United States Department of the Interior

FISH AND WILDLIFE SERVICE
San Francisco Bay-Delta Fish and Wildlife Office
650 Capitol Mall, Suite 8-300
Sacramento, California 95814

In reply refer to:
08FBDT00-2020-F-0197

August 6, 2021

Katerina Galacatos, Ph.D.
South Branch Chief, Regulatory Division
San Francisco District
U.S. Army Corps of Engineers
450 Golden Gate Avenue, 4th Floor
San Francisco, CA 94102

Subject: Final Programmatic Formal Consultation for the Pacific Gas and Electric Company's (PG&E) Bay Area Operation and Maintenance (O&M) Program in Alameda, Contra Costa, Marin, Napa, Santa Clara, San Francisco, San Mateo, Solano, and Sonoma Counties, California (Corps File Number: 2018-00490)

Dear Dr. Galacatos:

This letter is in response to the U.S. Army Corps of Engineers' (Corps) June 11, 2020, letter requesting formal consultation with the U.S. Fish and Wildlife Service (Service) on the Corps issuance of a Regional General Permit (RGP) for PG&E's Bay Area O&M Program in Alameda, Contra Costa, Marin, Napa, Santa Clara, San Francisco, San Mateo, Solano, and Sonoma Counties, California. In the June 11, 2020, letter, the Corps determined that activities covered under the RGP may affect, and are likely to adversely affect the following species not included in PG&E's Bay Area O&M Habitat Conservation Plan (HCP): the endangered California least tern (*Sterna antillarum browni*) (CLT), the threatened western snowy plover (*Charadrius nivosus nivosus*) (WSP), endangered palmate-bracted bird's-beak (*Cordylanthus palmatus*), and the endangered soft bird's-beak (*Chloropyron molle* ssp. *molle*). The Corps also determined that activities covered under the RGP may affect, but are not likely to adversely affect the WSP designated critical habitat, and the soft bird's-beak designated critical habitat. The Corps initially requested consultation on the threatened delta smelt (*Hypomesus transpacificus*) and its critical habitat and the endangered Sonoma alopecurus (*Alopecurus aequalis* var. *sonomensis*) but later withdrew those requests.

The Corps also requested concurrence from the Service that the proposed Federal action and any associated incidental take of the federally listed species listed below were considered in the intra-Service section 7 consultation for PG&E's Section 10(a)(1)(B) permit for PG&E's Bay Area O&M HCP. The species included in the HCP that may be affected by the activities under the RGP are: the endangered California freshwater shrimp (*Syncaris pacifica*), the endangered

conservancy fairy shrimp (*Branchinecta conservatio*) and its designated critical habitat, the endangered longhorn fairy shrimp (*Branchinecta longiantenna*), the threatened vernal pool fairy shrimp (*Branchinecta lynchi*) and its designated critical habitat, the endangered vernal pool tadpole shrimp (*Lepidurus packardi*) and its designated critical habitat, the threatened Delta green ground beetle (*Elaphrus viridis*) and its designated critical habitat, the threatened California tiger salamander (*Ambystoma californiense*) (Central California distinct population segment (DPS)) and its designated critical habitat, the endangered California tiger salamander (Sonoma County DPS) and its designated critical habitat, the threatened California red-legged frog (*Rana draytonii*) and its designated critical habitat, the threatened Alameda whipsnake (*Masticophis lateralis euryxanthus*) and its designated critical habitat, the endangered San Francisco garter snake (*Thamnophis sirtalis tetrataenia*), the endangered California clapper rail (*Rallus longirostris obsoletus*)[1], the endangered salt marsh harvest mouse (*Reithrodontomys raviventris*), the endangered Burke's goldfields (*Lasthenia burkei*), the endangered Contra Costa goldfields (*Lasthenia conjugens*) and its designated critical habitat, the endangered fountain thistle (*Cirsium fontinale* var. *fontinale*), and the endangered Sebastopol meadowfoam (*Limnanthes vinculans*).

This response is provided under the authority of the Endangered Species Act of 1973, as amended (16 U.S.C. § 1531 *et seq*.) (Act), and in accordance with the implementing regulations pertaining to interagency cooperation (50 CFR 402).

In reviewing this project, the Service has relied upon: (1) the Corps' June 11, 2020, letter requesting consultation; (2) the June 2020, *Biological Assessment for the Regional General Permit for Pacific Gas and Electric Company's Bay Area Operation and Maintenance Program* (BA) prepared by Insignia Environmental (consultants); (3) the updated December 2020, BA; (4) PG&E's Bay Area O&M HCP; (5) electronic mail, telephone, and teleconference communications between the Service, PG&E, the Corps, and PG&E's consultants; and (6) other information available to the Service.

PG&E's Bay Area O&M HCP

The purpose of this programmatic consultation is to evaluate the effects of PG&E's Bay Area O&M Program on listed species that were not covered under PG&E's Bay Area O&M HCP (ICF 2017). The Service issued an Incidental Take Permit (Permit Number TES6826C-0 (Service 2017)) (ITP) to PG&E, in October of 2017 pursuant to section 10(a)(1)(B) of the Act. The Service also issued the September 28, 2017 intra-Service biological opinion (2017 BO) (Service File No. 08ESMF00-2013-F-0102) for issuance of the ITP. This programmatic consultation and the appurtenant species evaluations serve to coincide with the 30-year term of PG&E's Bay Area O&M HCP set to expire October 2, 2047 which would leave the remainder of approximately 26 years for the term of this PBO. In the 2017 BO, the Service concluded that the effects of PG&E's O&M activities and level of incidental take were not likely to jeopardize the continued existence of endangered California freshwater shrimp, the endangered conservancy fairy shrimp, the endangered longhorn fairy shrimp, the threatened vernal pool fairy shrimp, the endangered vernal pool tadpole shrimp, the threatened Delta green ground beetle, the threatened California tiger salamander (Central California DPS), the endangered California tiger salamander (Sonoma County DPS), the threatened California red-legged frog, the threatened Alameda whipsnake, the

[1] Until the Service officially adopts recent nomenclature changes made by the American Ornithologists' Union to Ridgway's Rail (*Rallus obsoletus*), we maintain the use of California clapper rail (*Rallus longirostris obsoletus*) in this correspondence. Note, the change in taxonomic assignment does not change the listing status of the species.

endangered San Francisco garter snake, the endangered California clapper rail, the endangered salt marsh harvest mouse, the endangered Burke's goldfields, the endangered Contra Costa goldfields, the endangered fountain thistle, and the endangered Sebastopol meadowfoam or result in the adverse modification or destruction of their respective designated critical habitats. We do not anticipate any additional adverse effects to the aforementioned 17 species or their critical habitats that were not previously evaluated in our 2017 BO. Thus, no incidental take beyond that anticipated in the 2017 biological opinion is likely to occur as a result of issuance of the RGP for PG&E's Bay Area O&M Program. Consistent with the 2017 BO, the Service concludes that issuance of the RGP for PG&E's Bay Area O&M Program is not likely to jeopardize the aforementioned 17 species or result in the adverse modification or destruction of their respective designated critical habitats. Activities under the RGP, if implemented as described in the updated BA, comply with all applicable conditions required by the PG&E Bay Area O&M HCP, ITP, and our intra-Service 2017 biological opinion and its associated incidental take statement. Therefore, by this consultation, incidental take for the aforementioned 17 species for this RGP is exempted by the ITP for the Bay Area O&M HCP.

Soft Bird's-beak Critical Habitat

The Service concurs that activities covered under the RGP may affect and are not likely to adversely affect the soft bird's-beak critical habitat. Although the Action Area intersects critical habitat for soft bird's-beak, overall impacts to critical habitat are anticipated to be short term and relatively minor due to the nature of the O&M activities. PG&E anticipates up to 0.02 acre of temporary impacts and no permanent impacts to soft bird's-beak critical habitat as a result of the proposed activities. Habitat affected by temporary disturbance is anticipated to return to its functionality as critical habitat for the species. Impacts are anticipated to be further minimized with the implementation of PG&E's avoidance and minimization measures (AMMs).

The Service does not concur that activities covered under the RGP may affect, but are not likely to adversely affect the WSP designated critical habitat. Although PG&E has identified that activities will likely result in only a small percentage of permanent impacts to the WSP designated critical habitat, the permanent loss of critical habitat, particularly over an annual basis, is still a reduction of the overall critical habitat and/or the primary constituent elements (PCEs) which therefore constitutes an adverse effect and warrants formal consultation.

The remainder of this document represents the Service's programmatic biological opinion on the effects of PG&E's Bay Area O&M Program on the CLT, the WSP and its critical habitat, the palmate-bracted bird's-beak, and the soft bird's-beak.

ADMINISTRATION OF THIS PROGRAMMATIC BIOLOGICAL OPINION

Many of the proposed O&M activities, projects, and conservation measures occur in waters regulated by the Corps and require a Corps' permit. Many of these projects have a small, individual footprint and can be permitted under the Corps' RGP. By providing a programmatic-level biological opinion for these O&M activities and projects, the Corps would not have to consult separately for each activity described in this programmatic biological opinion (PBO). The Service supported this approach because it allows for a more efficient workload and is more appropriate than the current approach of consulting on individual projects that are covered activities under the HCP.

Projects determined inconsistent with this biological opinion are those that exceed minimal effects to this species and would require a separate consultation. Restoration projects proposed as a conservation measure and associated with mitigation for these on-site O&M activities are not included in the analysis for this PBO and will require separate consultation with the Service.

CONSULTATION HISTORY

June 11, 2020	The Service receives the Corps' initiation letter for the project.
October 6, 2020	The Service requests a meeting with the Corps and PG&E to discuss PG&E's application for a RGP and to recommend a PBO to cover species not covered under the PG&E Bay Area O&M HCP.
October 16, 2020	The Service attends a meeting with the Corps, PG&E, and PG&E's consultant via teleconference. The Service, the Corps, and PG&E agree that a PBO would be appropriate for the issuance of the RGP. The Service recommended that PG&E and the Corps utilize the Service's December 1, 2004 PBO for delta smelt for activities proposed under PG&E's Bay Area O&M Program.
December 28, 2020	The Service receives an updated BA which addresses utilization of the Service's December 1, 2004, PBO for delta smelt and updated conservation measures with regard to CLT and WSP.
March 16, 2021	The Corps requests an official "Draft" of the PG&E O&M programmatic biological opinion and requests to withdraw the delta smelt and the delta smelt critical habitat from the consultation.
April 28, 2021	The Corps requests to withdraw the delta smelt and the Sonoma alopecurus from the consultation. The Corps will address effects to delta smelt by appending appropriate projects to the Service's December 1, 2004 PBO for delta smelt for activities proposed under PG&E's Bay Area O&M Program. The Corps determined that the Sonoma alopecurus would not be affected by the proposed project as the species is not anticipated to occur within the Action Area.
June 11, 2021	PG&E proposed modifications to their conservation measures. For the two plant species (i.e., palmate-bracted bird's-beak and soft bird's-beak), PG&E will create Map Book Zones and implement conservation measure Plant-04 to be consistent with the HCP. PG&E also proposed changes to the breeding season avoidance window for the CLT and WSP to be consistent with the Don Edwards Fish and Wildlife Refuge's Special Use Permit.
June 15, 2021	The Service issued a Draft PBO to the Corps and PG&E for their review and to provide comment.

