Pacific Gas and Electric Company®

Thomas P. Jones
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PG&E Letter DCL-21-071

ATTN: Document Control Desk
U.S Nuclear Regulatory Commission
Washington, DC 20555-0001

10 CFR 50.82

Docket No. 50-275, OL-DPR-80
Docket No. 50-323, OL-DPR-82
Diablo Canyon Units 1 and 2
Federally Listed Species Affects Determination Memorandum for the Pacific Gas and Electric Company Diablo Canyon Power Plant, Units 1 and 2

Dear Commissioners and Staff:

Pacific Gas and Electric Company (PG&E) has completed a Federally Listed Species Affects Determination resulting from decommissioning planning activities for PG&E's Diablo Canyon Power Plant, Units 1 and 2 (DCPP). The Affects Determination reviewed the potential for impacts to federally listed species at four Project sites: (1) the DCPP site, (2) PG&E's Pismo Beach Materials Handling Facility (PBMHF), and (3) two Santa Maria Valley Railyard Facility (SMVR) sites owned by third parties. The PBMHF is located within the City of Pismo Beach in San Luis Obispo County, California. Two SMVR sites are being considered: one is within the City of Santa Maria (referred to as SMVR-SM) and the other is further west within the County of Santa Barbara (referred to as SMVR-SB).

The Enclosure contains the Federally Listed Species Affects Determination Memorandum. Federal species lists for botanical and wildlife species known to occur within the Project sites listed above were provided by the United States Fish and Wildlife Service and the National Oceanic Atmospheric Administration Fisheries. From those lists, the Affects Determination concluded that thirteen federally listed wildlife species have been documented or have potential to occur within the Project sites. In addition, Critical Habitat for two of these species and seven Essential Fish Habitats are present. A series of mitigation measures have been recommended to avoid and/or minimize impacts to these federally listed species and associated critical habitat and essential fish habitat areas.

There are no new or revised regulatory commitments (as defined in NEI 99-04) in this letter.

If you have any questions or require additional supporting documentation for this submittal, please contact Mr. Philippe Soenen at 805-459-3701.

Sincerely,

Thomas P. Jones

Thomas P. Jones
Director of Strategic Initiatives

10.14.2021
Date

Enclosure
cc: Diablo Distribution
cc/enc: Ayesha Athar, NRC Acting Senior Resident Inspector
Samson S. Lee, NRR Project Manager
Scott A. Morris, NRC Region IV Administrator

Federally Listed Species Affects Determination Memorandum for the Pacific Gas and Electric Company Diablo Canyon Power Plant, Units 1 and 2

September 7, 2021

Michael Wagoner
Pacific Gas and Electric Company
Diablo Canyon Power Plant
805-290-3984
Sent via email

RE: Federally Listed Species Affects Determination Memorandum for the Pacific Gas and Electric Company Diablo Canyon Power Plant Decommissioning Project, Avila Beach, California

Dear Mr. Wagoner,

Terra Verde Environmental Consulting, LLC (Terra Verde) is providing this federally listed species affects determination for the Pacific Gas and Electric Company (PG&E) Diablo Canyon Power Plant (DCPP) Decommissioning Project (Project). The Project encompasses three sites: (1) the DCPP site, the Pismo Beach Materials Handling Facility (PBMHF); and (3) Santa Maria Valley Railyard Facility (SMVR) site. The DCPP site is located on the immediate coast of San Luis Obispo County, California, approximately seven miles northwest of the unincorporated community of Avila Beach. The PBMHF is located along the central-northern boundary of the City of Pismo Beach in San Luis Obispo County, approximately 13 miles southeast of the DCPP site. Two SMVR sites are being considered; one is within the City of Santa Maria (SMVR-SM) and the other is further west within the County of Santa Barbara (SMVR-SB).

