not have regulatory authority over environmental resources outside of its jurisdiction, CDFW is required to evaluate and disclose the significant and potentially significant environmental impacts due to issuance of the ITP and to adopt all feasible mitigation to reduce those impacts to a less-than-significant level.

If CDFW determines issuance of the requested ITP is appropriate, the ITP will include clear language regarding CDFW's expectations of PG&E, which PG&E will be required to meet. If CDFW issues the requested ITP, CDFW will work with PG&E over the life of the permit. CDFW would have authority to enforce the ITP for the covered O&M and minor new construction activities and their potential environmental impacts on the three ITP-covered species. CDFW would have the authority to suspend the ITP at any time if PG&E fails to comply with its avoidance, minimization, and mitigation measures required to fully mitigate the impacts of the covered activities.

The following steps would be implemented to avoid, minimize, and fully mitigate impacts to ITP-covered species as well as to avoid and minimize potential impacts to CDFW trust resources:

1) PG&E's existing environmental screening process (see Section 2.9, *Overview of PG&E's Environmental Review Process*) would be implemented for the covered activities;

2) PG&E's Bay Area O&M HCP measures, including field protocols (FPs), best management practices (BMPs), and avoidance and minimization measures (AMMs) (see Section 2.10, P*roject Measures to Reduce Impacts,* and Table 2-3) would be implemented for the covered activities;

3) PG&E's applicant proposed measures (APMs) (see Section 2.10, *Project Measures to Reduce Impacts,* and Table 2-4) would be implemented for the covered activities;

4) Mitigation Measures BIO-1, BIO-2, BIO-3, and BIO-4 from Section 3.4 of this EIR would be implemented to fully mitigate for impacts to the three ITP-covered species; and

5) PG&E's annual reporting pursuant to the ITP would include documentation to confirm implementation of these measures and to summarize the mitigation ratios and credits that

were debited from its mitigation credit portfolio for covered activities during the previous calendar year (see Section 2.10, *Project Measures to Reduce Impacts*).

As explained in Section 2.5, *Conservation Strategy*, of this FEIR, PG&E will be required to manage implementation of its ITP if CDFW issues an incidental take permit. PG&E would "stay ahead" of its mitigation obligations by calibrating the mitigation credits that may be necessary for future years based on information from the annual report for the prior year.

If the ITP is issued, it will allow PG&E to effectively maintain critical utility infrastructure and provide protection for the ITP-covered species. Implementation of and compliance with an ITP is non-discretionary once a permit has been issued; however, CDFW has the authority to suspend the permit at any time if PG&E fails to comply with the permit.

2.2.5 General Response 5: Baseline

Several comments question or raise concerns regarding the baseline and extent of the analysis of physical changes in the FEIR.

In CEQA analysis, environmental impacts of a project are considered against the baseline of existing physical conditions as a point of comparison. As explained in Section 3.1 and 3.2 of this EIR, consistent with the CEQA Guidelines, the baseline conditions for this EIR are the physical environmental conditions within the PG&E Permit Area at the time the NOP was published for this EIR (November 2017). PG&E has maintained its electrical and natural gas infrastructure per CPUC regulations, including O&M activities, for over 30 years. As such, this EIR acknowledges that PG&E's O&M activities are part of the baseline condition in the Permit Area. The influence of the ITP requirements on the future conduct of baseline O&M, minor new construction activities, and habitat conservation management becomes the source of potential changes in baseline physical conditions and, therefore, also the source of potential environmental impacts.

As stated in *Project Overview*, above, and Chapter 1, *Introduction and Scope of Environmental Impact Report*, of this EIR, CDFW's issuance of the ITP would not change the need or overall extent of the work that will be required within the next 30 years on PG&E's natural gas and electric systems in the Bay Area, but it would include requirements for avoiding and minimizing take, which may alter the approach for carrying out O&M and minor new construction activities by shifting disturbance area locations, limiting timing, or implementing physical actions to protect the species and their habitat. The ITP would eliminate the need for PG&E to obtain incidental take authorization on a case by case basis when implementing covered activities likely to cause take of the covered species, which would facilitate more efficient implementation of covered activities.

The ITP would establish standardized avoidance and minimization measures, which would shape the way PG&E carries out covered activities and provide a comprehensive approach to habitat conservation for the three covered species (California tiger salamander, Alameda whipsnake, and California freshwater shrimp) that enables landscape level habitat preservation and enhancement that is more ecologically beneficial. The ITP's comprehensive approach to compensatory mitigation would result in more habitat conservation than would otherwise occur over the 30-year term because many of PG&E's O&M activities would not individually require an ITP and related offsets to species impacts. The Permit Area-wide ITP, as proposed, recognizes that, even with the implementation of avoidance and minimization measures, covered activities are likely to cause incidental take of the covered species, and that take must be minimized and fully mitigated.

CDFW is the regulatory authority that may issue the PG&E Bay Area O&M ITP for California tiger salamander, Alameda whipsnake, and California freshwater shrimp. Therefore, CDFW has authority to enforce the conditions of the ITP for the covered O&M and minor new construction activities and their potential environmental impacts on the three ITP-covered species. In addition, CDFW is a trustee agency and has jurisdiction by law over natural resources affected by the ITP which are held in trust for the people of the State of California. CDFW is the trustee agency with regard to the fish and wildlife of the state, native plants, and game refuges, ecological reserves, and other areas administered by CDFW. Furthermore, as CEQA lead agency, although CDFW does not have regulatory authority over environmental resources outside of its jurisdiction, CDFW has evaluated and disclosed the significant and potentially significant environmental impacts due to issuance of the ITP and will adopt all feasible mitigation to reduce those impacts to a less-than-significant level.

As stated in Section 3.2 of this EIR, the direct and indirect impacts on the three covered species that could occur as a result of CDFW issuing the ITP for the covered O&M and minor new construction activities are the focus of environmental analysis in this EIR, including how the ITP would shape the approach to and timing of covered activities. Recognizing the proposed ITP addresses three state-listed species, the EIR evaluates potential impacts on those species, their habitats, and CDFW's trust resources located where take of the listed species is a potential outcome. Therefore, the Biological Resources impact evaluation in Section 3.4 is the focus of this EIR. For the other resource topics, the potential environmental impacts of the ITP-covered activities are evaluated in the context of the state and federal regulatory framework within which PG&E operates, PG&E's standard practices, and the implementation of the voluntary applicant avoidance and minimization measures described in Chapter 2, Table 2-3 and 2-4. To complete its work, PG&E must obtain all other necessary approvals from the CPUC, U.S. Army Corps of Engineers, State Water Board, California Coastal Commission, Caltrans, or other agencies, and must comply with other requirements such as permit conditions or agency agreements (e.g., MOU with California State Parks). Therefore, impacts of the covered activities as altered by the ITP are limited and largely attenuated, being identifiable in biology and to a lesser extent in hydrology, and diminished, if they exist at all, in other CEQA impact categories.

2.2.6 General Response 6: Definition of Minor New Construction

Commenters raised questions regarding the definition, nature, extent, and geographic locations of minor new construction covered by the proposed ITP.

As stated in Section 2.2, *Permit Area*, of this FEIR, O&M and minor new construction locations vary year to year based on maintenance schedules, changes in maintenance priority, and the need to respond to emergencies. As a result, in any given year work may be implemented anywhere in the Permit Area. O&M activities are expected to be performed throughout PG&E's ROWs and in close proximity to the ROWs over the course of the 30-year permit term.

Section 2.2, *Permit Area*, of the DEIR stated that "All proposed O&M and most minor new construction activities would be implemented within or adjacent to the Permit Area, with the exception of gas and electric line extensions, which would extend from existing ROWs for no more than 2 miles." In addition, in DEIR Section 2.7, Covered Activities, in Sections G15, E12, and E13, new sections of pipeline, extensions of distribution and transmission lines, and new segments of ROW of up to 2 miles were discussed.

To address comments on the DEIR regarding the potential for environmental impacts from extensions of electrical or gas lines well outside the existing ROWs, CDFW and PG&E agreed that the definition of minor new construction would be clarified and revised in the FEIR to exclude the up to 2-mile extensions of infrastructure from PG&E's existing ROW. Extension of service outside the ROWs will not be included as minor new construction or covered activities under the Bay Area O&M ITP. All statements related to inclusion of up to 2-mile extensions and associated text regarding extensions of infrastructure to provide new service outside the ROW are also hereby removed from the FEIR. Text edits shown in the DEIR text within this FEIR are intended to reflect these removals. This revision narrows the covered activities comprising minor new construction and avoids the potential for environmental impacts from extension of infrastructure and provision of new service outside existing ROWs.

Other minor new construction may be either within or adjacent to the ROWs, as referenced in the DEIR, so certain minor new construction that is necessary for O&M and adjacent to but outside the ROWs would continue to be a covered activity. The definition of minor new construction that would be covered by the ITP is clarified in FEIR Chapter 2, *Project Description*, Section 2.2, as follows:

> Minor new construction includes construction of gas pressure limiting stations, minor electrical substation expansions, and underground electric lines, which are adjacent to existing facilities and/or in utility or road ROWs (see G-14, E14, and E-15).

If there is information in the body of this FEIR that is inconsistent with this revision of minor new construction, the definition of the covered activities in the General Response and FEIR Project Description will prevail.

State of California • Natural Resources Agency
Gavin Newsom, *Governor*
DEPARTMENT OF PARKS AND RECREATION
Armando Quintero, *Director*
Diablo Range District
15751 Tesla Road
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February 16, 2021

Jim Starr
CA Department of Fish and Wildlife
2825 Cordelia Road, Suite 100
Fairfield, CA 94534
Jim.Starr@wildlife.ca.gov

RE: SCH Number 2017122028, Pacific Gas and Electric Company Bay Area Operations & Maintenance Environmental Impact Report

Dear Jim Starr,

California State Parks offers the following comments on the Environmental Impact Report (EIR) for Pacific Gas and Electric Company's (PG&E) Incidental Take Permit (ITP) application under section 2081 of the California Endangered Species Act with the California department of Fish and Wildlife.

As Trustee agency for resources within units of the State Park System, State Parks is responsible for the preservation of natural and cultural resources within Park unit boundaries. The potential exists for impacts to ITP-covered species within State Parks property as a result of the listed activities. The compensatory mitigation approach described in the EIR allows for the offset of impacts to the three covered species and their habitats on a regional basis. This approach would not compensate State Parks for the costs the department would incur to mitigate PG&E impacts within park property, including those associated with increased invasive species management, permanent loss of native vegetation, and restoration of impacted native habitats and plant communities, particularly those that are not associated with the three species covered in the ITP.

1.1

Impacts to natural and cultural resources within State Park units should be mitigated within the park unit where the impacts occur in order to return park property and/or resources to a pre-project condition or better with the mitigation activities paid for by the project proponent. Such mitigation activities should be paid for by the project proponent (PG&E) through a separate level of compensation other than possible mitigation banks the proponent may already pay into. State Parks would like the mitigation strategy to include this caveat with regard to species, habitats, and other State Park natural and cultural resources that are impacted by the proposed activities.

We appreciate the opportunity to provide these comments on this EIR.

Sincerely,

Eduardo Guaracha
Diablo Range District Superintendent

2.3 Individual Comment Letters and Responses

2.3.1 Department of Parks and Recreation, Diablo Range District

Response to Comment 1.1

This comment is focused on the sufficiency of compensation to State Parks for natural and cultural resource impacts within State Parks property caused by PG&E's covered activities. The comment objects to the regional compensatory mitigation approach insofar as it assertedly would not mitigate for costs the State Parks would incur to mitigate impacts caused within the parks and indicates that mitigation activities within the parks should include returning property/resources to pre-project conditions, paid for directly by PG&E. The comment requests that the mitigation strategy include these requirements.

Please see General Response 5, *Baseline*, above concerning the analysis of impacts in the FEIR, and the approval being granted by CDFW if the proposed ITP is issued. Please also see General Response 3, *On-site Restoration and Revegetation*. PG&E's practice is to return project sites to pre-project conditions and reseed sites with California annual species that are compatible with utility ROWs. The APMs have been revised, as listed in Table 2-4 of the FEIR. FP-14 was modified to indicate California annual grassland species will be used. The contents of the seed mix may vary but are comprised of California annual grassland and native species. Use of weed-free native seed mixes is intended to more rapidly recover grass/herbaceous layers in work areas that have depleted groundcover. This is preferable to allowing the primarily non-native seed bank to recover. Non-native grasses, for example, will likely retake such areas within several seasons. Ongoing maintenance of these areas (i.e., to maintain native species composition of restored areas) is not practical in small, widely distributed work areas throughout the Permit Area. However, to ensure that the impacts of minor new construction are temporary, PG&E added APM BIO-3a to minimize the spread of invasive plant species and ensure these areas are restored.

The FEIR analyzes the potentially significant effects to native vegetation, restoration of native habitats and plant communities, and impacts to cultural resources that could result from PG&E's covered activities. The FEIR concludes that, with PG&E's commitments to implementing FPs, BMPs, AMMs, and APMs, with implementation of mitigation identified in this EIR (BIO-1, BIO-2, BIO-3, and BIO-4), and within the context of issuance of the proposed ITP, those effects are less-than-significant on State Parks lands.

As to the substantive concerns raised, PG&E has separately entered into an O&M Agreement with State Parks that provides a detailed mitigation approach for O&M activities within State Parks when necessary. [Near Term Process for Utility Right of Way Maintenance Activities Agreement between PG&E and CDPR 4/27/20]. It includes a notification process and implementation of best management practices and resource protection measures that address natural and cultural resources. See also FP-14 and General Response 3: On-Site Restoration and Revegetation.

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Conservation is a state of harmony between [people] and land.

-Aldo Leopold

From: Navasero, Anthony@DeltaCouncil <Anthony.Navasero@deltacouncil.ca.gov>
Sent: Thursday, January 21, 2021 10:55 AM
To: Brown, Matthew <MVB5@pge.com>
Cc: 'Norton, Brad' <Brad.Norton@icf.com>; Farinha, Melissa@Wildlife <Melissa.Farinha@wildlife.ca.gov>; 'Wilson, Danielle' <Danielle.Wilson@icf.com>
Subject: RE: Clarification of comment period for PG&E O&M draft EIR to support ITP permit

Hello Matthew,

2.0 Thank you for your reply, we will address the comment letter to you with your address from your salutation. Please confirm. I had sent this request for clarification earlier in the chain of the email. In our review of the draft EIR for the Pacific Gas and Electric Company Bay Area Operations & Maintenance to support PG&E's incidental take permit with CDFW and the notice of completion states the public comment period ends on February 16, 2021. But the notice of intent to adopt the draft EIR states the comment period would end on January 30, 2021. Could you please clarify what the closing date for public comment on the draft EIR is the official date?

2.1 We also understand the draft EIR mentions the objective of the proposed project, covered by the EIR, are PG&E's O&M activities as well as minor new construction activities. It would be helpful to understand the nature of "minor" new construction activities as well as any specifics in regards to the geographic locations of any of these new construction activities, particularly located in and around the Delta in Solano and Contra Costa Counties.

Your reply and clarification is appreciated. Have a great day.

Sincerely,

Anthony Navasero, P.E.
Senior Engineer, Water Resources
Delta Stewardship Council
Planning and Performance Division

C: (916) 865-6120
O: (916) 445-5471

980 Ninth Street, Suite 1500
Sacramento, CA 95814

Knutson, Robert

From: Navasero, Anthony@DeltaCouncil <Anthony.Navasero@deltacouncil.ca.gov>
Sent: Thursday, January 21, 2021 2:00 PM
To: Brown, Matthew
Cc: Norton, Brad; Farinha, Melissa@Wildlife; Wilson, Danielle; Henderson, Jeff@DeltaCouncil; Livengood, Avery@DeltaCouncil; Brydie, Lita@DeltaCouncil
Subject: RE: Clarification of comment period for PG&E O&M draft EIR to support ITP permit

Thank you for the correction, noted.

Anthony Navasero, P.E.
Senior Engineer, Water Resources
Delta Stewardship Council
Planning and Performance Division

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O: (916) 445-5471

980 Ninth Street, Suite 1500
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From: Brown, Matthew <MVB5@pge.com>
Sent: Thursday, January 21, 2021 1:07 PM
To: Navasero, Anthony@DeltaCouncil <Anthony.Navasero@deltacouncil.ca.gov>
Cc: 'Norton, Brad' <Brad.Norton@icf.com>; Farinha, Melissa@Wildlife <Melissa.Farinha@wildlife.ca.gov>; 'Wilson, Danielle' <Danielle.Wilson@icf.com>; Henderson, Jeff@DeltaCouncil <Jeff.Henderson@deltacouncil.ca.gov>; Livengood, Avery@DeltaCouncil <Avery.Livengood@deltacouncil.ca.gov>; Brydie, Lita@DeltaCouncil <Lita.Brydie@deltacouncil.ca.gov>
Subject: RE: Clarification of comment period for PG&E O&M draft EIR to support ITP permit

Thanks Anthony! The only item I would like to clarify is that the 16th of February is the close of public comment, not the 21st. We look forward to addressing your concerns outlined in your forthcoming comment letter.

-Matt

Matthew Brown *PMP, RPF, PCA*
Principal Land Consultant
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From: Navasero, Anthony@DeltaCouncil <Anthony.Navasero@deltacouncil.ca.gov>
Sent: Thursday, January 21, 2021 12:43 PM
To: Brown, Matthew <MVB5@pge.com>
Cc: 'Norton, Brad' <Brad.Norton@icf.com>; Farinha, Melissa@Wildlife <Melissa.Farinha@wildlife.ca.gov>; 'Wilson, Danielle' <Danielle.Wilson@icf.com>; Henderson, Jeff@DeltaCouncil <Jeff.Henderson@deltacouncil.ca.gov>; Livengood, Avery@DeltaCouncil <Avery.Livengood@deltacouncil.ca.gov>; Brydie, Lita@DeltaCouncil <Lita.Brydie@deltacouncil.ca.gov>
Subject: RE: Clarification of comment period for PG&E O&M draft EIR to support ITP permit

Hello Matt,

I appreciate your reply and it is helpful. It is my understanding that the draft EIR/ITP is programmatic in nature without specifics to particular projects, their locations, nor time frames. With your information below and the nuances that our regulatory role applies, it appears that our comment letter would be less specific regarding potential covered actions (projects, plans, or programs of which the Delta Plan regulatory policies may have purview) and applicable regulatory policies, but be broader in scope. Our broader comments would focus on, but not limited to, the following:

- Coordination and consultation with Council staff (e.g. early consultations) for future PG&E actions to: 2.2
  - Provide an understanding of future PG&E projects and actions within the Legal Delta
  - Ascertain the applicable authority of the Delta Plan and its regulatory policies on such future PG&E projects and actions
- Assist PG&E with their understanding and self-determination of future PG&E projects and their status as covered actions under applicable Delta Plan regulatory policies 2.3
- Provide guidance, if said projects were determined to be covered actions, on the development of and the process to submit a required certification of consistency with the Delta Plan by PG&E 2.4

The comment letter will expand on these items and potentially other items.

Per your response, the comment letter will be addressed to CDFW, care of Melissa Farinha, of the EIR Bay Area Ops and Maintenance Coordinator (at 2825 Cordelia Road Suite 100 Fairfield, CA 94534) and sent via email to: AskBDR@wildlife.ca.gov. We will also carbon copy you at your provided email (MVB5@pge.com, unless you provide another preferred email address) and anyone else you would think it be appropriate to carbon copy. We will also work off of your response and work towards submitting a comment letter by February 21, 2021 as the close of the public comment period.

Please reply if I have made any incorrect assumptions or understandings to clarify. I appreciate your time, have a great day.

Anthony Navasero, P.E.
Senior Engineer, Water Resources
Delta Stewardship Council
Planning and Performance Division

C: (916) 865-6120
O: (916) 445-5471

980 Ninth Street, Suite 1500
Sacramento, CA 95814

From: Brown, Matthew <MVB5@pge.com>
Sent: Thursday, January 21, 2021 11:53 AM
To: Navasero, Anthony@DeltaCouncil <Anthony.Navasero@deltacouncil.ca.gov>
Cc: 'Norton, Brad' <Brad.Norton@icf.com>; Farinha, Melissa@Wildlife <Melissa.Farinha@wildlife.ca.gov>; 'Wilson, Danielle' <Danielle.Wilson@icf.com>
Subject: RE: Clarification of comment period for PG&E O&M draft EIR to support ITP permit

Thanks Anthony,
Although the EIR was originally applicant (PG&E) prepared in collaboration with ICF, I think it would be most appropriate to address CDFW on any formal comment letters since they are the lead agency and this is their document at this point. The PG&E team is here in a complementary role to provide responses to comments in cooperation/partnership with CDFW.

With respect to the comment period – CDFW would have to confirm, but I was told that the comment period closes on 02/16/2021. Initially CDFW/PGE staff discussed a 30-day comment period for this EIR, but opted to use the 45-day window to ensure adequate timeframes for public comment. The January date may have been a holdover from that original plan. Unless told otherwise, please use the February 16, 2021 close date for the purposes of providing comments.

Regarding minor new construction – in general minor new construction (MNC) is included as a covered activity given that PG&E has an obligation as a public utility to provide gas and electric service to Californians in the Bay Area. The MNC will be directly related to upgrading or replacing existing facilities, or short service extensions for new customers. A simple example would be related to installation of a new distribution line to establish electric service to a new home/customer, for which PG&E is mandated to provide. The location of this work is not known in advance, but is expected to be quite limited and near existing rights of way. Furthermore, PG&E will review the potential impacts of all maintenance and MNC activities based on specific location conditions and seek additional permits and/or approvals if needed (2081, 1602, CWA 401/404, etc.). Essentially, if an activity falls outside the scope of the EIR (which is specific to maintenance actions and covered species), a separate planning process will occur because the activity or project does not meet the thresholds established within this EIR and subsequent ITP. An example would be if PG&E identifies the potential for an activity to affect Waters – at a minimum additional analysis/planning as well as permitting might be required prior to work commencing; in this case the ITP associated with this EIR would only be complementary to that maintenance activity.

I would also add that a large portion of the covered activities would not normally trigger CEQA or necessitate take coverage and subsequent compensatory mitigation; however, PG&E/CDFW are taking a conservative approach to these maintenance activities and MNC. I hope this helps and thank you for your interest in this EIR/ITP. Feel free to reach out if you have any additional questions.

-Matt

Matthew Brown *PMP, RPF, PCA*
Principal Land Consultant

From: Brown, Matthew <MVB5@pge.com>
Sent: Thursday, January 21, 2021 10:25 AM
To: Farinha, Melissa@Wildlife <Melissa.Farinha@wildlife.ca.gov>; 'Wilson, Danielle' <Danielle.Wilson@icf.com>; Navasero, Anthony@DeltaCouncil <Anthony.Navasero@deltacouncil.ca.gov>
Cc: 'Norton, Brad' <Brad.Norton@icf.com>
Subject: RE: Clarification of comment period for PG&E O&M draft EIR to support ITP permit

Thanks Melissa and Anthony,
Any correspondence or inquiries related to this EIR/ITP should be addressed directly to PG&E staff (me) with copies to Danielle and Brad at ICF. My contact info is provided below in the signature line for the group.

Thank you!

-Matt

Matthew Brown *PMP, RPF, PCA*
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-Aldo Leopold

2.3.2 Delta Stewardship Council

Response to Comment 2.0

This comment is focused on CEQA's procedural requirements for public review of the DEIR found in CEQA Guidelines 15087 and 15105, and an apparent discrepancy concerning the end of the public comment period. Public review began with SCH publication on 12/31/20, and the stated review period of 45 days ended on 2/16/21 as indicated in the notice of completion and the SCH website. The commentor is correct that the notice of intent to adopt the draft EIR mistakenly showed January 30, 2021 as the end of the public comment period. In an inquiry by the commentor to PG&E, PG&E clarified that the end of the comment period was 2/16/21.

In fact, that deadline was extended after CDFW discovered it had failed to mail notice to the organizations who had previously requested such notice as required by 15087(a). When made aware of the oversight by email on 2/12/21, CDFW immediately extended the comment deadline for those three groups to 3/17/21. At the request of the Citizens Committee to Complete the Refuge (CCCR), it was further extended to 3/19/21.

Response to Comment 2.1

This comment questions the "nature" of minor new construction activities, and requests specifics as to where these activities will be located, particularly in and around the Delta in Solano and Contra Costa counties.

Please see General Response 6, *Definition of Minor New Construction*.

The FEIR contains details about minor new construction activities (see Section 2.7, *Covered Activities*) and includes information on how impact estimates were made. This is a program-level ITP, so is necessarily a generalized projection of the minor new construction that would be required during the permit period, based on historic precedent and utility practice. While specific locations for future minor new construction activities are still unknown, they are expected to be limited and near existing utility facilities or rights of way. General Response 6, above, clarifies the definition of minor new construction and removes facility extensions of up to 2 miles from the ITP covered activities. The proposed ITP is not an approval of these activities, but rather provides incidental take authorization if those activities impact covered species or habitat. (See General Response 5, above.)

The FEIR contains sufficient information to assess whether the proposed ITP for minor new construction would cause an incremental change to baseline and whether that change is significant. It also specifies measures (see FEIR Tables 2-3 and 2-4 and Mitigation Measures BIO-1, BIO-2, BIO-3, and BIO-4) to reduce any significant impacts to a less-than-significant level, with additional measures in place that specifically address minor new construction. (See, e.g., APM BIO-3 and APM BIO-3a in Table 2-4 of the FEIR.)

Response to Comment 2.2

PG&E's covered activities are not being approved in this proposed ITP; to complete this work, PG&E must obtain whatever permits are required from the CPUC or other agencies under other applicable laws. (See General Response 4: *Agency CDFW Oversight*, and General Response 5, *Baseline*, above.) In

issuing this permit, CDFW is authorizing incidental take of three species for PG&E's covered activities that could impact those species.

The FEIR was modified to include information on the Delta Reform Act on page 3.10-7. The FEIR contains analysis sufficient for CDFW to conclude that the Delta Reform Act does not apply to these activities. It establishes that PG&E is not a state or local agency and is not undertaking a qualifying action consistent with the Delta Plan (Water Code, § 85225).

A covered action is defined in section 85057.5:

a. "Covered action" means a plan, program, or project as defined pursuant to Section 21065 of the Public Resources Code that meets all of the following conditions:
    1) Will occur, in whole or in part, within the boundaries of the Delta or Suisun Marsh.
    2) Will be carried out, approved, or funded by the state or a local public agency.
    3) Is covered by one or more provisions of the Delta Plan.
    4) Will have a significant impact on achievement of one or both of the coequal goals or the implementation of government-sponsored flood control programs to reduce risks to people, property, and state interests in the Delta

Obligations established in the Delta Plan and regulations require state and local agencies to seek certification for covered actions. The issuance of a 2081 permit by CDFW to PG&E does not meet the definition of a "covered action" under the Delta Plan and its regulations as PG&E is a public utility seeking incidental take authorization. The take authorized under the permit does not constitute a covered action and thus, a requirement for a certification of consistency is not triggered. In addition, PG&E's covered activities include maintenance of existing facilities that is mandated by state and federal law.

Response to Comment 2.3

See Response to Comment 2.2.

Response to Comment 2.4

See Response to Comment 2.2.

CITIZENS COMMITTEE TO COMPLETE THE REFUGE

453 Tennessee Lane, Palo Alto, CA 94306 Tel: 650-493-5540 www.bayrefuge.org [redacted]

Via Electronic Mail with Attachment

Melissa Farinha 19 March 2021
Acting Environmental Program Manager
Bay Delta Region, Delta Habitat Conservation Program
2825 Cordelia Road, Suite 100
Fairfield, CA 94534
Melissa.Farinha@wildlife.ca.gov

Re: Draft Environmental Document for the Bay Area Operations and Maintenance Activities Proposed by Pacific Gas and Electric

Dear Ms. Farinha:

These comments submitted by the Citizens Committee to Complete the Refuge (CCCR), respond to the Draft Environmental Impact Report (DEIR) for the Bay Area Operations and Maintenance (O&M) Activities Proposed by Pacific Gas and Electric. We appreciate the time extension that has been provided as we were not notified in a timely fashion that the DEIR had been released for public comment.

The geographic area proposed for coverage are the nine Bay Area counties: Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, and Sonoma. The NOP states that it is being prepared as part of the application review for a Bay Area Incidental Take Permit (ITP) for three species protected under the California Endangered Species Act (CESA), Cal. Fish & Game Code §2081: the California tiger salamander (*Ambystoma californiense*), the California freshwater shrimp (*Syncaris pacifica*) and the Alameda whipsnake (*Masticophis lateralis*). The proposed term of this ITP is for a period of thirty years.

CCCR submitted comments on a Draft Environmental Assessment (EA) and Draft Habitat Conservation Plan (HCP) for Pacific Gas and Electric Company's (PGE) Operations and Maintenance (O&M) activities in the nine Bay Area counties for 31 federally listed species, the U.S. Army Corps of Engineers proposed Regional General Permit for PGE's O& M activities in the nine Bay Area counties, and scoping comments for the current CDFW DEIR. We are attaching those comment letters, as well as a comment letter submitted by CCCR's consultant for the HCP, Dr. Shawn Smallwood, so that those may be incorporated into this review process as they contain information pertinent to the proposed ITP.

We are disappointed that substantive issues identified in scoping comment letters provided by CCCR and the Center for Biological Diversity do not appear to have been addressed in the DEIR. We believe that the concerns we express below identify the DEIR as flawed and inadequate and we suggest how those flaws may be addressed.

CCCR respectfully submits the following substantive concerns regarding the proposed ITP and DEIR in hopes that the ITP will address these flaws and that the DEIR is rewritten to recognize the significant avoidable impacts that if failed to identify in its current form.

Project overview:

The DEIR states:

> "The ITP's comprehensive approach to compensatory mitigation would result in more comprehensive habitat conservation than would otherwise occur over the 30-year term because many of PG&E's O&M activities for which measures would be implemented would not individually cause incidental take requiring related mitigation of species impacts."

3.1 While it may be possible that the approach has the potential to result in "more comprehensive habitat conservation," there are substantive concerns that the failure to adequately identify and assess the impacts of the proposed covered activities on biological resources, the inadequacy of proposed mitigation measures and the overall absence of language regarding CDFW's commitment to ensure compliance with the mitigation measures that have been provided, does not instill any confidence that the adverse impacts of the proposed project to biological resources will be less than significant. The DEIR does not provide adequate rationale that "take" will not occur for listed and candidate species not covered by this proposed ITP. We urge CDFW to address these glaring issues before release of the Final Draft Environmental Impact Report and Incidental Take Permit.

Covered Species:

According to the DEIR, the PGE O&M Incidental Take Permit (ITP) would "establish a comprehensive approach to avoid, minimize and fully mitigate impacts on three covered species: California tiger salamander (CTS), Alameda whipsnake (AWS), and California freshwater shrimp." It is still unclear why only these three species have been selected. Despite our request that CDFW provide rationale for why the ITP is limited to these three species, none has been provided. It is deeply concerning that implementation of the PGE O&M ITP could inadvertently result in "take" of listed species such as the California Black Rail, California Least Tern, Northern Spotted Owl and Marbled Murrelet, or species of special concern such as the Burrowing Owl (which is reported to have 333 occurrences throughout the study area), California red-legged frog, Western pond turtle, etc.

3.2 Why are species that were included in the federal HCP such as the San Joaquin kit fox, salt marsh harvest mouse, Ridgway's Rail, San Francisco garter snake, pallid manzanita and Contra Costa wallflower not been included? How will the Department reconcile potential adverse impacts to "Fully Protected Species" that are covered under the federal HCP and are likely to suffer "take" under PG&E's O&M activities? The DEIR failed to fully identify and discuss impacts to tidal wetland species including the salt marsh harvest mouse and Ridgway's Rail. One has only to look at Google Earth images to recognize that PG&E has extensive facilities crossing tidal wetlands habitats around the Bay.

Why is Burke's goldfields, a state endangered species, not included in the ITP and why is no mitigation proposed for likely impacts to this species? Appendix B of the DEIR indicates "Electric distribution lines cross 10 occurrences, electric transmission lines crosses 1 occurrence, gas transmission lines cross 2 occurrences, gas

distribution lines cross 2 occurrences." There is also a comment, "Gas pipeline repair/replacement could have long term effects." Is the gas pipeline repair/replacement something that will not be implemented within the 30-year lifespan of the ITP? Similar comments appear for the state threatened Marin dwarf-flax. The notation for the Pallid manzanita, a state endangered species, states "Vegetation management and gas pipeline repair/replacement could have long term effects." Appendix B includes a number of state listed plant species that have similar notations about the potential of covered activities to have a "long term effect." An explanation should be provided to clarify why these plant species have not been included in the ITP.

3.2 cont.

In a comment letter submitted on behalf of CCCR, Dr. Shawn Smallwood provides numerous examples of wildlife species covered by Natural Community Conservation Plans (NCCPs), HCPs, and Conservation Strategies within the nine Bay Area counties. This information is summarized on Table 2 of Dr. Smallwood's comment letter.

Inadequacy of proposed Field Protocols:

FP-04 requires that off-road access routes and work sites be located "to minimize impacts on plants, shrubs, trees, small mammal burrows and unique natural features (e.g., rock outcrops)." The language of the FP seems somewhat protective, but only if such activities are monitored for compliance to ensure adverse impacts to biological resources are avoided.

In his comment letter dated April 24, 2017, Dr. Smallwood provides this observation on page 15:

> "PG&E's operation and maintenance activities risk injury, death and displacement impacts to burrowing owls. Burrowing owls are vulnerable to electrocution on distribution poles and collisions with lines (Appendices 1 and 2). They are also vulnerable to displacement caused by inspections and maintenance activities along transmission lines and gas pipelines. "**Just recently, on 13 April 2017, I was surveying for burrowing owls in the Altamont Pass when the last two breeding pairs I had found that day were flushed by a caravan of PG&E trucks and a tractor driving over wet grassland during a rainstorm, moving from one set of transmission towers to the next. The PG&E crew appeared oblivious to the owls as they drove within about 3 feet of both nest burrows, flushing the owls to the other side of the canyon. Not only did this caravan narrowly miss driving over the owls' nest burrows, but their flushing of the owls exposed the owls to predators."** [emphasis added]

3.3

Without stricter oversight by PG&E and without a commitment to monitoring and compliance enforcement by CDFW, the proposed Field Protocols have little value in reducing such adverse impacts.

We ask that the DEIR be rewritten to include specific monitoring protocols to ensure this type of disturbance does not happen, and if it does it is identified and mitigations imposed.

FP05 – The field protocol requires that a conservation landowner be provided at least 2 business days-notice prior to conducting covered activities on protected lands. We urge the notification be provided at least one week in advance of any work on protected lands. This provides more time for staff to respond to the notification particularly if there is the need to alert PG&E of any seasonal prohibitions on work, or if the work would interfere with monitoring or other activities that have been scheduled.

3.4

FP-06 – This field protocol should be reworded to read:

> "Pipe and culvert storage: Minimize potential for covered species to seek refuge or shelter in pipes and culverts. Inspect pipes and culverts, of diameter wide enough to

3.5

be entered by a covered species that could inhabit the area where pipes are stored, for wildlife species prior to moving pipes and culverts. Immediately contact a qualified biologist if a ~~covered species~~ *listed or special-status species* is suspected or discovered."

3.5 cont. Notification of a qualified biologist should not be restricted to situations in which only the three covered species are encountered. There are a number of state and federal listed species or species of concern that may utilize pipes or culverts as shelter. Harassment or injury to any noncovered listed species is still a take. Notification should be required for any listed or special-status species, because it is important to monitor whether the covered activities are resulting in take or adverse impacts to noncovered species. Failure to adequately address non-covered listed species will invalidate this DEIR.