July 21, 2021 PG&E provided minor comments to the Draft PBO.

July 27, 2021 The Service met with the Corps and PG&E to discuss comments provided by PG&E. After minor language edits, the Corps and PG&E agreed they were satisfied with the Draft PBO and requested issuance of a Final PBO.

BIOLOGICAL OPINION

Description of the Proposed Action

Electrical System Activities

PG&E's electric system consists of a transmission system and a distribution system. The electric transmission system consists of approximately 4,430 miles of transmission lines, 23,015 miles of distribution lines, and 207 substations. Within this system, approximately 2,699 electric structures (e.g., poles, boardwalks, pole foundations, and tower footings) are located within waters of the U.S. in the nine Bay Area counties.
Substation Maintenance

Typical major maintenance tasks include transformer, switch, fuse, cutout, meter, and insulator repair and replacement. Maintenance of substation systems requires this type of work approximately once per year. Load demands may require modifications to station equipment or installation of new facilities. Maintenance activities could require use of station property or adjacent property for construction staging, materials storage, permanent facilities, and land management. Substation maintenance is anticipated to result in approximately 20,000 square feet of temporary disturbance, which is not anticipated to occur every year.

Tower Replacement and Repair

PG&E performs routine O&M activities on towers throughout the Bay Area, including tower replacement and tower foundation repair. Old tower footings may be abandoned in place as necessary. Where PG&E cannot complete the work from an existing boardwalk, construction crews place a rubber mat at the base of each footing as a work area. If a large quantity of material is needed at the job site, PG&E builds a temporary section of boardwalk laterally from the existing boardwalk or utilizes barges for work areas. A helicopter or barge is then used to place the material on the temporary boardwalk, and workers move the material to the work site by hand or wheelbarrow. A barge with a crane or helicopter is used to repair or replace the upper portion of the tower. In areas where there are no existing boardwalks, and/or construction of a temporary boardwalk is not feasible, all work will be conducted from a barge or helicopter. Barges may rest on the bottom of the bay at low tide depending on the local conditions.

For typical foundation repair procedures, the material is first brought to the site by helicopter or barge, or a combination of both. To repair foundations submerged in shallow water, such as in the fringes of San Francisco Bay, a cofferdam is installed during low tide around the footing to be repaired (or around the entire tower). The cofferdam is usually built out of 1.125-inch plywood and 4-inch by 4-inch strong backs, or with metal sheet piles. In the case of plywood cofferdams, mud near the base of the footing is removed using hand tools and the cofferdam is

pushed down to the required depth to expose the solid piling, which is usually 3 feet below the mud line. Metal sheet piles will be driven by a vibratory hammer to the appropriate depth. Typically, any removed mud or sediments are placed in bags and taken to a landfill. If there is limited mud collected, then it is returned to the base of the footing after the repair is complete.

To strengthen tower foundations, concrete from the existing footings is removed to expose the steel reinforcements. New pins are inserted, a new rebar cage is installed, and forms are constructed. The concrete is then poured, allowed to cure, and the form is removed. In some instances, grade beams are installed between adjacent foundations. This involves installing forms, pouring concrete, and removing the forms. Once the repair is complete, the cofferdam is removed by excavating around the outside and hoisting it from the workspace.

New tower piles are installed by first installing a cofferdam within the tower work area. The cofferdam keeps the enclosed area dry and minimizes the mobilization of sediment during construction activities. Any water in the cofferdam is pumped directly onto the adjacent land or into the adjacent water. Once the cofferdam is installed and dewatered, a barge-mounted pile driver is used to embed piles approximately 70 feet into the ground. The piles are usually composed of wood and surrounded by metal cages and cement. Temporary effects result from the approximately 25-foot by 40-foot footprint for the crane (when necessary for repairs) and an approximately 25-foot by 100-foot work area.

A crew of six to ten personnel is typically required, and tower/foundation repairs usually take 1 to 5 weeks to complete for each tower. Access occurs primarily on existing roads, though some overland access with small trucks or sport utility vehicles is also expected. In-water access will occur with the use of boats and barges primarily for towers within the San Francisco, San Pablo, Suisun, and Grizzly bays, and tributaries that are large enough for barges to access.

Boardwalk Replacement or Repair

PG&E has many miles of boardwalks that service transmission facilities in the vegetated margins, mudflats, and open water around the San Francisco Bay. The boardwalks typically extend from levees and provide access across marshes and salt ponds to transmission tower footings. Support equipment for replacement and repair may include, but is not limited to boats, barges, and helicopters. Barges may rest on the bottom of the bay at low tide depending on the local conditions. A staging yard located on land is often also used to store materials. All boardwalk replacement and repair activities are completed manually and require the use of generators and handheld equipment including, but not limited to, drills, chain saws, and skill saws. A crew of three to five personnel conduct the repair or replacement activities, which typically take 2 months to complete. Crews typically work from existing installed sections of boardwalks, which minimizes the need for access below and around the boardwalk. However, in some instances, work is conducted from barges and/or from the mudflat during low tide.

Replacement pilings are pushed into the ground using a steel bar for leverage, or hammered in using sledge hammers or similar tools. Degraded piles that have been replaced will be removed as close to the mudline as possible. Replacement planking is transported along the boardwalk on special hand-dollies. Planking is then slid into place, drilled, and bolted. The handrails are wood planks that are connected to the boardwalk by the support beams. If the existing boardwalk is substantially degraded, crews perform the work within an approximately 10-foot radius around the boardwalk being replaced. Handrails are then installed, which are wood planks that are

connected to the boardwalk with support beams. Support beams and then handrails are put in place, drilled, and bolted.

Pole Reinforcement and Replacement

Pole reinforcement methods may include attaching trusses to existing poles to provide additional support, or fiber-wrapping the pole at or below ground level with a material that has been impregnated with preservatives to retard external deterioration of the pole. The most common way to restore ground-level strength to utility poles involves the installation of a single (or in some cases, a double) steel truss. Steel trusses are usually galvanized to reduce corrosion potential. Steel trusses are driven to pre-defined depths and secured to the pole with high-strength steel banding. The pole is not removed to install the truss. Composite or fiberglass installations involve excavating around the pole, cleaning the pole, and treating the pole to arrest any decay. Composite fabric sheets are wrapped around the pole in layers, and a resin material is applied to each layer. The excavated area around the pole is then backfilled. The pole is not removed to install the composite materials. PG&E determines the type of reinforcement method after reviewing the results of an inspected line segment. This may require the installation of guy wires and anchors, by line truck auger, which could consist of a screw or a concrete structure. The work is generally performed by a crew of two to five personnel and takes 1 to 2 days to complete. Temporary impacts typically total approximately 6,500 square feet per year from work areas. When replacing a wooden transmission or distribution pole, the new pole is framed (i.e., crossarms, pins, insulators, grounds, bonding, markers, and any equipment are installed) on the ground adjacent to the existing pole prior to setting the pole in the ground. To replace a pole, the line is typically de-energized. A line truck auger is used to drill a hole, the new pole is placed into the new hole, the void is backfilled and compacted, and the conductors are moved from the old pole to the new pole. The old pole is typically removed, and the old pole site is backfilled with the augured soil. Existing wood poles may be replaced with new wood poles or light-duty steel poles. This may require the installation of guy wires and anchors, which could consist of a screw or a concrete structure. Pole and equipment replacement and repair require an approximately 10-foot-long by 7-foot-wide work area. The work is generally performed by a crew of four to five personnel and is completed in 1 day for a distribution pole and up to 3 days for a transmission pole. Temporary impacts typically total approximately 0.80 acre per year as a result of using the work areas.

Line Reconductoring

PG&E replaces conductors (i.e., wires) once the wires have outlasted their usefulness or if increased capacity is required. Work crews install replacement conductors by temporarily splicing them to the ends of the existing conductors and pulling them through travelers (i.e., pulleys) attached to the arms of the towers or pole cross-arms. Conductor replacement begins with the installation of travelers at each tower or pole using a boom truck. Where a boom truck cannot be used, a winch is used to install the travelers. In some cases, a helicopter is necessary to install the travelers. Once the travelers are in place, the conductor is unclipped from the insulators and a hoist is used to lower the existing conductor onto the travelers. Next, the existing conductor removed from the structures within a pull section. Once the new conductor is pulled into place, it is removed from the travelers and clipped onto the insulators. The travelers are then removed.

Reconductoring typically is done in 2- to 3-mile sections with the use of pull and tension sites (i.e., pull sites). Pull sites are temporary construction areas that are used during the removal of existing conductors and the placement of new conductors along the transmission line. Pull sites are typically located within relatively flat areas that are in line with the conductor. Several pieces of equipment are used at the pull sites, including tensioners (i.e., rope trucks) to feed out the new conductor and adjust tension, conductor reels to receive the existing conductor as it is removed, and reels of new conductors. Trailers pulled by semi-trucks, which also are parked on site, typically deliver and remove the reels. On-site cranes move the conductor reels on and off the semi-trucks. Pull sites are generally rectangular and vary in size from 50 to 350 feet wide for small pull sites and 100 to 1,250 feet long for large pull sites. Distances between pull sites vary, but on average, approximately 2.70 miles of conductor separates single pull sites or groups of pull sites. Vegetation mowing and minor grading may be required to prepare pull sites for use. Mats or gravel may also be used in wet locations. The work is generally conducted by a crew of three to eight personnel and potentially one helicopter crew over a period of 1 to 2 months.

Facility Access

Electric transmission and distribution O&M activities may require routine access road maintenance, including blading to smooth over washouts, eroded areas, and washboard surfaces as needed. Access road maintenance could include cleaning ditches, moving and establishing berms, clearing and making functional drain inlets to culverts, culvert repair, clearing and establishing waterbars, and cleaning and repairing over-side drains. Prefabricated bridges or culverts may need to be installed to ensure safe access and reduce environmental impacts. If the bridge is needed for only a short duration, a portable bridge is assembled onsite and secured with a crane to span the crossing. If a longer term crossing is required, a culvert may be installed after PG&E obtains all appropriate permits and authorizations. Likewise, existing culverts may need to be repaired or replaced from time to time. Access road maintenance includes the repair, replacement and installation of storm water diversion devices on an as-needed basis.

Where PG&E cannot complete O&M activities from an existing workspace, construction crews may place a mat as a work area. Equipment is then driven or placed onto the mats, and work is conducted from that location. Workers place the mats in such a way to help protect the vegetation within the temporary workspace during the maintenance activity. Mats are removed once the O&M activity has been completed.

Natural Gas System Activities

PG&E's natural gas system consists of a transmission system and a distribution system. The transmission system in the nine-county area comprises 16 primary gas transmission lines totaling approximately 1,820 miles of pipeline, and the distribution system consists of 19,350 miles of distribution pipelines.