Comprehensive background research and field surveys were completed to document the biological resources at all four sites (DCPP, PBMHF, SMVR-SM, and SMVR-SB). The purpose and focus of the technical studies were to identify sensitive biological resources that occur, or have potential to occur, within the Project sites and surrounding areas including the marine environment bordering the DCPP. The background research and field surveys included assessment and documentation of habitat types, direct and indirect observation of wildlife and botanical species, and an evaluation of the potential for special-status species to occur. Please refer to the *Marine Biological Resources Assessment* (MBRA; Tenera and ERM 2020), *Terrestrial Biological Resources Assessment* (TBRA; Terra Verde and ERM 2020), *Biological Resources Assessment of the Santa Maria Valley Railyard – Santa Barbara (SMVR-SB)* (Terra Verde 2021a), and *Biological Resources Assessment of the Santa Maria Valley Railyard – Santa Maria (SMVR-*

SM) (Terra Verde 2021b) for a discussion of the site conditions, survey methods and results. The purpose of this memorandum is to provide an analysis of the potential Project impacts on federally listed species and has been prepared per the request of the United States Nuclear Regulatory Commission to support the National Environmental Policy Act (NEPA) environmental review process. This memorandum may be used as an addendum to the Biological Resources Assessment reports listed above and incorporated here by reference.

Federally Listed Species Occurrences

The federal species lists provided by the United States Fish and Wildlife Service (USFWS) and the National Oceanic Atmospheric Administration (NOAA) Fisheries contains fifteen listed and candidate plant and animal species with potential to occur in the Project vicinity. Based on the results of the field surveys, database queries, and literature review, several species were eliminated as potentially occurring due to a lack of suitable habitat, lack of documented occurrences within two miles of the Project site(s), range of elevations, and/or geographic distribution of the species (see Table 1 below). It should be noted that, although suitable habitat components may exist within the sites for several federally listed species, additional factors were considered when determining potential for occurrence. Specifically, the proximity of the nearest documented occurrences of each species within online databases (e.g., CNDDB) and literature documenting known species ranges for each species were considered. However, federally listed species reported by the resource agencies within a two-mile radius of the Project sites provided the foundation for the desktop analysis and subsequent field surveys conducted within each of the individual Project sites. Federally listed species determined to have no potential to occur within the Project sites are not discussed further in this memorandum.

Table 1: Listed, Proposed Species and Critical Habitat Potentially Occurring or Known to Occur in the Project Area

Scientific/Common Name	Listing Status (Fed/State/ Other)	Habitat Description	Habitat Present/ Absent	Rationale for Presence/Absence Determination
Plants				
Arctostaphylos morroensis Morro manzanita	FT/-/1B.1	Stabilized sand dunes, sandstones, chaparral. Elevation: < 200 m.	**A**	**Habitat Absent:** No suitable habitat present within survey areas; no *Arctostaphylos* species were observed within the survey areas.
Arenaria paludicola Marsh sandwort	FE/CE/1B.1	Wet meadows, marshes. Elevation: < 300 m.	**HP**	**Habitat Present (DCPP and PBMHF):** Low suitability habitat is present at DCPP and PBMHF; not observed during appropriately timed surveys.

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Table 1: Listed, Proposed Species and Critical Habitat Potentially Occurring or Known to Occur in the Project Area

Scientific/Common Name	Listing Status (Fed/State/ Other)	Habitat Description	Habitat Present/ Absent	Rationale for Presence/Absence Determination
Chloropyron maritimum subsp. *maritimum* Salt marsh bird's beak	FE/SE/1B.2	Coastal salt marsh. Elevation: < 10 m.	**A**	**Habitat Absent:** No suitable habitat present within survey areas; not observed during appropriately timed surveys.
Cirsium fontinales var. *obispoense* Chorro Creek bog thistle	FE/SE/1B.2	Serpentine seeps and streams. Elevation: < 350 m.	**A**	**Habitat Absent:** No suitable habitat present within survey areas; not observed during appropriately timed surveys.
Cirsium scariosum var. *loncholepis* La Graciosa thistle	FE/ST/1B.1	Marshes, dune wetlands. Elevation: < 50 m.	**A**	**Habitat Absent:** No suitable habitat present within survey areas; not observed during appropriately timed surveys.
Clarkia speciosa subsp. *immaculata* Pismo clarkia	FE/SR/1B.1	Sandy coastal hills. Elevation: < 100 m.	**HP**	**Habitat Present (PBMHF):** Suitable habitat present at PBMHF; not observed during appropriately timed surveys which included confirmation that a nearby reference population was in peak bloom at the time of the site survey.
Deinandra increscens ssp. *Villosa* Gaviota tarplant	FE/SE/1B.1	Coastal bluffs, fields. Elevation: 30 – 50 m.	**A**	**Habitat Absent:** Outside of known range; not observed during appropriately timed surveys.
Eriodictyon altissimum Indian Knob mountainbalm	FE/SE/1B.1	Sandstone ridges and chaparral. Elevation: < 270 m.	**A**	**Habitat Absent:** No suitable habitat present within survey areas; not observed during appropriately timed surveys.
Eriodictyon capitatum Lompoc yerba santa	FE/SR/1B.2	Ravines, mesas, chaparral, Bishop-pine woodland. Elevation: 40 – 900 m	**A**	**Habitat Absent:** Survey areas are outside of known range; not observed during surveys.
Layia carnosa Beach layia	FE/FE/1B.1	Coastal dunes. Elevation: < 70 m.	**A**	**Habitat Absent:** No suitable habitat present within survey areas; not observed during appropriately timed surveys. Outside of known range.