3.6 **FP-07** – Vehicle speeds – Is the maximum speed of 15 miles per hour on unpaved roads sufficiently slow for species such as amphibians to be spotted or for these species to move out of harm's way? Is there a limitation on vehicle speed imposed for off-road access?

3.7 **FP 14** – This field protocol states that where the covered activity disturbs 0.1 acre or more of habitat for a covered species in grasslands, "the field crew will revegetate the area with a commercial "weed free" seed mix. Is it left to the field crew to determine the appropriate seed mix to utilize? Is a qualified biologist involved in the decision-making process? What is in a "commercial weed free" seed mix – appropriate native grassland species? This field protocol needs to be amended to assure that appropriate native grassland species are utilized. And simply applying seed does not ensure the area will revegetate. Is there any monitoring involved to ensure the revegetation is successful? Have success criteria been established? What monitoring is proposed to ensure weedy invasive species do not overtake areas that have been disturbed and what contingency measures would be employed if this occurs? The DEIR needs to address these essential elements of a successful ITP program.

3.8 **FP 16** – Work adjacent to vernal pools, wetlands, ponds, or riparian areas should only occur during the dry season unless there is an emergency situation. In that instance a qualified biological monitor should be present during the activity, the area should be flagged, access should be restricted to foot access, and after the activity has been completed, the area should be carefully inspected to assure there has been no changes in topography due to trampling or vehicles as this could adversely impact the hydrology of vernal pools and wetlands. The DEIR needs to address these essential elements of a successful ITP program.

BMP 2 – Please see comments regarding FP-05.

BMP 7 – Please see comments regarding FP-07

3.9 **BMP 14** – Elderberry longhorn beetle habitat – please define the requirements for a "qualified individual" is this someone who has been trained to identify elderberry plants? A botanist? Someone qualified to identify Valley Elderberry Longhorn Beetles and their habits? What additional measure will be implemented if elderberry plants have one or more stems 1 inch or more in diameter at ground level? This information should be included in the DEIR. The DEIR needs to be rewritten to address these questions.

3.10 **BMP 15** – Northern Spotted Owl – This BMP does not provide adequate oversight or monitoring to ensure that the "take" of Northern Spotted Owl will be avoided. We concur that work should not occur in the vicinity of a Northern Spotted Owl nest during the breeding season, and that any work conducted should be done with hand tools or hydraulic tools. However, appropriate buffer distance from the nest should be determined by a qualified biologist and based upon observed behavioral clues rather than relying on a set minimum distance of 300'. A qualified biologist should be present to monitor the owl's response to the activity and have the authority to stop work if need be.

3.11 **BMP 16** – Migratory Birds - What is the "Vegetation Migratory Bird Process"? If it is a document that is to be assessed for efficacy in mitigating covered activity impacts on migratory birds it should be included in the DEIR and so the DEIR should be rewritten to include this information.

3.12 **BMP 18** – Sudden Oak Death – We had requested in our scoping comments that the public be provided access to the "Vegetation Sudden Oak Death Protocols." This document has not been provided therefore we cannot comment on the efficacy of the protocols in avoiding the spread of *Phytophthora ramorum.* During previous conversations with PG&E the environmental community had requested that PG&E identify and mitigation measures to avoid the spread of other *Phytophthora* species. A 2015 Bay Nature article describes the serious and extensive threat posed by *P. tentaculata* on San Francisco Public Utilities Commission (SFPUC) lands.[1] This BMP states in part, "...Vegetation management personnel shall follow any environmental protection measures identified for the job." It is impossible to evaluate whether impacts will be avoided or minimized or what the efficacy of the environmental protection measures may be since they are unidentified. The DEIR should be rewritten to explicitly describe what these measures are and who identifies the protection measures, is should be a qualified biologist.

3.13 **BMP 23** – Accident response – This BMP should include language that ensures CDFW or USFWS will be notified immediately in the even of accidental taking of an endangered species or hazardous spills, etc. The DEIR should be rewritten to explicitly describe what these measures are and who identifies the protection measures, is should be a qualified biologist.

3.14 **BMP 30** – Work activities near streams, wetlands, or saturated soils. This BMP should include language that requires inspection of any site where work is performed during the rainy season to ensure tire ruts, tracks, etc. don't disrupt the local hydrological regime.

3.15 **VM Herbicide BMPs** – The use of any herbicide in or adjacent to vernal pools, wetlands and riparian areas should be approved by CDFW and USFWS before use.

3.16 **VM BMPs** – This section relies on the use of CNDDB resources to check for records of threatened, endangered, or sensitive species. It is our understanding that there is a year or greater backlog of CNDDB data. In areas that have habitat that support listed or special-status species a survey should be conducted prior to ROW clearing. It would seem that at certain times of the year this would be necessary anyway to ensure nesting birds are not

[1] Hawkes, Alison. "*Killer Plant Pathogen is Widespread at SFPUC's Alameda and Peninsula Restoration Sites.*" July 16, 2015. Bay Nature Magazine. https://baynature.org/article/killer-plant-pathogen-is-widespread-at-sfpucs-alameda-county-and-peninsula-restoration-sites/

3.16 cont. adversely impacted. These BMPs do not include language to avoid adverse impacts to nesting birds or migratory birds. These BMPs do not include any follow up monitoring to ensure erosion control measures are intact and preventing erosion of disturbed and adjacent areas.

3.17 **APM BIO-1 – Prevent or minimize spread of invasive weeds** – This mitigation measure should include a requirement for daily monitoring or a log of inspection reports to ensure the required actions are implemented effectively and daily.

3.18 **APM BIO-2 – Protect covered wildlife encountered while performing covered activities** – It isn't clear why these mitigation measures would not extend to any listed or special status species. Encounters with all listed species and special status species should be reported to a project biologist. These encounters should all be documented and provided to CDFW in an annual report. This is the only way CDFW can determine if the ITP species coverage is adequate or if the covered activities are having unanticipated impacts on other listed and special status species. Certainly, all the data identified would be pertinent for all listed and special status species. To not include all listed and special status species in this mitigation measure is essentially turning a blind eye to any deficiencies that might exist in the ITP coverage for covered activities. Failure to address this in the ITP will result in possible take of non-covered and non-listed species and the DEIR must identify this as a significant avoidable impact.

3.19 **APM BIO-6 – Protect nesting birds** – It is important to emphasize that the lower buffer limits mentioned are for low disturbance level activities. It is imperative that a qualified biologist survey for nests and set appropriate nest buffer distances, that active nests be monitored to ensure activities will not result in loss of active nests.

3.20 **APM BIO-7 – Protect breeding and pupping bats** – The language of this mitigation measure should be amended to require that an exclusionary buffer must be maintained around active roosts. The size of the buffer may be modified after consultation with and approval from CDFW staff. A qualified biologist should monitor active roost site buffers to ensure noise or vibration from implementation of covered activities do not adversely impact the roost site.

3.21 **APM BIO-8 – Avoid Alameda whipsnake in core habitat** – Please provide clarification of this proposed mitigation measure. The mitigation measure refers to core habitat, then says if "a whipsnake is encountered during construction activities that present a risk to the snake will stop until the snake has moved out of the construction area." Does this mean that whipsnake could in essence be "chased" out of core habitat? Nothing in the language of the proposed mitigation measure requires documentation or reporting to CDFW. Causing an animal to change its behavior is a take and should be documented and reported.

3.22 **MM BIO-1 Acquire, preserve and/or enhance suitable habitat for mitigation** – We support the concept of advanced mitigation, however, we are concerned the ITP language provided in the DEIR is insufficient to demonstrate that the mitigation ratios for temporary impacts on modeled habitat for California freshwater shrimp and CTS (Sonoma County DPS) 1:1 ratio, temporary impacts on modeled breeding habitat for CTS (both Central California and Sonoma County DPS) 1:1 ratio, temporary impacts on modeled upland habitat for CTS (Central California DPS) 0.5:1 ratio are adequate to mitigate for adverse impacts of covered activities on the species because there are no success criteria for restoration success and no monitoring or compliance actions to ensure areas are actually restored to pre-activity conditions. The same substantive concerns hold true for temporary impacts to non-core AWS habitat (0.5:1 ratio) and for temporary impacts to AWS core or perimeter core habitat (1:1 ratio). Without requiring revegetation plans with success criteria and monitoring and reporting, there is no assurance that temporary impacts are indeed temporary.

What geographic limitations would be placed on acquisition/preservation/enhancement of suitable habitat? That is, how far from the impacted local population would be acceptable – within the same watershed? County? For example, the DEIR states for the CTS Sonoma County DPS that the modeled habitat within the Permit Area in Sonoma County encompasses approximately 2,404 acres, and that "For this DPS, O&M and minor new
3.23 construction activities would result in an estimated permanent loss of 13 acres of breeding habitat and temporary loss of 80 acres of habitat." The loss of 13 acres of breeding habitat in an area experiencing tremendous growth pressure seems significant. Will there be limitations on levels of "take" that may occur for the different CTS DPS and will acquisitions to offset take occur within the appropriate geographic range of each of the DPS's? Failure to include this in the ITP could result in take and the DEIR should be rewritten to identify the lack of these measures as significant avoidable impacts.

Biological Resource Section Comments –

3.24 The footnotes of Table 3.4-1. "Mapped Extent of Land Cover Types in Permit Area" notes that new facilities (over the course of the 30-year period?) are estimated at approximately 3,800 acres and that the new facilities "are expected to be located predominately in natural lands." Please provide a similar table that identifies the
3.25 types of activities that would have impacts and the types of habitats that would be impacted. Please also explain the discrepancy with the comment on page 3.4-85 that states, "The total amount of permanent disturbance associated with minor new construction is estimated at 168.3 acres over 30 years." Does this statement specifically address the total impacts of potential new construction on AWS critical habitat?

3.4.2.2. Impact Discussion –

The DEIR states:

> "Under the provisions of California Fish and Game Code Section 1913(b), the incidental removal of endangered or rare plant species is not prohibited within a ROW to allow a public utility to fulfill its
3.26 obligation to provide service to the public; however, to the extent feasible PG&E will notify CDFW and provide the opportunity to salvage rare plants in advance of covered activities." [emphasis added]

This should be formalized into a mitigation measure that includes procedures for contacting CDFW, handling and salvage and relocation of rare plants, to reduce the adverse impacts of the covered activities on rare plant species.

Deferral of mitigation -

With respect to wetland special-status plants, the DEIR states:

> "O&M and minor new construction activities in wetlands and riparian areas that support special-status plant species would be avoided without acquisition of appropriate permits from agencies with jurisdiction over specific activities in wetlands and other waters. If such permits were required and obtained, direct impacts on wetland special-status plant species could occur; however, activities would be subject to additional
3.27 measures to further avoid and minimize direct impacts on such species." [emphasis added]

This is a deferral of mitigation. This language does not ensure that adverse impacts to wetland special-status species will be avoided, minimized or mitigated. U.S. Army Corps of Engineers (Corps) Nationwide Permits (NWP) exist for

3.27 cont.

some of the types of covered activities described. NWPs are expedited permits with limited review and minimal special conditions for site-specific impacts. In addition, PG&E applied to the Corps for a Regional General Permit (RGP) for its O&M activities in the nine Bay Area counties. RGPs are similar to NWPs in that they are set up to expedite permitting that fit into the terms and conditions of the region-wide permit. There would be little opportunity for site specific mitigation measures. Thus, the potential that future permits would require protective measures is not something the CDFW or the public should place any reliance upon, when evaluating if adverse impacts to rare wetland plants will be minimized or mitigated. This language and rationale also appear in the discussion of the potential impacts of the covered activities on special-status fish species, fish and fish habitats and in the language regarding listed and special-status amphibians.

Special-status plants -

Under the analysis of impacts to special-status plants the DEIR states:

> "PG&E would also implement specific APMs designed to further avoid and minimize impacts on special-status plants. PG&E would conduct habitat assessments, pursuant to its environmental review process described in Section 2.9, when planned O&M or minor new construction activities would occur in potential habitat." [emphasis added]

3.28

The DEIR should include requirements for protocol level surveys by a qualified, CDFW approved biologist/botanist early in the planning process of any proposed new construction or expansion activity. Standards for salvage, relocation, replacement should be provided as well.

Under the discussion of potential impacts to surface waters including vernal pools and swales, the DEIR requires PG&E to:

> "Return work areas to their pre-existing contours and conditions upon completion of work. Restoration work, including revegetation and soil stabilization, would be evaluated upon completion of work and performed as needed."

3.29

Restoration work of work areas adjacent to vernal pools and swales and wetlands should be planned in advance of conducting the actual work. Plans should include target species for revegetation, success criteria, soil stabilization, monitoring and potential contingency measures for impacts to work areas adjacent to wetlands, particularly wetlands (including vernal pools and swales) that support listed and special-status species should be reviewed and approved by CDFW in advance of implementation of the covered activity. This is particularly important for wetlands and surface waters that support listed and special-status amphibians that utilize the surrounding area for dispersal.

Potential excavation of CTS burrows -

With respect to trenching in potential CTS upland habitat the DEIR states:

3.30

> "...there may be instances where, in support of larger (more than 0.1 acre) O&M or minor new construction activities, PG&E would excavate potential California tiger salamander burrows to relocate individuals or otherwise attempt to reduce the potential for mortality at an area requiring trenching or other excavation activity."

3.30 cont. The DEIR must include a mitigation requirement that a CDFW/USFWS approved biological monitor will be present at all times, if such excavation activity is proposed.

Failure to provide adequate mitigation for noncovered reptile species -

Of substantive concern is the description of potential impacts to noncovered species of reptiles:

> "...There is a greater potential for larger-scale O&M activities and minor new construction to adversely affect individuals of the species, when movement of vehicles, removal of scrub or chaparral vegetation, or grading of roads during the day could result in the mortality of Alameda whipsnake, coast horned lizard, California legless lizard, and California glossy snake. Construction activities that include grading, trenching, or excavation could result in death or injury of adults, juveniles, or eggs. Adults and hatchlings of coast horned lizard and California legless lizard could be crushed by construction vehicles and equipment and also could potentially crush California glossy snakes by collapsing small burrows. Habitat restoration or enhancement activities related to Alameda whipsnake compensatory mitigation under MM BIO-1, while ultimately beneficial to a variety of special-status reptiles, could also result in injury or mortality of individuals of these species." [emphasis added]

3.31

The DEIR fails to demonstrate that adverse impacts to noncovered listed and special-status reptile species will in fact be mitigated by habitat restoration activities related to Alameda whipsnake compensatory mitigation. We don't know where impacts to noncovered species will occur or to what extent. There is no monitoring or reporting requirement for impacts to noncovered reptile species. The location of Alameda whipsnake compensatory mitigation has no requirement that it provide habitat for the mentioned species. There is no way to identify the extent of impacts or criteria or standards for offsetting impacts to noncovered reptile species.

Equally concerning is the discussion of potential impacts to two listed garter snake species:

> "Suitable aquatic and upland habitat for San Francisco garter snake may be removed or temporarily disturbed by O&M or minor new construction activities, which could result in the injury, mortality, or disturbance of giant garter snakes. Ground-disturbing activities (grading, trenching, or excavating) could crush or bury newborn, juvenile, and adult San Francisco garter snakes and giant garter snakes in upland areas and as well as snakes using adjacent aquatic areas for dispersal, basking, foraging, or sheltering. Construction vehicles and equipment traveling to and from work areas also could potentially kill garter snakes when traveling through upland habitats or crush them by collapsing small burrows that snakes may be using for cover, hibernation, or dispersal."

3.32

First of all, this once again raises the question of why these species aren't included as covered species. Any of these described impacts would be a take. What are the CDFW reporting requirements for noncovered reptile species? Would CDFW take enforcement action if take occurs? If these are known potential impacts of proposed covered activities, and these species aren't covered by an ITP, then how will PG&E and CDFW ensure these impacts do not occur? The DEIR should include protective mitigation measures to ensure Also lacking from the language of the DEIR are assurances that CDFW will be monitoring the impacts of the proposed O&M covered activities on noncovered listed and special-status species. This is crucial to ensure that adverse impacts to covered and noncovered species are kept to a less than significant level.

Also lacking from the language of the DEIR are assurances that CDFW will be monitoring the impacts of the proposed O&M covered activities on noncovered listed and special-status species. This is crucial to ensure that adverse impacts to covered and noncovered species are kept to a less than significant level.

3.32 cont. take of the two garter snake species does not occur. The DEIR should also include mitigation measures for replacement or restoration of damaged garter snake aquatic and upland habitat.

Nesting bird surveys -

A mitigation measure should be provided that clearly states that nesting bird surveys should be conducted by a qualified biologist. The appropriate timing of surveys with respect to proposed work should be approved by CDFW. This information should be provided in the FEIR.

3.33 Nest buffer distances, particularly in areas of sensitive habitat should be approved by CDFW. Monitoring of special-status species should occur throughout the duration of a covered activity to ensure the activity does not result in nest abandonment.

Depending upon circumstances, a 0.5-mile line-of-sight buffer may be inadequate for Golden Eagles.[2] The USFWS recommended buffer zone for ground-based human activities around nesting sites in California and Nevada recommends a line-of-site distance of 1.0 miles for pedestrian and non-motorized activity.

San Joaquin kit fox and American badger –

3.34 The DEIR discusses potential impacts to San Joaquin kit fox and American badger, discusses how the proposed FPs may potentially avoid impacts to these species, but ends the discussion with the comment, "If a potential kit fox or badger den is in conflict (i.e., subject to direct impacts) with a covered activity for which there is no alternative, CDFW would be consulted to determine if additional take coverage would be required to complete the project." What are the reporting requirements that will ensure additional coverage would be sought?

Critical habitat impacts -

The DEIR states, "In accordance with APM BIO-3, project siting and design would avoid unique plant assemblages, climate refugia, and occupied and suitable habitat for special-status species." The actual language of APB BIO-3 is:

3.35

APM BIO-3: Design and site minor new construction projects to avoid sensitive areas	New, permanent facilities as part of minor new construction activities would be sited and designed to avoid impacts on sensitive vegetation types, sensitive natural communities, and unique plant assemblages, as well as

[2] U.S. Fish and Wildlife Service – Great Basin Region Migratory Birds Program. "*Recommended Buffer Zones for Ground-based Human Activities around Nesting Sites of Golden Eagles in California and Nevada.*" October 2020. https://www.fws.gov/cno/conservation/MigratoryBirds/pdf-files/USFWS_PacificSouthwestRegion_GoldenEagle_NestBuffers_Oct_2020.pdf

occupied habitat and suitable habitat for special-status species. If impacts on these areas cannot be avoided, PG&E will determine if additional permitting is required to conduct the work and obtain the required permits (e.g., LSAA). If impacts are expected on covered species' habitat, Mitigation Measure BIO-1 (MM BIO-1) will be implemented to mitigate for habitat impacts.

3.35 cont.

The proposed language does not ensure that adverse impacts to noncovered sensitive vegetation types, sensitive natural communities or unique plant assemblages will be mitigated, only specifically that of covered species habitat.

Mitigation – acquisition, enhancement

The above are but a few of the substantive concerns we have regarding the DEIR and proposed ITP. Due to lack of sufficient time, we have only highlighted a few of the obvious concerns. An issue not touched upon in this comment letter but was raised in the scoping comment letter is the uncertainty of the impacts of proposed compensatory mitigation actions on noncovered species and the question of how those impacts would be mitigated.

3.36

Inconsistency between Individually Issued ITPs and the Proposed ITP -

The DEIR states, "*The ITP's comprehensive approach to compensatory mitigation would result in more comprehensive habitat conservation than would otherwise occur over the 30-year term because many of PG&E's O&M activities for which measures would be implemented would not individually cause incidental take requiring related mitigation of species impacts*."

CCCR reviewed three different individual ITPs issued to PG&E for work within the Bay Area. Our review has led to the substantive concern that standards of protection implemented through mitigation measures under the individual ITPs reviewed are not matched by similar levels of protection provided by the mitigation language proposed in this DEIR.

3.37

In an interest to determine if other ITPs have been issued to PG&E for similar types of activities and what requirements may have been imposed, we searched the CDFW webpage at: https://nrm.dfg.ca.gov/documents/ContextDocs.aspx?cat=R3-HabCon

What is apparent, is that the mitigation requirements for the individual, project specific ITPs are much more comprehensive and protective. These documents had detailed mitigation measures provided by CDFW regarding survey protocols, mitigation and monitoring requirements. As an example, the PG&E Gas Line 107 Retirement and Line 131 Valve Replacement Project incorporates:

- An extremely detailed mitigation requirements regarding preconstruction surveys for special-status species amphibians and avoidance of impacts to burrows,
- very detailed language regarding covered species relocation,
- defined requirements for implementation of a vegetation restoration plan that includes an assessment of baseline conditions, success criteria and monitoring and reporting requirements,

- detailed requirements to prevent invasive plant and plant pathogen abatement

The PG&E Dalton Crossover Valve Automation Project Mitigated Negative Declaration also includes very detailed mitigation measures, e.g.:

- a requirement that a USFWS and CDFW approved qualified biologist is required to be onsite during all construction activities in or adjacent to habitat for listed and special-status species.
- preconstruction surveys for special-status plant species and the requirement that a special-status plant protection plan be developed and approved by CDFW
- preconstruction surveys for special-status amphibians and birds
- preconstructions surveys for San Joaquin kit fox and required mapping and reporting
- procedures for relocation handling and injury
- Burrowing Owl avoidance, exclusion and mitigation management plan
- Requirements for monitoring and reporting

3.37 cont.

The R649, R700 and R707 Natural Gas Transmission Pipeline 131 Replacement Projects Mitigated Negative Declaration is the final example we will cite of more stringent and defined mitigation measures required by CDFW. This MND includes 17 mitigation measures beyond the applicant proposed mitigation measures. There is:

- extensive language regarding restoration of vegetation including a requirement that native grassland species be emphasized, monitoring including photo referenced pre- and post-conditions documentation, monitoring of regrowth of vegetation, seed collection,
- the surveys by a qualified USFWS and CDFW approved biologist, and on-site oversight throughout construction,
- amphibian capture best practices,
- and mitigation measures similar to those mentioned above.

Review of these three MND's contrast with the deficiencies of the DEIR. There is no assurance of monitoring or reporting of impacts or restoration of temporarily disturbed areas in the DEIR. This is something that must be rectified in the FEIR.

Analysis of Efficacy of Mitigation Measures:

The DEIR fails to address an important concern raised in our scoping comments. We commented that evaluation of PG&E's standard resource protection measures, standard operating procedures, and best management procedures and mitigation measures must be incorporated into the ITP. There is no mention in the DEIR of any mechanism for evaluating the effectiveness of proposed mitigation measures, Field Protocols, etc. or PG&E's resource protection measures including the "Avian Protection Plan", the "Nesting Bird Management Plan" and a "Vegetation Management Sudden Oak Death Protocols" (the last item was not provided for public review).

3.38

Any evaluation of the effectiveness of these measures should include information that documents existing levels of compliance with these protective measures by PG&E employees or PG&E contractors. A reading of the federal EA and HCP suggests that there will be minimal oversight of O&M operation by the federal agencies and that PG&E employees, often not trained in biological sciences and field work, will be given a lot of responsibility for implementing the HCP. The DEIR has failed to provide an indication of:

3.39

3.39 cont.

- the degree to which the Department will monitor and assess the efficacy of the measures on an annual basis,
- what assurances the public has that the Department will be able to provide that level of oversight throughout the lifetime of the proposed ITP
- how often and how quickly deficiencies will be assessed and corrected
- how compliance with the requirements of the ITP would be enforced by the Department
- how public access to information regarding PG&E compliance with the required mitigation measures and conditions of the ITP will be provided.

3.40

We appreciate that the DEIR includes a copy of PG&E's Avian Protection Plan and that PG&E has been implementing a risk reduction program for This plan describes how the construction of new facilities will reduce risk for a variety of avian species. It appears any monitoring, reports or corrective actions regarding PG&E's facilities are coordinated with the USFWS? Is CDFW informed of mortality of state listed, SSC or fully protected avian species resulting from electrocution or collision with PG&E facilities?

3.41

The DEIR fails to mention adaptive management measures. This again reflects the failure to include monitoring and reporting requirements in general (monitoring was included in a few of the FPs and BMPs but not at a programmatic level). The mitigation measures require monitoring and tracking of covered species encountered, but is silent regarding encounters of non-covered state listed species or species of special concern. What mechanism is provided within this ITP to assess whether restricting the list of species covered to only three species is appropriate? If other non-covered listed species or species of special concern are repeatedly encountered during PG & E's O&M activities, will CDFW proceed with enforcement if "take" of non-covered listed species occurs? Also lacking from the language of the DEIR are assurances that CDFW will be monitoring the impacts of the proposed O&M covered activities on noncovered listed and special-status species. This is crucial to ensure that adverse impacts to covered and noncovered species are kept to a less than significant level.

3.42

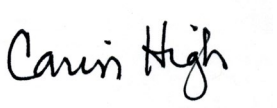
Impacts of climate disruption other than impacts of wildfire do not appear to be considered in the DEIR, and in particular how climate disruption might adversely impact species and habitat abundance and distribution? Will the ITP include language that provides for reassessment of permitted levels of "take" if covered species population levels continue to decline within the period of the permit?

3.43

Based upon the concerns we have identified it is evident the impacts of the proposed PG&E O&M covered activities on noncovered listed and special-status species will not be less than significant. We urge CDFW to strengthen the proposed mitigation measures for noncovered species. We urge CDFW to incorporate assurances that CDFW will be monitoring the impacts of the covered activities on covered and noncovered species.

Thank you for the opportunity to submit comments on the DEIR. We would appreciate acknowledgement of receipt of our comments. Please add CCCR to the interested parties list for all future notices and meetings.

Sincerely,



Carin High

2.3.3 Citizens Committee to Complete the Refuge

Response to Comment 3.1

This comment is focused on the prospect of take under the Fish and Game Code which is different than evaluating the significance of impacts under CEQA in the DEIR.

Please see General Response 2, *Avoidance Measures (Covered and Noncovered Species)*, above.

Potential impacts to special-status species are considered and evaluated under CEQA in Section 3.4 of this EIR (see Table 3.4-3 and 3.4-4 and Impact BIO-1). The likelihood of encountering non-covered state-listed or candidate species would be identified during PG&E's environmental review and screening process (which is described in the FEIR, in Section 2.9, *Overview of PG&E's Environmental Review Process*). PG&E is aware that take of such species is not authorized and would implement measures to avoid them where necessary. If there are instances where other state-listed or candidate species could be reasonably certain to be taken or, in instances where take is unavoidable, PG&E would obtain project-specific ITPs for such species.

However, as described in Section 3.4, issuance of the proposed ITP for the three covered species is not expected to have a substantial adverse effect, either directly or through habitat modification, on any species identified as candidate, sensitive, or special-status because it would not substantially change PG&E's existing practices, and PG&E would comply with State and federal law and adhere to the HCP and individual ITP permit terms and conditions. The FEIR includes analysis of potentially significant effects to other listed species and candidates for listing, which are determined to be less-than-significant under CEQA based on PG&E's commitment to implement the FPs, AMMs, BMPs, and APMs listed in Tables 2-3 and 2-4 of this FEIR. FEIR Mitigation Measures BIO-1, BIO-2, BIO-3, and BIO-4 and the measures in the proposed ITP will protect and minimize impacts on covered *and* non-covered species.

Response to Comment 3.2

As to baseline conditions that determine how impacts are measured in the FEIR, please see General Response 5, *Baseline,* above, the additional information added to the FEIR at page 3.0-1, and in Section 3.4, *Biological Resources*, Section 3.4.2, *Environmental Impacts*, of this EIR.

In addition, see General Response 1 concerning covered species. CDFW cannot require an applicant to cover a particular species in an ITP. CDFW and PG&E worked closely to determine which species should be covered, but ultimately PG&E determined the species to be included in the proposed ITP. The final list of covered species was decided based on several factors: range of the species proposed for coverage; life history information for each species; and reasonable certainty that such species could be taken by covered activities. For tidal wetland habitat, the presence of PG&E's existing gas and electric facilities and associated access roads and boardwalks in the Bay 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 conditions. PG&E has some flexibility to modify project work schedules and/or construction approaches to avoid impacts to species that are considered more sensitive during certain seasons (e.g., nesting birds). Also, some species are fully protected and, since take cannot be authorized for such species, they were excluded from the ITP application.

Concerning plants listed under the California Native Plant Protection Act, PG&E's approach is consistent with Fish and Game Code section 1913(b). Further, project specific reviews help ensure that PG&E avoids impacts where possible.

If additional species become listed, PG&E would evaluate the need to seek incidental take authorization at that time. In addition, PG&E's conservation land acquisition program, which will support conservation goals associated with the Bay Area HCP and the requested CDFW ITP, and its avoidance measures for both covered and non-covered species, are expected to benefit both covered and non-covered species.

Please also see General Response 2, *Avoidance Measures (Covered and Noncovered Species)*, above.

Response to Comment 3.3

CDFW worked with PG&E to clarify its practices by making clarifying edits to two FPs, two BMPs, and several APMs (see FEIR Table 2-4). To support protection of trust resources and respond to commenters' concerns regarding special-status species, the APMs related to special-status species were revised (e.g., APM BIO-2) and new APMs have been included in the FEIR related to minimizing the spread of invasive plant species in minor new construction (APM BIO-3a), Western Burrowing Owl Avoidance (APM BIO-6a), and San Joaquin kit fox/American badger Avoidance (APM BIO-9). In addition, Mitigation Measures BIO-1, BIO-2, BIO-3, and BIO-4 in Section 3.4 of the FEIR identify mandatory obligations under CEQA. Furthermore, the ITP conditions would be mandatory once issued under Fish and Game Code Section 2081(b). As a program-level ITP, the emphasis is less on monitoring and surveys, and more on assumptions of impacts and compensatory mitigation. Please see also General Responses 2 and 4, above, concerning avoidance measures and agency oversight.

Response to Comment 3.4

PG&E often has pre-existing land rights on conservation lands because conservation easements are created without PG&E's knowledge within its existing utility easements. At the same time, PG&E has a pre-existing and continuing obligation to maintain and repair its facilities in a timely manner.

Nevertheless, PG&E works with conservation landowners to provide advance notification of work when reasonably feasible, as provided in FP-05 (an ongoing commitment related to Bay Area O&M) and BMP-2 (a similar commitment for vegetation management activities). These measures reflect PG&E's good faith effort to provide advanced notice of work to conservation landowners and further specificity is not considered. Specifically, FP-05 demonstrates PG&E's commitment to address landowner concerns. These measures are not proposed to be altered. Please also see General Response 2, Avoidance Measures (Covered and Noncovered Species), above.

Response to Comment 3.5

Please see Response to Comment 3.1 and General Response 2. FP-06 has been revised to state that a qualified biologist would be contacted if a listed or special status species is suspected or discovered.

Response to Comment 3.6

Yes, off-road access is considered unpaved access. Per FP-07 and BMP-7, vehicle speeds are limited to 15 miles per hour.

Response to Comment 3.7

Biologists are involved in decisions requiring reseeding. Commercial weed-free seed mix consists of California annual grass species. FEIR Table 2-3, Measure FP-14 has been revised to clarify that California annual grass species will be used.

Response to Comment 3.8

Implementation of FP-16 is part of current and ongoing O&M practice. Per FP-16, if the specified buffer of 250 from vernal pools or 50 feet from wetlands, ponds, or riparian areas cannot be maintained, a biologist will be required for the activity, regardless of the season. PG&E may also defer work until the dry season if possible. PG&E has an annual environmental training program that includes employee education surrounding sensitive habitats. In addition, as described in the FEIR, Section 2.9.4, Phase 4 – Environmental Release to Construction PG&E has project-specific tailboard training and biological monitoring, when warranted. While it would be impracticable to have a biological monitor present for every job near wetland habitats, the required measures will ensure that wetlands habitats are protected. Please also see General Response 2, *Avoidance Measures (Covered and Noncovered Species)*, above.

Response to Comment 3.9

FEIR Table 2-3, BMP-14 has been modified to clarify how PG&E has defined qualified individuals and to provide greater specificity. The following text was added: Qualified individuals are typically PG&E or contractor arborists or biologists who have undergone specific training to address their work needs through the identification of habitat (i.e., elderberry shrubs). In the range of VELB, elderberry shrubs with stems >1 inch are flagged for avoidance if work must occur within 20 feet of a shrub; when a shrub can't be avoided (e.g., it must be pruned away from power lines or removed), the shrub is treated and the impact is reported to the USFWS in an annual report and mitigated per the terms and conditions of the federal Biological Opinion.

Response to Comment 3.10

PG&E is obligated to comply with state law and BMP 15 specifies how to determine when a permit for take of northern spotted owl may be needed. PG&E's environmental review and screening process (which is described in the FEIR, Table 2-3) assists with identifying when there is the potential to take Northern spotted owl. In these instances, PG&E also follows its Nesting Bird Management Plan and considers nesting periods to avoid or reduce the potential to affect this species. See General Response 2 above. No changes are proposed to BMP-15 in the FEIR. The FEIR has concluded that these potential impacts are less than significant.

Response to Comment 3.11

The Vegetation Management Migratory Bird Process is an old description of what is now PG&E's Nesting Bird Management Plan (NBMP) as it applies to vegetation management activities. As described by APM BIO-6 in Table 2-4 of this FEIR, the NBMP is intended to maintain compliance with federal and state bird protection regulations through a standardized approach to avoiding and minimizing disturbance to nesting birds. The NBMP is included as an appendix to the FEIR. The FEIR includes an analysis of all potentially significant effects to migratory birds and those effects are less

than significant, as described in Section 3.4, Impact BIO-1, under *Birds*, and Impact BIO-4. BMP 16 has been updated in Table 2-3 of this FEIR to reference the NBMP.

Response to Comment 3.12

BMP-17 has been updated in the FEIR to indicate that PG&E follows protocols based on California Oak Mortality Task Force Sudden Oak Death Guidelines for Arborists (www.suddenoakdeath.org) and includes measures for disposal of cut debris and sanitation of tools and equipment.

Response to Comment 3.13

BMP 23 was written to be implementable by field crews. PG&E is obligated to adhere to the requirements of state and federal law regarding hazardous material spills and take of listed species. Crews will notify their managers pursuant to BMP 23 and PG&E's HCP administrator will notify CDFW and USFWS if take of a listed species occurs. Crew managers will provide notification to CalEPA or CalOES, as appropriate, for hazardous spills 50 gallons or greater. For these reasons, no changes are needed to BMP 23 in the FEIR.

Response to Comment 3.14

The FEIR contains a detailed analysis of potentially significant impacts related to hydrology, see Impact WQ-3. Those effects are less than significant in the context of baseline conditions and PG&E's commitment to implement FPs, AMMs, BMPs, and APMs. Please also see General Response 2, *Avoidance Measures (Covered and Noncovered Species)*, above. For these reasons, no changes are needed to BMP 30 in the FEIR.

Response to Comment 3.15

The FEIR contains an explanation of how herbicides are used in accordance with U.S. EPA regulations and CA Dept. of Pesticide Regulation (see BMPs 31 – 49 in Table 2-3 of the FEIR). While herbicide application is not a covered activity under the ITP, approval of the FEIR and issuance of the ITP mean that application of herbicides by a licensed qualified applicator, as prescribed by a licensed pest control advisor, is part of the whole of the project. CDFW has evaluated potentially significant impacts in the FEIR and found that impacts on water quality (see Impact WQ-1) are less than significant in light of baseline conditions and PG&E's commitment to implement FPs, BMPs, and APMs. Please also see General Response 2, *Avoidance Measures (Covered and Noncovered Species)*, above.