Fencing

Protective security fencing is sometimes installed around pipeline facilities to discourage vandalism. Fencing these areas requires digging holes to install fence posts using an auger. Chain-link fencing is then installed between the fence posts. Fence installation typically requires a disturbance area of approximately 50 feet by 50 feet for each location. A crew of three personnel usually performs the fence installation within a few days.

Site-Specific Erosion Solutions

In some locations, scour and erosion within a waterway can result in pipe exposure. In these instances, site-specific solutions to the erosion problem (e.g., installing biodegradable jute netting, riprap, and rock fill) may be employed over the pipeline and within the waterway to protect the pipeline from potential damage. These erosion solutions are typically permanent to protect the exposed pipeline and prevent further erosion from occurring. The extent of the erosion solution will typically not be longer than 100 feet or wider than 50 feet on any stream in the RGP area. Installation will typically begin with preparing the site for installation of the erosion solution. This may involve clearing existing vegetation and minor recontouring in the area of existing erosion. Once prepared, the erosion solution will be delivered to the site on a truck and placed in the prepared area. The erosion solution will then be installed according to the manufacturer's specifications. PG&E installs erosion solutions at three to five locations per year. A crew of two to eight personnel is usually required over a period of approximately 2 weeks.

Internal Pipeline Inspection

PG&E is required to confirm the integrity of its natural gas pipeline system in accordance with the Pipeline Safety Act. PG&E inspects the pipeline integrity by use of an internal inspection tool that identifies potential anomalies (e.g., pipe corrosion, cracks, or indentations). If an anomaly is found during the inspection of the pipeline, it is reviewed, inspected, and repaired as necessary. To evaluate the identified anomaly, a crew of two to four personnel is deployed to excavate a bell hole using a backhoe. The area of the exposed pipeline depends on the size and type of the anomaly found, as well as the current ground conditions and depth of the pipe. Once the pipeline is exposed, technicians measure and document the anomaly and a Pipeline Engineer determines the appropriate repair method.

Anomaly repairs may include welding a sleeve around the pipe. This process begins with sandblasting the section of pipe that will be sleeved and preparing the sleeve itself. Once prepared, the sleeve is wrapped around the anomaly, secured in place, and welded to the pipe. The sleeve and adjacent pipe are coated and the surrounding area is backfilled as appropriate. Sleeve repairs typically require a crew of four to six personnel and can take 1 to 2 days to complete. If the anomaly is particularly severe, the segment of pipe may have to be replaced. Internal pipeline inspection typically takes approximately 1 week to complete. PG&E estimates that disturbance associated with these inspection activities totals approximately 50 by 100 feet for each instance.

Pipeline Recoating

PG&E coats natural gas pipelines to protect them from degradation and external corrosion. When a pipeline's coating has deteriorated to the point of requiring replacement, PG&E recoats the pipe with epoxy. To determine whether the coating has maintained its integrity, PG&E induces an electric current on the pipeline at the Electronic Test System Station and then measures for a loss of voltage. The integrity of pipeline coating may also be inspected visually on exposed areas, such as spans, valves, or stations. Once recoating is determined to be required, the pipeline to be recoated is excavated using a backhoe. In some instances, excavation and backfill may be required in wetlands or waterways. PG&E will only conduct pipeline recoating activities when wetlands and waterways are dry to avoid impacts to aquatic species and habitat. A crew of approximately four to six personnel removes the old coating by jetting, scraping, or sandblasting

and typically places plastic sheeting or tarps below the pipe to collect the residue. PG&E tests the residue to determine if it is hazardous and disposes of it in accordance with regulations. The surface of the pipe is then prepared for the new coating by running a self-contained grit- or shot-blasting machine over the exposed area. The pipeline continues to operate while a coating machine applies the coating. On average, an approximately 20-foot-wide work area is needed for this activity. The estimated annual temporary fill is approximately 440 square feet. The activity typically takes approximately 3 to 5 days to complete.

Valve Recoating and Replacement

Valves regulate the flow of gas through the pipeline and enable crews to isolate portions of the pipeline. Occasionally, these valves malfunction or wear out. Depending on the condition of the valve, PG&E either recoats or replaces approximately five valves annually. Prior to replacing or installing valves, a portion of the gas line will need to be blown down (i.e., gas is evacuated to the atmosphere from the affected section of pipe through a blowdown stack). Equipment required for recoating valves typically includes a flatbed truck/trailer or dump truck with a trailer, a backhoe, a water truck, an excavator, a vacuum excavator, welding trucks, a trailer-mounted compressor, a truck-mounted crane, a side boom, a front-end loader, crew trucks, barricades, and safety fencing. Recoating is conducted by a crew of six to 13 personnel by sandblasting the valve over tarps, collecting the debris, and recoating the valve with a specialized epoxy that protects against corrosion. To coat the entire valve down to where it connects to the pipeline, the area around the valve must be excavated to expose the pipe and then backfilled once recoating is complete. In some cases, the existing valves are located in wetlands and waterways. PG&E will only conduct valve recoating and replacement activities when streambeds and waterways are dry to avoid impacts to aquatic species and habitat. Workspace dimensions can vary and are dependent on available space in the easement. In most cases, a workspace footprint for a valve replacement measures approximately 40 feet by 60 feet. The process generally takes 4 to 6 days to complete. Valve replacement involves excavation to access the existing valve and adjacent segment of pipeline, removal of the existing valve (and potentially a segment of the adjacent pipeline), installation of the new valve, and backfill of the excavated area. Equipment required for replacing or installing valves is generally the same as the equipment required for valve recoating as discussed previously. Each valve replacement typically takes 4 to 5 weeks to complete, and crews conduct maintenance within the existing facility footprint.

Pipeline Cathodic Protection

Cathodic protection is a technique to control pipeline corrosion by making the pipeline the cathode of an electrochemical cell. As a pipeline’s coating degrades over time, it requires increased cathodic protection to prevent corrosion. A cable rated for the expected current output connects the negative terminal of a rectifier to the pipeline. The cable is installed underground usually via open trench. A cathode protection expert adjusts the operating output of the rectifier to the optimum level after conducting various tests, including measurements of electrochemical potential. Pipe coatings commonly degrade faster in areas of high moisture content (e.g., locales with regular precipitation or irrigation) than in drier areas. Increased cathodic protection current accelerates the consumption of anode beds and decreases their effectiveness. Consequently, anode beds must be replaced periodically, and additional anodes may be needed.

The installation of a cathodic protection system requires a type of anode (e.g., horizontal anode bed, flex anode, deep well anode) to be installed parallel and adjacent to the pipeline. The

distance from the anode installation to the pipeline may range from several hundred feet to several miles. Depending on the type of anodes installed, the equipment required may include pickup trucks, a trencher, a welding truck, a flatbed truck/trailer or dump truck with a trailer, a backhoe, a lowboy trailer, a tractor cat-loader, and/or a water truck. The anode installation is placed in the trench parallel to the pipeline, and the excavations are backfilled and recontoured to their original conditions. The pipeline continues to operate during installation or replacement of the anodes. The installation of certain types of anode beds requires excavation. The installation of cathodic protection equipment requires a crew of six to ten personnel and typically takes 7 to 10 days to complete. PG&E undertakes many cathodic protection activities each year using the methods described previously. An approximately 100-foot by 10-foot work area is needed to install the cable, excavate the soil, and stockpile soil.

Pipeline Lowering and Replacement

State and Federal code, as well as PG&E procedures dictate when pipeline segments need to be replaced. Public safety sometimes necessitates the replacement or abandonment of pipeline sections when they are damaged by construction projects, acts of nature, or aging and corrosion. The equipment typically required for pipeline segment replacement or abandonment includes a truck, bulldozer, excavator, frac tank, forklift, lowboy and trailer, sideboom, water truck, and a welding rig. Pipeline segment replacement begins with clearing and grading the right-of-way (ROW) and trenching and excavating the existing pipeline. A new trench is excavated for the new pipeline segment parallel and adjacent to the existing pipeline. PG&E typically places the new section of pipe as close to the abandoned pipeline as possible and modifies any existing easements by expanding the easement width to accommodate the new section of pipeline. For longer pipeline segment replacements, a welded and coated pipe is lifted and lowered into the trench by side boom tractors and excavators. Padded slings are used so the tractors can lower the pipe without damaging the pipe's protective coating. For shorter pipeline replacements, especially sections damaged by third parties or corrosion, replacements are typical within the same alignment.

Before the old pipeline is removed from service, it is blown down (i.e., gas is evacuated to the atmosphere from the affected section of pipe through a blowdown stack). The new pipeline segment is tested and X-rayed, and then tied in to the existing pipeline at the points where the old segment was removed. An existing pipeline is usually abandoned in place by first cleaning it, and then filling it with slurry before the pipeline is capped. Slurry is used if the pipeline crosses a waterbody or needs to be stabilized. If the old pipeline segment is removed instead of being abandoned, it is cut into smaller sections and transported to a facility where segments may be recycled or disposed of properly. All trenches are then backfilled. Backfilling the trench involves replacing and compacting the excavated subsoil into the trench and re-spreading the stockpiled topsoil, if appropriate, to return the surface to its original grade. The topsoil may be mounded slightly over the trench to accommodate any future settling of the trench backfill. Where possible, native material excavated from the pipeline trench is used to backfill the trench. If rock conditions are encountered during trench excavation, the trench bottom is first padded with a layer of imported rock-free sand.

The length of pipe affected varies, depending on the reason for replacement. The minimum length of pipe replaced is typically approximately 40 feet (for one joint of pipe), though up to 1 mile could be replaced during each replacement effort. A crew of 15 to 20 personnel is typically required for pipeline segment replacement and lowering projects. Two to 4 weeks are needed to

complete small replacements and approximately 24 weeks to complete large replacements. Trenching and soil excavation, soil stockpiling, staging, and construction vehicles typically disturb an approximately 100-foot-wide work area, which includes the 10-foot excavation area. However, if pipeline replacement takes place within an environmentally sensitive area, the width of the work area is typically narrowed to 40 to 60 feet in width depending on the terrain and site specific conditions to minimize impacts.

Pipeline lowering and replacement activities may require the installation of prefabricated bridges or culverts to ensure safe access and reduce environmental impacts in accordance with State and Federal regulations. If the bridge is needed for only a short duration, then a portable bridge is assembled on site and secured with a crane to span the crossing. If a longer-term crossing is required, a culvert is installed after PG&E obtains all appropriate permits from the regulatory agencies.

Water Diversion Techniques

Pipeline crossings within water features that have flowing water require the implementation of water diversion techniques to minimize the potential for impacts to water quality and create a dry and safe work area. This requires a crew of two to three personnel installing a diversion structure (e.g., a dam or weir and a pump or headgate) to divert water through a temporary ditch or pipe to convey the water around the section of pipeline that requires O&M work. However, many of the water features in the Action Area are ephemeral, and work will most likely be conducted when the features are dry and diversion is not necessary. Upon completion of work on the pipeline segment, the water diversion structure is removed and the flow of the water feature is restored to its original state. Water diversion, including restoring flow of the water feature to its original state, typically takes 3 to 5 days to complete. Water diversion techniques temporarily disturb an approximately 10-foot-long and 20-foot-wide work area.