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Scientific/Common Name	Listing Status (Fed/State/ Other)	Habitat Description	Habitat Present/ Absent	Rationale for Presence/Absence Determination
Lupinus nipomensis Nipomo mesa lupine	FE/SE/1B.1	Stable dunes. Elevation: < 25 m.	**A**	**Habitat Absent:** No suitable habitat present within survey areas; not observed during appropriately timed surveys.
Nasturtium gambelii Gambel's water cress	FE/ST/1B.1	Marshes, streambanks, lake margins. Elevation: < 350 m.	**HP**	**Habitat Present (DCPP):** Suitable habitat is present at the DCPP site, but known range is limited to marshes and lakes within and south of the Oceano dunes; not observed during appropriately timed surveys.
Suaeda californica California seablite	FE/-/1B.1	Margins of coastal salt marshes. Elevations: < 5 m.	**A**	**Habitat Absent:** No suitable habitat present within survey areas; not observed during appropriately timed surveys.
Wildlife - Terrestrial				
Amphibians				
Ambystoma californiense California tiger salamander	FT/ST/-	Grasslands and low foothills in or near long-lasting seasonal pools, suitable for breeding; also require burrows or other dry-season refuge sites.	**A**	**Habitat Absent:** No suitable breeding habitat present within survey areas; not observed during surveys. DCPP and PBMHF are outside of known range.
Anaxyrus californicus Arroyo toad	FE/-/CSC	Washes, arroyos, sandy riverbanks, and riparian areas with exposed sandy banks and quiet pools with sandy or gravel bottoms without silt.	**A**	**Habitat Absent:** No suitable habitat present within survey areas; not observed during surveys. Outside of known range.
Rana draytonii California red-legged frog	FT/-/CSC	Lowlands and foothills in or near sources of deep water with dense,	**HP**	**Habitat Present (DCPP, PBMHF, and SMVR-SM):** Observed within Diablo Creek at outlet pool of 230 kV yard culvert at DCPP. Suitable habitat present

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Table 1: Listed, Proposed Species and Critical Habitat Potentially Occurring or Known to Occur in the Project Area

Scientific/Common Name	Listing Status (Fed/State/ Other)	Habitat Description	Habitat Present/ Absent	Rationale for Presence/Absence Determination
		shrubby or emergent riparian vegetation.		adjacent to PBMHF and SMVR-SM; may disperse through upland habitat on these sites. No suitable habitat present at SMVR-SB.
Birds				
Charadrius nivosus nivosus Western snowy plover	MBTA, FT/-/CSC, CDFG Section 3503	Sandy beaches, salt pond levees, and shorelines of large alkali lakes. Needs friable soil for nesting.	**A**	**Habitat Absent:** No suitable habitat on site; not observed during surveys.
Coccyzus americanus occidentalis Western yellow-billed cuckoo	MBTA, FT/SE/CDFG Section 3503	Dense woodlands and low foliage near slow moving water bodies. Forages in cottonwood trees and builds nests in trees and shrubs. Current CA range limited to Sacramento and Kern Rivers.	**A**	**Habitat Absent:** No suitable habitat on site; not observed during surveys. Outside of known range.
Rallus obsoletus obsoletus California Ridgway's rail (formerly *Rallus longirostris obsoletus*, California clapper rail.)	MBTA, FE/SE/FP, CDFG Section 3503	Found in wetlands and coastal salt marshes.	**A**	**Habitat Absent:** No suitable nesting habitat present within survey areas; not observed during surveys.
Sternula antillarum browni California least tern	MBTA, FE/SE/FP, CDFG Section 3503	Seacoasts, beaches, bays, estuaries, lagoons, and lakes. Needs sandy or gravelly areas for construction of nests.	**A**	**Habitat Absent:** No suitable nesting habitat present within survey areas; may forage offshore at DCPP.