Response to Comment 3.16

The FEIR includes an analysis of all potentially significant effects related to vegetation management activities and nesting or migratory birds, and those effects were deemed to be less than significant in the context of the measures PG&E implements (see Impact BIO-1). PG&E's BMP-16 was modified to clarify vegetation management uses its Nesting Bird Management Plan to avoid and minimize impacts on nesting birds. PG&E's APM BIO-6 also now incorporates the NBMP, which is included as an appendix to the FEIR and provides for surveys in accordance with the plan.

Finally, ROW clearing does not always encompass complete removal of all vegetation and often involves management of specific trees or shrubs that are incompatible with utility infrastructure.

BMPs and APMs (FEIR Tables 2-3 and 2-4) help ensure that these impacts continue to remain less than significant.

Response to Comment 3.17

A daily monitoring log for all O&M work activities is impracticable. CDFW will require the applicant to implement all FPs, BMPs, and APMs to avoid and minimize impacts. As explained in General Response 2, above, and required in APM BIO-2, the biological monitor will ensure that all construction employees adhere to the species- and site-specific AMMs, APMs, FP, and BMPs. If the biologist or onsite biological monitor detect or observe any special-status species before or during the course of covered activities, the species would be allowed to leave the area unharmed and the activity would halt until the wildlife has left the area. Additionally, when conducting covered activities E9a (Reconductoring), G9 (Pipeline Lowering), G11 (Pipeline Replacement), and minor new construction PG&E will document encounters with special status species to the same level of detail as required for covered species. With these obligations, daily monitoring logs are not necessary to ensure that effects are less than significant.

Response to Comment 3.18

The FEIR includes an analysis of all potentially significant effects to other listed species, candidates, and special status species, and those effects are considered less than significant in the context of the measures PG&E implements (see Impact BIO-1). APM BIO-2 requires that all encounters with covered wildlife species be documented and reported to CDFW in an annual report. Additionally, when conducting covered activities E9a (Reconductoring), G9 (Pipeline Lowering), G11 (Pipeline Replacement), and minor new construction PG&E will document encounters with special status species to the same level of detail as required for covered species. Reporting of encounters with every special status species is not necessary to ensure that effects are less than significant (see Impact BIO-1). Please see General Responses 2 and 5 concerning the FEIR analysis.

PG&E has added APM BIO-6a to address concerns about impacts on western burrowing owl, and APM BIO-9 to address concerns about San Joaquin kit fox and American badger (see FEIR, Table 2-4).

Response to Comment 3.19

The FEIR includes minor edits to APM BIO-6 for clarification (see FEIR, Table 2-4). PG&E has committed to avoiding and minimizing impacts, including the use of surveys and identification of appropriate buffers by a qualified biologist, such that impacts to nests and nesting birds will be less than significant, as described in Section 3.4.

Response to Comment 3.20

Table 2-4 of the FEIR includes edits to clarify APM BIO-7. When feasible, activities directly affecting bat roosting habitat would be conducted outside of the bat breeding/pupping season (generally, April through mid-September). If work that would affect known bat breeding sites must be done in the bat breeding/pupping season, a qualified biologist would evaluate known breeding/roosting sites or conduct surveys for bat roosts in suitable habitat (e.g., bridges, mines, caves, trees with hollows, palm trees, snags, buildings, long and dark culverts, rock outcrops, dense tree canopies, and flaking tree bark). If evidence of a bat maternity roost is found or maternity roosts are detected, PG&E would avoid conducting construction covered activities that may directly or indirectly affect

the active roost site as described in APM BIO-7. Impacts to active bat roosts would be less than significant (see Impact BIO-1) in the context of baseline conditions and PG&E's implementation of its environmental screening process, FPs, BMPs, and APMs (FEIR Tables 2-3 and 2-4).

Response to Comment 3.21

Alameda whipsnakes will not be "chased" out of core habitat. APM BIO-8 has been revised in this FEIR to clarify the Alameda whipsnake avoidance measures. Prior to the start of construction in core habitat (i.e., areas of concentrated use; habitat in core areas primarily consists of scrub communities such as coastal scrub, coyote brush scrub, mixed chaparral, and chamise chaparral but may also include immediately adjacent grassland, riparian, etc.), the work area will be visually surveyed for Alameda whipsnakes by a qualified biologist familiar with Alameda whipsnake and with experience surveying the species. If a whipsnake is encountered during construction, activities will stop and the qualified biologist will then identify actions sufficient to avoid impacts on the species (e.g., continued work halt, buffer establishment) and the whipsnake will be allowed to leave the area on its own volition. Activities could resume when the qualified biologist determines that activities will not adversely affect the whipsnake or that the whipsnake has moved a sufficient distance from the work area such that activities will not adversely affect the whipsnake.

In addition, MM BIO-4 would reduce potential impacts to Alameda whipsnake by avoiding burrow and rock outcrops, requiring seasonal restrictions in modeled habitat, conducting pre-construction surveys, and implementing clearance surveys in advance of covered activities. Exclusion fencing would be installed to prevent whipsnakes from entering the work areas when covered activities require more than 5 days of ground disturbance. In addition, excavations will be covered or equipped with an escape ramp and stockpiles and storage of materials will be inspected for whipsnake. MM BIO-4 also requires personnel training and reporting to CDFW.

Response to Comment 3.22

In the context of temporary and permanent impacts, as defined in Section 3.4.2.1, *Methods for Analysis*," of the FEIR, most covered activities are small but will nevertheless provide mitigation for temporary impacts regardless of whether covered species are present or whether any vegetation was impacted. Permanent impacts are calculated at the conclusion of an activity where an additional footprint facility is installed—where such space could no longer be used or occupied by any species. In instances where larger areas are not able to regrow vegetative (grass/herbs) cover within a year, permanent impacts are assigned, though the area will eventually recover.

These records/calculations are managed by PG&E's permit administrator. It is anticipated that species will benefit from the larger, landscape level mitigation approach. Further, for large O&M activities, site-specific restoration plans would be implemented which include site-specific success criteria. Also, based on CDFW guidance, PG&E added APM BIO-3a, which requires that PG&E minimize the spread of invasive plant species in minor new construction areas (see FEIR Table 2-4); this measure includes revegetation success criteria. See also General Response 3 above.

In addition to the required habitat conservation ratios in MM BIO-1, species-specific mitigation measures have been added to the FEIR, providing prescriptive measures to minimize the risk of take of the ITP-covered species (MM BIO-2, MM BIO-3, and MM BIO-4).

California Freshwater Shrimp

MM BIO-2 would reduce potential impacts to California freshwater shrimp by restricting the timing of covered activities, developing a relocation plan prior to working in-water in modeled habitat, conducting a pre-activity survey, and relocating shrimp from the work area where they could be affected. In addition, the mitigation requires personnel training, CDFW notification and coordination, and reporting. MM BIO-1 requires PG&E to provide habitat compensation at a 3:1 ratio for permanent impacts and a 1:1 ratio for temporary impacts to offset the loss of habitat for California freshwater shrimp. With implementation of these mitigation measures, impacts to California freshwater shrimp from issuance of the ITP for PG&E's O&M and minor new construction would be fully mitigated and reduced to a less-than-significant level because injury or mortality to individuals would be minimized, and habitat compensation would be provided for loss of habitat.

California Tiger Salamander

MM BIO-3 would reduce potential impacts to California tiger salamander by requiring development of a standardized relocation plan, pre-construction surveys, identification and avoidance of burrows, and hand excavation of burrows for the activities that result in ground disturbing activities (>0.1 acres in size) in CTS Hot Zones. The measure restricts large covered activities near breeding habitat after rainfall events or requires exclusion fencing to be installed to avoid California tiger salamanders from entering the work area during upland movements. In addition, large activity night work is prohibited when rainfall has occurred, excavations will be covered or equipped with an escape ramp, and stockpiles will be placed to avoid erosion into aquatic habitat. MM BIO-3 also requires personnel training and notification, coordination, and reporting to CDFW.

MM BIO-1 requires PG&E to provide habitat compensation at a 3:1 ratio for permanent impacts to breeding habitat for both the Central California Distinct Population Segment (DPS) and the Sonoma County DPS of California Tiger Salamander. Habitat compensation for temporary impacts would be provided at a 1:1 ratio for breeding and upland habitat for the Sonoma County DPS and for breeding habitat for the Central California DPS. For temporary impacts to upland habitat for the Central California DPS for the first 5 years, habitat compensation will be provided in advance of impacts at a 0.5:1 ratio for temporary impacts to upland habitat for the Central California DPS.

With implementation of these mitigation measures, impacts to California tiger salamander from issuance of the ITP for PG&E's O&M and minor new construction would be fully mitigated and reduced to a less-than-significant level because injury or mortality to individuals would be minimized, and habitat compensation would be provided for loss of habitat.

Alameda Whipsnake

MM BIO-4 would reduce potential impacts to Alameda whipsnake by avoiding burrows and rock outcrops, requiring seasonal restrictions in modeled core and perimeter core habitat, conducting pre-construction surveys, and implementing clearance surveys in advance of covered activities. Exclusion fencing would be installed to prevent whipsnakes from entering the work areas when covered activities require more than 5 days of ground disturbance. In addition, excavations will be covered or equipped with an escape ramp and stockpiles and storage of materials will be inspected for whipsnake. MM BIO-4 also requires personnel training and reporting to CDFW.

MM BIO-1 requires PG&E to provide habitat compensation at a 3:1 ratio for permanent impacts to habitat for Alameda whipsnake. For temporary impacts to core or perimeter core habitat, habitat

compensation will be provided at a 1:1 ratio. For non-core (movement) habitat for Alameda whipsnake, temporary impacts will be provided in advance of impacts at a 0.5:1 ratio for temporary impacts.

With implementation of these mitigation measures, impacts to Alameda whipsnake from issuance of the ITP for PG&E's O&M and minor new construction would be fully mitigated and reduced to a less-than-significant level because injury or mortality to individuals would be minimized, and habitat compensation would be provided for loss of habitat.

Response to Comment 3.23

This comment is focused on the prospect of take under the Fish and Game Code, which is different than evaluating the significance of impacts under CEQA in the FEIR. The FEIR includes an analysis of potentially significant effects to the covered species, and concludes that those effects are less than significant in the context of baseline conditions, PG&E's commitment to implement FPs, AMMs, BMPs, APMs, and with the required mitigation in MMs BIO-1, BIO-2, BIO-3, and BIO-4.Table 3.4-6, which has been added to this FEIR, summarizes the estimated acreage of habitat disturbance to each ITP-covered species due to the covered activities.

Table 3.4-6. Summary of Estimated Acres of Habitat Disturbance to ITP-Covered Species

ITP-Covered Species	Acres of Habitat Disturbance				
	Permanent (Annual)	Temporary (Annual)	Permanent (30 years)	Temporary (30 years)	Total (30 years)
California freshwater shrimp	0.01	0.07	0.3	2	2.3
California tiger salamander (Central CA DPS)					
Potential breeding habitat	0.07	0.8	2	25	27
Potential upland habitat	9.9	126.7	298	3,800	4,098
California tiger salamander (Sonoma County DPS)	0.4	2.7	13	80	93
Alameda whipsnake					
Core	0.68	0.43	34	13	47
Perimeter Core	0.5	2.3	25	70	95
Movement	0.5	11	27	329	356

Source: PG&E's 2081 Application

PG&E would provide habitat mitigation through the following mechanisms: purchase of high-quality habitat, purchase or placement of conservation easements, 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, and habitat enhancement and restoration on lands already protected.

Temporary effects would be mitigated at a ratio of 0.5:1 or 1:1, depending on the species and timing of the mitigation, and permanent effects would be mitigated at a ratio of 3:1. PG&E would provide habitat mitigation in advance of impacts on covered species. PG&E would base its mitigation on acreages of estimated and actual habitat losses and would adjust the timing of acquisitions based on forecasted habitat impacts and the amount of mitigation that has previously been implemented.

As described in Section 2.5, *Conservation Strategy*, compensatory mitigation locations may or may not be within the same watershed in which impacts occur. These locations are subject to review and approval of CDFW, which will ensure that mitigation addresses the species and habitats affected and that impacts are mitigated appropriately by region. PG&E would locate mitigation opportunities in accordance with specific habitat requirements of the ITP-covered species. Factors considered would include size (looking for large contiguous areas of habitat), surrounding compatible land uses, coordination with other local and regional conservation efforts, location relative to the impact areas, and sites that are sensitive to development pressure or land use changes. Management plans will be prepared for each conservation site, which would include an analysis to determine the required endowment amount for management.

Overall, PG&E will preserve approximately 119 acres of habitat to mitigate for California tiger salamander Sonoma Country DPS impacts, which includes mitigation for the forecasted temporary and permanent impacts. Breeding habitat impacts (i.e., impacts on actual wetted area) are likely to be much smaller than indicated because wetland features include an adjacent buffered area; they will nevertheless be mitigated in accordance with the ITP. Similarly, impacts to breeding habitat will be fully mitigated even though they do not necessarily result in loss of an entire aquatic breeding habitat feature.

Response to Comment 3.24

Table 3.4-1 indicates the extent to which gas and electric facilities occur across mapped land cover types in the permit area; covered activities can occur in these mapped areas. Impacts can result from any of the covered activities but are generally expected to occur in proportion to the extent of the land cover types represented. The FEIR includes an analysis of all potentially significant effects of the covered activities by habitat type and concludes that those effects are less than significant in the context of baseline conditions and PG&E's implementation of FPs, BMPs, APMs and MMs.

Response to Comment 3.25

Please see General Response 6 regarding the definition of minor new construction, which has been clarified. Extensions of up to 2 miles are not considered minor new construction and would not be covered activities under the ITP. Although specific locations of minor new construction over the 30-year permit term cannot be specified at this time, it is reasonable to assume that only a portion of minor new construction areas would be in critical habitat for Alameda whipsnake. This EIR estimated the potential impact to Alameda whipsnake critical habitat by assuming disturbance proportional to the amount of Alameda whipsnake critical habitat in the Permit Area: 2.7% of the Permit Area, which is approximately 4.5 acres. The estimated impact to core, perimeter core, and movement habitat for Alameda whipsnake is provided in Table 3.4-6 of this FEIR, as shown in response to comment 3.23, above. The FEIR includes an analysis of impacts on Alameda whipsnake critical habitat in Impact BIO-1. With implementation of Mitigation Measures BIO-1 and BIO-4, impacts to Alameda whipsnake from issuance of the ITP for PG&E's O&M and minor new construction would be fully mitigated and reduced to a less-than-significant level because injury or mortality to individuals would be minimized, and habitat compensation would be provided for loss of habitat.

Response to Comment 3.26

The FEIR includes an analysis of potentially significant impacts to special-status plants and concludes that those effects are less than significant in light of baseline conditions and PG&E's implementation of FPs, BMPs, and APMs (FEIR Tables 2-3 and 2-4). In particular, the incidental removal of plants listed as endangered or rare under the NPPA is not prohibited within a ROW to allow a public utility to fulfill its obligation to provide service to the public. See Impact BIO-1. FP-04 minimizes impacts on plants and other biological resources and APM BIO-4 states that occurrences of special-status plant species would be avoided to the extent practicable and would include performance of project activities in special-status plant habitat after senescence.

CDFG Code Section 1913(b) is codified as a state statute, and PG&E is obligated to comply with its noticing provisions. This code section applies to landowners, which are predominantly private landowners, and applies to situations where PG&E owns a utility easement.

Response to Comment 3.27

The FEIR provides an analysis of potentially significant effects to wetland special-status plants, including foreseeable impacts that might require additional jurisdictional permitting, and concludes that those effects would be less than significant in light of baseline conditions and PG&E's implementation of FPs, BMPs and APMs. As stated in Impact BIO-3, issuance of the proposed ITP would not substantially adversely affect state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means because it would not substantially change existing PG&E practices designed to avoid impacts on protected wetlands and comply with HCP and other permit terms and conditions. As explained in the analysis in Impact BIO-1, O&M and minor new construction activities in wetlands and riparian areas that support special-status plant and wildlife species would only be conducted with appropriate permits from agencies with jurisdiction over specific activities in wetlands and other waters. Although wetlands and riparian areas would be avoided as much as possible, some O&M and minor new construction activities may have temporary or permanent impacts on these habitat types and the species associated with them. This approach is used currently and would not change after issuance of the ITP. Furthermore, AMMs Wetland-1 and Wetland-2 require that buffers be established around vernal pool and vernal pool complexes, and wetlands, ponds, and riparian areas, respectively, to minimize indirect effects to these features. PG&E would comply with additional measures and mitigation requirements if required by future project-specific wetland-related or CDFW's Lake or Streambed Alteration Program and -related permits to conduct covered activities. Further, MM BIO-1 will include habitat compensation for aquatic habitat for California freshwater shrimp and California tiger salamander. Therefore, impacts to state or federally protected wetlands from issuance of the ITP for PG&E's O&M and minor new construction would be less than significant. Mitigation specific to the ITP and the FEIR is not being deferred.

Response to Comment 3.28

The comment states that protocol-level surveys and other conditions should be required for special-status plants that could be affected by minor new construction activities. Please see Response to Comments 3.2 and 3.26 for general background information.

Protocol-level surveys are not reasonable or feasible to implement for all minor new construction activities. In addition, protocol plant surveys are often only effective during limited times of the year

and when environmental conditions are favorable. Minor new construction activities often do not have sufficient advance time or seasonal flexibility to allow for protocol-level surveys.

However, PG&E will use its environmental screening process (described in Section 2.9.2 the FEIR) to evaluate the potential for minor new construction activities to affect special-status plants. Surveys may be conducted based on habitat suitability and timing. Site-specific salvage, relocation and replacement plans are developed as needed. APM BIO-3 has been supplemented in the FEIR, and APM BIO-3a has been added to further avoid and minimize impacts from minor new construction (see FEIR Table 2-4).

Response to Comment 3.29

The FEIR provides an analysis of potentially significant impacts to vernal pools, swales, and wetland habitats, including foreseeable impacts that might require additional jurisdictional permitting, and concludes that those effects will be less than significant in light of baseline conditions and PG&E's implementation of FPs, BMPs, and APMs (FEIR Tables 2-3 and 2-4). See Impacts BIO-2 and BIO-3.

Response to Comment 3.30

This comment is focused on the prospect of take under the Fish and Game Code which is different than evaluating the significance of impacts under CEQA in the DEIR. The ITP will include criteria for who may handle individuals of the covered species. Specific handling protocols would be followed to avoid injury of individuals.

The FEIR provides an analysis of potentially significant impacts to California tiger salamander, including impacts from potential relocation, and concludes that those effects are less than significant given PG&E's implementation of FPs, AMMs, BMPs, APMs, and MMs. (See FEIR Impact BIO-1.)

Response to Comment 3.31

The FEIR includes an analysis of impacts to non-covered reptile species from covered activities and concludes that impacts are less than significant given PG&E's implementation of FPs, AMMs, BMPs, APMs, and MMs. (See FEIR Impact BIO-1). See also General Response 3 above.

Response to Comment 3.32

This comment is focused on the prospect of take under the Fish and Game Code, which is different than evaluating the significance of impacts under CEQA in the Draft EIR. The FEIR includes an analysis of all potentially significant effects to San Francisco garter snake and giant garter snake, and those effects are less than significant with PG&E's implementation of FPs, AMMs, BMPs, APMs, and MMs. (See FEIR Impact BIO-1). San Francisco garter snake was not proposed for coverage in the ITP since PG&E determined that direct impacts could be avoided using the proposed FPs and BMPs. Likewise, giant garter snake has very low densities in the permit area and PG&E is not proposing to cover it because of the very low likelihood of take. Should take authorization be necessary, PG&E will obtain such authorization on a project-specific basis. There are no reporting requirements for noncovered reptile species. It would be overly burdensome for PG&E and a large commitment of CDFW's time to monitor activities for non-covered special status species. Since impacts have been found less than significant in the FEIR, additional mitigation measures are not proposed.

Response to Comment 3.33

The FEIR includes measures to protect nesting birds, and PG&E FPs, BMPs, and APMs include nest avoidance, the use of survey and identification of appropriate buffers by a qualified biologist, to ensure that impacts to nesting birds are less than significant. Active nests are protected regardless of the time of year. Surveys are recommended during nesting season, which is generally accepted to occur between March 1 and August 31.

It is not practical for CDFW to review and approve all nest buffer distances. PG&E has qualified biologists who make this determination and consult with CDFW when needed.

While a 1-mile buffer for eagles is optimal, PG&E has an obligation to provide safe and reliable power and cannot always adhere to this distance; PG&E has found that 0.5 miles is adequate because topography and vegetation obscure most work locations and work in these areas can be conducted without disturbing eagles. Additional protections are included in PG&E's nesting bird requirements to adjust buffers when birds exhibit stress from construction noise. The Nesting Birds Management Plan is provided as an appendix in the FEIR.

Response to Comment 3.34

CDFW worked with PG&E to develop an additional APM to avoid and minimize potential impacts on San Joaquin kit fox and American badger (see FEIR, Table 2-4 APM BIO-9). PG&E must comply with state and federal law and, if an occupied San Joaquin kit fox den is going to be affected, PG&E would contact USFWS and CDFW to determine if take coverage is needed.

Response to Comment 3.35

Please see General Response 6, *Definition of Minor New Construction*, above.

CDFW worked with PG&E to modify APM BIO-3 and develop an additional APM to avoid and minimize potential impacts from minor new construction activities. These changes are included in the FEIR in Table 2-4, APM BIO-3. These measures, in conjunction with previous APMs, help ensure that potential impacts remain less than significant.

The FEIR provides an analysis of potentially significant impacts to non-covered sensitive vegetation types, sensitive natural communities, and unique plant assemblages, and concluded that those effects are less than significant with PG&E's implementation of FPs, AMMs, BMPs, APMs, and MMs. (See FEIR Impact BIO-2).

Response to Comment 3.36

Please see General Response 2, *Avoidance Measures (Covered and Noncovered Species)*, above.

CDFW evaluated impacts to non-covered listed and special-status species from covered activities and determined that, with PG&E's environmental screening process, FPs, BMPs, Hot Zone AMMs, and APMs (see FEIR Tables 2-3 and 2-4), impacts will be less than significant. See FEIR Impact BIO-1. CDFW evaluated impacts to the three ITP-covered species and imposed mitigation measures BIO-1, BIO-2, BIO-3, and BIO-4 to provide prescriptive avoidance measures and compensatory mitigation, and concludes that those effects are less than significant. See FEIR Impact BIO-1. PG&E's mitigation program is expected to result in the perpetual conservation of high-quality habitat for the three covered species; non-covered species will also benefit from these conservation lands.

Response to Comment 3.37

CDFW notes that this comment is focused on the conditions in the proposed ITP under the Fish and Game Code, which is different than evaluating the significance of impacts under CEQA in the DEIR. Nevertheless, a regional ITP of this nature is expected to be different than project-specific ITPs.

This regional permit relies less on surveys, monitoring and reporting and more on avoidance, protection and compensatory mitigation. Because of the impact assumptions in this proposed ITP, CDFW has long-term assurance that more mitigation will be provided for maintenance activities; in exchange, PG&E's reporting obligations are provided on an annual basis. CDFW is able to monitor any activities it chooses. See also General Response 3 concerning restoration and revegetation.

Response to Comment 3.38

As explained in General Response 2, CDFW worked with PG&E to supplement and add several APMs including APM BIO-3, APM BIO-3a, APM BIO-6a, and APM BIO-9 (see FEIR Table 2-4) as well as additional Mitigation Measures BIO-2, BIO-3, and BIO-4. Please also see General Response 4.

CDFW made PG&E's Avian Protection Plan available in the DEIR. PG&E's Nesting Bird Management Plan is provided as Appendix D in the FEIR. PG&E follows Sudden Oak Death protocols that are based on California Oak Mortality Task Force measures (see FEIR Table 2-3, BMP 17).

Response to Comment 3.39

Please see General Responses 2 and 4, above.

CDFW will receive an annual report from PG&E summarizing impacts and mitigation. CDFW will be able to monitor PG&E's covered activities at any time. If CDFW identifies deficiencies (e.g., failed FPs, BMPs, AMMs, or APMs), CDFW will request that PG&E resolve them as quickly as possible and according to the process outlined in the proposed ITP; both parties are motivated to have a permit that is implemented successfully.

Public information can be obtained by contacting CDFW.

Response to Comment 3.40

As required by its Special Purpose Utility permit issued by USFWS under the agency's Migratory Bird regulations (50 CFR 21.27), PG&E documents all such avian mortalities on an annual basis, provides incident reports for eagles and federally listed species, and provides to CDFW incident reports and carcasses for all eagle mortalities. See also General Response 5.

Response to Comment 3.41

Please see General Response 2: *Avoidance Measures (Covered and Noncovered Species)*, above.

The FEIR includes detail about impacts to non-covered species from covered activities, and includes NBMP, measures for vegetation management, and other activities to ensure PG&E will avoid significant impacts, as listed in Tables 2-3 and 2-4 of the FEIR.

Adaptive management is a term most commonly used as part of federal endangered species regulations relating to listed species conservation plans. CDFW will work with PG&E as needed to resolve any issues around the effectiveness of avoidance and minimization measures. These issues

are typically raised as needed by PG&E's ITP administrator or in PG&E's annual report. CDFW may monitor Covered Activities and will review annual reports. See General Response 4 regarding agency oversight.

Response to Comment 3.42

As required by CEQA, the DEIR evaluates climate change effects in the context of greenhouse gas emissions (see analysis beginning on page 3.8-6 of the FEIR). Impacts related to climate disruption and potential adverse impacts on species, habitat abundance and distribution are not impacts that would be caused by issuance of the ITP for covered activities and would not be recognizable under CEQA.

However, CDFW is authorized to amend the ITP if it is determined that continued implementation the ITP would jeopardize the continued existence of covered species or that changed conditions necessitate an amendment.

Response to Comment 3.43

The FEIR includes a robust description of baseline conditions in a new Section 3.0, *Baseline for CEQA Analysis* (see General Response 5). These impacts are likely to continue irrespective of issuance of an ITP. Further, measures have been added or revised to provide performance standards and triggers (see General Response 2). The FEIR includes detail about impacts to non-covered listed and special-status species from covered activities. CDFW evaluated impacts to non-covered listed and special-status species from covered activities and determined that, with PG&E's environmental screening process, FPs, BMPs, Hot Zone AMMs, and APMs (see FEIR Tables 2-3 and 2-4), impacts will be less than significant. See FEIR Impact BIO-1.

Knutson, Robert

From: Wilson, Danielle
Sent: Wednesday, March 17, 2021 8:56 AM
To: Norton, Brad
Cc: Cowin, Kelsey; Knutson, Robert
Subject: FW: Request for extension of time to comment on PGE HCP for the 9 bay area counties

FYI

DANIELLE WILSON | Program Manager | 916.231.9611 (o) | danielle.wilson@icf.com | icf.com ICF | 980 9th Street, Suite 1200, Sacramento, CA 95814 | 916.320.5459 (m)

-----Original Message-----
From: Farinha, Melissa@Wildlife <Melissa.Farinha@wildlife.ca.gov>
Sent: Tuesday, March 16, 2021 5:21 PM
To: C/H High [redacted]; Lisa Belenky <lbelenky@biologicaldiversity.org>
Cc: gail raabe [redacted]; 'Arthur Feinstein' [redacted]; Lennie Roberts <[redacted]>; Barbara Salzman [redacted]; Weightman, Craig@Wildlife <Craig.Weightman@wildlife.ca.gov>; Brown, Matthew <MVB5@pge.com>; Wilson, Danielle <Danielle.Wilson@icf.com>
Subject: RE: Request for extension of time to comment on PGE HCP for the 9 bay area counties

Dear Ms. High,
We've been in touch with PG&E and they were amenable to extending by a few days, therefore CDFW will accept your comments until COB this Friday, March 19th, 2021.

Thank You,

Melissa Farinha
Acting Environmental Program Manager
Bay Delta Region, Delta Habitat Conservation Program
2825 Cordelia Road, Suite 100
Fairfield, CA 94534
(707) 944-5579

-----Original Message-----
From: C/H High <[redacted]>
Sent: Tuesday, March 16, 2021 4:57 PM
To: Farinha, Melissa@Wildlife <Melissa.Farinha@wildlife.ca.gov>; Lisa Belenky <lbelenky@biologicaldiversity.org>
Cc: gail raabe <[redacted]>; 'Arthur Feinstein' <[redacted]>; Lennie Roberts <[redacted]>; Barbara Salzman <[redacted]>; Weightman, Craig@Wildlife <Craig.Weightman@wildlife.ca.gov>; Brown, Matthew <MVB5@pge.com>; 'Wilson, Danielle' <Danielle.Wilson@icf.com>
Subject: Re: Request for extension of time to comment on PGE HCP for the 9 bay area counties

WARNING: This email originated from outside of CDFW and should be treated with extra caution.

Dear Ms. Farinha,

Thank you for your quick reply. I would greatly appreciate a few extra days if that is at all possible.

Regards,

Carin High

On 3/16/2021 4:55 PM, Farinha, Melissa@Wildlife wrote:
> Dear Ms. High,
> By midnight tomorrow is acceptable. If you need a few more days then please let me know so I can discuss with the project proponent.
>
> Thank You,
>
> Melissa Farinha
> Acting Environmental Program Manager
> Bay Delta Region, Delta Habitat Conservation Program
> 2825 Cordelia Road, Suite 100
> Fairfield, CA 94534
> (707) 944-5579
>
> -----Original Message-----
> From: C/H High <[redacted]>
> Sent: Tuesday, March 16, 2021 4:02 PM
> To: Farinha, Melissa@Wildlife <Melissa.Farinha@wildlife.ca.gov>; Lisa
> Belenky <lbelenky@biologicaldiversity.org>
> Cc: gail raabe <[redacted]>; 'Arthur Feinstein'
> <[redacted]; Lennie Roberts
> <[redacted]>; Barbara Salzman <[redacted]>;
> Weightman, Craig@Wildlife <Craig.Weightman@wildlife.ca.gov>; Brown,
> Matthew <MVB5@pge.com>; 'Wilson, Danielle' <Danielle.Wilson@icf.com>
> Subject: Re: Request for extension of time to comment on PGE HCP for
> the 9 bay area counties
>
> WARNING: This email originated from outside of CDFW and should be treated with extra caution.
>
>
> Dear Ms. Farinha,
>
> CCCR will be submitting comments tomorrow, though due to time
> limitations and other deadlines, they will not be nearly as
> comprehensive as I would have liked. Is the deadline by COB (i.e. 5pm
> PDST) or by midnight and can the comments be submitted to your email?
>
> Regards,
>
> Carin High
>
> On 2/16/2021 6:47 PM, C/H High wrote:
>> Thank you very much for your response and for the time extension.
>>
>> Take care and stay safe!

>>
>> Carin High
>>
>> On 2/16/2021 6:09 PM, Farinha, Melissa@Wildlife wrote:
>>> Dear Ms. High and Ms. Belenky,
>>> CDFW will accept and address comments submitted on or before March
>>> 17, 2021 addressing the draft Environmental Impact Report for
>>> Pacific Gas and Electric Company Bay Area Operations & Maintenance
>>> Project covering the 9 Bay Area Counties. Available online here:
>>> https://gcc02.safelinks.protection.outlook.com/?url=https%3A%2F%2Fce
>>> q
>>> anet.opr.ca.gov%2FProject%2F2017122028&data=04%7C01%7Cmelissa.fa
>>> r
>>>
inha%40wildlife.ca.gov%7Cb55438b1406c4016587608d8e8cf883d%7C4b633c25efbf40069f1507442ba7aa0b%7C0%7C0%7C637515325339446609%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C1000&sdata=SZclQSJiXbCwMlr4Tf87N%2BopTd3gMy24PMCFaFPWhTM%3D&reserved=0. Your input is very much appreciated and please don't hesitate to call my work cell if you have any questions at (530) 351-4801.
>>>
>>> Thank You,
>>>
>>> Melissa Farinha
>>> Senior Environmental Scientist (Supervisory) Bay Delta Region,
>>> Delta/Contra Costa Habitat Conservation Unit
>>> 2825 Cordelia Road, Suite 100
>>> Fairfield, CA 94534
>>> (707) 944-5579
>>>
>>>
>>> -----Original Message-----
>>> From: Lisa Belenky <lbelenky@biologicaldiversity.org>
>>> Sent: Tuesday, February 16, 2021 1:44 PM
>>> To: Weightman, Craig@Wildlife <Craig.Weightman@wildlife.ca.gov>;
>>> Farinha, Melissa@Wildlife <Melissa.Farinha@wildlife.ca.gov>; C/H
>>> High <[redacted]>
>>> Cc: gail raabe <[redacted] 'Arthur Feinstein'
>>> <[redacted] Lennie Roberts
>>> [redacted]>; Barbara Salzman <[redacted]>
>>> Subject: Request for extension of time to comment on PGE HCP for the
>>> 9 bay area counties
>>>
>>> Warning: This email originated from outside of CDFW and should be
>>> treated with extra caution.
>>>
>>>
>>>
>>> Ms. Farinha, The Center for Biological Diversity also requests
>>> additional time to review and comment on the DEIR, an extension of
4.0 >>> at least 30 days is requested. The Center commented on the Notice of
>>> Preparation and other related documents and I have no record of
>>> having been contacted about the availability of this DEIR. I was

4.0 cont.