Pipeline Access

Pipeline O&M activities may require routine access road maintenance, including blading to smooth over washouts, eroded areas, and washboard surfaces as needed. Access road maintenance could include cleaning ditches, moving and establishing berms, clearing and making functional drain inlets to culverts, culvert repair, clearing and establishing waterbars, and cleaning and repairing over-side drains. O&M may require the installation of prefabricated bridges or culverts to ensure safe access and reduce environmental impacts. If the bridge is needed for only a short duration, a portable bridge is assembled onsite and secured with a crane to span the crossing. If a longer term crossing required, a culvert is installed after PG&E obtains all appropriate permits and authorizations. Likewise, existing culverts may need to be repaired or replaced from time to time. Access road maintenance includes the repair, replacement, and installation of storm water diversion devices on an as-needed basis. Where PG&E cannot complete O&M activities from an existing workspace, construction crews may place a mat as a work area. Equipment is then driven or placed onto the mats, and work is conducted from that location. Workers place the mats in such a way to help protect the vegetation within the temporary workspace during the maintenance activity. Mats will be removed after the O&M activity has been completed.

Conservation Measures

PG&E has developed general and species-specific conservation measures or AMMs to minimize or reduce the potential impacts to federally-listed species and their habitats that are located within the Action Area. Relevant AMMs were taken from the Bay Area O&M HCP and supplemented with additional species-specific measures for species that were not covered in the HCP. Please refer to the project BA and/or the PG&E HCP for standard best management practices, spill prevention plans, storm water pollution prevention plans, and other general conservation measures.

Bay Area O&M HCP Measures

PG&E will apply the following Field Protocols (FP), Hot Zone (HZ) AMMs, and Habitat-Specific AMMs described in the Bay Area O&M HCP to avoid and minimize potential impacts at they pertain to federally-listed species addressed in this document:

FP-02: Park vehicles and equipment on pavement, existing roads, or other disturbed or designated areas (barren, gravel, compacted dirt).

FP-03: Use existing access and ROW roads. Minimize the development of new access and ROW roads, including clearing and blading for temporary vehicle access in areas of natural vegetation.

FP-04: Locate off-road access routes and work sites to minimize impacts on plants, shrubs, and trees, small mammal burrows, and unique natural features (e.g., rock outcrops).

FP-06: Minimize potential for species to seek refuge or shelter in pipes and culverts. Inspect pipes and culverts, of diameter wide enough to be entered by a species that could inhabit the area where pipes are stored, for wildlife species prior to moving pipes and culverts. Immediately contact a biologist if a special-status species is suspected or discovered.

FP-07: Vehicle speeds on unpaved roads will not exceed 15 miles per hour.

FP-08: Prohibit trash dumping, firearms, open fires (such as barbecues), hunting, and pets (except for safety in remote locations) at work sites.

FP-10: Reduce activity footprint wherever possible and minimize the amount of time spent at a work location to reduce the potential for take of species.

FP-11: Utilize standard erosion and sediment control best management practices (pursuant to the most current version of Permittee's *Stormwater Field Manual for Construction Best Management Practices*) to prevent construction site runoff into waterways.

FP-12: Stockpile soil within established work area boundaries and locate stockpiles so as not to enter water bodies, stormwater inlets, other standing bodies of water. Cover stockpiled soil prior to precipitation events.

FP-13: Fit open trenches or steep-walled holes with escape ramps of plywood boards or sloped earthen ramps at each end if left open overnight. Field crews will search open trenches or steep-walled holes the following morning prior to initiating daily activities to ensure wildlife are not trapped. If any wildlife are found, a qualified biologist will be notified and will relocate the species to adjacent habitat or the species will be allowed to naturally disperse, as determined by a biologist.

FP-14: If an activity disturbs 0.1 acre or more of habitat for a special-status species in grasslands, the field crew will revegetate the area with a commercial seed mix.

FP-15: Prohibit vehicular and equipment refueling 250 feet from the edge of vernal pools, and 100 feet from the edge of other wetlands, streams, or waterways when feasible. If refueling must be conducted closer to wetlands, construct a secondary containment area subject to review by an environmental field specialist and/or qualified biologist. Maintain spill prevention and cleanup equipment in refueling areas.

FP-17: Directionally fell trees away from an exclusion zone, if an exclusion zone has been defined. If this is not possible, remove the tree in sections. Avoid damage to adjacent trees to the extent possible. Avoid removal of snags and conifers with basal hollows, crown deformities, and/or limbs over 6 inches in diameter.

FP-18: Nests with eggs and/or chicks will be avoided: contact a biologist, land planner or the Avian Protection Program manager for further guidance.

HZ-2: Ground-disturbing activities will not occur from the first significant rain (1 inch) during the wet season, October 15 - April 15, within 250 feet of the edge of vernal pools unless the field crews conduct the work from an established roadway. Access rock outcrops only on foot during all times of year. Ground-disturbing activities may occur during this period if a biologist implements measures to avoid the habitat and the impacts and mitigation are consistent with the HCP. Measures could include directing crews on access, use of erosion/sediment fencing, use of access mats, and other techniques to avoid direct or indirect effects. PG&E may seek guidance from the Service as to the suitability of additional measures to avoid or minimize take of this species.

HZ-6: Limit activities to foot access only when working off of established roadways unless a biological monitor flags off-road access routes for equipment that minimize impacts on habitat and species. This includes the identification and avoidance of vernal pools and stock ponds. Activities that cannot avoid vernal pool impacts will be completed when pools are clearly dry.

Wetland-1: Identify vernal pools and establish buffers. Maintain a buffer of 250 feet around vernal pools and vernal pool complexes when feasible. If maintaining the buffer is not possible because the areas are either in or adjacent to facilities, the field crew will implement other measures as prescribed by the land planner, biologist, or administrator to minimize impacts. These measures include flagging access, requiring foot access, restricting work until the dry season, requiring a

biological monitor during the activity, or excavating burrows in ROWs where trenching will occur. Activities must maintain the downstream hydrology to the vernal pool or complex.

Wetland-2: Identify wetlands, ponds, and riparian areas and establish buffers. Maintain a buffer of 50 feet around wetlands, ponds, and riparian areas when feasible. If maintaining the buffer is not possible because the areas are either in or adjacent to facilities, the field crew will implement other measures as prescribed by the land planner, biologist, or administrator to minimize impacts. These measures include flagging access, requiring foot access, restricting work until the dry season, requiring a biological monitor during the activity, or excavating burrows in ROWs where trenching will occur. Activities must maintain the downstream hydrology to the wetland, pond, or riparian area.

Plant-01: No herbicides will be used for vegetation management, pole clearing, or any other purpose within 100 feet of a Map Book Zone (MBZ) (except vegetation management's direct application to cut stumps when greater than 25 feet from a MBZ and in conformance with applicable pesticide regulations).

Plant-02: Heavy equipment shall remain on access roads or other previously disturbed areas unless otherwise prescribed by a land planner or biologist.

Plant-03: Stockpile separately the upper 4 inches of topsoil during excavations associated with covered activities. Stockpiles topsoil will be used to restore the disturbed ROW.

Plant-04: When activities greater than 0.1 acre in size within a MBZ will have direct impacts on special-status species, work with the crew to place flagging, fencing, or other physical exclusion barriers to minimize disturbances. If the work will directly impact special-status plant species, implement Plant-05, -06, -07, and -08 AMMs.

Plant-05: If a special-status plant species is present and it cannot be avoided, PG&E will salvage plant material (i.e., seeds, cuttings, whole plants) and prepare a restoration plan that details the handling, storage, propagation, or reintroduction to suitable and appropriate habitat subject to Service review and approval.

Plant-06: If a special-status annual plant species is present and it cannot be avoided, conduct activities after seeds have matured to the extent possible.

Plant-07: If a special-status perennial plant species is present and it cannot be avoided, conduct covered activities after seeds have matured to the extent possible. Minimize disturbance to the below-ground portions of the plants (e.g., roots, bulbs, tubers).

The following conservation measures or AMMS proposed by PG&E are specific to CLT and WSP for this document:

1. O&M activities within 600 feet of actively nesting CLT will not be conducted during the breeding season (March 1 through August 31). Work will occur within the limited operating period of September 1 through February 28 or 29 if CLT are nesting within 600 feet.

2. No O&M activities will be performed within 600 feet of an active WSP nest or brood during the WSP breeding season (March 1 through September 14). Work will occur within the limited operating period of September 15 through February 28 or 29 if WSP are nesting within 600 feet. Vehicles driving on levees and pedestrians walking on boardwalks or levees will remain at least 600 feet away from WSP nests and broods. If WSP chicks are present near any levee that will be accessed by vehicles (e.g., for construction, inspection, or access), vehicle use will be under the supervision of a qualified biologist to ensure that no chicks are present within the path of the vehicle.

3. Helicopter flight paths will avoid active CLT colonies and WSP nests. Helicopter landings will take place on existing levees or roads. No landings in tidal marshes are permitted.

The Following conservation measure or AMM proposed by PG&E are specific to the palmate-bracted bird's-beak and the soft bird's-beak for this document:

1. For the palmate-bracted bird's-beak and soft bird's-beak, PG&E will create Map Book Zones and implement Plant-04 to be consistent with the HCP.

Compensatory Mitigation

PG&E is proposing to mitigate for permanent impacts to CLT and WSP habitat at a ratio of 3:1. PG&E will also provide compensatory mitigation for any permanent impacts to federally listed plant species at a ratio of 1:1. PG&E proposes to follow a similar mitigation process as outlined in the Bay Area O&M HCP for the federally-listed wildlife and plant species. This may include funding the acquisition, management, enhancement, and/or restoration of affected species' habitat. All proposed mitigation must be submitted to the Service for review and approval prior to implementation. PG&E will secure mitigation in advance of the work. As work is performed, the actual impacts to species' habitat will be tracked, and mitigation efforts will be adjusted accordingly to ensure that the appropriate amount of mitigation is provided. PG&E will report the annual mitigation acreage used to the applicable agencies and confirm that the remaining acreage is adequate for future mitigation.

Compensatory mitigation for all permanent impacts to wildlife habitat and federally-listed plant species will occur using one or a combination of the following options as deemed appropriate from the Service through a submittal, review and approval process: (1) Developing permittee-responsible mitigation sites; (2) purchasing credits from conservation banks; and/or; (3) contributing to habitat restoration and/or enhancement programs. Please refer to the BA and/or the PG&E HCP for details regarding the mitigation submittal, review, and approval process.

With this RGP specifically in mind, PG&E is in the process of developing sites that can provide compensatory mitigation for the impacts to species covered under this RGP. This includes potential sites that could be used for multiple terrestrial species, including the three plant species, at various Sonoma Land Trust projects within the Petaluma River and Sonoma Creek watersheds. All sites will be acquired in coordination with the Service. PG&E will receive credit for the mitigation following the development and recordation of the easement, equivalent conservation instrument, or ownership (County, State, or Federal land donation), establishment of an endowment or other financial mechanism for long-term funding, and development of a long-term management plan.