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Table 1: Listed, Proposed Species and Critical Habitat Potentially Occurring or Known to Occur in the Project Area

Scientific/Common Name	Listing Status (Fed/State/ Other)	Habitat Description	Habitat Present/ Absent	Rationale for Presence/Absence Determination
Vireo bellii pusillus Least Bell's vireo	MBTA, FE/SE/CDFG Section 3503	Dense, low, shrubby vegetation; riparian areas, brushy fields, second-growth forest or woodland, scrub oak, coastal chaparral, and mesquite brushlands; often near water in arid regions. Nests suspended from low branches of small trees or shrubs.	**A**	**Habitat Absent:** No dense, low, shrubby, vegetation that would provide suitable nesting habitat on site; not observed during surveys.
Terrestrial Invertebrates				
Branchinecta lynchi Vernal pool fairy shrimp	FT/-/-	Vernal pools and depressions in grasslands.	**A**	**Habitat Absent:** No suitable vernal pool or depression habitat observed within survey areas; not observed during surveys.
Danaus plexippus Monarch butterfly	FC/-/-	Relies on milkweed and protected stands of trees for roosting, usually blue gum. Found in fields, meadows, weedy areas, marshes, and along roadsides.	**HP**	**Habitat Present (PBMHF and SMVR-SB):** Suitable roosting habitat present at PBMHF and SMVR-SB and known nearby roost sites. No suitable roosting habitat present at DCPP and SMVR-SM.
Helminthoglypta walkeriana Morro shoulderband snail	FE/-/-	Found in association with woody coastal dune scrub and under Iceplant.	**A**	**Habitat Absent:** No suitable habitat present within survey areas; not observed during surveys. Outside of known range.

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Table 1: Listed, Proposed Species and Critical Habitat Potentially Occurring or Known to Occur in the Project Area

Scientific/Common Name	Listing Status (Fed/State/ Other)	Habitat Description	Habitat Present/ Absent	Rationale for Presence/Absence Determination
Terrestrial Mammals				
Dipodomys heermanni morroensis Morro Bay kangaroo rat	FE/SE/FP	Stabilized sand dune, coastal dune and coastal sage scrub; sandy soils essential for burrowing. Localized south of Morro Bay.	**A**	**Habitat Absent:** No suitable habitat observed within survey areas and outside of known range.
Wildlife - Marine				
Fish				
Acipenser medirostris Green sturgeon (Southern distinct population segment [DPS])	FT/-/CSC	Spawn in Rogue, Klamath, and Sacramento Rivers. Oceanic phase occurs in bays and estuaries from Bering Seas, Alaska to Mexico.	**A**	**Habitat Absent:** No suitable oceanic habitat present offshore; not observed during decades of scientific survey dives and other studies.
Eucyclogobius newberryi Tidewater goby	FE/-/CSC	Found in shallow water lagoons and lower stream reaches, they need fairly still but not stagnant water and high oxygen levels. Can tolerate an array of different conditions depending on seasonal changes.	**A**	**Habitat Absent:** CNDDB occurrence in marine environment near discharge structure but no suitable adult habitat present within drainages at DCPP for a population to become established. No suitable habitat present at PBMHF, SMVR-SM, and SMVR-SB.
Gasterosteus aculeatus williamsoni Unarmored threespine stickleback	FE/SE/FP	Ranging from small ephemeral streams to larger water bodies. No tolerance of high gradient streams and prefers lower elevations. Benthic and limnetic ecotypes.	**A**	**Habitat Absent:** DCPP and PBMHF outside of known range. No suitable habitat present at SMVR-SM and SMVR-SB. Not observed during surveys.

