

APPENDIX F

Multiple Region Operation and Maintenance
Habitat Conservation Plan

Table 5-1. Field Protocols and Avoidance and Minimization Measures to Reduce Impacts on Covered Species

Staff Responsible	Code	Description of Measure	Covered Species Benefiting from Measure	Rationale and Benefits of Measure
Field Protocols^a				
Training				
HCP Team	FP-01	Conduct annual training on habitat conservation plan requirements for employees and contractors performing covered activities in the Plan Area that are applicable to their job duties and work. Tailboard and site-specific training will also be conducted prior to commencing work.	All covered species	Education and awareness aimed at informing workers on HCP and protocols for avoiding and minimizing impacts on covered species and habitats.
Access and Work Site Management				
Field Crew	FP-02	Park vehicles and equipment on pavement, existing roads, or other disturbed or designated areas (barren, gravel, compacted dirt).	All covered species	Avoid direct mortality and disturbance of covered species and temporary disturbance and compaction of habitats.
Field Crew	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.	All covered species	Avoid direct mortality and disturbance of covered species and temporary disturbance and compaction of habitats.
Field Crew	FP-04	Route off-road access paths and site work sites to minimize impacts on plants, shrubs, and trees, small mammal burrows, and unique natural features (e.g., rock outcrops).	All covered species	Avoid direct mortality and disturbance of covered species and temporary disturbance and compaction of habitats.
HCP Team, Land Planners	FP-05	Notify conservation landowners at least 2 business days prior to conducting covered activities on protected lands (state- or federally owned wildlife areas, ecological reserves, or conservation areas); more notice will be provided if practicable or if required by other permits. If the work is an emergency, as defined in PG&E's Utility Procedure ENV-8003P-01, PG&E will notify the conservation landowner within 48 hours after initiating emergency work. Although this notification is intended only to inform conservation landowner, PG&E will attempt to work with the conservation landowner to address landowner concerns.	All covered species	Courtesy notification to enter lands managed for the benefit of protected species and implementation of any site-specific measures to prevent impacts on species and habitats.

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Field Crew	FP-06	Minimize potential for covered species to become trapped, injured, or killed in pipes, culverts, or under materials or equipment. Inspect pipes and culverts wide enough to be entered by a covered species that could inhabit the area where pipes are stored for wildlife species prior to moving pipes and culverts. Contact a biologist if a covered species or other federally-listed species is suspected or discovered.	All covered amphibians, reptiles, and mammals	Avoid and minimize potential impacts on covered species that may move into work sites, work equipment, and supplies.
Field Crew	FP-07	Vehicle speeds on unpaved roads will not exceed 15 miles per hour.	All covered wildlife species	Avoid and minimize direct mortality or injury of covered species that may cross unpaved roads in work sites.
Field Crew	FP-08	Prohibit trash dumping, firearms, open fires (such as barbecues), hunting, and pets (except for safety in remote locations) at work sites.	All covered species	Discourage attracting and subsidizing predators such as foxes, coyotes, and raccoons that could prey upon covered species in a work site. Avoid potential species disturbances caused by fires and firearms.
Field Crew	FP-09	In designated State Responsibility Areas, equip all motorized equipment with federally or state-approved spark arrestors. Ensure a backpack pump filled with water and a shovel and fire-resistant mats and/or windscreens is onsite during welding. During fire "red flag" conditions as determined by the California Department of Forestry and Fire Protection, prohibit welding. Each fuel truck will carry a large fire extinguisher with a minimum rating of 40 B:C. Clear parking and storage areas of all flammable materials.	All covered species	Avoid ignition and spread of fire that could lead to mortality of individual species and loss of habitat.
Field Crew	FP-10	Minimize the covered activity footprint and minimize the amount of time spent at a work site to reduce the potential for take of species.	All covered species	Avoid and minimize all potential impacts on covered species and their habitats by reducing work footprint and work duration.