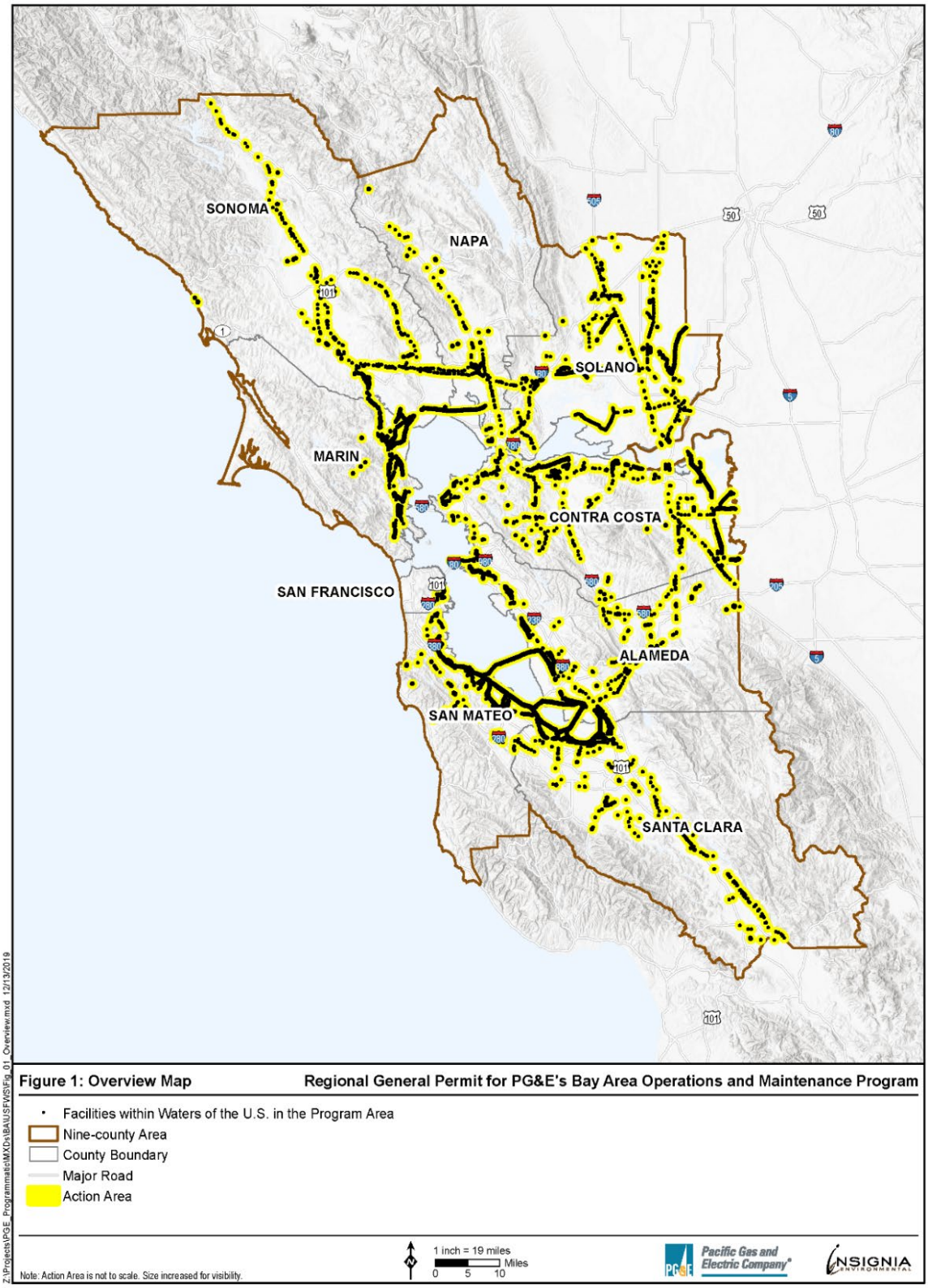
All conservation bank credits will be acquired in coordination with the Service. PG&E will receive credit for the site following the submittal of the bill of sale for the purchase of the credits.

All contributions to habitat restoration and/or enhancement programs will be coordinated with the Service. In cases where PG&E funds restoration efforts, mitigation credit will be conditionally approved upon funding and fully approved once the performance criteria for the restoration project are met.

Action Area

The Action Area is defined as "all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action," (50 Code of Federal Regulations [CFR] 402.02). For the purposes of the effects assessment, the Action Area is located within the nine Bay Area Counties of Alameda, Contra Costa, Marin, Napa, Santa Clara, San Francisco, San Mateo, Solano, and Sonoma, California. The Action Area is defined as the gas and electric structures that occur within waters and wetlands, plus an approximately 1,000-foot buffer where effects (e.g., nest disturbance, turbidity, unanticipated spills, etc.) could occur. PG&E does not anticipate that pipeline replacement or repair will occur within the San Francisco, San Pablo, or Suisan bays as part of the program. Therefore, pipelines within bay waters were excluded from the Action Area. The Action Area for the program is approximately 160,400 acres (250 square miles)(Figure 1.).

Figure 1. Action Area for the PG&E O&M PBO



ANALYTICAL FRAMEWORK for the JEOPARDY DETERMINATION

Section 7(a)(2) of the Act requires that Federal agencies ensure that any action they authorize, fund, or carry out is not likely to jeopardize the continued existence of listed species. "Jeopardize the continued existence of" means to engage in an action that reasonably would be expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species (50 CFR § 402.02).

The jeopardy analysis in this biological opinion considers the effects of the proposed Federal action, and any cumulative effects, on the range wide survival and recovery of the listed species. It relies on four components: (1) the *Status of the Species*, which describes the current range wide condition of the species, the factors responsible for that condition, and its survival and recovery needs; (2) the *Environmental Baseline*, which analyzes the current condition of the species in the Action Area without the consequences to the listed species caused by the proposed action, the factors responsible for that condition, and the relationship of the Action Area to the survival and recovery of the species; (3) the *Effects of the Action*, which includes all effects that are caused by the proposed Federal action; and (4) the *Cumulative Effects*, which evaluates the effects of future, non-Federal activities in the Action Area on the species. The *Effects of the Action* and *Cumulative Effects* are added to the *Environmental Baseline* and in light of the status of the species, the Service formulates its opinion as to whether the proposed action is likely to jeopardize the continued existence of listed species.

ANALYTICAL FRAMEWORK for the DESTRUCTION or ADVERSE MODIFICATION DETERMINATION

Section 7(a)(2) of the Act requires that Federal agencies ensure that any action they authorize, fund, or carry out is not likely to destroy or to adversely modify designated critical habitat. A final rule revising the regulatory definition of "destruction or adverse modification" (DAM) was published on August 27, 2019 (84 FR 44976). The final rule became effective on October 28, 2019. The revised definition states:

"Destruction or adverse modification means a direct or indirect alteration that appreciably diminishes the value of critical habitat as a whole for the conservation of a listed species."

The DAM analysis in this biological opinion relies on four components: (1) the *Status of Critical Habitat*, which describes the current range-wide condition of the critical habitat in terms of the key components (i.e., essential habitat features, primary constituent elements, or physical and biological features) that provide for the conservation of the listed species, the factors responsible for that condition, and the intended value of the critical habitat overall for the conservation/recovery of the listed species; (2) the *Environmental Baseline*, which analyzes the current condition of the critical habitat in the Action Area without the consequences to designated critical habitat caused by the proposed action, the factors responsible for that condition, and the value of the critical habitat in the Action Area for the conservation/recovery of the listed species; (3) the *Effects of the Action*, which determines all consequences to designated critical habitat that are caused by the proposed Federal action on the key components of critical habitat that provide for the conservation of the listed species, and how those impacts are likely to influence the conservation value of the affected critical habitat; and (4) *Cumulative Effects*,

which evaluate the effects of future non-Federal activities that are reasonably certain to occur in the Action Area on the key components of critical habitat that provide for the conservation of the listed species and how those impacts are likely to influence the conservation value of the affected critical habitat. The *Effects of the Action* and *Cumulative Effects* are added to the *Environmental Baseline* and in light of the status of critical habitat, the Service formulates its opinion as to whether the action is likely to destroy or adversely modify designated critical habitat. The Service's opinion evaluates whether the action is likely to impair or preclude the capacity of critical habitat in the Action Area to serve its intended conservation function to an extent that appreciably diminishes the rangewide value of critical habitat for the conservation of the listed species. The key to making that finding is understanding the value (i.e., the role) of the critical habitat in the Action Area for the conservation/recovery of the listed species based on the *Environmental Baseline* analysis.

Status of the Species

California Least Tern

The California least tern is a subspecies of the least tern. It was federally listed in 1969 under the Endangered Species Preservation Act of 1966 which was implemented under the June 2, 1970, Proposed Rule, Part 17 - Conservation of Endangered Species and Other Fish or Wildlife (35 FR 8491)(Part 17). The CLT was formally added to the list of endangered species in the October 13, 1970, amendment to Part 17 under Appendix D United States List of Endangered Native Fish and Wildlife (35 FR 16047). The CLT was then subsequently considered an endangered species under the current Endangered Species Act of 1973 which repealed the Endangered Species Preservation Act of 1966. Critical habitat has not been designated for this species. The Service issued the *Revised California Least Tern Recovery Plan* on April 2, 1980 (Service 1980). A 5-year review was conducted in 2006 where it was recommended to be downlisted to threatened (Service 2006a). Another 5-year review was conducted in 2020 where no change of status was recommended (Service 2020) due to the decreasing trend in numbers, increasing age of some populations, sustained poor productivity over the last 10 years, and ongoing threats (e.g., predation, food availability). Please refer to the Service's July 7, 2020, 5-year review for the species' description, habitat preference, and life history.

Western Snowy Plover

The western snowy plover is a subspecies of snowy plover. The Pacific coast population of the WSP was federally listed as threatened in 1993 (58 FR 12864). The Pacific coast population is defined as those individuals that nest within 50 miles of the Pacific Ocean on the mainland coast, peninsulas, offshore islands, bays, estuaries, or rivers of the United States and Baja California, Mexico (58 FR 12864). The Pacific coast population of the western snowy plover breeds on the Pacific coast from southern Washington to southern Baja California, Mexico. Critical habitat for the species was designated on September 29, 2005, (70 FR 56970) and revised on June 19, 2012, to increase the size of the critical habitat (77 FR 36727). The Service issued the *Recovery Plan for the Pacific Coast Population of the Western Snowy Plover* on August 13, 2007 (Service 2007). A 5-year review was conducted in 2006 (Service 2006b) where no change in status was recommended. Another 5-year review was conducted in 2019 (Service 2019) where again no change in status was recommended. Please refer to the Service's August 13, 2007, *Recovery Plan for the Pacific Coast Population of the Western Snowy Plover* for the species' description, habitat preference, and life history.