>>> unaware that the DEIR was available until Friday February 12 when
>>> Carin High's email alerted me to this situation. Thank you in
>>> advance for considering this request. Please feel free to contact me
>>> if you have any questions.
>>>
>>> Lisa T. Belenky, Senior Attorney
>>> CENTER for BIOLOGICAL DIVERSITY
>>> 1212 Broadway, Suite 800
>>> Oakland, CA 94612
>>> ofc (510) 844-7107 fax (510) 844-7150 cell (415) 385-5694
>>> lbelenky@biologicaldiversity.org
>>> https://gcc02.safelinks.protection.outlook.com/?url=http%3A%2F%2Fwww.
>>> biologicaldiversity.org%2F&data=04%7C01%7Cmelissa.farinha%40wild
>>> l
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>>>
>>> This e-mail message is for the sole use of the intended recipient(s)
>>> and may contain confidential and privileged information. Any
>>> unauthorized review, use, disclosure, or distribution is prohibited
>>> by law. If you are not the intended recipient, please contact the
>>> sender by reply e-mail and destroy all copies of the original message.
>>>
>>> -----Original Message-----
>>> From: Weightman, Craig@Wildlife <Craig.Weightman@wildlife.ca.gov>
>>> Sent: Tuesday, February 16, 2021 10:45 AM
>>> To: C/H High <[redacted]net>
>>> Cc: Farinha, Melissa@Wildlife <Melissa.Farinha@wildlife.ca.gov>;
>>> gail raabe <[redacted]>; 'Arthur Feinstein'
>>> <[redacted]>; Lennie Roberts
>>> <[redacted]>; Lisa Belenky
>>> <lbelenky@biologicaldiversity.org>; Barbara Salzman
>>> <[redacted]>
>>> Subject: RE: question about the PGE HCP for the 9 bay area counties
>>>
>>> Carin,
>>> Melissa Farinha is the correct person to respond and she will get
>>> back to you on this request.
>>> Thank You
>>> Craig
>>>
>>> -----Original Message-----
>>> From: C/H High <[redacted]>
>>> Sent: Tuesday, February 16, 2021 10:40 AM

>>> To: Weightman, Craig@Wildlife <Craig.Weightman@wildlife.ca.gov>
>>> Cc: Farinha, Melissa@Wildlife <Melissa.Farinha@wildlife.ca.gov>;
>>> gail raabe [redacted]; 'Arthur Feinstein'
>>> <[redacted]>; Lennie Roberts
>>> <[redacted]; 'Lisa Belenky'
>>> <lbelenky@biologicaldiversity.org>; Barbara Salzman
>>> <[redacted]>
>>> Subject: Re: question about the PGE HCP for the 9 bay area counties
>>> Importance: High
>>>
>>> Warning: This email originated from outside of CDFW and should be
>>> treated with extra caution.
>>>
>>>
>>>
>>> Hi Craig,
>>>
>>> I hope you are well. I've emailed Mr. Starr asking for a time
>>> extension to review and submit comments for this DEIR and had a
>>> bounce back email that he is getting ready to retire and was
>>> referred to by email to Ms.
>>> Farinha. I've emailed and just left a voicemail message as well.
>>>
>>> I have been following this project for quite a while and hosted
>>> meetings between PG & E, CDFW, USFWS and Bay Area environmental
>>> groups yet received no notice of the release of the DEIR until your
>>> email of February 11th.
>>>
>>> I realize that according to your email you are no longer managing
>>> this process, but I don't know who to contact regarding a formal
>>> request for a time extension. Due to the size of the document, I
>>> think a time extension of no less than two weeks should be granted.
>>>
>>> I would appreciate it if you could grant the time extension or
>>> submit my request to the appropriate party.
>>>
>>> As I was told I would be placed on the notification list, I think my
>>> request for a time extension is reasonable.
>>>
>>> Stay safe and take care,
>>>
>>> Carin High
>>>
>>> Citizens Committee to Complete the Refuge
>>>
>>> On 2/11/2021 1:17 PM, Weightman, Craig@Wildlife wrote:
>>>> Carin,
>>>> I am no longer managing the PG&E Bay Area O&M ITP.
>>>> I wanted to make sure you were aware that the CEQA document is out
>>>> for review.
>>>> https://gcc02.safelinks.protection.outlook.com/?url=https%3A%2F%2Fc
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>>>> r
>>>> es
>>>> erved=0 The review period stared 12/31 and ends 2/16
>>>>
>>>> Please contact me if you need more info.
>>>> Craig
>>>>
>>>>
>>>> Craig J. Weightman
>>>> Environmental Program Manager
>>>> California Department of Fish and Wildlife
>>>> 2825 Cordelia Road, Ste. 100
>>>> Fairfield, CA 94534
>>>>
>>>> (707) 944-5577 voice
>>>> (707) 339-1332 cell
>>>>
>>>> -----Original Message-----
>>>> From: Weightman, Craig@Wildlife
>>>> Sent: Thursday, April 13, 2017 4:05 PM
>>>> To: High, Carin <[redacted]>
>>>> Subject: RE: question about the PGE HCP for the 9 bay area counties
>>>>
>>>> Completely understand. I will put you on the distribution list
>>>>
>>>> Craig J. Weightman
>>>> Environmental Program Manager
>>>> California Department of Fish and Wildlife
>>>> 7329 Silverado Trail
>>>> Napa, CA 94558
>>>>
>>>> (707) 944-5577 voice
>>>> (707) 944-5563 fax
>>>>
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>>>> 1
>>>> wK
>>>> kQJBwd9fglOdMtNt%2Fp6CV%2FjaNsWr3%2F133rCJ5w%3D&reserved=0
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>>>>
>>>> -----Original Message-----
>>>> From: C/H High [mailto:[redacted]]
>>>> Sent: Thursday, April 13, 2017 3:43 PM
>>>> To: Weightman, Craig@Wildlife
>>>> Subject: Re: question about the PGE HCP for the 9 bay area counties
>>>>
>>>> Oh okay.
>>>>
>>>> Please do make sure I am on the notification list. The Service
>>>> failed to notify our bay area groups that the EA and draft HCP had
>>>> been released for comment.
>>>>
>>>> I realize this is only scoping, but we would like every opportunity
>>>> to comment.
>>>>
>>>> Thanks!
>>>>
>>>> Carin
>>>>
>>>>
>>>> On 4/13/2017 3:39 PM, Weightman, Craig@Wildlife wrote:
>>>>> For the CESA but not the CEQA
>>>>>

>>>>> Craig J. Weightman
>>>>> Environmental Program Manager
>>>>> California Department of Fish and Wildlife
>>>>> 7329 Silverado Trail
>>>>> Napa, CA 94558
>>>>>
>>>>> (707) 944-5577 voice
>>>>> (707) 944-5563 fax
>>>>>
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>>>>> uPt2atlwiwks5XvpCdVJfZ8mKA8B0zUoa%2B4EPa7kPDQ%3D&reserved=0
>>>>>
>>>>>
>>>>> -----Original Message-----
>>>>> From: C/H High [mailto:[redacted]]
>>>>> Sent: Thursday, April 13, 2017 3:39 PM
>>>>> To: Weightman, Craig@Wildlife
>>>>> Subject: Re: question about the PGE HCP for the 9 bay area
>>>>> counties
>>>>>
>>>>> Hi Craig,

>>>>>
>>>>> Will your approach be to cover only state listed species? You said
>>>>> this is an NOP, so this is just scoping correct?
>>>>>
>>>>> Regards,
>>>>>
>>>>> Carin
>>>>>
>>>>>
>>>>> On 4/13/2017 3:12 PM, Weightman, Craig@Wildlife wrote:
>>>>>> Yes I am the right person. We are going to be releasing an NOP
>>>>>> shortly and I will make sure you get notified. We will be doing
>>>>>> an EIR.
>>>>>>
>>>>>> Craig J. Weightman
>>>>>> Environmental Program Manager
>>>>>> California Department of Fish and Wildlife
>>>>>> 7329 Silverado Trail
>>>>>> Napa, CA 94558
>>>>>>
>>>>>> (707) 944-5577 voice
>>>>>> (707) 944-5563 fax
>>>>>>
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>>>>>> d
>>>>>> =0
>>>>>>
>>>>>> -----Original Message-----
>>>>>> From: C/H High [mailto:[redacted]
>>>>>> Sent: Thursday, April 13, 2017 3:08 PM
>>>>>> To: Weightman, Craig@Wildlife
>>>>>> Subject: question about the PGE HCP for the 9 bay area counties
>>>>>>
>>>>>> Hi Craig,
>>>>>>
>>>>>> I hope you are well. The environmental community is in a bit of
>>>>>> an uproar over the lack of notification regarding the draft PGE
>>>>>> HCP for the
>>>>>> 9 bay area counties for their O & M activities.
>>>>>>
>>>>>> We've been told CDFW is proceeding on a separate track with 2081
>>>>>> approval. Are you the appropriate person to direct questions to?
>>>>>> If so, will there be any CEQA review and if yes,
>>>>>>
>>>>>> do you know when that might be released and in what format?
>>>>>>
>>>>>>
>>>>>> Regards,
>>>>>>
>>>>>> Carin High
>>>>>>
>>>>>> CCCR
>>>>>>

CENTER *for* BIOLOGICAL DIVERSITY *Because life is good.*

March 19, 2021

Sent via email

EIR Bay Area Ops and Maintenance Coordinator
California Department of Fish and Wildlife
2825 Cordelia Road Suite 100
Fairfield, CA 94534.
AskBDR@wildlife.ca.gov

Melissa Farinha
Acting Environmental Program Manager
Bay Delta Region, Delta Habitat Conservation Program
2825 Cordelia Road, Suite 100
Fairfield, CA 94534
Melissa.Farinha@wildlife.ca.gov

Re: Pacific Gas and Electric Company Bay Area Operations & Maintenance Environmental Impact Report (SCH 2017122028)

Dear Melissa,

These comments are submitted on behalf of the Center for Biological Diversity (the "Center") regarding the Draft Environmental Impact Report ("DEIR") for the Bay Area Operations and Maintenance ("O&M") Activities Proposed by Pacific Gas and Electric ("Project"). The DEIR accounts for incidental take permits for three special-status species for the next 30 years: California tiger salamander, Alameda whipsnake, and California freshwater shrimp. However, the Project would result in take of many other special-status and sensitive species in the nine-county Bay Area region, including but not limited to San Francisco garter snake, Ridgway's rail, salt marsh harvest mouse, San Joaquin kit fox, northern spotted owl, marbled murrelet, and Central Coastal mountain lion. With the total Permit Area encompassing over 402,000 acres, of which natural and agricultural land cover types account for 32% and 7%, respectively, Project activities have the potential to impact many other special-status and sensitive species and the overall biodiversity of the region. The DEIR fails to adequately assess, avoid, and mitigate impacts to many special-status animal and plant species.

The Center is a non-profit, public interest environmental organization dedicated to the protection of native species and their habitats through science, policy, and environmental law. The Center has over 1.7 million members and online activists throughout California and the United States. The Center and its members have worked for many years to protect imperiled plants and wildlife, open space, air and water quality, and overall quality of life for people in Bay Area.

I. The DEIR fails to adequately assess, avoid, and mitigate impacts to special-status species due to the proposed Project.

4.1 As mentioned in the Center's NOP comments (Exhibit 1), the list of species being considered for the region-wide permit is too narrow. The Bay Area has rich biodiversity with numerous sensitive, rare, endemic, and vulnerable species that are CESA-listed or fully protected under California law. While we understand that CDFW will have greater authority on the three covered species in the ITP process, we are concerned about vague measures for all other special-status and sensitive species. These species should be adequately assessed and impacts should be adequately mitigated before issuing a region-wide incidental take permit (ITP) that covers 30 years. The DEIR fails to accomplish this.

4.2 The avoidance and minimization measures provided in Table 2-3 (DEIR at 2-45) are vague and insufficient to adequately protect sensitive and special-status species in the Permit Area over the next 30 years. For example, many of the mitigation measures, such as the "Hot-Zone Species-Specific AMMs for California freshwater shrimp and California tiger salamander, BMP 14 for elderberry longhorn beetles, BMP 15 for northern spotted owls, BMP 16 for migratory birds, BMP 17 for sudden oak death, BMP 52 for flagging and avoiding sensitive habitats, APM BIO-2 for protecting covered wildlife encountered while performing covered activities, APM BIO-4 for avoiding special-status plants, APM BIO-7 for protecting breeding and pupping bats, and others, have no requirement for agency oversight. Such measures should include a requirement for a qualified biologist either from or approved by the California Department of Fish and Wildlife (CDFW) or the U.S. Fish and Wildlife Service (USFWS) to monitor O&M and "minor new construction" activities in areas where special-status species occur or have the potential to occur. In addition, a qualified CDFW-approved biologist should conduct targeted surveys for special-status animals and plants prior to any O&M or construction activities. Transparency should be provided to relevant agencies (*i.e.*, CDFW, USFWS, U.S. Army Corps of Engineers) and the general public when Project activities are being conducted in sensitive areas or have the potential to impact sensitive and/or special-status species.

4.3 There should be a formal mechanism with a set timeframe for CDFW to evaluate if specific Project activities fit within the parameters of this programmatic EIR prior to the start of O&M or construction activities. And annual reports that provide data regarding the species impacted by Project activities should be provided to relevant agencies and made publicly available.

4.4 MM BIO-1 provides insufficient compensatory mitigation for impacts to the three species the ITP is supposed to cover. Although it states that "PG&E will acquire, preserve, and/or enhance potential habitat, or purchase bank credits for California freshwater shrimp, California tiger salamander, and Alameda whipsnake to fully mitigate for the potential take of these species" (DEIR at 2-57), this measure relies on modeled habitat without requiring any monitoring or ground-truthing, which could lead to impacts to these species not being accounted for. Although models are useful tools that help identify where species may occur, they are not 100% accurate and sometimes species may occur in areas that are identified as less suitable (e.g., California tiger salamanders and western spadefoot toads have been observed breeding in road ruts). Therefore, targeted surveys should be conducted by a qualified CDFW- or USFWS-approved biologist in accordance with CDFW or USFWS protocols prior to any O&M or new

4.4 cont.

construction activities, and if occupied habitat is removed or degraded, in-kind compensatory mitigation at a ratio of 5:1 should be implemented. In addition, a relocation plan for covered species that includes adequate relocation site criteria should be submitted to and approved by CDFW prior to the start of Project activities, and it should be implemented if the area is deemed occupied or if the species is encountered during Project activities. If a sensitive species is encountered during Project activities, construction crews should be required to stop work until the animal has moved away from the area on its own or a qualified CDFW- or USFWS--approved biologist can relocate it out of harm's way. Any handling or moving of animals should only be conducted by qualified CDFW- or USFWS-approved biologists.

MM BIO-1 should also have higher mitigation ratios of at least 2:1 for temporary impacts. Special-status species are highly vulnerable, and even temporary impacts could significantly impact local populations. Mitigation ratios of 0.5:1 for upland California tiger salamander habitat and movement or dispersal habitat for Alameda whipsnake and 1:1 for freshwater shrimp habitat, breeding California tiger salamander habitat, and core or perimeter core habitat for Alameda whipsnake are insufficient to preserve the species and facilitate recovery. Upland habitat and movement corridors should not be so readily dismissed. Connectivity between upland habitat and breeding sites as well as other suitable habitat is needed to accommodate the furthest dispersers to allow for increased chances for establishment or re-establishment in unoccupied habitats, as often happens in metapopulation dynamics, or to increase resilience to climate change (Semlitsch and Bodie 2003; Cushman 2006). Also, it is unclear if impacted areas will be monitored for recovery to determine if, in fact, the impacts actually only last 12 months or less. PG&E should prepare and implement a vegetation restoration plan with identified measurable success criteria and adaptive management strategies to restore all on-site native vegetation that will be temporarily disturbed during construction to pre-project or better conditions. The vegetation restoration plan should be prepared by a qualified restoration specialist and submitted to CDFW for review and approval within 30 days of start of construction.

4.5

All mitigation (preservation, restoration/enhancement, or purchased bank credits) should be implemented in consultation with CDFW, local and regional biologists, indigenous groups, and government agencies, and protected in perpetuity, and the mitigation on these lands should include funded long-term monitoring, specified measurable success criteria, and adaptive management strategies. Compliance monitoring should be conducted by a third-party consultant that is authorized by and reports directly to CDFW.

4.6

Although MM BIO-1 mentions "jump start" and "stay ahead" mitigation approaches, these provisions are vague and seem to only apply to the first five years of Project implementation. The "jump start" provision alludes to PG&E implementing "efforts" to acquire, preserve, and/or enhance habitat "in advance of permit issuance" (DEIR at 2-57), but they do not actually require the purchase to be finalized prior to or within a certain timeframe after permit issuance. In addition, PG&E will only be held accountable to this provision for the first five years, during which time MM BIO-1's 0.5:1 mitigation ratio for temporary impacts to modeled upland habitat for California tige salamander and non-core/movement or dispersal habitat for Alameda whipsnake will be increased to 1:1. However, it seems there is no incentive to comply with the "jump start" approach starting the sixth year, when the 0.5:1 mitigation ratio will apply

4.7

whether or not PG&E uses the "jump start" approach. The DEIR also states that "PG&E will 'stay ahead' of its mitigation obligations by calibrating the mitigation credits that may be necessary for future years based on information from the Annual Report for the prior year" (DEIR at 2-57), but it is unclear how that will be implemented.

The DEIR provides only one mitigation measure that gives CDFW authority for three CESA-listed species. Such minimal measures do not align with much higher standards seen in other CEQA documents for individual PG&E projects that had less environmental impacts. For example, the Mitigated Negative Declaration (MND) for the R649, R700, and R707 Natural Gas Transmission Pipeline 131 Replacement Projects (CDFW 2018a) had 17 mitigation measures enforceable by CDFW (MM BIO-1 through MM BIO-17) as well as 21 applicant proposed measures (APM BIO-1 through APM BIO-20, APM HWQ-1) in a relatively localized area of Alameda County. Meanwhile, the DEIR provides only eight APMs and one MM for an area that covers over 402,000 acres spanning nine counties (of which approximately 128,735 acres are natural land cover types) for 30 years. The APMs and MMs provided in the R649, R700, and R707 Natural Gas Transmission Pipeline 131 Replacement Projects MND are to mitigate impacts to California tiger salamander and California red-legged frog; the same APMs and MMs should be provided in here. The DEIR's mitigation measures are grossly insufficient to mitigate impacts to special-status and sensitive animal and plant species to less than significant.

4.8

II. The DEIR fails to adequately assess, avoid, and mitigate impacts to wildlife movement and habitat connectivity.

Proposed minimization and mitigation measures for impacts to wildlife movement and habitat connectivity are insufficient. According to the DEIR, APM BIO-3, APM BIO-6, and APM BIO-7 will minimize impacts to wildlife connectivity. APM BIO-3 states that "[n]ew, permanent facilities as part of minor new construction activities would be sited and designed to avoid impacts on sensitive vegetation types, sensitive natural communities, and unique plant assemblages, as well as occupied habitat and suitable habitat for special-status species" (DEIR at 2-56). However, the DEIR provides little detail as to what science-based approaches would be taken to actually avoid impacts. The provided measures are unenforceable and amount to improperly deferred mitigation (see *San Joaquin Raptor Rescue Center v. County of Merced* (2007) 149 Cal.App.4th 645, 670 [EIR inadequate where the success or failure of mitigation efforts "may largely depend upon management plans that have not yet been formulated, and have not been subject to analysis and review within the EIR"]). In the limited circumstances in which deferred mitigation is appropriate, the agency must meet all of the following elements: (1) practical considerations prevented the formulation of mitigation measures during the planning process; (2) the agency committed itself to developing mitigation measures in the future; (3) the agency adopted specific performance criteria prior to project approval; and (4) the EIR lists the mitigation measures to be considered, analyzed, and possibly incorporated into the mitigation plan. (See *POET, LLC v. State Air Resources Bd.* (2013) 218 Cal.App.4th 681, 736-37 [review denied].) Here, the DEIR fails to meet these criteria in the discussion to mitigate impacts of the Project activities on wildlife connectivity. The lack of adequate details regarding mitigation measures being readily provided for wildlife connectivity, special-status species, migratory birds, habitat, and vegetation communities does not allow the public and decisionmakers to evaluate the mitigation measures being taken; therefore, the DEIR violates CEQA.

4.9

In addition, the DEIR states that impacts to wildlife movement would be less than significant because:

> "To minimize the potential to adversely affect sensitive wildlife movement areas, including water features and identified linkages, PG&E would implement habitat restoration where 0.10 acre of grassland habitat may be affected by ground disturbance, in accordance with FP-14. PG&E would also minimize creation or development of new access roads, and any new access road considered within suitable habitat or identified linkages for special-status species would be temporary or unpaved to avoid negatively affecting function of any known or identified linkages" (DEIR at 3.4-89).

4.9 cont.

This suggests that all animals move predictably within identified linkages, which may be the case for some species in California, like certain herds of mule deer, but is not the case for many California species, like mountain lions, western pond turtles, and California tiger salamanders. Landscape permeability within and among heterogeneous habitats, even in areas outside of identified linkages, could be important for wildlife movement of special-status and sensitive species. Studies that identify linkages, like *Critical Linkages: Bay Area & Beyond and the California Essential Habitat Connectivity Project* by (Penrod et al. 2013) and the *California Essential Habitat Connectivity Project* (CDFW 2010), use a least-cost analysis that "models the most efficient path for a [focal] species to move between targeted areas based on how that species is affected by various landscape characteristics (e.g., vegetation, topography)" (Penrod et al. 2013). These studies are critical for identifying movement corridors most likely to be used by focal species and they are useful for identifying priority areas for conservation; however, they do not identify all potential movement pathways for all wildlife. To adequately assess and mitigate impacts of Project activities on wildlife movement and habitat connectivity, the DEIR must consider the life history needs and behaviors of the diverse wildlife throughout the nine-county permit area.

The DEIR's statement also indicates that PG&E would mitigate impacts to wildlife connectivity with FP-14, which states that "[i]f the covered activity disturbs 0.1 acre or more of habitat for a covered species in grasslands, the field crew will revegetate the area with a commercial "weed free" seed mix" (DEIR at 3.4-61). This FP lacks sufficient detail. What would be in the seed mix? Would it contain only native plant species? Where would the seed mix come from? Would the seed mix be approved by CDFW? How would restoration be deemed successful? In addition, the statement suggests that only disturbing grasslands would impact wildlife movement, when, in fact, many different species move through and use many different types of habitats. Disturbances to other habitats, like chaparral or oak woodlands, could be detrimental to special-status and sensitive species, particularly those with small ranges or with specific life history needs. This measure neglects to provide an adequate vegetation restoration plan with monitoring and adaptive management strategies to ensure that the disturbed habitats, grasslands or otherwise, are restored to pre-project or better conditions. As mentioned previously, PG&E should prepare and implement a vegetation restoration plan with identified measurable success criteria and adaptive management strategies to restore all on-site native vegetation that will be temporarily disturbed during construction to pre-project or better

4.10

conditions. The vegetation restoration plan should be prepared by a qualified restoration specialist and submitted to CDFW for review and approval within 30 days of start of construction.

Connectivity beyond identified linkages provides corridor redundancy (*i.e*. the availability of alternative pathways for movement), which is important because it allows for improved functional connectivity and resilience. Compared to a single pathway, multiple connections between habitat patches increase the probability of movement across landscapes by a wider variety of species, and they provide more habitat for low-mobility species while still allowing for their dispersal (Mcrae et al., 2012; Olson & Burnett, 2008; Pinto & Keitt, 2008). In addition, corridor redundancy provides resilience to uncertainty, impacts of climate change, and extreme events, like flooding or wildfires, by providing alternate escape routes or refugia for animals seeking safety (Cushman et al., 2013; Mcrae et al., 2008; Mcrae et al., 2012; Olson & Burnett, 2008; Pinto & Keitt, 2008).

4.10 cont.

Corridor redundancy is critical when considering the impacts of climate change on wildlife movement and habitat connectivity. Climate change is increasing stress on species and ecosystems, causing changes in distribution, phenology, physiology, vital rates, genetics, ecosystem structure and processes, and increasing species extinction risk (Warren et al. 2011). A 2016 analysis found that climate-related local extinctions are already widespread and have occurred in hundreds of species, including almost half of the 976 species surveyed (Wiens 2016). A separate study estimated that nearly half of terrestrial non-flying threatened mammals and nearly one-quarter of threatened birds may have already been negatively impacted by climate change in at least part of their distribution (Pacifici et al. 2017). A 2016 meta-analysis reported that climate change is already impacting 82 percent of key ecological processes that form the foundation of healthy ecosystems and on which humans depend for basic needs (Scheffers et al. 2016). Genes are changing, species' physiology and physical features such as body size are changing, species are moving to try to keep pace with suitable climate space, species are shifting their timing of breeding and migration, and entire ecosystems are under stress (Parmesan and Yohe 2003; Root et al. 2003; Parmesan 2006; Chen et al. 2011; Maclean and Wilson 2011; Warren et al. 2011; Cahill et al. 2012). The DEIR fails to adequately assess, avoid, and mitigate impacts to wildlife movement and habitat connectivity in the Permit area.

III. The DEIR fails to adequately assess, avoid, and mitigate impacts of increased wildfire ignitions to special-status species.

Wildfires are a natural and necessary process in many of California's ecosystems, providing essential habitat for numerous species. However, extending human activities and human infrastructure into high fire-prone wildlands increases ignition risk. Almost all contemporary wildfires in California (95-97%) are caused by humans in the wildland urban interface (Syphard et al. 2007; Balch et al. 2017; Radeloff et al. 2018; Syphard and Keeley 2020). For example, 2019 Kincade Fire, 2018 Camp and Woolsey fires, and 2017 Tubbs and Thomas fires were sparked by powerlines or electrical equipment. And although many of the 2020 fires were sparked by a lightning storm, the Apple Fire was caused by sparks from a vehicle, the El Dorado Fire was caused by pyrotechnics at a gender-reveal celebration, the Blue Ridge Fire was likely caused by a house fire, and electrical equipment is suspected to have

4.11

ignited the Silverado and Zogg fires. While diligent operations and maintenance of PG&E's power lines is important to minimize ignition risk, increasing human presence and extending new construction via facility expansions, new structures, and service extensions in high fire-prone areas increases wildfire risk. This should be clearly stated and discussed in the DEIR.

Increased wildfire ignitions in the wildland urban interface has disrupted the historical fire regimes of California's native shrubland habitats, like chaparral and sage scrub. These ecosystems are adapted to high-severity wildfires at relatively infrequent intervals ranging from 30 to 130 years or more (Keeley and Fotheringham 2001; Stephens et al. 2007; Keeley and Syphard 2018; Baker and Halsey 2020), but increased fire frequency from human ignition sources due to sprawl development is now causing these shrubland habitats to receive too much fire. This altered fire regime is the primary driver of habitat degradation and loss of biodiversity in these ecosystems (Keeley 2005) and leads to conversion of these important habitats to non-native grasses and forbs that burn more easily throughout more of the year, thereby compounding the problem of too much fire (Keeley 2005; Syphard et al. 2009; Balch et al. 2013; Sugihara et al. 2018; Syphard et al. 2019). Any additional human activity and increased human infrastructure in these high fire-prone habitats poses a threat to special-status animals and plants as well as sensitive habitats.

4.11 cont.

In a landscape that has been highly developed and fragmented, increased wildfire ignitions from human activities puts many of California's wild animals at risk of extinction or local extirpation. Wildfires in the wildland urban interface can sometimes have harmful consequences to endangered and/or rare species that now only exist in very small, isolated populations. For example, two mountain lion deaths in the Santa Monica Mountains were attributed in part to the 2018 Woolsey Fire. Although mountain lions are highly mobile and generally able to move away from wildfires, these lions were unable to escape to safety because they were boxed in by roads and development. Such deaths can further destabilize a small mountain lion population that's already facing numerous other threats, including low genetic diversity, vehicle strikes and rodenticide poisoning, and make them more vulnerable to local extinction (Benson et al. 2016; Benson et al. 2019). The population most relevant to the Project is the Central Coast North (CC-N) population, which includes lions in the Santa Cruz Mountains and Diablo Range. This population has been found to be experiencing low genetic diversity and high human-caused mortalities, and it is trending towards an extinction vortex similar to what the mountain lions in the Santa Monica and Santa Ana mountains are experiencing (Gustafson et al. 2018; Saremi et al. 2019). This is detailed in the Center's petition to the California Fish and Game Commission to protect Southern California and Central Coast mountain lions under the California Endangered Species Act (Yap et al. 2019). The combination of increased fire frequency and fragmented habitat could have severe impacts on the CC-N population.

Similarly, researchers fear, post-fire landslides after the 2020 Bobcat Fire could be the end for remnant populations of sensitive species in the San Gabriel mountains that have been hard hit by sprawl development combined with disease, non-native predators and other threats, including Santa Ana suckers, unarmored three-spine stickleback fish, speckled dace, arroyo chub, mountain yellow-legged frogs and western pond turtles (Sahagun 2020). While historically these species would have been able to recolonize from neighboring populations after the loss of individuals or populations to fire impacts, that ability is now limited by the species' current small

and fragmented population structure. Continued alteration of historical fire regimes due to sprawl and infrastructure development will further endanger remnant populations of vulnerable and rare species throughout the state. The DEIR fails to adequately assess and mitigate impacts of increased wildfire risk and altered fire regimes due to Project activities to sensitive species and habitats.

4.11 cont.

IV. The DEIR fails to adequately assess, avoid, and mitigate impacts of increased wildfire to human communities.

The DEIR boldly states that "[a]lthough the existing and proposed O&M activities, as well as minor new construction, are and would be located in very high fire hazard severity zones in some locations, PG&E's internal standards, compliance with existing laws and the additional requirements in PG&E's Bay Area O&M HCP will ensure that wildfire risks are not exacerbated by PG&E's covered activities" (DEIR at 3.19-6). The last few years of destructive fires prove otherwise. PG&E equipment started the 2018 Camp Fire that killed 85 people and destroyed over 18,000 structures, and PG&E equipment is suspected to have caused the 2020 Zogg Fire that killed four people and burned over 200 structures. In addition, progressively hotter, drier and windier conditions due to climate change are making it easier for wildfires to ignite and spread. The number of days with extreme fire weather conditions in California has doubled since 1980, and further climate change will amplify that trend (Goss et al. 2020). Clearly, whatever internal standards are in place, safety from fire is not guaranteed. Stating that wildfire risks are not exacerbated by Project activities is reckless, irresponsible, and not supported by any evidence.

4.12

As detailed in Yap et al. (2021), the state is reeling from the impacts of recent wildfires. Since 2015 almost 200 people in the state have been killed in wildfires, more than 50,000 structures have burned down, hundreds of thousands have had to evacuate their homes and endure power outages, and millions have been exposed to unhealthy levels of smoke and air pollution. Meanwhile costs for fire suppression and damages have skyrocketed to more than $23 billion during the 2015-2018 fire seasons. And impacts of wildfire disproportionately affect low-income and minority communities that have less adaptive capacity to respond to and recover from hazards like wildfire and are more vulnerable to health impacts from wildfires (Yap et al. 2021). The DEIR fails to adequately assess and mitigate impacts of wildfire to human communities.

V. List of preparers and reviewers is inconsistent with previous CEQA documents.

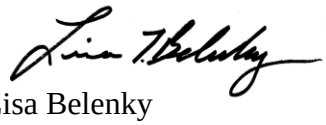
The DEIR notably differs from other CEQA documents prepared for projects for which CDFW is the lead agency. In recent CDFW MNDs, the list of preparers includes staff from CDFW and the Project Applicant as well as hired consultants (e.g., CDFW 2018b) or clearly states that the CDFW-hired consultant reviewed the document prepared by the Project Applicant-hired consultant (e.g., CDFW 2018a). Another MND lists CDFW staff and CDFW-hired consultants that prepared and reviewed the document (e.g., CDFW 2014). However, this DEIR lists only ICF consultants in the list of preparers (DEIR at 6-1), which suggests that CDFW staff did not review the DEIR, nor did they hire a consultant to review the DEIR prepared by PG&E's hired consultant. This brings up concerns of self-monitoring and lack of adequate oversight during the DEIR process.

4.13

VI. Conclusion

Thank you for the opportunity to submit comments on the DEIR for the Project. Please include the Center on your notice list for all future updates to the Project and do not hesitate to contact the Center with any questions at the email addresses listed below.

Sincerely,



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(*Provided via OneDrive*)

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Exhibit 1

Via Electronic Mail with Attachment

Craig Weightman (CDFW Project Manager)
California Department of Fish and Wildlife
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235 Montgomery Street, 5uite 935
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February 16, 2018

Re: Notice of Preparation for an Environmental Document for the Bay Area Operations and Maintenance Activities Proposed by Pacific Gas and Electric

Dear Mr. Weightman:

These comments are timely[1] submitted on behalf of the Center for Biological Diversity (the "Center") regarding the Notice of Preparation for an Environmental Document for the Bay Area Operations and Maintenance ("O&M") Activities Proposed by Pacific Gas and Electric (the "NOP"). The NOP explains that it is being prepared as part of the application review for a region-wide Incidental Take Permit ("ITP") for three (3) species[2] protected under the California Endangered Species Act ("CESA"), Cal. Fish & Game Code §2081.

The Center is a non-profit, public interest environmental organization dedicated to the protection of native species and their habitats through science, policy, and environmental law. The Center has over 1.6 million members and online activists throughout California and the United States. The Center has worked for many years to protect imperiled plants and wildlife and their habitats, open space, air and water quality, and overall quality of life for people in the San Francisco Bay Area. The Center also submitted comments on the draft Federal Habitat Conservation Plan ("HCP") and NEPA environmental assessment ("EA") associated with these same O&M activities. (*See* Attachment.)

The Center appreciates the need for the California Department of Fish and Wildlife ("Department") to fully consider PG&E's application for a permit to take 3 CESA listed species in conjunction with PG&E's operations and maintenance activities in the 9 Bay Area counties. However, the Center has significant concerns regarding the limited scope of the application and the high likelihood that other listed and fully protected species will be impacted and taken by the O&M activities and so-called "minor new construction activities" that would be covered by the

[1] The public was provided an extension of time to submit comments on the NOP until Friday February 16, 2018.
[2] California tiger salamander, Alameda whipsnake, and California freshwater shrimp.

permit. The NOP acknowledges that the activities will affect a suite of resources that must be addressed in the CEQA review including air quality, greenhouse gas emissions, impacts to soils, water and surface hydrology, vegetation communities including rare and protected plants and others. Detailed comments are provided below focused primarily on impacts to a few of the listed species.[3]

1. Covered Activities are Overbroad and Undefined

The activities to be covered by the proposed permit go well beyond conventional O&M type activities and also include system upgrades and "minor new construction". This last category is explicitly intended to support extending service for new customers for up to 2 miles.

> Minor new construction activities include installing or replacing facilities to upgrade existing infrastructure or extending service to locally approved new residential or commercial customers. When conducted in natural vegetation that contain suitable habitat for sensitive species, covered linear activities are limited to 2 miles or less from an existing line. Line extensions exceeding 2 miles would not be an O&M activity covered by this ED. The size of a minor new construction project for purposes of this ED would be calculated as the total footprint, expressed in acres. New or replacement structures to upgrade existing infrastructure are limited to new gas pressure limiting stations with 1 acre or less of natural vegetation disturbance and electrical substation expansions with 3 acres or less of natural vegetation disturbance.

(NOP at 2.) The likely location of this "minor new construction" is unknown and therefore the potential impacts to listed species are likewise unknown. The NOP's attempts to estimate the impacts from an unlimited number of such so –called "minor" expansions throughout the 9 Bay Area counties appear to be little more than guesswork. Moreover, extending electric and gas service to new customers as far as 2 miles from existing facilities, particularly where the extensions are "conducted in natural vegetation that contain suitable habitat for sensitive species" is highly likely to support sprawl in and across natural habitats and open areas that leads to fragmentation of habitat and increased edge effects—a cascading set of impacts to sensitive species and their habitats and to other resources that must be fully addressed in the CEQA review.

These so-called minor expansions will also be growth inducing in the 9 Bay Area Counties an impact which could trigger many additional undisclosed direct, indirect and cumulative impacts to listed species, fully protected species, and other sensitive species and habitats throughout the region and impacts to many other resources. These issues must also be fully addressed in the CEQA review.

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[3] Due to time constraints these comments unfortunately do not provide detail regarding the many listed plant species and other plant communities protected under California laws that may be affected by the proposed activities that would be covered under the region-wide ITP. The federal HCP covered 13 plant species of which 9 are dual-listed under CESA. (*See* HCP at 1-16.) The CEQA review should thoroughly address those species and habitats as well.

2. The List of Species Being Considered for the Region-wide Permit is Too Narrow

The Department should require all CESA listed species that may be taken through the covered activities to be included in the permit application. The NOP makes general statements about potential impacts to other wildlife and plant species that may be affected but does not identify those species specifically. (*See* NOP, Appx. A at 10.) For example, among the other species that will be taken are dual-listed CESA and ESA protected species, fully protected species under California law.

Oddly, the NOP does not address the earlier federal approval of a federal Habitat Conservation Plan ("HCP") for these same activities, for which a federal incidental take permit was issued in 2017, nor did the NOP explain that seven (7) of the species or populations covered under the federal permit are also listed under CESA[4] (so-called "dual listed" species)—of these only 3 are included in the permit application to the Department. There is no explanation of why the permit application did not include the other 4 dual-listed species--San Francisco garter snake, Ridgway's rail, Salt marsh harvest mouse, San Joaquin kit fox. The NOP does not explain whether the Department is considering issuing a consistency determination for those additional 4 "dual listed" species as well under Cal. Fish & Game Code § 2080.1[5] or provide any other explanation for the lack of inclusion of those species in this proposed CESA region-wide ITP. The Department's environmental review must clarify this issue and also include review of impacts to all of the dual-listed species in its CEQA analysis of the impacts of the O&M activities and new construction activities as well as consider whether or not an ITP can be issued at all if it doesn't cover all listed species that may be taken by those activities.