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<i>Erosion Control</i>				
Field Crew	FP-11	Utilize standard erosion and sediment control BMPs (pursuant to the most current version of PG&E's <i>Stormwater Field Manual for Construction Best Management Practices</i>) to prevent construction site runoff into waterways.	All covered aquatic species	Avoid and minimize potential water quality impacts, thereby maintaining water quality for covered aquatic species.
Field Crew	FP-12	Stockpile soil within established work site 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.	All covered species	Avoid and minimize potential water quality impacts, thereby maintaining water quality for covered aquatic species.
<i>Natural Resource Protection</i>				
Field Crew	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 every morning prior to initiating daily activities to ensure wildlife is not trapped. Field crews will not handle covered species. If any covered wildlife species is found, work will stop and a biologist will be notified. A biologist with appropriate take permits will relocate the species to adjacent habitat or the species will be allowed to naturally disperse, as determined by a biologist.	Covered amphibians, reptiles, and mammals	Avoid and minimize potential for species entrapment or entombment; provide avenue for species escape.
Land Planner or Biologist, and Field Crew	FP-14	If the covered activity disturbs 0.1 acre or more of habitat for a covered species in grasslands, the field crew will revegetate the area with a commercial "weed free" seed mix. (Except in suitable habitat for Mount Hermon June beetle, Ohlone tiger beetle and Zyante band-winged grasshopper.)	All covered grassland species	Avoid and minimize potential erosion and water quality impacts. Reduce the potential for colonization of grassland by invasive or weedy plants and grasses.
Field Crew	FP-15	Prohibit vehicular and equipment refueling within 250 feet of the edge of wetlands, streams, or waterways. If refueling must be conducted closer to wetlands, construct a secondary containment area subject to review by an environmental field specialist and/or biologist. Maintain spill prevention and cleanup equipment in refueling areas.	Vernal pool species, California red-legged frog, mountain yellow-legged frog, Sierra Nevada yellow-legged frog, foothill yellow-legged frog, Yosemite toad, Santa Cruz long-toed salamander, California	Avoid and minimize potential for fuels contamination of aquatic habitats and mortality of aquatic species.

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			tiger salamander, giant garter snake	
Field Protocols				
<i>Natural Resource Protection (continued)</i>				
Biologist (provide guidance) and Field Crew (follow guidance)	FP-16	Maintain a buffer of 250 feet from the edge of wetlands, ponds, or riparian areas. If maintaining the buffer is not practicable because the covered activity footprint is within the buffered area, other measures as prescribed by the biologist or the HCP administrator to minimize impacts such as flagging access routes or paths, requiring foot access, restricting work until the dry season, or requiring a biological monitor during the activity.	Vernal pool species, California red-legged frog, mountain yellow-legged frog, Sierra Nevada yellow-legged frog, foothill yellow-legged frog, Yosemite toad, California tiger salamander, giant garter snake, Santa Cruz long-toed salamander	Avoid and minimize potential impacts on covered species and habitats by maintaining habitat buffers. Where buffers are not practicable to implement, require crews to minimize impacts in these areas.
Field Crew	FP-17	Directionally fall trees away from an exclusion zone, if an exclusion zone has been defined. If this is not practicable, remove the tree in sections. Avoid damage to adjacent trees to the extent practicable. Avoid removal of snags and conifers with basal hollows, crown deformities, and/or limbs more than 6 inches in diameter.	All covered species	Avoid and minimize potential impacts on covered species that may be seeking refuge in exclusion zones; preserve important tree habitat features for wildlife species.
Biologist and Field Crew	FP-18	Nests with eggs and/or chicks will be avoided: contact a biologist or the Avian Protection Program Manager for further guidance. Work will be stopped until the crew can obtain clarification from a biologist or the Avian Protection Program Manager on how to proceed.	All nesting bird species, including marbled murrelet and northern spotted owl	Avoid and minimize potential impacts and disturbance on nesting birds.
Biologist and Field Crew	FP-19	Inspect and maintain exclusion fencing installed to exclude species from work areas.	California tiger salamander, giant garter snake, Santa Cruz long-toed salamander	Ensure exclusion fencing performs as anticipated and avoids entrapment of species.