Palmate-bracted Bird's-beak

Palmate-bracted bird's-beak is an annual herb in the Orobanchaceae (broomrape) family. It was listed as endangered on July 1, 1986 (51 FR 23765). Critical habitat has not been designated for this species. The Service issued the *Recovery Plan for Upland Species of the San Joaquin Valley, California* on September 30, 1998 (Service 1998) which covered several species including the palmate-bracted bird's-beak. A 5-year review was conducted in 2009 (Service 2009a) where no change in status was recommended. Please refer to the Service's September 30, 1998, *Recovery Plan for Upland Species of the San Joaquin Valley, California* for the species' description, habitat preference, and life history.

Soft Bird's-beak

Soft bird's-beak is an annual herb in the Orobanchaceae (broomrape) family. It was listed as endangered on November 20, 1997 (62 FR 61916). Critical habitat was designated for the species in 2007 (72 FR 18518). The Service issued the *Recovery Plan for Tidal Marsh Ecosystems of Northern and Central California* on August 27, 2013 (Service 2013) which covered several species including the soft bird's-beak. A 5-year review was conducted in 2009 (Service 2009b) where no change in status was recommended. Please refer to the Service's August 27, 2013, *Recovery Plan for Tidal Marsh Ecosystems of Northern and Central California* for the species' description, habitat preference, and life history.

Status of Western Snowy Plover Critical Habitat

The Service designated critical habitat for the Pacific Coast population of the western snowy plover in 2005 (70 FR 56969). The Service published a proposed revision to critical habitat on March 22, 2011 (76 FR 16046) and a final rule revising designating critical habitat on June 19, 2012 (77 FR 36268). In total, approximately 24,527 acres of critical habitat for the Pacific Coast population of the western snowy plover in Washington, Oregon, and California, fall within the boundaries of the critical habitat designation. Pursuant to the Act and its implementing regulations under 50 CFR 424.12, the Service is required to identify the physical or biological features essential to the conservation of western snowy plover in areas occupied at the time of listing, focusing on the features' PCEs. We consider PCEs to be the elements of physical or biological features that provide for a species' life history processes and are essential to the conservation of the species. Based on the best available information, the PCEs essential to the conservation of the western snowy plover are the following: sandy beaches, dune systems immediately inland of an active beach face, salt flats, mud flats, seasonally exposed gravel bars, artificial salt ponds and adjoining levees, and dredge spoil sites, with: (1) areas that are below heavily vegetated areas or developed areas and above the daily high tides; (2) shoreline habitat areas for feeding, with no or very sparse vegetation, that are between the annual low tide or low water flow and annual high tide or highwater flow, subject to inundation but not constantly under water, that support small invertebrates, such as crabs, worms, flies, beetles, spiders, sand hoppers, clams, and ostracods, that are essential food sources; (3) surf- or water-deposited organic debris, such as seaweed (including kelp and eelgrass) or driftwood located on open substrates that supports and attracts small invertebrates described in PCE 2 for food, and provides cover or shelter from predators and weather, and assists in avoidance of detection (crypsis) for nests, chicks, and incubating adults; and (4) minimal disturbance from the presence of humans, pets, vehicles, or human-attracted predators, which provide relatively undisturbed areas for individual and population growth and for normal behavior.

Environmental Baseline

Environmental Baseline refers to the condition of the listed species or its designated critical habitat in the Action Area, without the consequences to the listed species or designated critical habitat caused by the proposed action. The *Environmental Baseline* includes the past and present impacts of all Federal, State, or private actions and other human activities in the Action Area, the anticipated impacts of all proposed Federal projects in the Action Area that have already undergone formal or early section 7 consultation, and the impact of State or private actions which are contemporaneous with the consultation in process. The consequences to listed species or designated critical habitat from ongoing agency activities or existing agency facilities that are not within the agency's discretion to modify are part of the *Environmental Baseline*.

Due to the size of the Action Area, the *Environmental Baseline* will be described in general terms for each species addressed in this PBO. Habitat conditions for each species within the Action Area range from relatively undisturbed areas to areas in active and inactive agriculture to areas of extensive urbanization. PG&E's facilities, other than those that might be built as a result of minor new construction, pre-exist and are a baseline condition throughout the Action Area. Ongoing O&M activities that will be covered under this PBO are currently occurring on the landscape in roughly the same scope and frequency as was described in the PG&E's Bay Area O&M HCP. Thus, for establishing the *Environmental Baseline,* O&M activities described in this PBO, excluding minor new construction, are existing conditions with regard to PG&E facilities and ROWs within the Action Area.

California Least Tern

Within the San Francisco Bay region, CLT have more recently nested at several known locations, including Alameda Point with the largest numbers, Vandenberg Air Force Base, PG&E's Pittsburg Power Plant, Eden Landing Ecological Reserve, and Hayward Regional Shoreline. Since 2009, CLT have established small nesting colonies at new locations in the northeast portion of the San Francisco Bay estuary, including in Suisun Bay at the Montezuma Wetlands and at Green Island within the Napa-Sonoma Marshes Wildlife Area.
The Action Area includes estuary/bay habitats; therefore, suitable nesting and foraging habitat is present in the Action Area. California least tern nesting and foraging habitat occurs in the vicinity of substations at Mallard Slough and Bair Island. Towers and boardwalks are located in or near occupied CLT foraging and nesting habitat on Bair Island, in Alviso ponds, near Mount Eden Creek in the Eden Landing Ecological Reserve ponds, and at Mallard Slough. Poles are also located in or near occupied foraging and nesting habitat on Bair Island and Alviso ponds. Gas facilities are located in or near CLT occupied foraging and potential nesting locations off Cordelia Slough, Bay Farm Island, and Bair Island.

Western Snowy Plover

Within the San Francisco Bay region, WSP breeds primarily above the high tide line on coastal beaches, sand spits, beaches at creek and river mouths, salt pans at lagoons and estuaries, and river bars. The largest known coastal breeding population of this species is located in and around the San Francisco Bay. Due to human disturbance at coastal beaches, many WSP in the Bay Area nest in dry salt ponds or on large, open salt pan areas. The Action Area includes estuary/bay habitats; therefore, suitable nesting and foraging habitat is present in the Action Area. Potential and known nesting locations for WSP are in the vicinity of PG&E substations at Bair Island, Don

Edwards San Francisco Bay National Wildlife Refuge, Mount Eden Creek in the Eden Landing Ecological Reserve ponds, and the Ravenswood salt ponds. Boardwalks and towers are located in or near occupied foraging and nesting habitat in the San Francisco Bay, south of the San Mateo-Hayward Bridge. PG&E poles are also located in or near occupied foraging and nesting habitat at Don Edwards San Francisco Bay National Wildlife Refuge. PG&E gas facilities are located in occupied WSP habitat near the mouth of San Francisquito Creek.

Palmate-bracted Bird's-beak

Palmate-bracted bird's-beak is found in alkaline soils within chenopod scrub and valley and foothill grassland habitats. There are California Natural Diversity Database (CNDDB) records for palmate-bracted bird's-beak within the City of Livermore in Alameda County at the Springtown Preserve and suitable habitat is present in the Action Area. A previous PG&E assessment for the Bay Area O&M HCP found that a distribution line crosses one occurrence approximately 0.5 west of N. Vasco Road and approximately 1 mile north of Interstate 580 in the City of Livermore, California, but there are no gas or electric facilities located in occupied habitat as represented in the CNDDB occurrence. There is potential to encounter palmate-bracted bird's-beak in suitable habitats that have not been surveyed.

Soft Bird's-beak

Soft bird's-beak is found in coastal salt marshes and blooms from June through November. Designated critical habitat for soft bird's-beak occurs in the Action Area near Suisun City and in the vicinity of Joyce Island off Suisun Bay and in Benicia State Park off the Carquinez Strait in Solano County; in Napa County off the Napa River near the confluence with Carneros Creek; and in Point Pinole Regional Shoreline in Contra Costa County. CNDDB records for soft bird's-beak are concentrated in the designated critical habitat for the species, but there are also records in Contra Costa County off Suisun Bay in marshes near the City of Concord and the community of Bay Point (CNDDB 2021). The Action Area includes estuary and bay habitats; therefore, suitable habitat is present in the Action Area. Towers and boardwalks are located in marshes in the vicinities of Suisun City and Benicia State Park, and poles are located in Hastings Slough at the former Concord Naval Weapons Station. However, very few facilities are located within occupied habitat, and there are no substations in occupied habitat. Gas facilities are located in the marshes in the vicinity of Benicia State Park, but only a few facilities are located in occupied habitat. A previous PG&E assessment for the Bay Area O&M HCP found that electric distribution lines cross two occurrences of soft bird's-beak in Solano County. The first occurrence is located south of Interstate 780 in the Benicia State Park and the second occurrence is located south of Highway 12 and southwest of Suisun City. In addition, there is the potential to encounter soft bird's-beak in suitable habitats that have not been surveyed.

Western Snowy Plover Designated Critical Habitat

Three subunits occur in the Eden Landing Ecological Preserve. All three units were occupied at the time of listing and were documented as occupied in 2017 (CNDDB 2021). Subunit CA 13A is approximately 237 acres and encompasses salt ponds designated as E11, E15B, and E16B. It is located just south of Highway 92 and the San Mateo Bridge and west of Union City in Alameda County. Approximately 228 acres are State owned and approximately 8 acres are privately owned. Essential features provided by the subunit include sparsely vegetated areas above daily high tides, such as salt pans, artificial salt ponds, and adjoining levees, for nesting and foraging.

Subunit CA 13B is approximately 171 acres and encompasses a salt pond designated as E14, just south of Eden Creek. This subunit is located west of Union City in Alameda County. The entire subunit is State owned. Essential features provided by the subunit include sparsely vegetated areas above daily high-tides, such as salt pans, artificial salt ponds and adjoining levees, for nesting and foraging. Subunit CA 13C, Eden Landing is approximately 609 acres and encompasses salt ponds designated as E6A and E6B. This subunit is located just north of Old Alameda Creek and west of Union City in Alameda County. Essential physical or biological features provided by the subunit include sparsely vegetated areas above daily high-tides, such as salt pans, artificial salt ponds, and adjoining levees, for nesting and foraging.

The Ravenswood Subunit CA 14 is approximately 89 acres and consists of the southwestern portion of salt pond SF2 located east of the City of East Palo Alto in San Mateo County near the western approach to the Dumbarton Bridge on the Don Edwards San Francisco Bay National Wildlife Refuge. This subunit was occupied at the time of listing and was documented as occupied in 2017 (CNDDB 2021). The role of this critical habitat unit is to provide nesting and foraging habitat for the western snowy plover in South San Francisco Bay. Pond SF2 has undergone renovations intended to provide ponded areas, islands, and salt pan for several species of shorebirds, including western snowy plovers. The Ravenswood unit was drawn to encompass the salt pan area. This unit was occupied at the time of listing and is currently occupied. Essential physical or biological features provided by the unit include sparsely vegetated areas above daily high-tides, such as salt pans, artificial salt ponds and adjoining levees, for nesting and foraging.

The Warm Springs Subunit CA 15 is approximately 168 acres and encompasses the northeastern portion of salt evaporation ponds designated as A22 and A23 in the Warm Springs area of the South San Francisco Bay between the Cities of Fremont and Milpitas in Alameda County. This subunit was occupied at the time of listing and was documented as occupied in 2017 (CNDDB 2021). The entire unit is federally owned. Essential physical or biological features provided by the unit include sparsely vegetated areas above daily high-tides, such as salt pans, artificial salt ponds, and adjoining levees, for nesting and foraging.