Further, the federal HCP covers three (3) fully protected species,[6] and at least one other fully protected species (Golden Eagles, Fish & Game Code § 3511) will be impacted by the activities proposed to be covered in the region-wide ITP. The NOP does not mention fully protected species or explain that the only way to obtain an ITP for fully protected species in circumstances such as this is through preparation of a Natural Communities Conservation Plan ("NCCP"), Fish & Game Code Section 2835.[7] The Center urges the Department to include

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[4] California freshwater shrimp, California tiger salamander (Central CA DPS and Sonoma County DPS), Alameda whipsnake, San Francisco garter snake, Ridgway's rail, Salt marsh harvest mouse, San Joaquin kit fox.

[5] It is baffling that the NOP does not discuss including all of the CESA listed species in this ITP process, particularly this issue since it was raised in the federal HCP process and in response to comments the agency stated: "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*." (HCP, Master and Specific Responses at 24; emphasis added).

[6] Ridgeway's Rail (formerly called, California Clapper Rail), Fish & Game Code § 3511. Salt-marsh harvest mouse, Fish & Game Code § 4700. San Francisco garter snake, Fish & Game Code § 5050.

[7] Cal. Fish & Game Code §2835 ("At the time of plan approval, the department may authorize by permit the taking of any covered species, including species designated as fully protected species pursuant to

review of impacts to all fully protected species that are being and may be taken by the O&M activities and the minor new construction activities in its CEQA analysis of the region-wide CESA ITP and to address whether and under what circumstances an ITP could issue for these activities that take fully protected species without an NCCP first being prepared. It would undermine the purposes of CESA and the fully protected species statutes for the Department to issue an ITP for only some of the listed species that will be impacted by the covered O&M activities and minor new construction activities while ignoring take of other listed species and fully protected species from those very same activities. This issue must be fully addressed in the environmental document as CEQA requires full and fair identification and analysis of all direct, indirect and cumulative impacts of a proposed project.

The Department should also consider in the CEQA review whether other listed or fully protected species that were not identified in the application might be taken by the O&M activities and minor new construction activities before issuing the proposed region-wide CESA ITP.[8] For example, listed steelhead and salmon species, marbled murrelet, California least tern, western snowy plover, northern spotted owl, and western yellow-billed cuckoo are all found within the Plan Area and may be taken by the O&M activities and minor new construction activities.

a. Salmon and Steelhead

The CESA endangered (and federal ESA threatened) central coast coho salmon occurs in Sonoma, Marin and San Mateo counties and other tributaries to the San Francisco bay, and both CESA endangered and threatened populations of Chinook salmon also occur in the area. Several federally threatened steelhead Evolutionarily Significant Units ("ESUs") occur in Alameda, Contra Costa, Marin, Napa, San Mateo, Santa Clara, Sonoma, and Solano Counties as well and these steelhead populations are species of concern under California law.

Anadromous fish are known to be particularly sensitive to changes in riparian cover, stream bed gradient and obstructions, and reductions in water quality. Many power lines are in or near riparian corridors, on stream banks and cross streams, throughout the 9 Bay Area counties included in the proposed region-wide ITP in the areas where these threatened and endangered

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Sections 3511, 4700, 5050, or 5515, whose conservation and management is provided for in a natural community conservation plan approved by the department.")

[8] These fish species are not coved in the Federal HCP. The HCP states that this is because NMFS would not issue a long term take permit and individual permits would be sought later. (HCP at 1-17 "The Bay Area O&M HCP does not include listed fish species because no USFWS freshwater fish are expected to be affected and because NMFS indicated that it cannot commit to authorizing take of listed fish species either in the context of a programmatic permit or for a 30- to 50-year permit term. PG&E will continue to request project-level permits for activities that may result in impacts on listed fish species from USFWS for freshwater fish and from NMFS for anadromous fish. PG&E relies on the Section 404 CWA permitting process when sensitive fish are identified within an activity boundary, and streambed alteration agreements with CDFW are sought as necessary.") This is of concern because again as with the consistency determination, PG&E stated in the federal HCP process that it would seek Department approval for impacts to CESA listed species, however the actual application being considered by the Department at this time appears to ignore those listed fish species.

fish are found. PG&E O&M could affect these anadromous fish if maintenance activities and new "minor new construction" projects occur in these areas. For example, covered maintenance activities for power lines could reduce riparian cover near streams and power line pole repairs and access route use can disturb soils which can increase siltation in small streams. PG&E pipelines are also found along riparian corridors and crossing streams, maintenance, repair and replacement activities that are included under the region-wide ITP could also reduce riparian cover and/or increase siltation and reduce water quality. By including an array of "minor new construction" projects that are unmapped and unknown at this time as part of the project activities, the region-wide ITP could cover activities that have many as yet undisclosed additional effects to listed species to occur and these must all be addressed in the CEQA review.

b. Birds

Another glaring omission to the permit application are many avian species that are most vulnerable to impacts from PG&E power line infrastructure including electrocution. As noted above, the CESA endangered Ridgeway's rail (California clapper rail) was included in the federal HCP but is excluded in the application for the region-wide ITP without explanation. The fully protected Golden Eagle is also not included in the application although take of eagles is well documented from PG&E O&M activities and would likely be increased under the minor new construction activities.

Other omitted avian species include CESA listed marbled murrelet, California least tern, northern spotted owl, and western yellow-billed cuckoo[9] and fully protected Golden eagle, Ridgeway's rail, and California least tern.

The CESA endangered and Federal ESA threatened listed marbled murrelet occurs in the area and has nesting habitat and critical habitat in San Mateo, Marin, and Sonoma counties.[10] The 1997 Recovery Plan states that "adult mortality in the terrestrial environment has been documented to occur from interactions with vehicles (Sprot 1928; Balmer 1935; S.K. Nelson, pers. comm., 1996) and power lines (Young 1931; S.K. Nelson, pers. comm., 1996)."[11] Forest and riparian lands in the Plan Area in San Mateo County provide critical habitat for nesting and movement for murrelets in the highly endangered Santa Cruz Mountains population, which nests in old-growth or mature coastal forest habitat and uses riparian corridors to commute to nesting grounds. PG&E O&M could affect marbled murrelets from interactions with power lines during operation as well as maintenance activities near nesting habitat in San Mateo, Marin, and Sonoma counties. For example, murrelets use Gazos, Butano, and Pescadero creek beds as flyways. Transmission lines are found along Pescadero creek road which wind along the creek and cross it multiple times.

The southern-most nesting population of northern spotted owl occurs in Marin and Sonoma counties. Spotted owls are likely to be vulnerable to collisions and potential

[9] The federally threatened western snowy plover may also be impacted but it not currently CESA listed.
[10] U.S. Fish and Wildlife Service, Determination of Critical Habitat for the Marbled Murrelet, Final Determination, August 4, 2016, 81 Federal Register 51348 (2016).
[11] U.S. Fish and Wildlife Service, Recovery Plan for the Threatened Marbled Murrelet *(Brachyramphus marmoratus)* in Washington, Oregon, and California. Portland, Oregon. 203 pp. (1997), at 55.

electrocution from power lines and other energy-related infrastructure. In California, Marine Corps Base Camp Pendleton's Avian Protection Plan conducted a threat assessment of the vulnerability of raptors to electrocution from power lines. Although the northern spotted owl was not evaluated, the threat assessment ranked 9 raptor species, including the barn owl, as highly susceptible to electrocution mortality, and ranked 6 raptors as moderately susceptible to electrocution mortality, including the long-eared owl. Based on this information and other studies, it is likely that covered activities—such as operation and maintenance of power lines in Marin and Sonoma counties—may affect the Northern spotted owl. The Department's CEQA review should consider whether take of this species or habitat impacts may occur as well.

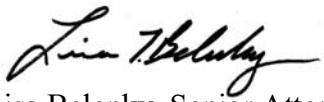
Western yellow-billed cuckoo occur in the Plan Area as well. A study by Loss et al. (2014) on bird collision and electrocution mortality from power lines reported fatalities of yellow-billed cuckoos from collisions with U.S. transmission power lines.[12] The Department's CEQA review must address these and other potential effects to this listed species.

California least tern are both fully protected and CESA endangered and occur in the region covered by the proposed region-wide ITP. Pipeline O&M or expansions could impact habitat for the tern as could the "minor new construction" of both power lines and pipelines. While power lines have not been identified as a major threat to this species, it may well be that they are a threat during migration. The CEQA review should address all potential effects to this listed species in a revised draft HCP, a revised draft EA or EIS, and in the biological opinion.

3. Conclusion

Thank you for the opportunity to submit comments on the NOP. Please add the Center (using my address below) to the interested parties list for all future notices and meetings. Do not hesitate to contact me with any questions about the matters raised in this letter.

Sincerely,



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[12] Loss SR, Will T, Marra PP (2014) Refining Estimates of Bird Collision and Electrocution Mortality at Power Lines in the United States. PLoS ONE 9(7): e101565. doi:10.1371/journal.pone.0101565 (Attached with Table S2 listing species.)

Attachment

Via Facsimile Transmission and Electronic Mail with Attachments

Mr. Mike Thomas
Habitat Conservation Planning Division
Sacramento Fish and Wildlife Office
2800 Cottage Way, Room W-2605
Sacramento, California 95825
Fax: 916-414-6713
Mike_Thomas@fws.gov

April 21, 2017

Re: Draft Environmental Assessment for the Pacific Gas & Electric Company Bay Area Operations and Maintenance Habitat Conservation Plan

Dear Mr. Thomas:

These comments are submitted on behalf of the Center for Biological Diversity (the "Center") regarding the Draft Environmental Assessment ("Draft EA") for the proposed Pacific Gas & Electric Company Bay Area Operations and Maintenance Habitat Conservation Plan (the "HCP"). (82 Fed. Reg. 15063-66 (March 24, 2017)). The Center is a non-profit, public interest environmental organization dedicated to the protection of native species and their habitats through science, policy, and environmental law. The Center has over one million members and online activists throughout California and the United States. The Center has worked for many years to protect imperiled plants and wildlife and their habitats, open space, air and water quality, and overall quality of life for people in the San Francisco Bay Area.

The Center appreciates the potential value of PG&E adopting a habitat conservation plan for the listed species that are affected by its operations and maintenance activities in the 9 Bay Area counties and obtaining an incidental take permit ("ITP") to cover incidental take of those listed species. However, the Center has significant concerns regarding the lack of specificity in the HCP regarding the potential impacts arising from activities proposed to be covered by the HCP (the "Covered Activities") to species listed under the Endangered Species Act ("ESA") including both Covered Species and other listed species. This lack of detail and specificity in the HCP is reflected in the Draft EA's identification and analysis of all environmental impacts. The Center is also concerned that the Covered Species list is too narrow and specifically fails to include avian species that are most vulnerable to impacts from PG&E power line infrastructure including electrocution as well as anadromous fish. The omitted avian species include federally listed birds, birds protected under the Migratory Bird Treaty Act ("MBTA") and Bald and Golden Eagle Protection Act ("BGEPA), and birds protected under California state laws. The HCP and Draft EA cannot ignore impacts to these species or push off evaluation of those impacts

to some other process—the Service's environmental review and biological opinion must address all impacts to listed species and other imperiled species from the Covered Activities.

The National Environmental Policy Act ("NEPA") requires federal agencies to assess the direct, indirect and cumulative environmental impacts of proposed actions by taking a "hard look" at environmental consequences of the action at issue. (42 U.S.C. § 4321; *Metcalf v. Daley*, 214 F.3d 1135, 1141 (9th Cir. 2000).) However, the Draft EA does not adequately identify or analyze the impacts over the term of the HCP on imperiled wildlife from all Covered Activities.

The Center timely files these comments within the 30 day period provided in the notice. The Center requested an extension of time for both the comment period for the draft HCP and Draft EA on April 6, 2017 and was informed on April 21, 2017 that the comment period for the HCP would be extended until June 23, 2017 but that the comment period for the Draft EA would *not* be extended. While the Center appreciates that there is more time to comment on the HCP, it makes little sense for the Service to provide additional time to comment on the HCP alone because the shortcomings in the HCP are inevitably reflected in the Draft EA which is intended to evaluate the impacts of the proposed HCP. The Center reserves the right to provide additional comments on the HCP and the environmental analysis contained in the Draft EA. ***The Center also incorporates herein by reference the comments submitted by Committee to Complete the Refuge, attaching the comments of Shawn Smallwood, PhD, and the comments submitted on behalf of Committee for Green Foothills by Shute Mihaly and Weinberger LLP.***

Due to the shortcomings in the HCP and Draft EA, detailed below and elsewhere, the Center urges U.S. Fish and Wildlife Service ("USFWS" or "Service") and the applicant to revise the HCP and prepare a Draft Environmental Impact Statement ("EIS") for the revised HCP that includes all listed species that may be affected by the Covered Activities as Covered Species. The applicant and the Service must adequately identify and analyze the significant impacts of the Covered Activities on all listed species and their habitats and provide a habitat conservation plan that ensures potential impacts are first avoided, and then provides for enforceable measures to minimize and fully mitigate any remaining impacts.

I. The draft HCP fails to comply with the ESA.

A. ESA Background Law

The ESA, by way of its "language, history, and structure . . . indicates beyond doubt that Congress intended endangered species to be afforded the *highest* of priorities," for protection under the law. (*Tennessee Valley Authority v. Hill*, 437 U.S. 153, 174 (1978) [emphasis added].) Thus, the ESA prohibits the "take" of a listed species where "take" of a species is includes to "harass, harm, pursue, hunt, shoot, wound kill, trap, capture, or collect, or to attempt to engage in any conduct." (16 U.S.C. § 1532(19).) The ESA provides exceptions that in narrow circumstances allow for incidental take under Section 7 and Section 10. (16 U.S.C. §§ 1536(a)(2), 1539(a)(1)(B).) As relevant to the proposed HCP here, the ESA Section 10 provides an exception to the take prohibition by allowing the issuance of an incidental take permit ("ITP") for an HCP where "such taking is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity." (16 U.S.C. § 1539(a)(1)(B).) In issuing an HCP, the Service must

also comply with Section 7 obligations and undertake formal consultation to ensure that that granting the permit "is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of [designated critical] habitat of such species . . . " (16 U.S.C. §§ 1536(a)(2); 50 C.F.R. § 402.14; 50 C.F.C. § 402.02).)

As discussed in more detail below, in addition to its obligations under the ESA, FWS also must satisfy its obligations under the National Environmental Policy Act ("NEPA") before it may issue an ITP. NEPA requires that all federal agencies carrying out "major Federal actions significantly affecting the quality of the human environment" produce a "detailed statement" that specifies the impact the proposed action will have on the environment, the adverse effects resulting from the proposed action that cannot be avoided, and any alternative actions. 42 U.S.C. § 4332(C)(i–iii).) Under NEPA, the agency must also consider "any irreversible . . . commitments of resources," such as the loss of a protected species caused by the proposed action. (*Id.* at § 4332(c)(iv–v).) All Federal agencies must prepare an environmental impact statement, ("EIS") prior to engaging in "major Federal actions" that significantly affects the environment. (42 U.S.C. § 4332(c).) Because the proposed Covered Activities under the HCP would cause significant direct, indirect and cumulative impacts to the environment, the Service must prepare an EIS before granting an ITP for those activities.

Pursuant to the CEQ NEPA regulations, "significantly" is broadly defined such that as EIS is required whenever one of the conditions enumerated in the regulations is met which include both context and "intensity" factors. (40 CFR §1508.27.) Many of these factors are present in this instance including, but not limited to: effects to wetlands and ecologically critical areas, the presence of significant controversy, uncertain effects, cumulatively significant effects, and adverse effects to listed species. (40 CFR §1508.27 (b)(3),(4)(5)(6) &(9).) Courts have found that where any significance factor is shown, an EIS may be required. For example,

> Agencies must prepare environmental impact statements whenever a federal action is "controversial," that is, when "substantial questions are raised as to whether a project . . . may cause significant degradation of some human environmental factor," [], or there is "a substantial dispute [about] the size, nature, or effect of the major Federal action." [].

(*National Parks & Conservation Ass'n v. Babbitt*, 241 F.3d 722, 736 (9th Cir. 2001) (internal citations omitted).) Based on these factors, the Service must prepare an EIS for this proposed HCP and ITP.

1. ESA Section 10

Section 10 of the ESA (16 U.S.C. § 1539(a)(1)(B)), provides an exception to the take prohibition for issuance of an ITP only where the applicant provides a conservation plan and the Service makes a determination that the "impact which will likely result from such taking" and the "steps the applicant will take to minimize and mitigate such impacts . . . will not appreciably reduce the likelihood of the survival and recovery of the species in the wild." 16 U.S.C. §

1539(a)(2)(A)(i–iv). Before issuing an ITP, FWS must make a finding that the application and conservation plan provide:

> (i) the taking will be incidental;
> (ii) the applicant will, to the maximum extent practicable, minimize and mitigate the impacts of such taking;
> (iii) the applicant will ensure that adequate funding for the plan will be provided;
> (iv) the taking will not appreciably reduce the likelihood of the survival and recovery of the species in the wild; and
> (v) the measures, if any, required under subparagraph (A)(iv) will be met . . . .

(16 U.S.C. § 1539(a)(2)(B).) The term "measures" in subsection (v) refers to "any additional measures the Secretary may require as being necessary or appropriate for the purposes of the plan." (*Id.* at § 1539 (a)(2)(A)(iv).)

Pursuant to the regulations, 50 C.F.R. § 17.22(b)(1), an ITP and corresponding HCP are required by law to include:

> (i) A complete description of the activity sought to be authorized;
> (ii) The common and scientific names of the species sought to be covered by the permit, as well as the number, age, and sex of such species, if known;
> (iii) A conservation plan that specifies:
>
> > (A) The impact that will likely result from such taking;
> > (B) What steps the applicant will take to monitor, minimize, and mitigate such impacts, the funding that will be available to implement such steps, and the procedures to be used to deal with unforeseen circumstances;
> > (C) What alternative actions to such taking the applicant considered and the reasons why such alternatives are not proposed to be utilized; and
> > (D) Such other measures that the Director may require as being necessary or appropriate for purposes of the plan . . . .

After considering the statutory and regulatory elements required for an ITP application and HCP, it is clear that the HCP hear fails to provide a complete account of the proposed activities and sufficient information related to the number, age, and sex of the listed species to be included in the permit or how the use of habitat loss as proxy will adequately address impacts to these listed species. The applicant also fails to include sufficient information related to the anticipated take for all listed species under the permit, as well as detailed steps that the applicant will take to monitor, minimize, and mitigate, the impacts. There simply is not enough information in the HCP regarding the Covered Activities and where they will occur to satisfy the requirements for an ITP and its corresponding HCP as set forth under the Section 10(a)(2)(A) of the ESA and the corresponding regulations.

An applicant for an ITP and HCP must include a description of the activities that will be covered by the permits. The description of the activities should include those: (1) likely to cause

incidental take of a listed species; (2) "reasonably certain" to arise during the existence of the permit and (3) are within the applicant's control. Whether impacts are reasonably certain to occur is a low bar. The proposed HCP does not fully describe all of the activities that will be covered by the ITP or specify where such activities will occur. Instead, large discretion is left to the applicant to determine what activities will be included among the range of operations and maintenance activities it undertakes as well as "minor new construction" projects. The applicant has not provided sufficient detailed information to determine what activities the permits will cover, the likely impacts to all listed species in the Plan Area including the number of individuals of each listed species that will be impacted.

2. ESA Section 7

Prior to granting an ITP application, FWS must also undergo the consultation process with itself, as outlined in Section 7 of the ESA, to assure that granting the permit "is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat of such species." (*16 U.S.C.* § 1536(a)(2).) As the Ninth Circuit has explained, the inclusion of both survival and recovery in this definition requires, consideration of recovery, and is not reasonably susceptible to a "survival only" interpretation. (*NWF v. NMFS*, 524 F.3d 917, 932 (9th Cir. 2007); *Gifford Pinchot Task Force v. United States Fish & Wildlife Service*, 378 F.3d 1059, 1070 (9th Cir. 2004).) A no jeopardy determination is arbitrary and capricious when the agency fails to articulate a rational connection between the facts found and the no jeopardy conclusion.(*Wild Fish Conservancy v. Salazar*, 628 F.3d 513, 516 (9th Cir. 2010).) The burden of proof is on the agency to show that an action will not harm the protected species.

When engaging in Section 7 consultation to determine whether the approval of an ITP will cause jeopardy, FWS is required to render its decision by evaluating the "best scientific and commercial data available." (16 U.S.C. § 1536(a)(2).) If FWS determines the project is unlikely to cause jeopardy to the species or adverse modification of its habitat, the agency must: provide a statement specifying the impact of the incidental take on the listed species, outlining "reasonable and prudent measures" to minimize the impact from incidental take, and setting forth any conditions the agency and applicant must follow in accordance with the ITP. (16 U.S.C. § 1536(b)(4)(A–C).)

When FWS undergoes formal consultation, it shall provide information related to: 1) the action to be considered; 2) the specific area that will be affected by the action; 3) a description of the threatened and endangered species and/or critical habitat that may be affected by the action; 4) a description of the effects the action may have on the listed species, critical habitat, and an analysis of any cumulative effects; 5) relevant reports including biological assessments and/or environmental impact statements that have been prepared related to the action; and 6) and any relevant information related to the listed species, critical habitat, and proposed action. (*Id.* § 402.14(c)(1–6).) When considering the adverse effects, FWS must also quantify the amount of take and habitat loss that it has authorized to date and analyze the impact of those authorizations on the survival and recovery of the species. (*Id.* § 402.14.)

An Incidental Take Statement ("ITS") must set forth a trigger that, when reached, results in an unacceptable level of incidental take, requiring the parties to re-initiate consultation. (*Ariz. Cattle Growers' Ass'n v. U.S. Fish & Wildlife*, 273 F.3d 1229, 1249 (9th Cir. 2001).) Preferably, the trigger is numerical, but the Service may use a surrogate-for example, changes in ecological conditions affecting the species. (*Id*. at 1250.) If a surrogate is used, the agency must articulate a rational connection between the surrogate and the taking of the species. (*Id*. at 1250-51.) The Ninth Circuit has rejected a surrogate trigger so vague that it failed to "provide a clear standard for determining when the authorized level of take has been exceeded," (*id*. at 1251,) and a surrogate so broad – "all spotted owls" associated with the project -- that it "could not adequately trigger reinitiation of consultation." (*Or. Natural Res. Council v. Allen*, 476 F.3d 1031, 1038 (9th Cir. 2007). Here, the Service appears to be relying on approximations of habitat acres for a truncated set of listed species that will be affected as a proxy for the take from the Covered Activities which is inadequate. The Service has failed to justify the need to utilize habitat rather than a numeric for the permitted take or to show that the surrogate used will provide the needed trigger for reinitiation of consultation.

The ESA's implementing regulations provide that "[i]n order to monitor the impacts of incidental take, the Federal agency or any applicant must report the progress of the action and its impact on the species to the Service as specified in the incidental take statement." (50 C.F.R. § 402.14(i)(3).) The Service is responsible for specifying in the statement how the applicant is to monitor and report the effects of the action on listed species. (*Wild Fish Conservancy v. Salazar*, 628 F.3d 513, 531-32 (9th Cir. 2010).) The amount of take must be linked to a practical method to determine if that limit has been exceeded.

In the Biological Opinion for the HCP and ITP, the FWS will need to address all of these factors and account for all of those species in the action area including providing a full explanation why the take of some listed species that may be impacted is not covered and its use of habitat acres rather than numeric limits for take of listed species. The Service cannot authorize an HCP for Covered Activities that may take listed species that are not covered in the ITP or another already existing take authorization under section 7 or section 10 because the Service cannot authorize activities for take of one species which would lead to unauthorized take of another species – to do so would violate the core of the ESA's prohibition on take.

3. 2016 HCP Handbook

In December 2016 the Service and NMFS adopted a new joint HCP Handbook. To the extent that this handbook is consistent with the ESA and other laws, it can provide helpful guidance to the Service in reviewing and approving HCPs.

For example, the 2016 HCP Handbook makes is clear that all listed species affected by Covered Activities must be addressed in the HCP. Regarding listed species in the plan area, the 2016 HCP Handbook states:

> Helpful Hint: All ESA-listed species that will be taken through implementation of covered activities must be included as covered species, or we cannot issue the incidental take permit (unless covered by another ESA mechanism). *The*

> *applicant must adjust covered activities to avoid take of ESA-listed species that are not covered by the HCP*.

(2016 HCP Handbook at 7-3; emphasis added.) FWS must also fully consider listed species that are managed by NMFS in considering a proposed HCP, this is particularly important for listed anadromous fish – many of which are present in the HCP plan area.

> 7.4.3 Anadromous Fish
> Close collaboration between the Services is required when an applicant's proposed covered activities *are likely to cause take of both FWS and NMFS listed species, such as salmon* and sturgeon. When both agencies are working with an applicant on development of an HCP, careful planning is necessary to ensure efficient development of the plan. Any differences the two agencies have about minimizing or mitigating take for a species or a life stage of a species in an HCP should be discussed early in the process so issues can be resolved.

(2016 HCP Handbook at 7-9; emphasis added.) The 2016 HCP Handbook also emphasizes the need for coordination with NMFS, other Federal and State agencies, tribes and local officials. (*See, e.g.*, 2016 HCP at 4-2 to 4-6 ("Identifying Stakeholders".)

While the 2016 HCP Handbook provides useful guidance in many areas, the Center remains concerned that reliance on the no net loss policy could lead to ESA violations. According to the 2016 HCP Handbook, for take to be fully offset, the Services must determine that "the biological value that has been lost (from covered activities) will be at least replaced (through implementation of conservation measures) with equivalent biological value." The Center agrees that this is the correct conceptual approach towards offsetting harm. However, this is at tension with the idea that all an applicant must demonstrate is "no-net-loss," which is biologically meaningless. It is worth noting that the 1996 HCP Handbook did not use the "no-net-loss" goal at all, and instead framed this in terms of the requirements of Section 10 — to minimize and mitigate to the maximum extent practicable which clearly supports the objectives of conservation including recovery. The Service must ensure that the HCP is truly a conservation plan and supports both survival and recovery of the affected listed species.

B. The draft HCP fails to provide needed information regarding impacts to listed species

1. Impacts to Covered Species included in the HCP from Covered Activities are not Adequately Identified or Analyzed

The HCP Covered Activities go beyond simple O&M type activities and also include system upgrades and "minor new construction". This last category is explicitly intended to support extending service for new customers for up to 2 miles.

> **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 and CEQA, 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 (PLS) and 3.0 acres or less per electric substation expansion.

(HCP at 3-1.) The likely location of this "minor new construction" is unknown and therefore the potential impacts to listed species are likewise unknown. The HCP's attempts to estimate the impacts from an unlimited number of such so –called "minor" expansions throughout the 9 Bay Area counties appear to be little more than guess work. Moreover, extending electric and gas service to new customers as far as 2 miles from existing facilities, particularly where the extensions are "conducted in natural vegetation or agricultural lands that contain suitable habitat for covered species" is highly likely to support sprawl in and across natural habitats and open areas that leads to fragmentation of habitat and increased edge effects—a cascading set of impacts to Covered Species and their habitats that is not addressed in the HCP.

In addition, for many of the Covered Species the HCP fails to identify all of the impacts from existing PG&E infrastructure O&M or from the potential expansion that would be allowed as "minor new construction." For example, for Ridgeway's Rail the HCP discusses impacts to wetland habitat from O&M activities for pipelines and powerlines as well as noting impacts from poles and lines that can provide additional perches for predators (HCP at 4-55 to 4-56; habitat map Figure 4-16 at pdf 205), the proffered measures FP-8 and FP-10 do little to prevent expansion of these threats. The HCP does not identify that the access roads and boardwalks utilized by PG&E in marsh areas can also increase other human access and disturbance as does new development near by. The Tidal Marsh Recovery Plan explains that human disturbance is a threat to survival and recovery of this endangered Ridgeway's Rail (formerly called, California Clapper Rail):

> Numerous routine human activities have the potential to adversely affect individual rails and overall population viability, for example, flood control; levee, dredge lock, pipeline, and powerline maintenance; recreational uses including bird watching and water sports; human and domestic animal incursion from adjoining developments; mosquito control ditching, spraying; use of ATVs/Argos in baylands; etc.

(2013 Tidal Marsh Recovery Plan at 117-118.) The HCP should not cover any activities that could lead to expansion of human or domestic animal incursions from adjoining developments to tidal marshes or additional perching opportunities for predators (such as, service extensions to new customers in these areas). Further, the HCP should require PG&E to fund and implement

measures to limit use of any access routes and boardwalks in marshes that are needed for O&M by unauthorized persons. This and other measures could provide needed conservation for the Ridgeway's Rail and other marsh species affected by the Covered Activities.

2. The Covered Activities may affect listed species in the Action Area that are not included as Covered Species and the HCP does not ensure that impacts are fully avoided.

The list of Covered Species in the proposed HCP is far smaller than the list disclosed in the 2006 scoping. The HCP provides no clear explanation for omitting many other listed species that in the Plan Area that may be affected by PG&E O&M activities and/or the "minor new construction" including many avian species. The draft HCP and draft EA provide no explanation of how FWS reached a "no effect" finding in chart A-1 for many listed species are not proposed to be covered by the HCP but that may be affected by PG&E operation and maintenance of power lines, pipelines, and other facilities included in the covered activities. For example, listed steelhead and salmon species, marbled murrelet, California least tern, western snowy plover, northern spotted owl, and western yellow-billed cuckoo are all found within the Plan Area. The draft HCP provides no basis for a finding of "no" impact to these listed species or many other special status species. Because many of these species share habitat with the Covered Species FWS cannot simply assume that impacts to some species in these habitats may occur while impacts to others will be fully avoided, FWS is required to fully explain and analyze whether and how all listed species in the plan area may be affected by the HCP but has not.

a) Salmon and Steelhead

The draft HCP and draft EA provide no basis for a finding of "no" impact for threatened steelhead ESUs which occur in the planning area in Alameda, Contra Costa, Marin, Napa, San Mateo, Santa Clara, Sonoma, and Solano Counties or for the endangered central coast coho salmon which occur in Sonoma, Marin and San Mateo counties and other tributaries to the San Francisco bay and endangered Chinook salmon which occur in the plan area. The summary information provided in Table A-1 is inadequate (and also has several errors noted below).

- Endangered Coho salmon—central California coast (*Oncorhynchus kisutch*) are listed as endangered (Table A-1 wrongly lists as federal "threatened", Table A-1 page 3 of 8, pdf 387) and are found in Sonoma, Marin and San Mateo Counties as well as tributaries to the San Francisco bay in other counties within the Plan Area. Table A-1 indicates the coho will be impacted but provides no explanation of why they are not included as a covered species.
- Endangered Winter-run Chinook salmon (*Oncorhynchus tshawytscha*): Table A-1 indicates that they are found in the Plan Area but summarily indicates that they will not be impacted, with no explanation.
- Threatened Central Valley steelhead (*Oncorhynchus mykiss*): Table A-1 indicates that they are found in the Plan Area but summarily indicates that they will not be impacted, with no explanation.
- Threatened Northern California steelhead (*Oncorhynchus mykiss*); Table A-1 indicates that they will be impacted but provides no explanation of why they are not included as a covered species;

- Threatened California coastal Chinook salmon (*Oncorhynchus tshawytscha*): Table A-1 indicates that they will be impacted but provides no explanation of why they are not included as a covered species;
- Threatened Central Valley spring-run Chinook salmon (*Oncorhynchus tshawytscha*): Table A-1 indicates that they are found in the Plan Area but summarily indicates that they will not be impacted, with no explanation.
- Threatened Central California Coastal steelhead (*Oncorhynchus mykiss*) are found in the Plan Area[1] but, A-1 indicates these are *not* found in the project area with no explanation.

Anadromous fish are known to be particularly sensitive to changes in riparian cover, stream bed gradient and obstructions, and reductions in water quality. Many power lines are in or near riparian corridors, on stream banks and cross streams, throughout the 8 Bay Area counties included in the draft HCP in the areas where these threatened and endangered fish are found. PG&E O&M could affect these anadromous fish if maintenance activities and new "minor new construction" projects occur in these areas. For example, covered maintenance activities for power lines could reduce riparian cover near streams and power line pole repairs and access route use can disturb soils which can increase siltation in small streams. PG&E pipelines are also found along riparian corridors and crossing streams, maintenance, repair and replacement activities that are included under the draft HCP could also reduce riparian cover and/or increase siltation and reduce water quality. By including an array of "minor new construction" projects that are unmapped and unknown at this time as Covered Activities, the draft HCP could allow many additional effects to listed species to occur that have not been analyzed and will not be if the draft HCP is approved as drafted, in violation of the ESA.

b) Listed Birds

A glaring omission in the Covered Species list is the omission of any avian species that are most vulnerable to impacts from PG&E power line infrastructure including electrocution. The omitted avian species include federally *listed* birds (as detailed below), and birds protected under the Migratory Bird Treaty Act ("MBTA") and Bald and Golden Eagle Protection Act ("BGEPA), and birds protected under California state law such as Tricolored blackbirds. The HCP and Draft EA cannot ignore impacts to these species or push off evaluation of those impacts to some other process —the Service's environmental review and biological opinion must address all impacts to listed species and other imperiled species from the Covered Activities.

i) Marbled murrelet

The HCP and EA provide no basis for the finding of "no" impact for the federally threatened and state endangered marbled murrelet. (Draft HCP, Table A-1, page 4 of 8 at pdf 388; no mention in the EA). The marbled murrelet occurs in the Plan Area and has nesting habitat and critical habitat in San Mateo, Marin, and Sonoma counties.[2] The 1997 Recovery Plan

[1] See NMFS map at http://www.westcoast.fisheries.noaa.gov/publications/gis_maps/maps/salmon_steelhead/esa/steelhead/ccc_steelhead.pdf

[2] U.S. Fish and Wildlife Service, Determination of Critical Habitat for the Marbled Murrelet, Final Determination, August 4, 2016, 81 Federal Register 51348 (2016).

states that "adult mortality in the terrestrial environment has been documented to occur from interactions with vehicles (Sprot 1928; Balmer 1935; S.K. Nelson, pers. comm., 1996) and power lines (Young 1931; S.K. Nelson, pers. comm., 1996)."[3] Forest and riparian lands in the Plan Area in San Mateo County provide critical habitat for nesting and movement for murrelets in the highly endangered Santa Cruz Mountains population, which nests in old-growth or mature coastal forest habitat and uses riparian corridors to commute to nesting grounds. PG&E O&M could affect marbled murrelets from interactions with power lines during operation as well as maintenance activities near nesting habitat in San Mateo, Marin, and Sonoma counties. For example, murrelets use Gazos, Butano, and Pescadero creek beds as flyways. Transmission lines are found along Pescadero creek road which wind along the creek and cross it multiple times. The HCP must consider specific impacts to this species and require specific measures to avoid, minimize and mitigate for those potential impacts. FWS must address these potential effects to this listed species in a revised draft HCP, a revised draft EA or EIS, and in the biological opinion.

ii) Western snowy plover:

The HCP and EA provide no basis for the finding of "no" impact for the federally threatened western snowy plover which occurs in the Plan Area and has critical habitat in Marin, Napa, Alameda, and San Mateo counties.[4] The Recovery Plan states that plovers are harmed by increased depredation by corvids that use power lines and lighting and transmission structures for nesting sites: "Substantial evidence exists that human activities are affecting numbers and activity patterns of predators on western snowy plovers. For example, increased depredation of western snowy plover nests by ravens at the Oliver Brothers salt pond, California, may be an indirect adverse impact of nearby installation of light structures by the California Department of Transportation and high-tension power lines by the Pacific Gas and Electric Company, thereby creating corvid nesting sites (G. Page, Point Reyes Bird Observatory, pers. comm. 1997). Raven nests have also been discovered by National Wildlife Refuge biologists in transmission towers near other snowy plover nesting areas managed by the Don Edwards San Francisco Bay National Wildlife Refuge in Warm Springs, Alviso, and Mountain View (J. Buffa *in litt.* 2004)."[5] PG&E O&M could affect snowy plovers through increased depredation caused by increased corvid presence due to power lines and other infrastructure. The HCP must consider specific impacts to this species and require specific measures to avoid, minimize and mitigate for those potential impacts. FWS must address these potential effects to this listed species in a revised draft HCP, a revised draft EA or EIS, and in the biological opinion.