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Hot Zone Avoidance and Minimization Measures^b				
Biologist/ Field Crew	Hot Zone-2	Ground-disturbing activities will not be implemented from the first significant rain (1 inch) during the wet season (the wet season currently ranges, on average, from October 15 to April 15, and may change significantly as a result of climate change), 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 be implemented 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, at the direction of the biologist or HCP Administrator, directing crews on access routes or paths, use of erosion/sediment fencing, use of access mats, and other techniques to avoid direct or indirect impacts on vernal pools.	Longhorn fairy shrimp and Conservancy fairy shrimp	Avoid and minimize potential erosion, water quality impacts, and disturbance on vernal pool habitat, thereby maintaining water quality and preventing disturbance of fairy and tadpole shrimp.
Biologist/ Field Crew	Hot Zone-9	Avoid work during the wet season (the wet season currently ranges, on average, from October 15 to April 15, and may change significantly as a result of climate change) to the extent practicable. Due to normal year-to-year fluctuations and the effects of climate change, in a given year the wet season may begin earlier or later and end sooner or later than these dates. This measure will be implemented within 48 hours of a rain event of 0.25 inch or greater within this species' range, even if rainfall occurs before October 15 or after April 15. If work must be conducted during the wet season, then minimize work activities likely to result in injury or mortality when the species is present (e.g., at night and during rain events). A biologist will provide guidance on how the work should be conducted and a summary of potential surveys needed at work, access, and staging areas. Should a Santa Cruz long-toed salamander be observed and in danger of injury or mortality, a biologist, as allowed by state law, will relocate the animal to the nearest appropriate habitat that will not be impacted by the work activity.	Santa Cruz long-toed salamander	Avoid and minimize potential impacts on this covered species and its suitable habitat.
Biologist/ Field Crew	Hot Zone-10	Minimize the off-road use of vehicles and equipment in undisturbed natural habitat (i.e., areas with lupine). Minimize soil disturbing activities. Stage equipment and materials in disturbed areas to the extent practicable. To protect in place silver bush lupine (the species' primary host plant) a biologist will establish an exclusion zone of at least 15 feet from any silver bush lupine plants. Avoid crushing	Zayante band-winged grasshopper	Avoid and minimize take of this species and impacts to its host plants.

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		individual grasshoppers on work sites if observed (e.g., do not drive trucks in areas with individuals).		
Biologist/ Field Crew	Hot Zone-11	Minimize the off-road use of vehicles and equipment in undisturbed natural habitat (i.e., areas with sandy soils, native grasses, or other undisturbed natural areas). Surplus soil will only be placed on previously disturbed ground. Stage equipment and materials in disturbed areas to the extent practicable. Avoid crushing individual beetles on work sites if observed (e.g., do not drive trucks in areas with individuals).	Ohlone tiger beetle	Avoid and minimize take this species and disturbance and compaction of its habitat.
Biologist/ Field Crew	Hot Zone-12	Avoid impacts on natural and urban habitat by working from paved roads or areas without vegetation to the extent practicable. If Morro shoulderband snail habitat cannot be avoided, then in urban areas a qualified individual shall survey for, capture, and relocate identified individuals to the nearest appropriate location that provides a safe shelter for the snails that will not be impacted by the work activity. In natural habitat, a biologist shall survey for, capture, and relocate individuals to the nearest appropriate location that provides a safe shelter for the snails and that will not be impacted by the work activity.	Morro shoulderband snail	Avoid and take this species and its habitat.
Biologist/ Field Crew	Hot Zone-13	Schedule work with heavy equipment, ground disturbance, or off-road vehicle travel during the non-breeding season (July 1–December 1). If such work must be conducted during the breeding season (December 1–June 30), a biologist will assess habitat within 100 feet of work sites in modeled habitat. If riparian, coastal scrub, and/or dune scrub habitat is present within 100 feet of work sites, then burrows will be evaluated within these areas to determine presence or absence of the species. If occupied burrows are detected, the biologist will determine the following: (1) if work can be conducted with modifications to minimize disturbance, which includes work exclusion zones and/or the presence of a biological monitor, or (2) if work must be delayed until the non-breeding season.	Point Arena mountain beaver	Avoid disturbance during the breeding season, direct mortality of the species, and temporary disturbance and compaction of habitat.
Biologist/ Field Crew	Hot Zone Measure-14	Avoid work during the flight season (May–August) and conduct work September 1–April 30 if practicable. Minimize the off-road use of vehicles and equipment in sensitive habitat. Surplus soil will only be placed on previously disturbed ground. Stage equipment and materials in disturbed areas to the extent practicable. Avoid beetles on work sites if observed.	Mount Hermon June beetle	Avoid and minimize potential impacts from large activities on this species in areas where it is likely to occur and during the time that it is most vulnerable.