Effects of the Action

Effects of the Action are all consequences to listed species or critical habitat that are caused by the proposed action, including the consequences of other activities that are caused by the proposed action. A consequence is caused by the proposed action if it would not occur but for the proposed action and it is reasonably certain to occur. *Effects of the Action* may occur later in time and may include consequences occurring outside the immediate area involved in the action.

PG&E's O&M Activities will be undertaken almost entirely on existing facilities within the Action Area. The effects of habitat loss resulting from individual O&M activities are expected to be small. Habitat disturbance is most often temporary in nature, and distributed throughout these species' ranges in the Action Area rather than condensed into one location, thereby minimizing the effects of implementation of individual activities. The expected permanent loss resulting from implementation of O&M activities over the term of this programmatic biological opinion (to coincide with the 30-year term of the PG&E Bay Area O&M HCP permit), in comparison to the habitat remaining to this species throughout its range, is small (less than 2 acres for each species over the approximate 26-year term). PG&E has committed to conserving habitat for each species, through the various measures described in the *Conservation Measures*. Individual species and critical habitat effects are described below.

California Least Tern and Western Snowy Plover

The proposed project will likely generate temporary noise and visual disturbance that will exceed ambient conditions in areas that may support CLT and WSP. Equipment noise, vibration, and visual disturbance may interfere with normal behaviors. These behaviors include feeding, sheltering, movement between refugia and foraging grounds, and other essential behaviors. Intolerable levels of disturbance that may force individuals to flush from cover or prevent them from seeking available cover could expose them to a predation risk or other dangers that otherwise would not occur. As O&M activities are typically discrete, CLT and WSP would likely be able to avoid the area of disturbance and would likely be able to find alternate suitable foraging opportunities in the surrounding areas.

Anthropogenic disturbance associated with the proposed action that could occur near known and potential CLT and WSP nesting locations could contribute to a lack of nest success, as well as deter the use of nearby foraging locations. For these reasons, PG&E will not perform any O&M activities while inside suitable CLT or WSP habitat during their respective nesting seasons. PG&E will also limit helicopter hovering and flying over known nesting locations during the nesting season for CLT and WSP.

Electric system O&M activities could result in the loss of suitable habitat used for both nesting and foraging in the vicinity of substations. PG&E anticipates that the proposed action will temporarily impact approximately 0.70 acre of suitable foraging and nesting habitat for CLT and approximately 0.70 acre of suitable foraging and nesting habitat for WSP on an annual basis. It is anticipated that the proposed action will permanently impact approximately 0.07 acre of potentially suitable foraging and nesting habitat for CLT and approximately 0.07 acre of potentially suitable foraging and nesting habitat for WSP on an annual basis. These impacts are anticipated to occur annually over the 26-year term of this PBO to coincide with the 30-year term of the PG&E O&M HCP set to expire October 2, 2047. This would equate to a total of approximately 18.2 acres of temporary impacts each and approximately 1.82 acres of permanent impacts each for the CLT and WSP. Impacts to nesting habitat are anticipated to be minimal. Annual construction will be relatively short in duration for most O&M activities. Disruption to foraging habitat will be temporary and are not anticipated to substantially reduce the overall availability of foraging habitat for the CLT or WSP. In addition, habitat disturbance will also be minimized by confining disturbance areas to the smallest practicable area. PG&E proposes to compensate for all permanent impacts to CLT and WSP habitat at a ratio of 3 to 1.

CLT and WSP prey species can also be affected if a hazardous material spill results in a decrease in the availability of fish and the benthic prey species for the fish due to immediate contamination and residual contamination after construction activities have ended. In addition, fish and benthic species can be exposed to hazardous contaminants that have settled in sediments during the installation and removal of cofferdams. Implementation of the general AMMs will minimize the risk of exposure to hazardous contaminants. As a result, the risk of exposure to contaminants that may affect prey species for CLT and WSP are expected to be prevented.

PG&E currently implements AMMs as part of the PG&E Bay Area O&M HCP for other federally listed species during O&M activities. PG&E proposes to minimize adverse effects to CLT, WSP, and their nesting and foraging habitats by implementing the Bay Area O&M HCP measures, which include parking vehicles and equipment on previously disturbed areas, using existing access and ROW roads, restrictions on boat docking, avoidance of helicopter use near

active nests, and not conducting O&M activities within suitable habitat for during their nesting season.

Palmate-bracted Bird's-beak and Soft Bird's-beak

Listed plants may be affected where the movement or parking of vehicles and/ or the placement of equipment and staging materials may damage or crush adult plants and seedlings. Ground disturbance such as blading and excavation can destroy or damage individual plants, destroy or bury seeds, and provide opportunities for colonization by invasive plants. Excavation and grading has the potential to alter soil properties, create conditions unsuitable for the growth of some species (for other species it may promote germination or seedling establishment), and can change surface drainage patterns. The roots of perennial species are susceptible to damage from soil compaction by equipment or staging materials. Additional effects could result from activities that cause erosion that degrades habitat, ground disturbance that facilitates the establishment of invasive plant species that compete with native vegetation, or accidental ignition of a fire that damages or kills individuals. Sidecast soil from excavation, spilled materials, and other substances (such as broadcast herbicides) could be carried by ditches or swales to nearby sensitive areas, causing physical or physiological damage to the plants there.

Habitat may be permanently lost during O&M activities when towers or poles are replaced or when foundations are expanded during tower repairs. Temporary impacts to federally-listed plants and/or their habitat may occur during the installation of fencing and site-specific erosion solutions, as well as during excavations related to pipeline inspection, recoating, cathodic protection, pipeline lowering and replacement, and water diversion techniques. PG&E proposes to implement the Bay Area O&M HCP measures which include measures for managing hazardous material, reducing the introduction of noxious weeds, reporting species encounters, and frac-out response. Habitat disturbance will also be restricted to the minimum area necessary to complete O&M activities and PG&E proposes to compensate for the loss of habitat for all O&M activities.

Western Snowy Plover Designated Critical Habitat

WSP critical habitat will be impacted by the activities from the PG&E Bay Area O&M Program. PG&E anticipates up to 0.04 acre of annual temporary impacts and 0.01 acre of annual permanent impacts to WSP critical habitat as a result of the proposed activities. All four of the PCEs for this critical habitat unit will be affected from the permanent loss of habitat by activities occurring in WSP critical habitat units CA 13A, CA13B, CA 13C, CA 14, and CA 15. In addition, the habitat could be temporarily impacted by potential spills during construction which could cause contamination of soil and water and detriment to invertebrate prey. The habitat could be impacted by project personnel using the temporary work areas and causing contouring of the soils and changes in sediments, rocks, and shells that could be used as nesting sites. PG&E will implement the AMMs to minimize impacts to WSP critical habitat, including BMPs for soil erosion and spill prevention and containment, as well as providing compensatory mitigation for impacts to WSP habitat at a 3:1 ratio.

Cumulative Effects

Cumulative effects include the effects of future State, Tribal, local, or private actions that are reasonably certain to occur in the Action Area considered in this biological opinion. Future

Federal actions that are unrelated to the proposed project are not considered in this section; they require separate consultation pursuant to section 7 of the Act. The Service is not aware of specific projects that might affect the CLT, WSP, palmate-bracted bird's-beak, or the soft bird's-beak in the Action Area that are currently under review by State, county, or local authorities.

Most lands included in the 160,400-acre Action Area are privately owned but within a ROW or easements deed with PG&E. Under the terms of these deeds, the landowner may use the ROW lands for any purpose which will not interfere with PG&E's use of the ROW. Buildings or other structures cannot be erected within the boundary of the right-of-way, as these would interfere with PG&E's activities. Consequently, the ROW easement deed provides no protection from land-use change within the ROWs, with the exception that buildings will not be constructed within the ROW boundaries. Other State or private activities are expected to occur within these ROWs, including cattle grazing, agricultural or urban development, road building, and herbicide use. Although housing development is not expected within the boundary of a right-of-way, development or other land-use changes may occur on lands directly bordering the ROWs. Although land-cover in a ROW area may stay in a natural condition, development or other land-use changes on bordering lands would substantially reduce the habitat value of the ROW lands. These future activities may not be subject to section 7 consultation (and thus are considered to enter into cumulative effects). These activities are not associated with the proposed project.

Continued human population growth in the Action Area is expected to drive further development of agriculture, cities, industry, transportation, and water resources in the foreseeable future. This future development, and the associated infrastructure will further contribute to the continued loss and fragmentation of natural areas, including areas harboring the species covered in this biological opinion. Ongoing loss and fragmentation of natural land-cover in the Action Area and anthropogenic factors such as pesticides and invasion of exotic species is expected to continue through the 26-year term of this PBO to coincide with the 30-year term of the PG&E Bay Area O&M HCP.

Conclusion

After reviewing the current *Status of the Species*, the *Environmental Baseline*, the *Effects of the Action*, and the *Cumulative Effects*, it is the Service's biological opinion that the issuance of the RGP for PG&E's Bay Area O&M activities is not likely to jeopardize the continued existence of the CLT, WSP, palmate-bracted bird's-beak, or the soft bird's-beak. This is based on the current status of the federally-listed species' population range-wide, implementation of the *Conservation Measures* to minimize the adverse effects on individual of the species and their habitats during O&M activities, and the small scope and size of habitat impacts to localized areas for individual O&M activities.

After reviewing the current *Status of the Critical Habitat* for WSP critical habitat, the *Environmental Baseline* for the Action Area, the *Effects of the Action*, and the *Cumulative Effects*, it is the Service's biological opinion that the proposed project is not likely to result in destruction or adverse modification to WSP critical habitat. The small size of the temporary (approximately 0.04 acre annually) and permanent impacts (approximately 0.01 acre annually) will not diminish the value of critical habitat as a whole for the conservation of the WSP. This is anticipated to occur over the term of the PBO which coincides with the 30-year term of the PG&E O&M HCP set to expire October 2, 2047. This equates to a total of approximately 1.04 acres of temporary impacts and approximately 0.26 acre of permanent impacts over

approximately 26 years. The permanent impact (approximately 0.26 acre) represents 0.0002 % of the total area of the 5 subunits designated as critical habitat for the WSP. Therefore, the proposed project is not likely to impair or preclude the capacity of critical habitat in the Action Area to serve its intended conservation function to an extent that appreciably diminishes the rangewide value of critical habitat for the conservation of the WSP.

INCIDENTAL TAKE STATEMENT

Section 9 of the Act and Federal regulation pursuant to section 4(d) of the Act prohibit the take of endangered and threatened species, respectively, without special exemption. Take is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. Harass is defined by Service regulations at 50 CFR 17.3 as an intentional or negligent act or omission which creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding, or sheltering. Harm is defined by the same regulations as an act which actually kills or injures wildlife. Harm is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavior patterns, including breeding, feeding, or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to and not intended as part of the agency action is not considered to be prohibited taking under the Act provided that such taking is in compliance with the terms and conditions of this Incidental Take Statement.