[3] U.S. Fish and Wildlife Service, Recovery Plan for the Threatened Marbled Murrelet *(Brachyramphus marmoratus)* in Washington, Oregon, and California. Portland, Oregon. 203 pp. (1997), at 55.
[4] U.S. Fish and Wildlife Service, Revised Designation of Critical Habitat for the Pacific Coast Population of Western Snowy Plover, Final Rule, June 19, 2012, 77 Federal Register 36728 (2012).
[5] U.S. Fish and Wildlife Service, Recovery Plan for the Pacific Coast Population of the Western Snowy Plover (*Charadrius alexandrines nivosus*), Volume 1: Recovery Plan, California/Nevada Operations Office, U.S. Fish and Wildlife Service, Sacramento, California (2007), at 54-55.

iii) Northern spotted owl

The southern-most nesting population of northern spotted owl occurs in Marin and Sonoma counties. Spotted owls are likely to be vulnerable to collisions and potential electrocution from power lines and other energy-related infrastructure.

In California, Marine Corps Base Camp Pendleton's Avian Protection Plan conducted a threat assessment of the vulnerability of raptors to electrocution from power lines. Although the northern spotted owl was not evaluated, the threat assessment ranked 9 raptor species, including the barn owl, as highly susceptible to electrocution mortality, and ranked 6 raptors as moderately susceptible to electrocution mortality, including the long-eared owl. Based on this information, it is likely that covered activities –operation and maintenance of power lines in Marin and Sonoma counties may affect the Northern spotted owl. FWS must address these potential effects to this listed species in a revised draft HCP, a revised draft EA or EIS, and in the biological opinion.

iv) Western yellow-billed cuckoo

Western yellow-billed cuckoo occur in the Plan Area as well. A study by Loss et al. (2014) on bird collision and electrocution mortality from power lines reported fatalities of yellow-billed cuckoos from collisions with U.S. transmission power lines.[6] FWS must address these and other potential effects to this listed species in a revised draft HCP, a revised draft EA or EIS, and in the biological opinion.

v) California least tern

California least tern occur in the Plan Area as well. Pipeline O&M or expansions could impact habitat for the tern as could the "minor new construction" of both power lines and pipelines. While power lines have not been identified as a major threat to this species, it may well be that they are a threat during migration. FWS must address all potential effects to this listed species in a revised draft HCP, a revised draft EA or EIS, and in the biological opinion.

2. Key Information About Covered Activities and Mitigation Measures is Absent.[7]

Many of the conclusions in the HCP and Draft EA appear to rely primarily on implementation of:

[6] Loss SR, Will T, Marra PP (2014) Refining Estimates of Bird Collision and Electrocution Mortality at Power Lines in the United States. PLoS ONE 9(7): e101565. doi:10.1371/journal.pone.0101565 (Attached with Table S2 listing species.)

[7] Given the possibility that the Center will be required to pursue appropriate legal remedies in order to ensure enforcement of NEPA and/or the ESA regarding this HCP and related permits proceeding under federal and state law, we would like to remind USFWS of its duty to maintain and preserve all documents and communications that may constitute part of the "administrative record." The administrative record for NEPA and ESA actions "consists of all documents and materials directly or indirectly considered by agency decision-makers and includes evidence contrary to the agency's position." (*Thompson v. United States Dep't of Labor,* 885 F.2d 551, 555 (9th Cir.1989).) Maintenance and preservation of the administrative record requires that, *inter alia*, the USFWS (1) suspend all data destruction policies; and (2) preserve all relevant hardware unless an exact replica of each file is made.

- PG&E's Avoidance and Minimization Measures ("AMMs") and best management practices ("BMPs") which are summarily listed in the Draft HCP at 5.5.1.2 to 5.5.1.4 but fully described. (Notably, the Draft EA states that the AMM and BMPs are also in Appendix A but there is no Appendix A provided to the Draft EA.)
- the "PG&E Avian Protection Plan and associated Nesting Bird Management Plan" which were not provided by the Service[8] and other riparian review standards (see Draft HCP at 5-24 to 5-25) which are summarily described in the documents.

Under the proposed HCP implementation of all of these plans, measures, practices and standards depends heavily on discretionary application by PG&E in the field. The fact that the Service relies on documents that are not provided to the public for review in reaching the conclusions about effects to listed species undermines public participation and review and is a significant flaw in the process.

The proposed HCP covers a very large area and fails to explain where impacts or conservation will occur. The Service should require a revised HCP to clarify the total area that will be impacted from the Covered Activities and additional specific information about where the impacts are going to occur. The lack of specific information makes it impossible for the Service or the public to discern if the Covered Activities identified in the plan are consistent with the conservation needs of the Covered Species and other listed species as set forth in their individual recovery plans and as otherwise required by the ESA, other permits, or other existing conservation efforts. Additional information is also needed on where conservation will occur and how the applicant will coordinate that required conservation with other ongoing conservation efforts in the Plan Area.

Critically, the Covered Activities that could be included within the "minor new construction projects" are not adequately mapped or addressed. The cumulative impact of "minor new construction projects" could be quite large and impact other listed species and habitats that are not included in the HCP provided to the public.

ESA Section 10(a)(2)(8) requires the Secretary to provide opportunity for public comment addressing each one of the Secretary's findings under that section. In *Gerber v. Norton*, 294 F.3d 173, 178-184 (DC Cir. 2002), the D.C. Circuit considered the Secretary's approval of an HCP application which was based in large part on a map describing the placement of a road. The Court rejected the Secretary's approval in part because he failed to provide the map for public inspection prior to public comment. The court held that "opportunity for public comment must be a meaningful opportunity," which was not provided where information relied upon by the Secretary was not publicly available.

[8] The Center and other groups requested these documents from the Service at a meeting on April 13, 2017 at which the Service stated that these documents could be found on line, but they cannot. Eventually PG&E contacted the Center and when asked to provide these documents PG&E stated that they were internal plans and provided a summary set of bird field cards and a section from their corporate responsibility and sustainability report.

This HCP presents more troubling facts than *Gerber v. Norton*. In *Gerber*, the maps relied upon by the Secretary were available at a USFWS field office, just not publicly distributed as necessary to fulfill Section 10. In contrast, the HCP and Draft EA repeatedly rely upon the AMM, BMPs, and other documents that have not been disclosed to the public at all and on Covered Activities taking place in areas that are not disclosed or mapped. If the measures, plans, and other information are to be used as the basis of the Service's rationale for approving the HCP and issuing an ITP, the Service must share that information and analysis with the public. (See also discussion below, regarding NEPA requirement that documents be provided.)

In addition, the HCP does not provide a clear baseline regarding the invasive weeds currently present in the areas where O&M activities occur or adequate measures for avoiding the additional spread of invasive plants into habitat areas due to the Covered Activities or for reducing invasive plants were past O&M activities have facilitated their spread into important habitats. The preparation of an accurate baseline condition on this question is key as well as additional avoidance and mitigation measures.

3. USFWS Did Not Comply With The Coordination Requirements.

a) Coordination with other Federal Agencies and Other Offices of the Service

The HCP and Draft EA do not show that the Service has coordinated with other affected federal agencies or other office of the Service. For example, the documents provide no explanation of amount of federal lands that may be affected by the Covered Activities for example in Point Reyes National Park, the Golden Gate National Recreation Area, various Bay Area refuges managed by the Service, lands managed by the Department of Defense or other federal agencies. Even if the Covered Activities that would take place on these federal lands are being undertaken pursuant to easements, rights of way, or other permits granted to the applicant, the Service must coordinate with these other agencies fully consider the impacts to these lands and resources as well as consistency with any other federal statutes that protect many of these lands before issuing an HCP and ITP.

Similarly, the Service has failed to explain how this proposed HCP would be coordinated with activities that require Clean Water Act permits from the Army Corps of Engineers that impact waters of the U.S. and jurisdictional wetlands (such as 404 permits which require ESA consultation by the Corps) or permits issued by state agencies for impacts to water quality, waters of the Sate, and State-defined wetlands.

Moreover, the Service has not even provided for coordination with or information regarding BGEPA and MBTA permits *that the Service itself issues* and which it has indicated are in progress for these same activities. The HCP and Draft EA both fail to address potential take of golden eagles in the Plan Area. Under BGEPA (16 U.S.C. §§ 668—668d (2012)), it is illegal to "take" bald or golden eagles (*id.* § 668.), and the term "take" includes to "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest, or disturb" (*id.* §668(c) (emphasis added).[9]

[9] *See also* 50 C.F.R. § 22.3 (defining "disturb" to include "to agitate or bother a bald or golden eagle to a degree that causes or is likely to cause, based on the best scientific information available, (1) injury to an eagle, (2) a decrease in

The Service regulations allow issuance of programmatic incidental take permits for eagles only when take is compatible with the preservation of the bald and golden eagle populations. (50 C.F.R. § 22.26.) It is well documented that PG&E O&M takes golden eagles in the Plan Area but this species is not included in the HCP; the Service has stated that the applicant is in the process of obtaining a BGEPA permit. However, if the project proponent fails to obtain a programmatic eagle permit for ongoing and future O&M activities and take results then the applicant will remain in violation of the BGEPA. (*See generally* 16 U.S.C. § 668.)

Without the applicable permit, it is illegal under federal law to kill or disturb a golden eagle within the Plan Area. Golden eagles are also a fully protected species under California law and any take is unlawful without an NCCP. Without prior issuance of a BGEPA permit or an NCCP, the HCP should include protective measures for the golden eagle, as required under BGEPA, as well as account for any effects that will impact golden eagle populations in the project area. The applicant could include bald and golden eagles as covered species the HCP and an NCCP and the Scoping notice in 2006 indicated they would be included, but now they are not. Since golden eagles within the 9 county Plan Area are impacted by the Covered Activities, the Service should provide protective measures and require the applicant to include the golden eagle as a covered species or deny the permit.

This same analysis shows that many other migratory birds that may affected by the Covered Activities should be included as Covered Species as well to ensure that the O&M activities and "minor new construction" activities that are proposed to be included under the Covered Activities do not result in take of MBTA protected species in violation of the law.

b) Coordination with State Agencies

USFWS is required to coordinate with the State of California through a Section 6 Cooperative Agreement. The 2016 HCP Handbook further explains the requirements of this program:

> Section 6 directs the Services to cooperate with the States in carrying out the ESA. Section 6(a) requires consulting with the States before acquiring any land or water for the conservation of listed species. Since mitigation measures in many HCPs include the permanent protection of habitat through acquisition of fee title or conservation easements, the Services must work with applicants to solicit affected States for early participation in the HCP development process.

(2016 HCP Handbook at 1-9.) Over ten years have passed since the NOI was issued for the HCP. During that time, USFWS has prepared a Draft EA and the HCP. However, neither document demonstrates that USFWS or PG&E solicited the advice or guidance of CDFW or other state agencies in the HCP development process.

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its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or (3) nest abandonment, by substantially inferring with normal breeding, feeding, or sheltering behavior.").

The Draft EA and HCP are also flawed because they do not show that the Service has considered State requirements in the development of the HCP or assured compliance with local and state laws and regulations. As discussed more fully below, the HCP and Draft EA also fail to show that the Service has considered state law requirements or coordinated with key agencies including the California Coastal Commission, California Department of Fish and Wildlife, and the water and air boards.

C. The HCP's "No Net Loss" Standard Is Inconsistent with the ESA.

As a compliance mechanism for the Endangered Species Act ("ESA"), the HCP must ensure not merely the continued survival of the Covered Species, but also the recovery of these species. The Ninth Circuit explained that the purpose of critical habitat designations is not merely to ensure the species' survival, but also to "carve out territory" that is "essential for the species' recovery." (*Gifford Pinchot Task Force v. United States Fish & Wildlife Serv.,* 378 F.3d 1059, 1070 (9th Cir. 2004).) *Gifford Pinchot* concluded that the ESA views "conservation and survival as distinct, though complementary, goals, and the requirement to preserve critical habitat is designed to promote both conservation and survival." (*Id*.) Applying the principles of *Gifford Pinchot* here, the HCP must do more than merely mitigate the impacts of the Covered Activities and must ensure impacts to *all* listed species affected are fully considered and provided conservation value to support recovery.

Despite these mandates, the HCP only promises that it will ensure "a minimal net loss of habitat across the Plan Area over the long term." (Draft EA at 4-8.) An HCP should not merely leave conditions for imperiled species slightly worse than they were prior to the existence of the HCP; the HCP should contribute to the recovery of the species covered by the HCP. It appears the HCP derived this incorrect legal standard from the 2016 HCP Handbook, which cannot be properly relied on where it departs from the statutory requirements. For example, in this case the "net benefit, or at a minimum no-net-loss" standard set forth in the 2016 HCP Handbook drastically departs from the statutory requirements for conservation and existing precedents and reliance on that standard would result in a violation of the ESA. The Center urges the Service to not to accept this and require that the HCP be revised to provide for needed conservation that will support recovery.

D. The HCP Does Not Contain An Adequate Enforcement Mechanism.

The HCP fails to include an adequate enforcement mechanism because too many of the key measure for avoidance and minimization of impacts are left to the discretion of the applicant with too little oversight and reporting to ensure they are applied as intended or have the anticipated effect. The HCP is "filled with 'should' and 'may' and imprecise language" and this "ambiguity can be cleared up in the permit terms." (2016 HCP Handbook.) Here, the Draft EA and HCP are filled with such permissive and non-binding language and should be revised to ensure that the ITP provides clear terms.

Overall, the HCP provides far too little information about Covered Activities, reporting and oversight to show that avoidance will be implemented first where possible and that needed minimization measures will be undertaken for Covered Activities in all cases before impacts

occur and mitigation is needed. The Center suggests that the HCP be revised to include: additional prior notification to Service and public of all projects that go beyond existing O&M projects which also provide their location; additional on sight inspection by FWS for "hot zone" and "map book zone" projects; and that the Service require a qualified biologist to oversee the choices at key stages in application of the AMM, BMP, APP, and other avoidance and minimization measures.

II. USFWS Failed To Comply With NEPA In Preparing The Draft EA And HCP.

USFWS failed to comply with NEPA (a) by refusing to follow procedures to ensure adequate public participation in the process and (b) by preparing a draft environmental review document that either omits entire categories of impacts or contains only conclusory analyses of such impacts.

A. USFWS did not provide adequate time for the public to comment on the Draft EA.

NEPA requires that "environmental information is available to public officials and citizens before decisions are made and ***before*** actions are taken." (40 CFR 1500.1(b). Accordingly, "[a]ccurate scientific analysis, expert agency comments, and public scrutiny are essential to implementing NEPA." (*Id*.) However, such expert comments and public scrutiny are hamstrung when the public receive only 30 days to sift through and then provide comments on a NEPA document. Here, the Draft EA alone is 270 pages and corresponding HCP is 588 pages. It is unreasonable to expect members of the public or other stakeholders – who have many competing priorities for their time – to sift through nearly 1000 pages of technical and legal analysis in less than 30 days.

1. The 30 day period is not in keeping with the recommendations of the 2016 Handbook.

The 2016 HCP Handbook provides that 60 days is the minimum amount of time for comment on an EA that is for a large-scale or regional HCP; the 9 Bay Area counties included makes this a regional HCP as well as a large-scale one. Even if the Service argues that this HCP is not regional or large-scale, the 2016 HCP Handbook provides that 30 days is a minimum and the Service may provide a comment period up to 90 days.

> 14.6 Required Public Comment Periods
> The information received by the Services as part of an application package (e.g., application, HCP, maps, background information, standard operating procedures, etc.) must be made available for public review (ESA section 10(c)). We have established requirements for the length of the public review/comment period for NOAs. If we involved other agencies and the public by doing early scoping or public meetings, we must offer the public *at least 30 days to comment on the HCP and application supported by a categorical exclusion, EA, or mitigated EA* (i.e., we consider mitigation measures in an EA to avoid or lessen potentially significant environmental effects of proposed actions that would otherwise need to be analyzed in an EIS). *Service policy requires at least a 60-day comment period for a draft EIS, or on an EA for HCPs that are large-scale or regional.* If the public hasn't been involved, we may need to add 30 days to the comment

> period. *For HCPs that are exceptionally complex or precedent-setting, we recommend a 90-day public review/comment period. If we anticipate a lot of interest in an HCP, it may be prudent to add 30 or 60 days to the comment period so you don't have to reopen or extend it. Discuss this with the Regional HCP Coordinator.*

(2016 HCP Handbook at 14-14; emphasis added.) Clearly, the provision of only 30 days to review an EA for an HCP covering the entire Bay Area – a 9 county region—where the Service is well aware there is significant public interest in protecting listed species and their habitats is insufficient under the 2016 HCP Handbook guidance.

2. The 30 day period is not adequate under NEPA.

Here, a 30 day comment period is far too short to allow for adequate public review and comment. A longer comment period is needed given the large plan area and the complexity of the proposed HCP Covered Activities that are addressed in the draft EA. USFWS received requests from multiple stakeholders that the comment period for the Draft EA and HCP be extended. USFWS responded on Friday, April 21 (one business day prior to the April 24 due date) that it would ***not*** be extending the comment deadline on the Draft EA. Yet, USFWS did agree to extend the comment deadline for the Draft EA's sister document, the HCP. USFWS offered no justification for the differing treatment of the two documents which are closely tied together.

In light of the above and requests from the public, USFWS should have extended the comment period for the Draft EA for at least 30-60 more days. In short, USFWS's decision to extend only the comment period on the HCP and not the Draft EA was arbitrary and capricious.

B. USFWS should reissue a notice of intent.

The Notice of Intent ("NOI") for the HCP was issued on November 7, 2006, which is over ten years ago. When the NOI was issued, USFWS again offered only a very short comment period – the NOI lists a comment period of 30 days from November 7, 2006 until December 7, 2006. (71 Fed. Reg. 65123.) And the NOI indicated that the public meetings would take place on November 14 and November 15, 2006, which were only seven and eight days after the NOI was published. Such short notice periods hamstring the scoping process and result in the exclusion of stakeholders.

In any event, the NOI should be reissued because it is outdated and does not accurately represent the scope of the HCP and Draft EA here. More specifically, the NOI purports to apply to 66 species listed as threatened or endangered and 23 unlisted species which may become listed during the term of the permit. (71 Fed. Reg. 65123.) In contrast, the HCP and EA only apply to 18 federally listed wildlife species and 13 federally listed plant species and does not explain how those other species will be protected from take. Moreover, conditions for many of these species may have changed significantly over the last ten years due to prolonged drought, climate change and sea level rise, and increased urban development and other threats.

C. USFWS must prepare an environmental impact statement.

NEPA requires that USFWS prepare an environmental impact statement ("EIS") for actions which significantly impact the environment. Courts have specifically required the preparation of an EIS in connection with the preparation of an HCP. (*See National Wildlife Fed'n v. Babbitt*, 128 F.Supp.2d 1274, 1301(E.D. Cal.2000) (holding that USFWS violated NEPA by preparing only an EA and not an EIS for an HCP).) The HCP in *National Wildlife Fed'n* only covered two species and 53,000 acres, as opposed to the 31 species and 402,440 acres covered by the HCP in this case. Likewise, in *Jones v. Gordon*, 792 F.2d 821, 827-828(9th Cir. 1986), the Ninth Circuit faulted National Marine Fisheries Service ("NMFS") for failing to prepare an EIS for a permit to capture killer whales in Alaska. The Court concluded that the NMFS had failed to "explain adequately its decision not to prepare an environmental impact stated." (*Id*.)

During the scoping process, USFWS indicated that it would be preparing an EIS:

> PG&E and the Service have selected North State Resources to *prepare the Draft EIS/EIR*. The joint document will be prepared in compliance with NEPA and the California Environmental Quality Act (CEQA)…. The EIS/EIR will consider the proposed action (i.e., the issuance of a section 10(a)(1)(B) permit under the Act), and a reasonable range of alternatives. *A detailed description of the proposed action and alternatives will be included in the EIS/EIR*….The EIS/EIR will also identify potentially significant impacts on land use and planning, agricultural resources, biological resources, aesthetics, geology and soils, water resources, cultural resources, transportation and circulation, noise and vibration, air quality, public health/environmental hazards, recreation, environmental justice, socioeconomics, and other environmental issues that could occur directly or indirectly with implementation of the proposed action and alternatives. For all potentially significant impacts, the EIS/EIR will identify mitigation measures where feasible to reduce these impacts to a level below significance.

(71 Fed. Reg. 65123; emphasis added.) Nonetheless, USFWS reversed course and did not prepare an EIS. USFWS states: "[U]pon review, it appears that there are no potential significant impacts to the human environment. As a result, the Service withdraws our intent to prepare a joint EIS/EIR . . ." (82 Fed. Reg. 15063.) USFWS has not explained why an EIS is no longer required or why it is now excused from analyzing each of the categories of impacts set forth in its earlier notice. Indeed even a cursory review of the significance factors shows that this project does require an EIS.

Because the proposed HCP and ITP would cause significant direct, indirect and cumulative impacts to the environment, the Service must prepare an EIS. Pursuant to the CEQ NEPA regulations, "significantly" is broadly defined such that as EIS is required whenever one of the following conditions is met, especially one of the 10 "intensity" factors:

> Significantly as used in NEPA requires considerations of both context and intensity:

> (a) Context. This means that the significance of an action must be analyzed in several contexts such as society as a whole (human, national), the affected region, the affected interests, and the locality. Significance varies with the setting of the proposed action. For instance, in the case of a site-specific action, significance would usually depend upon the effects in the locale rather than in the world as a whole. Both short- and long-term effects are relevant.
> (b) Intensity. This refers to the severity of impact. Responsible officials must bear in mind that more than one agency may make decisions about partial aspects of a major action. The following should be considered in evaluating intensity:
> (1) Impacts that may be both beneficial and adverse. A significant effect may exist even if the Federal agency believes that on balance the effect will be beneficial.
> (2) The degree to which the proposed action affects public health or safety.
> (3) Unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas.
> (4) The degree to which the effects on the quality of the human environment are likely to be highly controversial.
> (5) The degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks.
> (6) The degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration.
> (7) Whether the action is related to other actions with individually insignificant but cumulatively significant impacts. Significance exists if it is reasonable to anticipate a cumulatively significant impact on the environment. Significance cannot be avoided by terming an action temporary or by breaking it down into small component parts.
> (8) The degree to which the action may adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places or may cause loss or destruction of significant scientific, cultural, or historical resources.
> (9) The degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act of 1973.
> (10) Whether the action threatens a violation of Federal, State, or local law or requirements imposed for the protection of the environment.

(40 CFR §1508.27.) The context is significant for several reasons including because the HCP will have both short- and long-term effects for a very large region. As for intensity, the project also meets many of the significance factors including, but not limited to: affecting wetlands, riparian areas, and ecologically critical areas; impacts to threatened or endangered species, as well as special status species, and other significant resources; the affects of the proposal are controversial with differences among experts as to the impacts to resources from the infrastructure and operations; the effects are highly uncertain and involve unique or unknown risks particularly as to the "minor new construction"; and the proposal threatens to violates

requirements for environmental protection under both Federal laws (e.g., MBTA, BGEPA) and State wildlife laws (e.g. CESA and fully protected species laws). Courts have found that where any significance factor is shown, an EIS may be required. For example,

> Agencies must prepare environmental impact statements whenever a federal action is "controversial," that is, when "substantial questions are raised as to whether a project . . . may cause significant degradation of some human environmental factor," [], or there is "a substantial dispute [about] the size, nature, or effect of the major Federal action." [].

(National Parks & Conservation Ass'n v. Babbitt, 241 F.3d 722, 736 (9th Cir. 2001) (internal citations omitted).) Here, the many significance factors and context are more than sufficient to show that an EIS is needed.

USFWS cannot demonstrate that the Covered Activities in the HCP will not cause significant impacts – the proposed HCP is a 30-year program to authorize the take of 31 endangered to threatened species on over 402,440 acres of land and by its own terms, the HCP anticipates 3,014 acres of new construction in undeveloped areas. (HCP at Table 1-1.) The "minor new construction" covered by the HCP includes upgrades or extensions of facilities in "suitable habitat for covered species" as long as there are no more than 2 miles from an existing line which encompasses a large but unknown amount of habitat for listed species. (HCP at 1-17.) Given PG&E's expansive network of utility lines, this could encompass construction projects in many acres of high quality habitat for Covered Species over the 9 county area. The HCP also applies to the construction of new pipelines up to 2 miles in length, which involves ground disturbing activities including grading and erosion control. (Draft EA at 3-18.) Thus many of the significance factors are present in this instance including, but not limited to: effects to wetlands and ecologically critical areas, the presence of significant controversy, uncertain effects, cumulatively significant effects, and adverse effects to listed species. (40 CFR §1508.27 (b)(3),(4)(5)(6) &(9).) The anticipated impacts are clearly "significant" and an EIS is needed.

It is common for a large scale regional HCP to require an EIS, indeed, many regional HCPs in California have necessitated the preparation of an EIS. For instance, the following HCPs included an EIS: (1) East Contra Costa County Habitat Conservation Plan/Natural Community Conservation Plan; (2) Santa Clara Valley Habitat Conservation Plan/Natural Communities Conservation Plan; (3) Western Riverside County Multiple Species Habitat Conservation Plan; and (4) Natomas Basin Habitat Conservation Plan.

D. The Draft EA did not adequately consider cumulative impacts.

NEPA requires that the cumulative impacts of a project be analyzed by the lead agency. (*Alaska Envtl. Ctr. v. Kempthorne,* 457 F.3d 969, 980 (9th Cir.2005).) In particular, NEPA requires the analysis of "[c]umulative actions, which when viewed with other proposed actions have cumulatively significant impacts and should therefore be discussed in the same impact statement." (*Id.*; 40 C.F.R. § 1508.25(a)(2).) In a cumulative impact analysis, an agency must take a "hard look" at all actions.

> [A]nalysis of cumulative impacts must give a sufficiently detailed catalogue of past, present, and future projects, and provide adequate analysis about how these projects, and differences between the projects, are thought to have impacted the environment. … Without such information, neither the courts nor the public ... can be assured that the [agency] provided the hard look that it is required to provide.

(*Te-Moak Tribe of Western Shoshone v. U.S. Dept. of Interior*, 608 F.3d 592, 603 (9th Cir. 2010) (rejecting BLM-issued EA for mineral exploration that had failed to include detailed analysis of impacts from nearby proposed mining operations).)

In preparing the cumulative impacts analysis, "general statements about possible effects and some risk do not constitute a hard look absent a justification regarding why more definitive information could not be provided." (*Ocean Advocates v. United States Army Corps of Eng'rs* 361 F.3d 1108, 1128 (9th Cir. 2004); *Klamath Siskiyou Wildlands Center v. BLM*, 387 F.3d 989, 995 (9th Cir. 2004) (holding that cumulative impacts section, which was "more than a dozen pages," was inadequate and failed to provide a "quantified assessment" of the combined environmental impacts of the project with other projects); *Oregon Natural Resources Council v. BLM*, 470 F.3d 818, 822-23 (9th Cir. 2006).) Conclusory statements alone "do not equip a decisionmaker to make an informed decision about alternative courses of action or a court to review the Secretary's reasoning." (*NRDC v. Hodel*, 865 F.2d 288, 298 (D.C. Cir. 1988).)

Here, the Draft EA suffers from similar defects. The "Cumulative Effects" section of the Draft EA (Draft EA at 4-1 – 4-16) totals less than sixteen pages, and the actual "Cumulative Effects Analysis" is less than twelve pages. (Draft EA at 4-4 – 4-16.) Moreover, the Draft EA expressly omits any detailed analysis of (a) the operations and maintenance activities which are "covered" by the HCP or (b) how these activities result in cumulative impacts when combined with other reasonably foreseeable activities. (*See* Draft EA at 4-3.) Given that the HCP contains a 38 page description of the activities and projects that will be covered by the HCP, such cursory analysis of the cumulative impacts of these projects is not adequate. (*See* HCP at 3-1 – 3-38.)

The Draft EA's biological resources section – which should arguably contain the most detail – is only one and one half pages long. The first half page only generally describes the Plan Area and contains general observations about impacts to the Bay Area's ecosystems arising from urban development. Draft EA at 4-7. The remainder of the biological resources section broadly states that the Covered Activities would contribute to habitat modifications and impacts on the 31 covered species. Nonetheless, the Draft EA concludes without any analysis that such impacts would not be cumulatively considerable.

Such a conclusory "analysis" is inadequate when the HCP will authorize large numbers of projects over a 30-year period that will cumulatively have significant impacts endangered and threatened wildlife and plants in the 9 Bay Area counties.

E. The Draft EA failed to consider growth-inducing impacts.

NEPA requires the lead agency to analyze the indirect impacts of a project, including "growth-inducing" impacts. (*Ctr. for Envtl. Law & Policy v. United States Bureau of*

Reclamation, 655 F.3d 1000, 1011 (9th Cir. 2011); 40 C.F.R 1508.8.) The California Environmental Quality Act ("CEQA") contains similar requirements. Upgrading or extending infrastructure is perhaps the archetypal "growth-inducing impact." (*See Davis v. Coleman,* 521 F.2d 661, 675 (9th Cir.1975) (growth inducing effects of a highway interchange project are its "*raison d'etre*").) Without extensions or upgrades to existing infrastructure, additional urban or suburban growth is impossible.

Here, the purpose of the HCP is to streamline the permitting process for upgrading and extending utilities in the Bay Area. If the HCP is approved and implemented as planned, it will result in quicker construction and extension of utilities throughout the Bay Area, which act as a catalyst for future growth including both infill and sprawl. Nonetheless, the Draft EA contains absolutely no analysis of the growth-inducing impacts of the HCP.

F. The Draft EA employs an improper "baseline" to assess the HCP's environmental impacts.

Under NEPA, the baseline must be analyzed using existing physical conditions in the project area. The Service is required to "describe the environment of the areas to be affected or created by the alternatives under consideration." (40 C.F.R. § 1502.15.) The establishment of the baseline conditions of the affected environment is a fundamental requirement of the NEPA process:

> "NEPA clearly requires that consideration of environmental impacts of proposed projects take place *before* [a final decision] is made." *LaFlamme v. FERC,* 842 F.2d 1063, 1071 (9th Cir.1988) []. Once a project begins, the "pre-project environment" becomes a thing of the past, thereby making evaluation of the project's effect on pre-project resources impossible. Id. Without establishing the baseline conditions which exist in the vicinity … before [the project] begins, there is simply no way to determine what effect the proposed [project] will have on the environment and, consequently, no way to comply with NEPA.

(Half Moon Bay Fisherman's Mark't Ass'n v. Carlucci, 857 F.2d 505, 510 (9th Cir. 1988).) "In analyzing the affected environment, NEPA requires the agency to set forth the baseline conditions." (*Western Watersheds Project v. BLM*, 552 F.Supp.2d 1113, 1126 (D. Nev. 2008).) "The concept of a baseline against which to compare predictions of the effects of the proposed action and reasonable alternatives is critical to the NEPA process." (Council of Environmental Quality, Considering Cumulative Effects under the National Environmental Policy Act (May 11, 1999).)

Such baseline information and analysis must be part of the NEPA analysis and be subject to public review and comment. The lack of an adequate baseline analysis fatally flaws any EIS/EA. "[O]nce a project begins, the pre-project environment becomes a thing of the past and evaluation of the project's effect becomes simply impossible." (*Northern Plains v. Surf. Transp. Brd.*, 668 F.3d 1067, 1083 (9th Cir. 2011).) "[W]ithout [baseline] data, an agency cannot carefully consider information about significant environment impacts. Thus, the agency fail[s] to consider an important aspect of the problem, resulting in an arbitrary and capricious decision."

(*Id*. at 1085.)

These requirements apply to EAs as well as EISs. "Ninth Circuit cases acknowledge the importance of obtaining baseline condition information before assessing the environmental impacts of a proposed project." (*Gifford Pinchot Task Force v. Perez*, 2014 WL 3019165, *28 (D. Or. 2014)(BLM EA failed to obtain and analyze baseline water quality data in violation of NEPA); s*ee also Idaho Conservation League v. Forest Service*, 2012 WL 3758161, *17 (D. Idaho 2012)(EA violated NEPA for failing to obtain baseline groundwater information); *Shoshone-Bannock Tribes v. Dept. of Interior*, 2011 WL 1743656, at *10 (D. Idaho 2011)(BLM required to study baseline groundwater conditions).)

The Draft EA does not comply with these mandates. The Draft EA's "No Project" alternative assumes that all or nearly all of the activities covered by the HCP would occur *even in the absence of* the HCP. The Draft EA states that "O&M and minor new construction activities . . . *would be the same* under the Proposed Action and the No Project alternative." (Draft EA at 3.8-5; emphasis added.) This claim is unfounded because it rests upon the assumption that PG&E will obtain all necessary permits and approvals for *all* projects covered under the HCP/Proposed Action. This is not necessarily true – federal, state, or local authorities could decide *not* to approve certain activities due to the environmental impacts or other impacts (including community opposition). In any event, USFWS cannot assume the existence of proposed projects or activities in the "baseline" for the No Project alternative.

The Draft EA implicitly acknowledges that if the HCP is not approved, then some activities planned under the HCP may never occur. The Draft EA concedes that the "large volume of activities implemented by PG&E makes project-by-project permitting logistically challenging and difficult to implement." (Draft EA at 2-24.) Yet, as noted above, the Draft EA still assumes that PG&E will pursue and obtain permitting for all these activities from all applicable regulatory authorities.

USFWS's improper "baseline" is further revealed in the cumulative impacts analysis. The Draft EA incorrectly assumes that air quality impacts under the "No Projective Alternative" and the Proposed Action would be the same: "Moreover, *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 emissions." (Draft EA at 4-6; emphasis added.) The Draft EA makes the same mistake in analyzing greenhouse gas emissions: "*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." (Draft EA at 4-7; emphasis added.) The Draft EA may not assume that all of the activities covered by the HCP will occur regardless of the HCP. Such "bootstrapping" is inconsistent with NEPA.

G. The Draft EA fails to accurately describe the "baseline" for each of the Covered Species.

To accurately assess the impacts of the Covered Activities on the Covered Species, an accurate baseline of the current conditions for the populations of each of the Covered Species is essential. Regrettably, the Draft EA only contains general information about the distribution of

each species in the Plan Area. (*See* Draft EA at Table 3-9.) A footnote reveals that the Draft EA obtained this general information from the "California Natural Diversity Database, and in some instances, PG&E's field surveys of the habitat." (Draft EA at 3.3-10.) The Draft EA does not describe any specific surveys conducted by PG&E, or whether such surveys were conducted in compliance with USFWS or CDFW protocols. In short, the Draft EA offers no information on current physical conditions on the ground for the Covered Species. This is unacceptable, especially in light of the extent of the Covered Activities. USFWS should require protocol-level surveys for each of the Covered Species in order to assess the current baseline conditions.

The Draft EA's failure to establish baseline conditions also is inadequate because of the extremely long timeframe of the HCP. Over 30 years, conditions could change significantly for the species. As discussed below, climate change and continued urban development will continue to threaten the remaining populations of these species. Yet, the Draft EA has not even obtained current information on conditions, and instead relies upon a database that may have a mix of current and outdated information.