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Species-Specific Avoidance and Minimization Measures for Large Activities				
Biologist and Field Crew	SJKF-1	A biologist will inspect the work site no more than 30 days prior to the start of construction to determine if potential San Joaquin kit fox dens are present. If potential dens are located within the proposed construction footprint and cannot be avoided during construction, a biologist will determine if the dens are occupied. All potential dens within the construction footprint will be dusted with appropriate tracking substrate or monitored with a motion-sensor camera for a minimum of 3 days to determine occupancy unless scat, discarded bones, and/or tracks are observed, at which point the den is presumed occupied. Exit ramps will also be installed in these areas at both ends of the excavated areas. Pipes wide enough to be entered will be inspected and may be capped in areas of potential occurrence. If potential San Joaquin kit fox dens are present within the construction footprint or within 200 feet of the construction boundary, disturbance and destruction will be avoided where practicable. If the potential dens are determined to be unoccupied and cannot be avoided, no further action is needed. If an occupied or natal/pupping den is discovered within the construction area or within 200 feet of the project boundary, USFWS shall be notified to discuss protective measures, such as exclusion zones, visual screens, and construction monitors, to ensure direct mortality is avoided. Work or disturbance within 200 feet of a natal den may not proceed without prior agreement from USFWS.	San Joaquin kit fox	Determine species presence or absence. Avoid and minimize potential impacts from large activities on covered species. Prevent disturbance of active dens.
Biologist/Field Crew	VELB-1	All personnel, including PG&E employees and contractors, who are likely to encounter elderberry plants or valley elderberry longhorn beetle, especially during vegetation management activities, are required to receive training on valley elderberry longhorn beetle. When covered ground-disturbing activities will be implemented within 20 feet of elderberry, a qualified individual will identify a work exclusion zone (i.e., 5–20 feet of the dripline of all elderberry shrubs), with pin flagging or other appropriate means, within which ground disturbance, tree felling, and equipment and vehicle operation will be avoided or minimized. Except for cut stump treatment of removed trees (non-elderberry), herbicides will not be used within this zone. When performing vegetation maintenance work in compliance with Public Resources Code Sections 4291–	Valley elderberry longhorn beetle	Ensure covered activities near elderberry shrubs are conducted in a way that minimizes disturbance of host plant habitat, as well as direct loss of species.