The measures described below are non-discretionary, and must be undertaken by the Corps so that they become binding conditions of any grant or permit issued to the applicant, as appropriate, for the exemption in section 7(o)(2) to apply. The Corps has a continuing duty to regulate the activity covered by this incidental take statement. If the Corps (1) fails to assume and implement the terms and conditions or (2) fails to require the applicant to adhere to the terms and conditions of the incidental take statement through enforceable terms that are added to the permit or grant document, the protective coverage of section 7(o)(2) may lapse. In order to monitor the impact of incidental take, the Corps must report the progress of the action and its impact on the species to the Service as specified in the incidental take statement [50 CFR §402.14(i)(3)].

Sections 7(b)(4) and 7(o)(2) of the Act generally do not apply to listed plant species. However, limited protection of listed plants from take is provided to the extent that the Act prohibits the removal and reduction to possession of federally-listed endangered plants or the malicious damage of such plants on areas under federal jurisdiction, or the destruction of endangered plants on non-federal areas in violation of State law or regulation or in the course of any violation of a State criminal trespass law.

Amount or Extent of Take

The Service anticipates that individual CLT and WSP will be subject to incidental take in the form of harm. All CLT and WSP will be subject to harm through the temporary (approximately 18.2 acres) and permanent (approximately 1.82 acres) modification of habitat, and harm through the use of vehicles and large equipment during construction activities that could interfere with

normal behaviors within suitable habitat in the Action Area. Take in the form of harm from interference of normal behaviors to individual CLT and WSP may be difficult to quantify due to seasonal fluctuations in their numbers, random environmental events, or additional environmental disturbances. The Service does not anticipate any take through physical injury of individuals or lethal take of CLT or WSP as a result of O&M activities. Conservation measures proposed by PG&E and described in the *Description of the Proposed Action* will reduce, but not eliminate, the potential for incidental taking of CLT and WSP. Upon implementation of the *Reasonable and Prudent Measures*, incidental take associated with the project will become exempt from the prohibitions described under section 9 of the Act.

Effect of the Take

In the accompanying programmatic biological opinion, the Service determined that this level of anticipated take is not likely to result in jeopardy to the species or destruction or adverse modification of critical habitat.

Reasonable and Prudent Measures

The following reasonable and prudent measures are necessary and appropriate to minimize the effects of the proposed project to the CLT and WSP:

1. The Corps shall require PG&E minimize effects to listed species from O&M activities.

2. The Corps shall require PG&E implement the *Conservation Measures* as described in the *Description of the Proposed Action*.

Term and Condition

In order to be exempt from the prohibitions of section 9 of the Act, the Corps shall ensure that PG&E complies with the following term and condition, which implement the respective reasonable and prudent measures described above. This term and condition is non-discretionary.

1. Term and Condition 1 implements Reasonable and Prudent Measures 1 and 2:

    a. PG&E shall educate and inform personnel involved in the project as to the *Conservation Measures* and *Term and Condition* in this PBO.

    b. The Corps shall ensure PG&E complies with the *Reporting Requirements* below.

Reporting Requirements

In order to monitor whether the amount or extent of incidental take anticipated from implementation of the project is approached or exceeded, the Corps through PG&E shall adhere to the following reporting requirements. Should this anticipated amount or extent of incidental take be exceeded, the Corps must reinitiate formal consultation as per 50 CFR 402.16.

1. The Service must be notified within 24 hours of the finding of any injured or dead listed species or any unanticipated damage to its habitat associated with the proposed project. Injured listed species shall be cared by a licensed veterinarian or other qualified person. Notification will be made to Jana Affonso, the Assistant Field Supervisor of the Endangered Species Division at: San Francisco Bay-Delta Fish and Wildlife Office, 650 Capitol Mall, Suite 8-300, Sacramento, California 95814 or by telephone at (916) 930-2664, and must include the date, time, and precise location of the individual/incident clearly indicated on a U.S. Geological Survey 7.5 minute quadrangle or other maps at a finer scale, as requested by the Service, and any other pertinent information. When an injured or dead individual of the listed species is found, the applicant through the Navy shall follow the steps outlined in the *Disposition of Individuals Taken* section below.

2. Sightings of any listed or sensitive animal species shall be reported to the Service and CNDDB (https://www.wildlife.ca.gov/Data/BIOS).

3. PG&E shall maintain a full and accurate account of all temporary and permanent habitat loss throughout the term of this PBO.

4. PG&E shall submit an annual report of all temporary and permanent habitat loss from O&M activities and projects covered under this PBO to the Corps and the Bay-Delta Fish and Wildlife Office.

Disposition of Individuals Taken

Injured listed species must be cared for by a licensed veterinarian or other qualified person(s), such as the Service-approved biologist. Dead individuals must be sealed in a resealable plastic bag containing a paper with the date and time when the animal was found, the location where it was found, and the name of the person who found it, and the bag containing the specimen frozen in a freezer located in a secure site, until instructions are received from the Service regarding the disposition of the dead specimen. The Service contact persons are Jana Affonso, the Assistant Field Supervisor of the Endangered Species Division at: San Francisco Bay-Delta Fish and Wildlife Office, 650 Capitol Mall, Suite 8-300, Sacramento, California 95814 or by telephone at (916) 930-2664.

CONSERVATION RECOMMENDATIONS

Section 7(a)(1) of the Act directs Federal agencies to utilize their authorities to further the purposes of the Act by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities to minimize or avoid adverse effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop information. The Service recommends the following actions:

1. The Service recommends PG&E maintain current knowledge of San Francisco Bay Area species biology, ecology, and status to inform project design and species-specific *Conservation Measures*.

2. Encourage or require the use of appropriate California native species in restoration efforts.

3. Facilitate additional educational programs geared toward the importance and conservation of tidal marsh and seasonal wetlands.

4. Assist the Service with implementing other recovery actions identified within the most current recovery plans for CLT and WSP.

5. Encourage the participation in programs being developed by the Federal and State resource agencies to limit and reverse the spread of non-natives, such as Spartina, Phragmites, Lepidium, and other invasives within San Francisco Bay Area.

In order for the Service to be kept informed of actions minimizing or avoiding adverse effects or benefiting listed species or their habitats, the Service requests notification of the implementation of any conservation recommendations.

REINITIATION – CLOSING STATEMENT

This concludes the Programmatic Formal Consultation for the Pacific Gas and Electric Company's (PG&E) Bay Area Operation and Maintenance (O&M) Program as provided in 50 CFR §402.16,

1. Reinitiation of consultation is required and shall be requested by the Federal agency or by the Service, where discretionary Federal involvement or control over the action has been retained or is authorized by law and:

    a. If the amount or extent of taking specified in the incidental take statement is exceeded;

    b. If new information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered;

    c. If the identified action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in the biological opinion or written concurrence; or

    d. If a new species is listed or critical habitat designated that may be affected by the identified action.

2. An agency shall not be required to reinitiate consultation after the approval of a land management plan prepared pursuant to 43 U.S.C. 1712 or 16 U.S.C. 1604 upon listing of a new species or designation of new critical habitat if the land management plan has been adopted by the agency as of the date of listing or designation, provided that any authorized actions that may affect the newly listed species or designated critical habitat will be addressed through a separate action-specific consultation. This exception to reinitiation of consultation shall not apply to those land management plans prepared pursuant to 16 U.S.C. 1604 if:

a. Fifteen years have passed since the date the agency adopted the land management plan prepared pursuant to 16 U.S.C. 1604; and

b. Five years have passed since the enactment of Public Law 115-141 [March 23, 2018] or the date of the listing of a species or the designation of critical habitat, whichever is later.

Please address any questions or concerns regarding this response to Brian Hansen, Senior Fish and Wildlife Biologist, at Brian_Hansen@fws.gov or (916) 930-5642 or Kim Squires, Section 7 Division Manager, at Kim_Squires@fws.gov. Please refer to Service file number 08FBDT00-2020-F-0197 in any future correspondence regarding this project.

Sincerely,

JANA AFFONSO

Digitally signed by JANA AFFONSO
Date: 2021.08.06 13:44:14 -07'00'

Jana Affonso
Acting Field Supervisor

REFERENCES

CNDDB. 2021. California Department of Fish and Wildlife California Natural Diversity Database, Biogeographic Data Branch. Sacramento, California. April 2018 update. Accessed January 2021. https://apps.wildlife.ca.gov/bios/

ICF. 2017. Pacific Gas and Electric Company Bay Area Operations & Maintenance Habitat Conservation Plan. Final. September. (ICF 03442.03.) Sacramento, CA. Prepared for Pacific Gas and Electric Company, San Francisco, CA.

Service. 1980. Revised California least tern Recovery Plan, April 2, 1980. Issued by the Service's Region 1 Office, Portland, OR.

Service. 1998. Recovery Plan for Upland Species of the San Joaquin Valley, California. September 30, 1998. Issued by the Service's Region 1 Office, Portland, OR.

Service. 2006a. California least tern (*Sternula antillarum browni*) 5-year Review Summary and Evaluation. September 2006. Issued by the Carlsbad Fish and Wildlife Office, Carlsbad, CA.

Service. 2006b. 5-year Review Short Form Summary of the Pacific Coast population of the Western Snowy Plover (*Charadrius alexandrinus nivosus*). June 8, 2006. Issued by the Arcata Fish and Wildlife Office, Arcata, CA.

Service. 2007. Recovery Plan for the Pacific Coast population of the Western Snowy Plover (*Charadrius alexandrinus nivosus*) Volume 1: Recovery Plan. August 13, 2007. Issued by the California/Nevada Operations Office, Sacramento, CA.

Service. 2009a. Palmate-bracted bird's-beak (*Cordylanthus palmatus = Chloropyron palmatum*) 5-Year Review: Summary and Evaluation. June 15, 2009. Issued by the Sacramento Fish and Wildlife Office, Sacramento, CA.

Service. 2009b. *Cordylanthus mollis* ssp. mollis (Soft Bird's-Beak) 5-Year Review: Summary and Evaluation. February 11, 2009. Issued by the Sacramento Fish and Wildlife Office, Sacramento, CA.

Service. 2013. Recovery Plan for Tidal Marsh Ecosystems of Northern and Central California. August 27, 2013. Issued by the Service's Region 8 Office, Sacramento, CA.

Service. 2017. Native Endangered and Threatened Sp. Habitat Conservation Plan - Endangered and Threatened Wildlife Permit Number: TE56826C-0. Issued to PG&E by the Sacramento Fish and Wildlife Office, Sacramento, CA.

Service. 2019. 5-year Review Western Snowy Plover [Pacific Coast population Distinct Population Segment] (*Charadrius nivosus nivosus*) 2019. September 10, 2019, Issued by the Arcata Fish and Wildlife Office, Arcata, CA.

Service. 2020. California least tern (*Sternula antillarum browni*) 5-year Review Summary and Evaluation. July 7, 2020. Issued by the Carlsbad Fish and Wildlife Office, Carlsbad, CA.