H. The Draft EA does not adequately analyze the impacts of climate change on the Covered Species.

The HCP proposes to authorize "take" of endangered and threatened wildlife over a 30-year period. Climate change will have significant impacts on these species over that time frame. Indeed, climate change already is having a major adverse impact on numerous plant and animal species. (Cameron and Scheel, 2001.[10]) Sea level rise associated with climate change is also of concern for many of the Covered Species and other listed species in the Plan Area.

Climate change impacts species by altering the climatic conditions that species need to survive or use a particular location as habitat, including particular temperature, type of food, water levels and water abundance, or weather conditions. (Schwartz, et. al., 2006.[11]) This causes massive migration shifts, with species seeking out other areas featuring their needed climatic conditions. (Schwartz, et. al., 2006.) However, such migration shifts are not simple. For many species, their habitat is already so limited that there is no other location they can practically relocate to. In addition, major impediments such as urban areas can keep species from reaching other habitats. Species migration can also cause increased food and habitat competition as more species attempt to forage, hunt, or breed, in smaller areas. Migration also has the potential to cause many of the issues commonly associated with invasive species.

For many species, migration just is not possible – as their habitats quickly change, they will be unable to adapt in time, and will become extinct. Extinction as a direct result of climate change is an imminent possibility for numerous species. (Cameron and Scheel, 2001). The threat of climate change induced species extinction is found to be highest in species with a small

[10] Cameron and Scheel, 2001. Getting Warmer: Effect on Global Climate Change on Distribution of Rodents in Texas. Journal of Mammalogy, Vol 82, No. 3: 652-680. Available at http://jmammal.oxfordjournals.org/content/jmammal/82/3/652.full.pdf.

[11] Schwartz, M.W., Iverson L.R., Prasad A.M, Matthews S.N. O'Conner, R. 2006. Predicting Extinctions as a Result of Climate Change. Vol. 87, No. 7: 1611-1615. Available at https://kb.osu.edu/dspace/bitstream/handle/1811/49027/1/fac_IversonL_Ecology_2006_87_7.pdf

current distribution, (Schwartz, et. al. 2006). This makes sense given that the reason that these species have small habitats in the first place is that they are "habitat specialists," meaning they can only survive in a very specific set of climatic/habitat conditions. (Schwartz, et al., 2006.)

The Draft EA should have disclosed such threats to the Covered Species and discussed the potential for the Covered Activities to contribute to this problem. USFWS must use its best efforts to investigate and disclose all it reasonably can about the impacts of climate change on the environment and each of the Covered Species.

I. USFWS failed to coordinate with other agencies as required by NEPA.

NEPA requires that agencies cooperate with state and local agencies "to the fullest extent possible." (40 C.F.R. 1506.2(b).) Such cooperation must occur for (1) joint planning processes; (2) joint environmental research and studies; (3) joint public hearings; and (4) joint environmental assessments. *Id*. NEPA also requires a discussion of "[p]ossible conflicts between the proposed action and the objectives of Federal, regional, State, and local (and in the case of a reservation, Indian tribe) land use plans, policies and controls for the area concerned." (40 C.F.R. § 1502.16(c).)

i. USFWS did not coordinate with the California Coastal Commission.

Here, USFWS failed to engage in the required coordination. Neither the Draft EA nor HCP demonstrate that the USFWS engaged in coordination with the California Coastal Commission on the coastal impacts of the HCP. The Draft EA similarly does not indicate that USFWS coordinated with local agencies which administer Local Coastal Programs. USFWS's omissions also violate 16 U.S.C. § 1456(c), which mandates that federal agencies which undertake projects within the coastal zone ensure that the projects are consistent with the state's costal programs "to the maximum extent practicable…." (*See Sierra Club v. Marsh*, 816 F.2d 1376, 1379 fn 4 (9th Cir. 1987).) USFWS also is required to obtain a consistency determination with the California Coastal Act. (16 U.S.C. § 1456(c)(3)(A).)

ii. USFWS did not coordinate with CDFW.

USFWS has not demonstrated that it has engaged in the required coordination with the California Department of Fish and Wildlife ("CDFW"). California law prohibits the "take" of species protected by the California Endangered Species Act ("CESA") absent a permit from CDFW. (Cal. Fish & Game Code § 2081.) CDFW further must make a "Consistency Determination" that the permit requirements are consistent with CESA. (*Id.*; *See also In re Consol. Delta Smelt Cases*, 812 F.Supp.2d 1133, 1195 (E.D.Cal.2011) (vacated on other grounds).) Despite these requirements, the Draft EA contains only one single sentence regarding PG&E's activities to comply with section 2081 – "PG&E has applied for a 2081 permit with CDFW." (Draft EA at 3.3-3.) This sentence is insufficient to demonstrate that the required coordination has occurred.

iii. USFWS did not show that it coordinated with the San Francisco Bay Regional Water Quality Control Board or the Army Corps of Engineers.

USFWS appears to have failed to coordinate with both state and federal authorities regulating water quality, including the San Francisco Bay Regional Water Quality Control Board ("RWQCB") and U.S. Army Corps of Engineers (the "Corps"). The Draft EA does not provide any evidence that USFWS engaged in any meaningful coordination wither of these agencies or other applicable agencies regulating water quality.

J. The Draft EA does not adequately analyze or mitigate water quality impacts.

The Draft EA also does not adequately analyze the water quality impacts of the HCP or its Covered Activities. The Draft EA's section on Water Quality and Hydrology primarily consists of boilerplate information about applicable laws and policies. Absent from the Draft EA is detailed information on waterways and waterbodies that will be impacted by the HCP. Likewise, the Draft EA only generally states that the Covered Activities will have water quality impacts. (*See* Draft EA at 3.7-16 & 17.) Specific information on impacts to each Covered Species is missing from the Draft EA. Species covered by the HCP – such as the California tiger salamander and California red legged frog – are particularly vulnerable to water quality impacts. Indeed, USFWS identifies "degraded water quality" as one of the primary threats on California red legged frogs.[12] Yet, no species-specific information on such impacts exists in the Draft EA.

The Draft EA also does not commit PG&E to take any concrete steps to address water quality issues. For instance, the Draft EA references PG&E's Good Housekeeping Activity Specific Erosion and Sediment Control Plan, which generally describes "commonly used measures," to protect water quality. (Draft EA at 3.7-11.) Yet, the Draft EA does not actually mandate the use of any of these measures. Instead, the Draft EA generally claims that compliance with existing laws will "ensure minimal impacts on surface waters." (Draft EA at 3.7-17.)

Such promises of compliance are neither adequate nor necessarily accurate and will be hard to monitor or enforce. The Draft EA does not demonstrate that the HCP will comply with the Clean Water Act ("CWA"). The CWA mandates that federally-permitted activities meet state water quality standards. (33 U.S.C. § 1341.) In addition, section 401 of the CWA that any applicant (such as PG&E) which is seeking a permit for an activity which may result in discharge into navigable waters must provide certification from state. Although the Draft EA concedes that certification may be required for Covered Activities, PG&E has not sought or obtained such certification. PG&E similarly has failed to obtain any section 404 permits.

K. The Draft EA does not analyze the environmental risks of pipeline rupture or leakage.

Pipeline ruptures, leakages, or explosions are a reasonably foreseeable impact of the Covered Activities under the HCP. PG&E reports that "PG&E pipelines are damaged on average nearly 5 times every day by people digging near our lines."[13] And in 2010, a PG&E pipeline exploded, killing eight people and destroying 38 homes. Over the three decade life of

[12] https://www.fws.gov/sacramento/es_species/Accounts/Amphibians-Reptiles/es_ca-red-legged-frog.htm
[13] *See* PG&E Pipeline Sheet, available at https://www.pge.com/includes/docs/pdfs/about/edusafety/diggingyard/HOA_PipelineHandout.pdf.

the HCP, it is very likely that other small and large-scale pipeline incidents will occur, and these incidents will harm species which inhabit areas adjacent to such pipelines. Nonetheless, the Draft EA contains no analysis of these reasonably foreseeable impacts.

L. The Draft EA Omitted Key Documents That Should Have Been Included In The Draft EA.

NEPA requires that all relevant documents be included within the EA/EIS or appendixes. (*See Pac. Rivers Council v. United States Forest Serv.*, 689 F.3d 1012, 1031 (9th Cir. 2012) (dismissed as moot) (holding that failure to include biological assessments as appendixes violated NEPA).) *Pac. Rivers Council* explained that "purpose of an EIS is to inform decisionmakers and the general public of the environmental consequences of a proposed federal action. That purpose would be defeated if a critical part of the analysis could be omitted from an EIS and its appendices." (*Id*.)

Unfortunately, copies of key documents are missing from the Draft EA. These include, but are not limited to, (1) the PG&E Avian Protection Plan; (2) Nesting Bird Management Plan, (3) vegetation management program; (4) Best Management Practices ("BMPs") (which are only summarily listed in the HCP); (5) Avoidance and Minimization Measures ("AMMs"); and (6) PG&E's Good Housekeeping Activity Specific Erosion and Sediment Control Plan. Without these and other key documents, the Draft EA fails to inform decision-makers and the public of the consequences of approving the HCP. (*See Pac. Rivers Council*, 689 F.3d at 1031.)

III. Conclusion.

Thank you for the opportunity to submit comments on the Draft EA and HCP. The Center intends to follow up with additional comments in the future. The Center looks forward to working with the Service to assure that the HCP and environmental review conforms to the requirements of federal and state laws and to assure that the conservation plan provides a true benefit to all listed species affected and that all significant impacts to the environment are fully analyzed, avoided, minimized and mitigated. Please add the Center to the interested parties list for all future notices and meetings regarding this HCP (contact information is below) and do not hesitate to contact us with any questions about the matters raised in this letter. We look forward to reviewing the USFWS's responses to these comments and a revised HCP and environmental documentation.

Sincerely,

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Attachments:

Loss SR, Will T, Marra PP (2014) Refining Estimates of Bird Collision and Electrocution Mortality at Power Lines in the United States. PLoS ONE 9(7):e101565. doi:10.1371/journal.pone.0101565 with Table S2.

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Refining Estimates of Bird Collision and Electrocution Mortality at Power Lines in the United States

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Abstract

Collisions and electrocutions at power lines are thought to kill large numbers of birds in the United States annually. However, existing estimates of mortality are either speculative (for electrocution) or based on extrapolation of results from one study to all U.S. power lines (for collision). Because national-scale estimates of mortality and comparisons among threats are likely to be used for prioritizing policy and management strategies and for identifying major research needs, these estimates should be based on systematic and transparent assessment of rigorously collected data. We conducted a quantitative review that incorporated data from 14 studies meeting our inclusion criteria to estimate that between 12 and 64 million birds are killed each year at U.S. power lines, with between 8 and 57 million birds killed by collision and between 0.9 and 11.6 million birds killed by electrocution. Sensitivity analyses indicate that the majority of uncertainty in our estimates arises from variation in mortality rates across studies; this variation is due in part to the small sample of rigorously conducted studies that can be used to estimate mortality. Little information is available to quantify species-specific vulnerability to mortality at power lines; the available literature over-represents particular bird groups and habitats, and most studies only sample and present data for one or a few species. Furthermore, additional research is needed to clarify whether, to what degree, and in what regions populations of different bird species are affected by power line-related mortality. Nonetheless, our data-driven analysis suggests that the amount of bird mortality at U.S. power lines is substantial and that conservation management and policy is necessary to reduce this mortality.

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Introduction

Collisions and electrocutions of birds at power lines have long represented a major conservation issue [1,2], and the current proliferation of electrical infrastructure is increasing this threat [3]. Globally, collisions with power lines may cause more than one billion annual bird deaths [4]. Between 10 and 41 million birds are likely killed each year by power line collisions in Canada [5]. In the United States, rough estimates of annual mortality range from hundreds of thousands to 175 million collisions [6,7] and from tens to hundreds of thousands of electrocutions [7]. This amount of mortality would rank power lines above other structures that kill birds, including wind turbines and communication towers [8,9]. Furthermore, mortality at power lines may contribute to population declines for some species, as evidenced by studies documenting that power line-caused mortality can cause a large percentage of total mortality for species from several avian orders [10–14].

Power line collisions occur when birds fly into wires; electrocutions occur at poles when a bird completes a circuit by touching two energized parts or an energized and grounded part [14,15]. Correlates of mortality rates include: (1) biological factors (e.g., bird age, size, and wing span for both threats; maneuverability, flocking behavior, and vision for collision); (2) environmental factors (e.g., topography, vegetation, and prey abundance for both threats); and (3) structure-related factors (e.g. line orientation and distance between wires for both threats; exposure of and distance between energized and grounded parts for electrocution) [15–20]. Whereas electrocutions occur primarily at distribution lines–small power lines with voltages between 2.4 and 60 kilovolts (kV)–collisions occur at both distribution lines and transmission lines–large power lines with voltages >60 kV [16,21,22]. However, relatively few collision studies have been conducted at distribution lines; those that have suggest that there is little difference in collision rates between line types ([23–25] but see [20]). Both sources of mortality are reducible with the use of retrofitting measures [15,19,26–28] or with implementation of bird-safe standards at new construction [15,16].

Despite an increasing number of studies that employ rigorous a priori study designs (e.g., [17,21]), much of the research published to date about bird mortality at power lines has

consisted of qualitative reviews and assessments of opportunistically collected data (hereafter "retrospective studies") [22,29]. Furthermore, nationwide estimates of mortality at U.S. power lines are speculative [7] or based on extrapolation from a single European study [6]. Policy and management for reduction of wildlife mortality should ideally be based on evidence from scientific studies that implement randomized and replicated sampling schemes (hereafter "prospective studies"). In addition, national-scale estimates of mortality and comparisons among mortality threats are likely to be used for prioritizing policy and management strategies and for identifying major research needs [30,31]. These estimates should therefore be based on systematic and transparent assessment of rigorously collected data (e.g. [32–35]).

We conducted a systematic and quantitative review of U.S. and international studies that estimate mortality rates for bird collision and electrocution at power lines. To reduce bias in our estimates, we defined inclusion criteria by which studies were selected to ensure that only prospective and rigorously conducted studies were used in analyses. We quantified annual mortality and explicitly incorporated uncertainty by combining probability distributions of mortality rates, the amount of U.S. electrical infrastructure, and biases associated with carcass surveys. To highlight specific topics that require additional research, we also conducted sensitivity analyses to estimate how much uncertainty in our mortality estimates was contributed by each model component. Finally, we summarized the available species-specific data on bird collision fatalities at U.S. power lines.

Materials and Methods

Literature Search

We searched Google Scholar and the Web of Science database (using the Web of Knowledge search engine) to locate peer-reviewed articles and technical reports from U.S. and international studies of bird mortality at power lines. We also searched for studies providing estimates of the amount of U.S. electrical infrastructure (the number of power poles or length of power lines). We used the search terms: "bird electrocution," "bird wire collision," and "bird power line collision," and the previous terms with "bird" replaced by "avian." We also used: "United States length of electrical lines" and "United States number of electrical poles" and the previous two terms with "electrical" replaced by "power," "distribution," and "transmission;" "line" replaced by "wire;" and "pole" replaced by "pylon" and "tower." We checked reference lists to locate additional sources, and we contacted three experts in the field to inquire if they knew of additional unpublished studies (R. Harness, R. Lehman, and R. Loughery, pers. comm.). Unlike studies of bird mortality at wind farms [9,33] we located few industry reports that investigated mortality at power lines. Our analysis is therefore based on peer-reviewed studies, agency technical reports, and conference and workshop proceedings. We provide a flowchart illustrating the number of independent articles and reports retrieved using the above search strategy–as well as the number of articles screened, excluded, and included for our analysis of avian mortality–in Figure 1.

Inclusion Criteria

To reduce variation among studies in sampling design and methodology and to minimize bias in our estimates, we implemented inclusion criteria for the studies used in our mortality estimates. To avoid duplication, we only included studies for in depth review if they presented data that had not been presented in earlier studies. For some studies, we included some data that met inclusion criteria and excluded other data that did not. Additional inclusion criteria were specified such that we excluded: (1) retrospective studies, (2) studies focusing only on a sub-set of bird groups, (3) studies that experimentally tested a retrofitting measure or included retrofitted lines without separately presenting data from retrofitted and control segments, (4) studies including but not separately reporting incidental records (i.e., records collected outside of standardized surveys), (5) studies not reporting the proportion of the calendar year covered by sampling and mortality rate estimates, (6) studies not reporting the extent of power line sampled (length of line or number of poles), (7) studies based on a single sampling occasion or on multiple sampling occasions covering less than one month (we arbitrarily selected a duration of one month to avoid including non-representative mortality rates that were exceptionally low or high), (8) studies of mortality from power lines and other threats (e.g., collisions with vehicles or wind turbines) not presenting data separately for each threat, and (9) studies of electrocution and collision not presenting data separately for each threat (this type of data would not allow separate estimation of collision and electrocution mortality rates).

Data Extraction

We extracted a single mortality rate (as described in detail below: for collisions, number of carcasses per length of power line; for electrocutions, number of carcasses per pole) from each study meeting our criteria unless a study included both collision and electrocution data or data from both transmission and distribution lines. In these cases, we extracted rates separately for each data sub-set. We also extracted separate estimates when a single study included more than one non-adjacent sampling area or different study design and/or sampling methodologies during different time periods. Depending on the study, the extracted mortality rate was either an unadjusted count (i.e., not corrected for scavenger removal, imperfect searcher detection, or other survey-related biases) or a count that was adjusted for one or more of these sampling biases. As described briefly in in the following section and in further detail in Text S1, our final analysis only included unadjusted mortality rates, and we accounted for sampling biases in our mortality estimation model.

For collision and electrocution rate estimates, we standardized raw carcass counts by the length of power line and number of poles sampled, respectively. For studies greater than one year in duration that sampled a different amount of infrastructure each year, we calculated rates using the average amount of infrastructure sampled. For studies that were less than one year in duration, we accounted for the portion of the year not sampled in our estimation model described in the following section. For studies greater than one year in duration, we divided rates by the number of years of sampling or the fractional number of years sampled (e.g., 24 months = 2 years; 14 months = 1.17 years), thus assuming that mortality rates do not vary seasonally. Despite individual studies concluding that mortality rates can vary by season (e.g., [10,18]), the vast majority of records meeting our inclusion criteria lacked dates of sampling, and the remaining records only listed the season of sampling. This limitation prevented us from closely examining seasonal variation in the extracted data.

In addition to extracting total mortality rate estimates, we also extracted raw species counts from U.S. studies that met criteria 1–4 above. Implementation of criteria 5 and 6 was unnecessary for generating unbiased species counts, and implementation of criteria 7–9 did not result in removal of additional studies beyond those removed by criteria 1–4. Because no electrocution studies met all criteria, we did not extract species data for this mortality source.

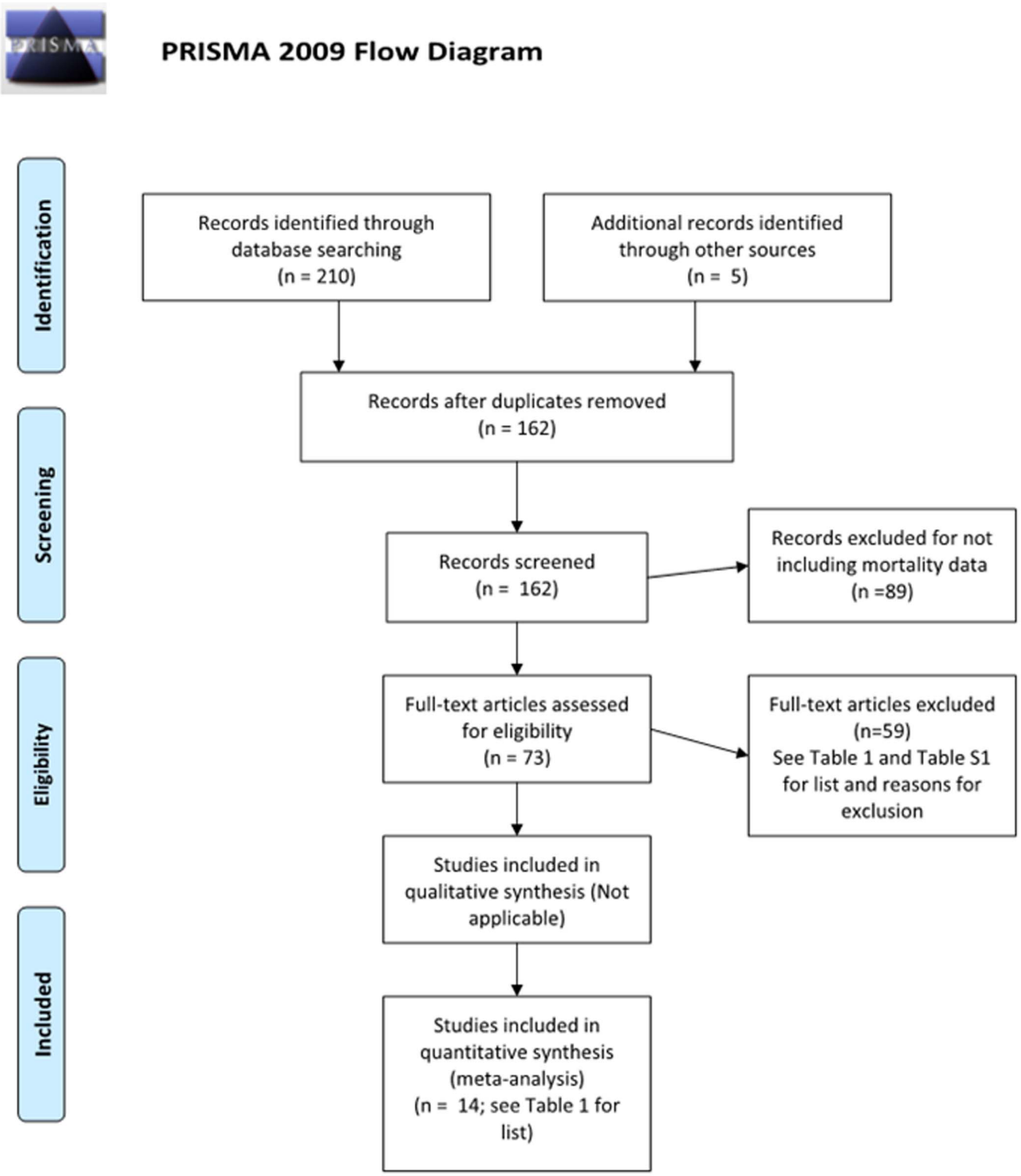

Figure 1. PRISMA flow diagram illustrating the number of independent articles and reports retrieved using the search strategy described under materials and methods, as well as the number of articles screened, excluded, and included in our systematic analysis of bird mortality from collision and electrocution at U.S. power lines.
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All studies used for the mortality estimate and/or the species summary are illustrated in Table 1; excluded studies (along with reasons for exclusion) are in Table S1, and references for studies in Table S1, but not in the main manuscript, are in Text S2.

Relaxing Inclusion Criteria to Increase Sample Size

We felt that all inclusion criteria were necessary for producing the least biased mortality estimates possible; however, after implementing all criteria and extracting data, only 17 mortality

Table 1. Meta-data and mortality rates for studies meeting inclusion criteria for estimation of bird mortality at power lines in the United States and/or summary of mortality by species.

	Line type[a]	Location	Sampling coverage	All species?[b]	Study used?		Mortality rate		Study
					Total[c]	Species[d]	Per km	Per pole	
Collision									
U.S.									
	Trans	San Luis Valley, CO	Feb-Apr, Oct-Nov	Yes	Yes	Yes	1.05	?	[47]
	Trans	Dawson, ND	Apr-May; Jul-Nov	Yes	Yes	Yes	35.00	?	[48]
	Trans	Billings, MT	Mar-Oct	Yes	No[e]	Yes	480.30	?	[1]
	Trans	south-central NE	Mar-Apr	No	Yes	No	1.26	?	[56]
	Trans	southwest IN	Jan-Apr; Sept-Dec	Yes	No[f]	Yes	?	?	[45]
	Trans	Midland, MI	Mar-Dec	Yes	No[f]	Yes	?	?	[57]
	Trans	James Island, SC	Year Round	Yes	Yes	Yes	6.23	?	[58]
	Trans	south-central NE	Mar-Apr	No	No[e]	No	0.21	?	[49]
	Dist	San Luis Valley, CO	Feb-Apr, Oct-Nov	Yes	Yes	Yes	1.37	?	[47]
	Dist	Dawson, ND	Apr-May; Jul-Nov	Yes	Yes	Yes	7.14	?	[48]
	Dist	south-central NE	Mar-Apr	No	Yes	No	0.02	?	[49]
International									
	Trans	southwest Spain	Jan-Apr; Dec	Yes	Yes	No	2.27	?	[59]
	Trans	central Spain	Jan-May; Jul-Dec	Yes	No[g]	No	124.80	?	[27]
	Trans	south Norway	Year Round	No	Yes	No	3.70	?	[52] (section 1)
	Trans	central Spain	Year Round	No	No[g]	No	8.10	?	[60]
	Trans	North Wales	Apr-Jul	No	Yes	No	1.67	?	[61]
	Trans	central Spain	Year Round	Yes	Yes	No	2.89	?	[23] (section A)
	Trans	New S. Wales, Aust.	Jan-Mar; Nov-Dec	Yes	Yes	No	13.60	?	[62]
	Dist	central Spain	Jan-May; Jul-Dec	Yes	No[g]	No	99.00	?	[27]
	Dist	south Norway	Year Round	No	Yes	No	3.13	?	[52] (sec 2)
	Dist	south Norway	Year Round	No	Yes	No	6.53	?	[52] (sec 3)
	Dist	central Spain	Year Round	No	No[g]	No	2.70	?	[60]
	Dist	central Spain	Jan-Mar; Aug-Dec	Yes	Yes	No	8.72	?	[23] (sec B)
	Dist	central Spain	Year Round	Yes	Yes	No	14.17	?	[23] (sec C)
	?	north Greece	Year Round	No	Yes	No	14.12	2.40	[63]
	?	north-central India	Year Round	No	No[g]	No	0.26	?	[13]
Electrocution									
U.S.									
	Dist	northwest Colorado	Jun-Sept	No	Yes	No	?	0.022	[64]
	Dist	High Desert, CO/UT	Year Round	No	Yes	No	0.01	0.005	[65]

Table 1. Cont.

Line type[a]	Location	Sampling coverage	All species?[b]	Study used?		Mortality rate		Study
				Total[c]	Species[d]	Per km	Per pole	
Dist	Rangely, CO	Year Round	No	Yes	No	?	0.011	[65]
Dist	Uintah, UT	Year Round	No	No[e]	No	0.02	0.036	[65]
Dist	Owens Valley, CA	Jan-Apr; Nov-Dec	No	Yes	No	0.03	0.002	[66]
Dist	San Jac. Valley, CA	Jan-Mar; Oct-Dec	No	Yes	No	0.02	0.001	[66]

[a]Type of power line studied, including low-voltage (2.4–60 kV) distribution lines (dist), high voltage (>60 kV) transmission lines (trans), both line types (both), or no information provided about line type (?).
[b]Does study survey for and present data for all bird species, not just particular species groups?
[c]Was study used in estimate of annual bird mortality at power lines?
[d]Was study used for species counts (Table S2)? Excluded U.S. studies focused on particular bird group(s) without including all species; all international studies were excluded because of different species assemblages in other countries).
[e]study meets inclusion criteria but was not included in the estimate of annual bird mortality because mortality rate is a statistical outlier among studies meeting inclusion criteria.
[f]study meets inclusion criteria for species summary but excluded from mortality estimate because no information provided about length of wire sampled.
[g]study meets inclusion criteria but was not included in the estimate of annual bird mortality because mortality rate is adjusted for biases associated with carcass surveys; these biases were later accounted for in our analyses (see main text).
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rate estimates remained, including 15 collision rates (8 U.S. and 7 international) and 2 electrocution rates (0 U.S. and 2 international). We therefore examined whether sample sizes could be increased by relaxing some inclusion criteria that we considered less essential (criteria 2 and 7). Relaxation of criteria 2 (study must include all bird groups) resulted in inclusion of 19 additional rates, including 11 collision and 8 electrocution rates. Because of this large sample of additional data, we repeated collision mortality estimation with and without criteria 2 relaxed. For electrocution, the only studies meeting criteria 2 were international studies. Because we sought to avoid estimating electrocution mortality solely using international data, we estimated electrocution mortality only once using the U.S. studies accepted with criteria 2 relaxed. This approach likely contributes negative bias to our electrocution estimate because relaxing criteria 2 results in the inclusion of studies that do not sample all bird groups, and because all types of birds could potentially be killed by electrocution [15]. Relaxation of criteria 7 (study must not be based on a single short sampling occasion) resulted in inclusion of only two additional mortality rates; therefore, we did not repeat estimation with this criterion relaxed.

Quantification of Annual Bird Mortality at Power Lines

When data from multiple independently conducted studies are combined to generate national estimates of annual mortality, the mortality rates should be standardized to account for the fact that different studies sample different proportions of the calendar year. Above, we described how we accounted for this variation in sampling coverage for studies that were greater than one year in duration. For studies that were less than one year in duration, the mortality rate estimates should ideally be standardized to year-round rates using year-round studies as a baseline [8,34]. However, this type of standardization was not possible for our data set because there were few year-round studies that met our inclusion criteria and therefore few studies to use as a baseline for standardization. Among the year-round studies that did meet inclusion criteria, all electrocution studies and all but one collision study did not present data separately for different portions of the year, a limitation that prevented us from using this approach [34]. As described below, we therefore accounted for partial-year sampling coverage by applying a correction factor in the estimation model.

We estimated bird collision and electrocution mortality by multiplying data-derived probability distributions of mortality rates by distributions of the amount of infrastructure, and we also incorporated correction factors that account for biases associated with carcass surveys and partial-year sampling. We estimated collision mortality only for transmission lines because there is little bird collision data available for distribution lines and because there are no estimates for the length of distribution lines in the U.S. nor maps that would allow us to calculate this value (J. Goodrich-Mahoney, Electric Power Research Institute pers. comm.) (however, note that there are rough estimates of tens of millions of miles of distribution lines present in the U.S. [36,37]). We estimated electrocution mortality only for distribution lines because electrocution is a greater concern at this power line type [22,29,38] and because all extracted electrocution data were from distribution lines. This approach likely contributes negative bias to our mortality estimates because both collisions and electrocutions can occur at both power line types (although, in general, there is relatively little evidence of widespread electrocution at transmission lines; but see 39). We used the following estimation model:

$$Mortality_{collision}(M_C) = LxK_{collision}xY_{collision}xB_{collision} \quad (1)$$

$$Mortality_{electrocution}(M_E) = NxK_{electrocution}xY_{electrocution}xB_{electrocution} \quad (2)$$

$$Mortality_{total} = M_C + M_E \quad (3)$$

where L is the length of transmission line corridors in the U.S.; K is the annual mortality rate per km of power line (collision) or per power pole (electrocution); Y is a correction factor that accounts for mortality occurring during portions of the year not covered by sampling in partial-year studies; B is a correction factor that accounts for four major biases: scavenger removal bias (under-estimation due to scavengers removing a proportion of carcasses between fatality surveys), searcher detection bias (under-estimation due to surveyors only detecting a proportion of the remaining carcasses), crippling bias (under-estimation due to a proportion of birds surviving long enough to exit the survey area before dying), and habitat bias (under-estimation due to a proportion of the survey area not being searchable to due dense vegetation, unsafe terrain, or other logistical constraints); and N is the number of distribution poles in the U.S. The partial-year correction (Y) was treated as a fixed value. From the uniform probability distribution defined for every other parameter (specific distributions in Table 2; rationale for distributions in Text S1), we drew a random value using the "runif" command in Program R and used the above formulas. We repeated this calculation 10,000 times to generate uncertainty bounds for estimates.

Sensitivity Analyses

Sensitivity analyses identified the contribution of each parameter to uncertainty in the mortality estimates. We defined multiple linear regression models, assumed a normal distribution of errors (function "lm" in Program R), treated mortality estimate replicates as values of the dependent variable, and treated randomly drawn values of each parameter as values of the independent variables. We interpreted the percentage of uncertainty explained by each parameter using partial r^2 values [32,34,40,41]. We repeated this analysis for the total mortality estimate (including all model parameters) and for the collision and electrocution estimates (including only the parameters from each respective sub-model).

Counts of Bird Species Killed by Power Line Collisions

Six collision studies met inclusion criteria for the species summary. Of the records in these studies, 82.6% (N = 3,402) were identified to species (with remaining records identified to broader taxonomic groupings) and 78.1% were from a single study [1]. Given these limitations, we could not generate estimates of mortality by species [42], calculate vulnerability indices [43], or calculate average proportional representation of each species [34]. We therefore present raw counts of the bird species found in studies meeting our inclusion criteria (Table S2) and refrain from drawing conclusions about species-specific collision vulnerability.

Results

All mortality estimates are summarized in Table 3. With inclusion criteria 2 relaxed (studies do not need to include all bird groups), we estimate annual U.S. bird mortality from power line collisions at between 7.7 and 42.4 million (median = 20.0 million). With inclusion criteria 2 enforced, we estimate annual collision mortality at between 8.0 and 57.3 million birds (median = 25.5 million). These estimates equate to median annual collision rates of 23.2 birds/km of power line (95% CI = 8.9–49.2) and 29.6 birds/km of power line (95% CI = 9.3–66.4), with inclusion criteria 2 relaxed and enforced, respectively. We estimate that between 0.9 and 11.6 million birds (median = 5.6 million) are electrocuted each year at U.S. distribution lines. This equates to a median annual rate of 0.03 birds per distribution pole (95% CI = 0.005–0.062). Combining both threats, we estimate total annual power-line caused mortality at between 11.8 and 49.2 million birds (median = 25.9 million) with inclusion criteria 2 relaxed and between 12.6 and 64.0 million birds (median = 31.2 million) with criteria 2 enforced.

Due to the relatively large amount of mortality caused by collisions and variable collision rates across studies, the collision mortality rate parameter explained the greatest percentage of uncertainty in our estimates of collision mortality (65.6%) and total power line-related mortality (62.4%). For the collision estimate, almost all remaining uncertainty (26.8%) was explained by the bias correction factor. Other factors explaining at least 5% of uncertainty in the total estimate included the bias correction factor for collision mortality (25.4%) and the electrocution rate (5.0%). Due to variable electrocution rates across studies, the electrocution rate parameter explained the majority of uncertainty in the electrocution estimate (91.9%).

Raw species counts are shown in Table S2. These results are descriptive of the studies that met our inclusion criteria, but this data set contains substantial sampling bias. All six studies were at power lines that crossed or were in close proximity to water bodies. The 19 species with the highest counts–and 36 of the 42 species recorded–are waterbirds. All land birds, including raptors, were counted 16 or fewer total times as collision casualties.

Discussion

Our annual estimates of between 8 and 57 million birds killed by collision and between 0.9 and 11.6 million birds killed by electrocution indicate that bird mortality at U.S. power lines constitutes a major source of anthropogenic mortality. The range of our estimates for power lines is greater than systematically derived U.S. estimates for all other anthropogenic structural threats except buildings (365–988 million [41]), including collisions with communication towers (6.6 million [8]), collisions with all wind turbines (573,000 [9]), and collisions with modern mono-pole wind turbines (140,000–328,000 [33]). National estimates of anthropogenic mortality and comparisons of different mortality sources can be useful for prioritizing conservation policies [30,31]. Our estimates in particular should alert conservation biologists and policy-makers to the continued problem of bird mortality caused by power lines. Furthermore, our sensitivity analyses highlight major research gaps that need to be addressed in order to increase understanding of this issue and therefore to advance mitigation efforts.