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		4293, pruning, rather than removal of elderberry plants, will be performed where feasible.		
Biologist and Field Crew	GG5-1	<p>Conduct work during the active season (May 1–October 1) to the extent practicable. A biologist will conduct a survey and identify where exclusion fencing is needed. If needed, a solid exclusion fence will be installed around the perimeter of work sites and will be inspected weekly. Burrows and other refuge habitat will be avoided to the extent practicable.</p> <p>If work will be conducted during the inactive period (October 2–April 30) then PG&E will conduct preparation work during the snake’s active period to make construction areas ready for work during the inactive season. Preparation work includes, at a minimum, adding baserock to access roads and work sites, grading access roads and work sites, and installing work zone exclusion fencing.</p> <p>If giant garter snakes are encountered during construction activities, snakes will be allowed to move away from construction or a biologist will follow USFWS handling protocols and move snakes to the nearest appropriate habitat out of harm’s way.</p>	Giant garter snake	Avoid and minimize take of this species by working when the snake can most likely move out of harm’s way or can be observed and avoided. Summer season construction preparation work for the species’ inactive season further reduces or eliminates potential take of the species when it seeks shelter during its inactive period.
Biologist and Field Crew	SBB-1	Avoid impacts on habitat by working from established roads and in areas clear of vegetation to the extent practicable. Avoid damaging or removing seacliff buckwheat and coast buckwheat (host plants for the species). A biologist will survey the work, access, and staging sites to determine presence of host plants. If host plants are absent, the work can proceed. If host plants are present, then the biologist will flag the plants and crews will avoid the plants by at least 5 feet. If host plants cannot be avoided, then work may proceed under the direction of a biological monitor to minimize disturbance of host plants during the peak summer flight season (August).	Smith’s blue butterfly	Avoid and/or minimize take of Smith’s blue butterfly and impacts on its host plants.
Biologist and Field Crew	BNLL-1	Work from paved road or cleared shoulder free of burrows, and limit activities in habitat where burrows are present to foot access only. If working off a paved road where burrows are present, then flag a 30 foot exclusion zone around each burrow. If burrows can be avoided, then work can proceed as designed. Should a blunt-nosed leopard lizard be observed and in danger of injury or mortality, a biologist, as allowed by state law, will relocate the animal to the nearest appropriate habitat that will not be impacted by the work activity. A qualified biologist will	Blunt-nosed leopard lizard	Avoid and minimize destruction of burrows, which provide refuge and serve as potential sites for egg laying, to minimize direct impacts on specie and its burrows and to minimize loss of habitat.

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		conduct periodic spot checks to ensure burrow avoidance. If burrows cannot be avoided, then conduct surveys to determine presence/absence; surveys will be conducted between April 15–June 30 or August 1–September 1 and/or when ambient temperatures are 77–95° and soil temperatures 86–122°. Six separate surveys of the site will occur between 0900 and 1400 hours. If the species is not detected at the work site, then no further action is required. If BNLL is present, then conduct work activity during the active period, clearly flag all access routes and staging areas, and limit the destruction of burrows to the minimum number practicable.		
Biologist and Field Crew	MM-1	If the biologist determines that the project will impact suitable marbled murrelet nesting habitat, then work will not be conducted during the nesting season (March 15–August 31). For activities in known nesting habitat that cannot be scheduled outside of nesting season, nest buffers of 0.25 mile will be implemented or PG&E may implement reduced buffers based on <i>Estimating the Effects of Auditory and Visual Disturbance to Northern Spotted Owls and Marbled Murrelets in Northwestern California</i> (U.S. Fish and Wildlife Service 2006)	Marbled murrelet	Avoid and minimize potential impacts from large activities on nesting marbled murrelets.
Biologist and Field Crew	NSO-1	If a biologist determines that a work site is within 0.25 mile of unsurveyed northern spotted owl nesting habitat, activity centers, or critical habitat during nesting season (March 1–July 31), then work will be restricted to August 1–February 28, unless surveys determine the suitable habitat or site is unoccupied or the owls are not nesting. For project work within 0.25 mile of a known nest site or nesting habitat that cannot be scheduled outside of the nesting season and the 0.25 mile buffers cannot be maintained, PG&E may implement reduced buffers based on <i>Estimating the Effects of Auditory and Visual Disturbance to Northern Spotted Owls and Marbled Murrelets in Northwestern California</i> (U.S. Fish and Wildlife Service 2006).	Northern spotted owl	Avoid and minimize potential impacts (i.e., noise disturbance) from large activities on nesting northern spotted owls.
Biologist and Field Crew	GKR-1	Avoid occupied or potentially occupied burrows and burrow precincts that were identified by a biologist. If burrows and precincts can be avoided, then work can proceed. If occupied or potentially occupied burrows and precincts cannot be avoided, then a biologist shall stake and flag work exclusion zone(s) of at least 30 feet around each occupied or potentially occupied burrow. The biologist will remain onsite to monitor all ground-disturbing work activities. If occupied or potentially occupied burrows cannot be avoided, then biologists will excavate	Giant kangaroo rat	Avoid and minimize disturbance or destruction of burrows that provide refuge and breeding sites. Avoid and minimize take of the species and minimize loss of micro-habitat.

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		burrows or trap for any kangaroo rats within the exclusion zones and hold for the shortest duration necessary, or relocate animals to adjacent suitable non-work areas in accordance with holding and release procedures areas. The excavation of burrows and closing of burrows will also be initiated when appropriate (e.g., small activities where multiple nights of surveys are inefficient).		
Biologist/ Field Crew/ HCP Administrator	Wetland-1	Identify vernal pools and other aquatic habitat for covered aquatic invertebrates and amphibians and establish buffers. Maintain a buffer of 250 feet around vernal pools and vernal pool complexes. If maintaining the buffer is not practicable because the areas are either in or adjacent to facilities, the field crew will implement other measures as prescribed by the biologist to minimize impacts. These measures may include flagging access, requiring foot access, restricting work until the dry season, or requiring the presence of a biological monitor during the activity. Activities must maintain the downstream hydrology to the vernal pool or complex.	Vernal pool species, including California tiger salamander (both Central California and Santa Barbara County DPSs)	Avoid and minimize take of these species and impacts on their habitat. Avoid direct mortality of covered species and temporary disturbance and degradation of habitat, water quality, and hydrology.
Biologist/ Field Crew	Wetland-2	Identify wetlands, ponds, and riparian areas and establish and maintain a buffer of 50 feet around wetlands, ponds, and riparian areas. If maintaining the buffer is not practicable because the work sites are within any part of the buffered area, the field crew will implement other measures as prescribed by the biologist to minimize habitat impacts. These measures may include flagging access, requiring foot access, restricting work until the dry season, or requiring a biological monitor during the activity. Activities must maintain the hydrology necessary to support the wetland, pond, or riparian area (inclusive of downstream).	Covered aquatic invertebrates and amphibians	Avoid and minimize take of these species and impacts on their habitat.
Minor New Construction Measure				
HCP Administrator	Minor New-1	For minor new construction activities excluding upgrades and replacements, (G15, E12, E13, and E15), PG&E will notify USFWS of the anticipated project and provide a summary of the activity. The summary will include information on HCP measures to avoid, minimize, and mitigate likely take of covered wildlife species and/or impacts on covered plant species, confirm there is adequate take authorization remaining for the covered species, and confirm that the activity does not have a reasonably certain likelihood of take of listed non-covered species.	All covered species	Avoid and minimize potential impacts on covered species and other sensitive species and their habitats. Notification to the USFWS will ensure all appropriate measures are implemented and that impacts to non-covered listed species are avoided and minimized.