Comparison to other mortality estimates

Our estimate range for power line collisions falls within the much broader range of previous figures that are either speculative (hundreds of thousands to 175 million [7]) or based on extrapolation of results from a single study to all U.S. transmission lines (130 million [6]). We improved upon earlier collision estimates by systematically incorporating data from 11 U.S. and international studies, including 17 mortality rate estimates. Our

Table 2. Probability distributions used for estimation of bird mortality at power lines in the United States.

Parameter	Distribution type	Distribution parameters	Source
Collision at transmission lines			
Length of transmission lines (km)	Uniform	Min = 775,986; Max = 948,428	[36]; J. Goodrich-Mahoney pers. comm.
Mortality rate (per km) – all species	Uniform	Min = 2.91; Max = 15.57	95% C.I. across 10 studies meeting inclusion criteria
Mortality rate (per km) – focal species	Uniform	Min = 3.15; Max = 11.30	95% C.I. across 17 studies meeting inclusion criteria
Partial-year correction – all species	NA[a]	Estimate = 1.54	1/ave. proportion of year covered by studies in analysis
Partial-year correction – focal species	NA[a]	Estimate = 1.53	1/ave. proportion of year covered by studies in analysis
Bias correction factor	Uniform	Min = 1.25, Max = 3.28	Ave. ratio of adjusted to unadjusted mortality estimates
Electrocution at distribution lines			
Number of utility poles	Uniform	Min = 166.5 M; Max = 203.5 M	[67]
Mortality rate (per pole)	Uniform	Min = 0.001; Max = 0.016	95% C.I. across 5 studies meeting inclusion criteria
Partial-year sampling correction	NA[a]	Estimate = 1.5	1/ave. proportion of year covered by studies in analysis
Bias correction factor	Uniform	Min = 1.91, Max = 2.92	[68]

[a]Parameter is a point estimate, not a probability distribution.
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estimated range of between 0.9 and 11.6 million birds electrocuted annually is based on systematic analysis of five unique mortality rate estimates and is greater than the only other estimate to date, a speculative figure of tens to hundreds of thousands of birds [7]. As expected, the collision mortality estimate generated from studies that included all bird groups was higher than the estimate that included studies focused on particular species. Birds of all sizes and taxonomic orders collide with power lines [15,44,45], and collision studies that only include large species (e.g. waterbirds, raptors, and/or game birds) likely under-estimate total mortality rates. Consideration of our higher collision estimate (between 8 and 57 million birds) would be appropriate under a precautionary approach to mortality management [46].

The above figures could be underestimates because we did not calculate collision mortality at distribution lines or electrocution mortality at transmission lines and because both types of mortality occur. Collision studies at distribution lines report mortality rates between 0.02 and 7.14 birds/km [47–49], and some studies suggest that there is little difference in collision rates between the two line types [23–25]. Few studies have documented electrocution at transmission lines; however, raptor electrocution rates in Arizona were found to be the same at both line types [39]. Estimation of collision mortality at distribution lines would require speculation about the length of U.S. distribution lines, and estimation of electrocution mortality at transmission lines would require speculation about electrocution rates at this line type. Because a central objective of our study was to conduct data-driven analyses, we did not generate these estimates.

The lack of data about which bird species are killed, and how the species composition of fatalities varies across habitats, prevented us from quantitatively estimating vulnerability of different species to mortality at power lines. The species count for power line collisions is biased towards water birds because all studies meeting inclusion criteria for this analysis were at or near bodies of water. For electrocution, the vast majority (91.7%) of fatality records from studies used to estimate mortality were raptors. Our electrocution estimate could therefore be viewed as a rough approximation of the number of annual raptor electrocutions in the U.S. However, identifying which raptor species experience disproportionately high electrocution risk is not

Table 3. Estimates of annual bird mortality at U.S. power lines.

Mortality type	Mean units of U.S. infrastructure	Total mortality (millions)		Mortality per km/pole	
		Median	95% CI	Median	95% CI
Collision at transmission lines	862,207 km	25.48 M[a]	7.98–57.25 M[a]	29.6[a]	9.3–66.4[a]
		20.01 M[b]	7.67–42.43 M[b]	23.2[b]	8.9–49.2[b]
Electrocution at distribution lines	185 M poles	5.63 M	0.92–11.55 M	0.030	0.005–0.062
TOTAL		31.16 M[a]	12.63–63.98 M[a]		
		25.85 M[b]	11.84–49.28 M[b]		

[a]Estimate based on enforcing study inclusion criteria that mortality surveys must survey and present data for all bird species.
[b]Estimate based on relaxing study inclusion criteria that mortality surveys must survey and present data for all bird species.
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possible, given the small sample (n = 132) of total raptor records across the studies we used. A qualitative literature appraisal indicates that eagles dominate the reported electrocution records [22], and that the Golden Eagle in particular (*Aquila chrysaetos*) may experience the greatest electrocution risk due to a combination of its large body size and preference for open habitats without natural perches [11,18]. Eagles were not well-represented in our quantitative analysis because most eagle fatalities are documented as isolated incidents or from retrospective band-recovery or radio-tracking studies that did not meet our inclusion criteria.

Research Needs and Estimate Limitations

Parameters that explain a large proportion of uncertainty in our estimates can be inferred to indicate major research gaps that, if addressed, will improve understanding of power line-related mortality and assist mitigation efforts [34,41]. A large proportion of uncertainty in our estimates was explained by highly variable mortality rates that led us to define broad probability distributions. This finding indicates that additional replication of collision and electrocution studies that meet the standards of rigor embodied by our inclusion criteria are needed to further increase precision of mortality estimates. Research is especially needed in under-represented regions and habitat types; electrocution studies have focused disproportionately on the western U.S. and collision studies have focused disproportionately on wetlands. The most useful data will be collected in prospective studies that base sampling on randomization and replication, that sample all groups of birds, and that sample during all months of the year. In our comprehensive review of the literature, we found no mortality rate estimates that fulfilled all of these standards.

The bias correction factor for collisions also explained substantial uncertainty in our estimates. This finding suggests that additional research is needed to quantify how bias sources (scavenger removal, imperfect carcass detection, crippling, and habitat bias) cause raw counts to under-estimate mortality. Most collision rates that we extracted (76% of U.S. rates) were not corrected for any of the above biases. Recent research into bird and bat collisions at wind facilities provides an example of how quantitative methods that account for these biases can be developed and applied [9,50].

Sampling design and data collection methods varied among the studies we used, and we were unable to account for all of these differences. Nonetheless, we accounted for substantial methodological variation by implementing inclusion criteria, by applying a correction factor to account for studies sampling varying proportions of the year, and by standardizing raw carcass counts by the amount of infrastructure sampled. A limitation of our estimate is that although most studies attempted to confirm whether birds had been killed by collision or electrocution, there may have been some error associated with designating the specific cause of death. Some apparent collision victims (e.g. those found under the middle of a wire span) may have been electrocuted by touching two wires, and some apparent electrocution victims may have been electrocuted when colliding with wires [51]. This potential error source may have led to positive or negative estimation bias in individual studies; however, our approach of developing probability distributions using multiple studies likely reduced the effect of this within-study bias. Finally, positive bias could have been contributed to our estimates by only including data from power lines with no retrofitting measures in place. An unknown proportion of U.S. power lines likely have reduced mortality rates due to retrofitting measures.

We were unable to quantify seasonal patterns of mortality due to a limited sample of studies that surveyed year-round and a limited number of records that included date information. Several nuances related to seasonal bird movements and life histories likely influence seasonal patterns of mortality risk at power lines. First, migratory birds may be more vulnerable to collisions at transmission lines during spring and fall migration periods because birds move at higher altitudes during migration than they do during sedentary periods. The opposite is also likely to be true; resident bird species (and migratory species during sedentary periods) are likely more vulnerable to collisions at distribution lines because flights during these periods tend to occur at relatively low altitudes. Second, many locations are characterized by drastically different local bird communities during different periods of the year, and high latitude areas have particularly large fluctuations in species diversity due to seasonal movements of migratory species. This seasonal variation affects the pool of species that are at risk of experiencing collision or electrocution mortality. Finally, some species (especially gallinaceous birds – family Phasianidae) experience the greatest risk of collision mortality during winter as a result of poor lighting and weather conditions [10,52]. Given the above complexities, additional year-round studies are necessary to improve understanding of seasonal variation in mortality at power lines.

Perhaps more than other mortality sources, studies of bird collision and electrocution mortality at power lines tend to focus on areas that are already known to experience bird deaths. These mortality hotspots include power lines near large populations of birds or high quality habitat. For electrocutions, power poles in flat landscapes without trees are especially attractive to birds as perches, are associated with a greater risk of collision, and have received the greatest amount of study [22]. We sought to minimize the bias contributed by non-random sampling and spatial clustering by excluding mortality rates from our analyses that were high statistical outliers. Nonetheless, the predisposition to study mortality hotspots, and the observation that in many regions a relatively small fraction of poles cause electrocutions [17,21], suggests that extrapolating published mortality rates across the U.S. power grid could contribute positive bias to national mortality estimates. Non-random sampling of power lines also leads to a biased representation of bird species composition, as evidenced by our species summary. Documentation of high mortality rates at "problem" lines is crucial for implementing mitigation measures to reduce mortality. However, future studies that aim to produce unbiased estimates of mortality rates should also employ random sampling designs that sample multiple habitat and power line types without regard to a priori expectations. This random sampling structure allows more accurate estimation of mortality rates, identification of mortality correlates, extrapolation of mortality rates to larger scales, and assessment of species-specific risks.

Conclusions

Collisions and electrocutions at U.S. power lines represent a major source of bird mortality. Because a proportion of this mortality is preventable, policies and management measures should be implemented whenever possible to reduce the number of bird deaths incurred. The most cost-effective approach to reducing power line-related mortality will likely be to implement bird-friendly design strategies at new power lines (see "best practices" in [15,16]). However, mortality reduction is also possible with retrofitting of existing lines. For collision mortality, retrofitting measures include marking of wires and removing ground wires. For electrocution mortality, measures include capping energized parts and increasing spacing between energized parts and grounded parts [15,16]. Notably, there has been

increasing use of steel distribution poles in the U.S. [38], and due to increased conductivity of electricity, these poles can lead to particularly high rates of electrocution [28]. Mitigation measures for steel poles are different than those for wooden poles (see [16,28]), and it will be particularly important to implement these steps to reduce bird electrocution mortality in the U.S. and internationally.

Mortality monitoring should also be conducted to ensure that design and retro-fitting measures achieve desired mortality reductions. APLIC guidelines have resulted in substantial advances in addressing bird mortality at power lines. However, there is still little information available to assess the proportion of U.S. infrastructure with bird-friendly designs or retrofitting measures in place or the degree to which such measures reduce mortality [22]. There is also no consistent and peer-reviewed monitoring protocol to assess bird mortality at power lines. A national mortality reporting database can facilitate standardization of data collection and management for mortality monitoring at power lines and for other threats [46]. In addition to mandatory monitoring and reporting under U.S. Fish and Wildlife Service (USFWS) permits, there is currently a voluntary injury and mortality reporting system maintained by the USFWS (the Bird Incident Mortality Reporting System). Roughly 40 U.S. electrical utilities currently report mortality data to this system (A.M. Manville II, pers. comm.).

Linking specific mortality causes to population level impacts is exceptionally difficult in the absence of large samples of species-specific mortality data and comprehensive population monitoring information [53]. Given the above-discussed deficiencies in species-specific data, national-scale population impacts of power line-related bird mortality remain unclear. Nevertheless, some regions and bird species could experience significant population level impacts, as suggested by U.S. studies indicating that power lines cause a large proportion of mortality for some species, primarily raptors [11,18]. National mortality estimates will be most useful when also complemented by fine-scale intensive research that allows for assessment of population responses to mortality (e.g., [54,55]) and for the development of targeted management objectives. Nonetheless, the absence of a clear link between mortality at power lines and population impacts should not prevent mortality reduction measures from being taken, especially given imperfect understanding about how multiple mortality threats interact to cumulatively impact wildlife populations [46].

Supporting Information

Table S1 Studies reviewed but excluded from analyses.
(DOCX)

Table S2 Raw counts of bird species found in studies of power line collision.
(DOCX)

Text S1 Supplementary Methods. Detailed description of methods used to define probability distributions in mortality estimation model.
(DOCX)

Text S2 References in Supplementary Information. References for literature cited in the supporting information (Text S1 and Table S1), but not in the main text.
(DOCX)

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Author Contributions

Conceived and designed the experiments: SRL TW PPM. Performed the experiments: SRL. Analyzed the data: SRL. Contributed to the writing of the manuscript: SRL.

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Table S2. Raw counts of bird species found in studies of power line collision. Total raw counts of bird species found as collision fatalities in studies of U.S. transmission power lines meeting inclusion criteria for species summary (see main text for specific criteria) [1, 45, 47, 48, 57, 58].

Species	Total count	Number of facilities with fatalities
Eared Grebe	920	1
Blue-winged Teal	439	2
American Coot	278	4
Northern Pintail	264	1
Green-winged Teal	213	2
Wilson's Phalarope	208	1
Gadwall	185	2
Lesser Yellowlegs	146	3
Sandhill Crane	140	2
Mallard	122	4
Northern Shoveler	84	2
Ruddy Duck	48	2
Amerian Avocet	43	1
American Wigeon	42	1
Ring-billed Gull	31	2
Greater Yellowlegs	29	1
Redhead	24	1
Canada Goose	18	2
Baird's Sandpiper	16	1
Yellow-headed Blackbird	16	1
Herring Gull	15	1
Great Blue Heron	14	3
Stilt Sandpiper	14	1
Sora	13	2
Pied-billed Grebe	12	1
American White Pelican	10	1
Franklin's Gull	10	1
Great Egret	10	1
Killdeer	10	2
California Gull	5	1
Double-crested Cormorant	4	1
American Black Duck	3	1
Red-winged Blackbird	3	1

Whooping Crane	3	1
Black-crowned Night Heron	2	2
Yellow-billed Cuckoo	2	1
Common Snipe	1	1
Horned Lark	1	1
Northern Harrier	1	1
Rock Pigeon	1	1
Sanderling	1	1
Wood Duck	1	1
Unknown Gull	167	4
Unknown Waterfowl	166	1
Unknown Bird	99	3
Unknown Shorebird	54	2
Unknown Rail	46	1
Unknown Cormorant	40	1
Unknown Passerine	30	1
Unknown Blackbird	26	1
Unknown Sandpiper	24	1
Unknown Grebe	12	1
Unknown Grouse	11	1
Unknown Wading Bird	11	1
Unknown Dove	10	2
Unknown Raptor	10	1
Unknown Duck	5	1
Unknown Heron	3	1
Unknown Woodpecker	3	1

2.3.4 Center for Biological Diversity

Response to Comment 4.0

See General Response 1, *Covered Species*, and General Response 4, *CDFW Oversight*.

Response to Comment 4.1

See General Response 5, *Baseline*. The FEIR includes new information in Section 3.0, *Baseline for CEQA Analysis* regarding detail about historic and ongoing impacts. The biological resources section describes potential impacts on covered and non-covered species from covered activities and has concluded that with PG&E's environmental screening process, FPs, BMPs, APMs, and MMs, impacts under CEQA are less than significant. (See Section 3.4, Impact BIO-1.) Please also refer to General Responses 2 and 3.

Response to Comment 4.2

CDFW worked with PG&E to clarify its practices by making edits to two FPs, two BMPs, and several APMs (see FEIR Tables 2-3 and 2-4). New APMs include measures applicable to minimizing the spread of invasive plant species in minor new construction (APM BIO-3a), Western Burrowing Owl Avoidance (APM BIO-6a), and San Joaquin kit fox/American badger Avoidance (APM BIO-9). In addition, additional mitigation measures have been required (BIO-2, BIO-3, and BIO-4) to mitigate for potential impacts to the ITP-covered species. These and other measures in the FEIR are mandatory obligations under CEQA, as are the ITP conditions once issued under Fish and Game Code Section 2081(b). CDFW will require that PG&E implement these measures. Please see also General Responses 2 and 4 concerning avoidance measures and agency oversight.

Response to Comment 4.3

See General Response 5, *Baseline*, and General Response 6, *Definition of Minor New Construction*. The FEIR includes new information in Section 3.0, *Baseline for CEQA Analysis* regarding detail about historic and ongoing impacts of O&M and minor new construction, adding to the FEIR's detailed descriptions of covered activities. Thus, the proposed ITP and supporting documents have specified what activities fit within it. (See, e.g., FEIR Chapter 2, Section 2.7, Covered Activities). A project-by-project review would defeat the purpose of this proposed regional ITP.

The CEQA analysis in the FEIR evaluates the whole of the action and concludes that impacts from issuance of the ITP are less than significant with in light of baseline conditions and PG&E's obligations to implement FPs, BMPs, APMs, and Hot Zone AMMs as well as MMs.

Response to Comment 4.4

The mitigation framework detailed in MM BIO-1 indicates that "habitat mitigation will be provided for covered species based on acreages of estimated and actual habitat losses…" then later refers to "modeled habitat." This means that for small activity impacts, PG&E will rely on modeled habitat (except in Hot Zones where site-specific evaluations are conducted), and for large activities, site-specific disturbance areas will be evaluated by a biologist to confirm the models are appropriate and habitat is present. Additional mitigation measures to minimize the risk of take of ITP-covered species (MM BIO-2, MM BIO-3, and MM BIO-4) have been included in the FEIR and will also be

conditions of the ITP. This mitigation framework, including PG&E's environmental screening process, FPs, BMPs, AMMs, and APMs ensures that future project activities will have less than significant impacts for both small and large project activities.

The application of the models errs on the side of greater mitigation for the species by assuming that areas identified by the model are 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. Any activity in modeled habitat will require mitigation, whether the covered species is present or not, offsetting the need for targeted surveys and higher mitigation ratios. This approach results in more mitigation than may otherwise be required.

Annual impacts and mitigation will be reported to CDFW. Given baseline disturbances, PG&E's efforts to avoid and minimize impacts, the conservative nature of the models, and the temporary nature of most impacts, the proposed ratios are appropriate to fully mitigate the impacts.

Please see also General Response 2 and 4.

Response to Comment 4.5

Please see General Response 3 concerning restoration and revegetation.

PG&E will prepare revegetation plans as needed based on site specific post construction erosion control requirements and consistent with ITP conditions for restoration of temporary impacts to species habitat. APM BIO-3a (see FEIR Table 2-4) has been added to ensure that areas disturbed by minor new construction are restored.

Response to Comment 4.6

Mitigation will be implemented in consultation with CDFW. MM BIO-1, which provides that CDFW will approve all mitigation proposed by PG&E, has been revised to add: Compensatory mitigation locations will be subject to review and approval of the Department. There is no broad requirement under CEQA or CESA to require consultation with local and regional biologists, indigenous groups, or government agencies, though CDFW may enlist the review of experts as it deems appropriate.

PG&E will be required to follow established processes for CDFW approval of compensatory mitigation. This includes providing a "Habitat Management Lands Package" consistent with CDFW's policy for all proposed conservation projects associated with any ITP. Third party monitoring is not needed for mitigation lands as the management plan and endowment for management will ensure that management is performed as described and approved by CDFW.

Response to Comment 4.7

As stated in Section 2.5, *Conservation Strategy*, of the FEIR, "Jump Start" means land acquisition, preservation, and/or habitat enhancement efforts that are made in advance of permit issuance. "Stay ahead" means that PG&E will "stay ahead" of its mitigation obligations by calculating and obtaining the mitigation credits that may be necessary for future years based on information from the Annual Report for the prior year.

If PG&E is unable to acquire the appropriate land in advance of impacts, PG&E will be required to provide mitigation at a higher ratio, so there is an incentive to provide mitigation in advance.

Between the fourth and fifth year, PG&E will evaluate where it stands with respect to the mitigation that has been used and will acquire more mitigation if needed to stay ahead of impacts. Jump start only applies at the beginning of the permit, and PG&E will either stay ahead of impacts over the duration of the permit or provide more mitigation.

Response to Comment 4.8

CDFW has evaluated the impacts of PG&E's activities in Impact BIO-1 and concluded that, in light of baseline conditions and PG&E's FPs, AMMs, BMPs, AMPs and MMs, this impact is less than significant.

There is more than one measure that addresses covered species. In the FEIR Table 2-3 there are the following measures: Hot Zone-1 (for California freshwater shrimp) and Hot Zone-2 (for California tiger salamander); in the FEIR Table 2-4 there are the following measures: APM BIO-2 (protect covered wildlife); APM BIO-3 (design and site minor new activities to avoid sensitive areas); APM BIO-8 (avoid Alameda whipsnake core habitat); MM BIO-1 (acquire, preserve and/or enhance suitable habitat for mitigation); MM BIO-2 (California Freshwater Shrimp Minimization Measures); MM BIO-3 (California Tiger Salamander Minimization Measures); and MM BIO-4 (Alameda Whipsnake Minimization Measures) among other more general measures. CDFW will require PG&E to implement all these measures.

Please see also General Response 2.

Response to Comment 4.9

Both the DEIR and FEIR addressed this concern in Impact BIO-4 and concluded this impact was less than significant in light of baseline conditions and PG&E's obligation to implement FPs, AMMs, BMPs, APMs, and MMs. Minor changes were made in the FEIR providing additional rationale as to why impacts are considered less than significant (see Impact BIO-4).

Response to Comment 4.10

In the FEIR Table 2-3, FP-14 has been revised to clarify that California annual grass species will be used. Also, APM BIO-3a has been added to require that PG&E minimize the spread of invasive plant species in minor new construction areas; this measure includes revegetation success criteria (see FEIR Table 2-4). Please see General Responses 3, 4, and 5.

Response to Comment 4.11

Under CEQA, the assessment of impacts is limited to impacts caused by the proposed project, which in this case consists of PG&E's O&M and minor new construction activities as affected by issuance of the proposed ITP. The FEIR adequately assesses wildfire risk and concludes that these impacts are less than significant in light of baseline conditions and PG&E's obligation to implement its FPs, BMPs, AMMs, and APMs. (See Impact WF-1 and Impact WF-2). In addition, regular maintenance and replacement of PG&E's utility facilities reduces risks associated with wildfires, thereby benefiting special-status species and all those affected by wildfires.

Please see also General Response 5 and FEIR Section 3.0 concerning the FEIR's baseline and analytical framework.

Response to Comment 4.12

See Response to Comment 4.11.

Response to Comment 4.13

The FEIR was updated to reflect all preparers; CDFW and third-party reviewers were added to the list of preparers. The FEIR reflects CDFW's analysis and determinations.

CALIFORNIA
NATIVE PLANT SOCIETY
East Bay Chapter, www.ebcnps.org
PO Box 5597, Elmwood Station, Berkeley, CA 94705

March 17, 2021

Mr. Jim Starr
California Department of Fish and Wildlife
2109 Arch Airport Road, Suite 100
Stockton, California 95206 via email: Jim.Starr@wildlife.ca.gov

RE: SCH Number 2017122028, Pacific Gas and Electric Company Bay Area Operations & Maintenance Environmental Impact Report

Dear Mr. Starr:

The California Native Plant Society-East Bay chapter (CNPS-EB) offers the following comments on the Environmental Impact Report (EIR) for Pacific Gas and Electric Company's (PG&E) Incidental Take Permit (ITP) application under section 2081 of the California Endangered Species Act with the California Department of Fish and Wildlife.

The CNPS mission includes conserving California native plants and their natural habitats. Along with habitat loss, California native plants are threatened by habitat degradation from invasion of weedy plant species that outcompete native plants and plant communities for space and water.

CNPS understands the need for PG&E's Operations & Maintenance activities and also that PG&E needs to operate safely and in compliance with state and federal regulations. However, PG&E's proposed project is likely to cause significant loss of important native plants and natural habitats through habitat degradation because the mitigation proposed to control weedy species is inadequate; electric and gas transmission Rights of Way are known corridors of weedy species spread. The proposed project is also likely to result in loss of special-status plants and plant communities because several of the EIR's proposed measures to prevent impacts to them are inadequate. 5.0

We request that the proposed mitigation measures be amended to address avoidable impacts to special-status plants and plant communities. These changes would not interfere with the integrity of the Operations & Maintenance activities.

1. **EIR Definitions: The definition of "special status-plant species and habitats" is inadequate and should be amended as follows**:

The term "special-status plant species and habitats" should be defined as:

- Listed or proposed for listing as threatened or endangered under the federal endangered species act (ESA),
- Listed or candidates for listing as threatened or endangered under the California Endangered Species Act (CESA),
- Designated as a California Rare Plant Rank 1A, 1B, or 2, species by the California Native Plant Society (CNPS),
- Considered to be a senstive natural community by CDFW,
- Potentially considered as wetlands and waters of the United States or the State of California,
- Otherwise included in the definition of rare, threatened, or endangered, as described in the California Environmental Quality Act (CEQA) Guidelines, Section 15380, including locally rare species. (For locally rare plants in Contra Costa Counties please refer to the "Database of Rare, Unusual and Significant Plants of Alameda and Contra Costa Counties" https://ebcnps.org/ebrare-plant-database/

5.1

2. **APM BIO-1 - Measures to prevent or minimize spread of invasive weeds are inadequate and should be amended as follows:**

a) The EIR states that equipment will be cleaned prior to entering the work site. This is one element of an effective invasive weed prevention program. Unfortunately, yellow star thistle and a host of other invasive weeds are commonly spread when equipment is operated in an infested area of a project site and then moves into an un-infested area of a project site. Also, imports of dirt fill and gravel for trenches and other construction work are a common vector for introducing invasive weeds. We request that additional best practices be incorporated into this mitigation measure, including drawing from "Preventing the Spread of Invasive Weeds: Best Management Practices for Transportation and Utility Corridors by the California Invasive Plant Council http://rightofway.erc.uic.edu/wp-content/uploads/2019/03/TransportationUtilityCorridorsPreventionBMPs.pdfcontent/uploads/2019/03/TransportationUtilityCorridorsPreventionBMPs.pdf

5.2

b) Implementing an effective invasive weed prevention program is essential. However, one inadvertent oversight or contaminated materials load can lead to a flush of invasive weeds the following season. We request that this mitigation measure be amended to include inspecting the construction or operations and maintenance site in the following

5.2 cont.

growth season for the presence of invasive weed species. If invasive weed species cover exceeds the immediately surrounding area, an effective IPM methodology will be used to remove the invasive weed population(s).

3. <u>We request the following amendments to the EIR to achieve the EIR's intent, best practice, or mitigation measure:</u>

a) <u>On-site monitoring of best practices and avoidance measures</u> - The EIR notes that equipment operators and crews would be oriented at the start of work about sensitive biological resources that are, or could be present, on the work site. In addition to clearly marking areas of the work site that need to be avoided, a sufficient level of on-site biological monitoring is essential. Trained biologists are required to enable the crews to identify and avoid significant environmental impacts to special-status plants and plant communities, especially at the beginning of site work.

b) <u>The Plant Species Impact Evaluation</u> appears to be is based almost solely on a search of the California Natural Diversity Database. We request that PG&E also review and incorporate its own internal GIS for known locations of special-status plants and plant communities.

5.3

c) <u>Disturbance area</u> - Field Protocol -14 requires restoring disturbed habitat if the covered activity disturbs 0.1 acre (4300 sq ft.) or more of habitat for a covered species in grasslands. This is too large area to leave untreated. We recommend seeding and associated erosion control treatments for smaller areas of bare soil disturbance and restoration for disturbed areas of .01 acre, or 430 sq. ft., or larger.

d) <u>Grassland seeding</u> – FP-14 states that a commercial "weed free" seed mix will be used to revegetate a disturbed habitat for a covered species in grasslands (FP-14). The seeding for landscape buffers (APM AES-6) specifies use of a <u>native</u> grassland mix. A non-native "weed free" seed mix, such as those intended primarily for quick erosion control on highly disturbed construction sites, can also be a weed when applied to disturbed habitat for a covered species in grasslands. Therefore, to achieve the intent of the EIR, we request that a grassland seeding be standardized to require native grass seed grown from seed grown from the nearest regional collection site.

e) <u>FP-95 - Notice on conservation lands</u> - This field protocol would notify conservation land owners at least 2 business days prior to conducting covered activities on protected lands (state and federally owned wildlife areas, ecological reserves, or conservation areas). If the work is an emergency, as defined in Permittee's Utility Procedure ENV-8003P-01, PG&E will notify the conservation land owner within 48 hours after initiating emergency work.

5.3 cont.

We recommend applying the same notification standard as specified for agricultural land owners (APM AG-1), which is 30 days prior to start of work. Also, immediately in the event of an emergency.

5.4

Of note, the EIR explains that under the provisions of California Fish and Game Code Section 1913(b), the incidental removal of endangered or rare plant species is not prohibited within a ROW to allow a public utility to fulfill its obligation to provide service to the public. At the same time, these recommendations to amend the mitigation measures address avoidable impacts to special-status plants and plant communities, are consistent with achieving EIR objectives, and would not interfere with the integrity of Operations and Maintenance activities. Also, taking measures to conserve intact native plant communities and keep out invasive weeds usually results in optimal long-term vegetation fuels management.

Thank you for the opportunity to comment on PG&E's Bay Area Operations & Maintenance EIR.

Sincerely,

Jim Hanson

Jim Hanson
Conservation Chair, CNPS East Bay

2.3.5 California Native Plant Society (March 17, 2021)

Response to Comment 5.0

Please see General Response 1: *Covered Species*, which explains that the ITP does not include NPPA-listed plant species because PG&E intends to avoid take wherever possible, and in situations where impacts are unavoidable there are existing provisions in state statute, per Fish and Game Code Section 1913(b), for PG&E to perform its work consistent with other state laws and regulations.

Special-status plants are evaluated in Impact BIO-1 of the EIR. As explained therein, under the provisions of California Fish and Game Code Section 1913(b), the incidental removal of NPPA listed rare or endangered plant species is not prohibited within a ROW to allow a public utility to fulfill its obligation to provide service to the public; however, to the extent feasible PG&E will notify CDFW and provide the opportunity to salvage rare plants in advance of covered activities. In addition, PG&E will implement AMMs and APMs. Please see General Response 3: *On-site Restoration and Revegetation*, above, which explains that FP-14 was modified to indicate California annual grassland species will be used. The contents of the seed mix may vary but are comprised of California annual grassland and native species. Use of weed-free native seed mixes is intended to more rapidly recover grass/herbaceous layers in work areas that have depleted groundcover. This is considered preferable to allowing the primarily non-native seed bank to recover. Non-native grasses, for example, will likely retake such areas within several seasons. Ongoing maintenance of these areas (i.e., to maintain native species composition of restored areas) is not practical in small, widely distributed work areas throughout the Permit Area. However, to ensure that the impacts of minor new construction are temporary, PG&E added APM BIO-3a to minimize the spread of invasive plant species and ensure these areas are restored.

Response to Comment 5.1

The EIR defines 'special-status species' in in Section 3.4.1.2 of Chapter 03-04 covering Biological Resources and is broadly inclusive of these items including listed species, candidate species, and CRPR species with a rank of 1A, 1B, 2, 3 and 4. Please see Table 3.4-3 of the EIR, which lists special-status plant species with potential to occur in the Permit Area. Table 3.4-3 includes federally-listed endangered or threatened species, state-listed endangered or threatened species, CRPR rankings, and CNPS codes. Sensitive natural communities, including waters and wetlands, are addressed in Section 3.4.1.2 and are treated separately as sensitive communities. The definition included in the FEIR covers CEQA's definition of 'special status' species (CEQA Guidelines subsection 15380).

As stated in Section 3.4, Impact BIO-1, O&M and minor new construction activities in wetlands and riparian areas that support special-status plant and wildlife species would be avoided without acquisition of appropriate permits from agencies with jurisdiction over specific activities in wetlands and other waters. This approach is used currently and would not change after issuance of the ITP.

Response to Comment 5.2

Please see General Response 2. As stated above, PG&E added APM BIO-3a (see Table 2-4 and Section 3.4 of the FEIR), which incorporates these recommendations, to minimize the spread of invasive

plant species and ensure areas disturbed by O&M activities and minor new construction are restored.

Response to Comment 5.3

Please see General Response 2. As shown in Table 2-4 and Section 3-4, APM BIO-4: *Avoid special-status plants*, has been revised to clarify that PG&E has created "Map Book zones" for the 13 state or federally listed plants that are covered in the O&M HCP. A Map Book zone is defined as an area of occupied or potentially occupied HCP-covered plant species habitat as determined by PG&E botanical surveys. When rare and endangered plant species subject to the NPAA cannot be avoided, PG&E will follow the requirements of California Fish and Game Code Sections 1913(b) and 1913(c) concerning notification to CDFW and an opportunity to salvage ~~rare~~ such species.

If a plant listed as rare or endangered subject to the NPPA is found or known to occur, the plant would be avoided if feasible (i.e., O&M objectives could still be met). If feasible to avoid, avoidance would include establishing a no-disturbance buffer around the plants and demarcation of the buffer by a qualified biologist or botanist using flagging or high-visibility construction fencing. The size of the buffer will generally be a minimum of 50 feet from NPPA rare or endangered plants, but the size and shape of the buffer zone may be adjusted if the qualified biologist or botanist determines that a smaller buffer would be sufficient to avoid loss of or damage to the plants or that a larger buffer is necessary to sufficiently protect plants from the covered activity. Consideration of site-specific environmental factors such as terrain, site hydrology, light, and potential introduction of invasive plants may inform an appropriate buffer size and shape.

Please also see General Response 3: *On-site Restoration and Revegetation*, above, which explains that FP-14 was modified to indicate California annual grassland species will be used. The contents of the seed mix may vary but are comprised of California annual grassland and native species. Use of weed-free native seed mixes is intended to more rapidly recover grass/herbaceous layers in work areas that have depleted groundcover. This is considered preferable to allowing the primarily non-native seed bank to recover. Non-native grasses, for example, will likely retake such areas within several seasons. Ongoing maintenance of these areas (i.e., to maintain native species composition of restored areas) is not practical in small, widely distributed work areas throughout the Permit Area. However, to ensure that the impacts of minor new construction are temporary, PG&E added APM BIO-3a to minimize the spread of invasive plant species and ensure these areas are restored.

Biologists are involved in decisions requiring reseeding and the restoration threshold of 0.1 acre is consistent with PG&E's Bay Area Habitat Conservation Plan. Small activities are typically of short duration, do not typically result in bare soils and nearly always recover naturally.

PG&E often has pre-existing land rights on conservation lands because conservation easements are created without PG&E's knowledge within its existing utility easements. At the same time, PG&E has a pre-existing and continuing obligated to maintain and repair its facilities in a timely manner. Nevertheless, PG&E works with conservation landowners to provide advance notification of work when reasonably feasible, as provided in FP-05 (an ongoing commitment related to Bay Area O&M) and BMP-2 (a similar commitment for vegetation management activities). These measures reflect PG&E's good faith effort to provide advanced notice of work to conservation landowners. Specifically, FP-05 demonstrates PG&E's commitment to address landowner concerns. These measures are not proposed to be altered. In addition, agricultural landowners with crops or cattle require longer notification lead times in order to coordinate harvest or move livestock.

Response to Comment 5.4

The FEIR includes an analysis of potentially significant impacts to endangered and rare plants and concludes that those effects are less than significant in light of baseline conditions and PG&E's implementation of FPs, BMPs and APMs. See Impact BIO-1. FP-04 minimizes impacts on plants and other biological resources and APM BIO-5 states that occurrences of special-status plant species would be avoided to the extent practicable and would include performance of project activities in special-status plant habitat after senescence. Please also see General Response 2.