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Covered Plant Avoidance and Minimization Measures				
Field Crew	Plant-01	No herbicides will be used for vegetation management, pole clearing, or any other purpose within 100 feet of a Map Book zone (except vegetation management's direct application to cut stumps when greater than 25 feet from a Map Book zone and in conformance with applicable pesticide regulations).	All covered plants	Avoid potential for overspray on covered plants that could result in the unnecessary loss of protected plants.
Field Crew	Plant-02	Heavy equipment shall remain on access roads or other previously disturbed areas unless otherwise prescribed by a land planner, biologist, or HCP administrator.	All covered plants	Avoid and minimize potential impacts such as crushing covered species and degrading suitable habitat.
Biologist/ Field Crew	Plant-03	Stockpile separately the upper 4 inches of topsoil during excavations associated with covered activities. Stockpiles of topsoil will be used to restore the disturbed ROW.	All covered annual plants ^c	Preservation of topsoil preserves soil biome and seed bank, allowing for successful restoration once the project is complete.
Biologist	Plant-04	When covered activities greater than 0.1 acre within a Map Book zone will have direct impacts on covered plant species, work with the crew to place flagging, fencing, or other physical exclusion barriers to minimize impacts. If the work will directly impact covered plant species, implement Plant-05, -06, -07, and -08 AMMs.	All covered plants	Avoid and minimize potential impacts such as direct plant loss and ensure plant re-establishment.
Biologist	Plant-05	If a covered plant species is present and it cannot be avoided, then PG&E will salvage plant material (e.g., seeds, cuttings, whole plants) and prepare a restoration plan that details the handling, storage, propagation, or reintroduction to suitable and appropriate habitat subject to USFWS review and approval.	All covered plants	Salvaging plants or plant materials, and implementing a restoration plan facilitates survival and recovery of covered plant species.
Biologist/Field Crew	Plant-06	If a covered annual plant species is present and it cannot be avoided, then conduct covered activities after seeds have matured, to the extent practicable. (See Plant-05 for additional protection and mitigation.)	All covered annual plants	Waiting for an annual plant species to senesce ensures seeds have developed and are ready for dispersal. Annual plants will have maximized their lifespan and their lifecycle will not have been interrupted.
Biologist/Field Crew	Plant-07	If a covered perennial plant species is present and it cannot be physically avoided, then conduct covered activities after seeds have matured to the extent practicable. Minimize disturbance to the below-	All covered perennial plants ^d	Waiting for a plant species' seeds to mature ensures seed development and dispersal. Perennial plants will have not unnecessarily expended

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		ground portions of the plants (e.g., roots, bulbs, tubers). (See Plant-05 for additional protection and mitigation.)		energy into developing seeds that can be dispersed and the plant lifecycle will not be completely interrupted.
Biologist/Field Crew	Plant-08	PG&E will prune shrubs in a manner that promotes re-sprouting. If permanent impacts are unavoidable (i.e., removal or destruction of shrubs), establish new individuals by planting seedlings or cuttings in adjacent suitable habitat following AMM Plant-05. PG&E will implement BMPs, including vehicle, equipment, and personnel hygiene protocols; procedures for conducting activities in <i>Phytophthora</i> -infected areas; and timing restrictions that avoid working when soils are moist and the likelihood of spreading <i>Phytophthora</i> is greatest.	Ione manzanita, Pine Hill ceanothus, Pine Hill flannelbush, Lompoc yerba santa	Avoiding excessive pruning prevents plant stress, dehydration, disease, or death. Salvaging plants or plant parts ensures long-term survival and recovery; limiting the spread of plant diseases further ensures plant survival and recovery.

^a Field Protocols do not apply to vegetation management because BMPs apply to vegetation management activities (Table 5-2).

^b Hot zone measure 1 and 3–8 are in the Bay Area O&M HCP. Measures in the MRHCP are not numbered sequentially for this reason.

^c Covered annual plant species are beach layia, San Benito evening-primrose, Monterey spineflower, robust spineflower, Kern mallow, Yadon's rein orchid, and Monterey gilia

^d Covered perennial plant species are Ione manzanita, Pine Hill ceanothus, Pine Hill flannelbush, Stebbins' morning-glory, Layne's ragwort.