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Table 1: Listed, Proposed Species and Critical Habitat Potentially Occurring or Known to Occur in the Project Area

Scientific/Common Name	Listing Status (Fed/State/ Other)	Habitat Description	Habitat Present/ Absent	Rationale for Presence/Absence Determination
Oncorhynchus mykiss Steelhead - South-central California coast DPS - Southern California DPS - California Central Valley DPS - Northern California DPS - Central California coast DPS	FT/-/CSC FE/-/- FT/-/- FT/-/- FT/-/-	Feed, grow, and mature in the ocean and spawn in rivers and streams along the California coast. Each DPS utilize different river systems to spawn. DCPP falls within range of spawning habitat for south-central California coast DPS.	**HP**	**Habitat Present (DCPP):** DCPP is within range of spawning habitat for south-central California coast DPS. Suitable habitat present within the lower reaches of Diablo Creek below the first culvert. *O. mykiss* observed in lower Diablo Creek. Individuals from other DPS may occur offshore; however, steelhead have not been documented offshore during countless diver surveys. No suitable habitat present at PBMHF, SMVR-SM, and SMVR-SB.
Oncorhynchus tshawytscha Chinook salmon - Upper Klamath and Trinity Rivers Evolutionary Significant Units (ESU) - California coastal ESU - Sacramento River winter-run ESU - Central Valley spring-run ESU	FC/SCE/CSC FT/-/- FE/SE/- FT/ST/-	Feed, grow, and mature in the ocean and spawn in rivers and streams along the California coast. ESUs utilize different river systems or spawn at different times of year in the same system.	**HP – Offshore**	**Habitat Present (DCPP):** No ESUs spawn in nearby rivers; however, individuals of all ESUs may occur in coastal waters along the California coast. Chinook salmon have not been documented offshore during countless diver surveys. No suitable habitat present at PBMHF, SMVR-SM, and SMVR-SB.
Marine Invertebrates				
Haliotus cracherodii Black abalone	FE, CH/-/-	Rocky intertidal and shallow rocky subtidal zones from Point Arena south to Bahia Tortugas, Mexico.	**HP**	**Habitat Present (DCPP):** Documented on breakwaters at DCPP. Critical Habitat present at DCPP. No suitable habitat or Critical Habitat present at PBMHF, SMVR-SM, and SMVR-SB.

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Scientific/Common Name	Listing Status (Fed/State/ Other)	Habitat Description	Habitat Present/ Absent	Rationale for Presence/Absence Determination
Marine Mammals				
Arctocephalus townsendii Guadalupe fur seal	FT/ST/FP	Breeds at sites along the Pacific coast of Mexico to southern California. Forage many miles offshore in California waters.	**A**	**Habitat Absent:** Due to far offshore distribution and rarity, not expected to occur at DCPP. No known occurrences at DCPP. No suitable oceanic habitat at PBMHF, SMVR-SM, and SMVR-SB.
Balaenoptera musculus Blue whale	FE/-/-	Occur in California waters, including waters adjacent to the DCPP site. Feed during summer in northern latitudes and migrate to tropical/sub-tropical waters in winter to calve and breed.	**HP - Offshore**	**Habitat Present (DCPP):** Known to occur ~40 miles offshore of DCPP from August through September. May encounter vessels used for Project-related activities. No suitable oceanic habitat present at PBMHF, SMVR-SM, and SMRV-SB.
Balaenoptera physalus Fin whale	FE/-/-	Occur in deep waters offshore of California, including waters adjacent to the DCPP site. Some occur year-round, while most migrate from summer Arctic and Antarctic feeding areas to tropical winter breeding and calving areas.	**HP – Offshore**	**Habitat Present (DCPP):** Infrequently observed offshore of DCPP. May encounter vessels used for Project activities. No suitable oceanic habitat present at PBMHF, SMVR-SM, and SMVR-SB.

Table 1: Listed, Proposed Species and Critical Habitat Potentially Occurring or Known to Occur in the Project Area

Scientific/Common Name	Listing Status (Fed/State/ Other)	Habitat Description	Habitat Present/ Absent	Rationale for Presence/Absence Determination
Enhydra lutris nereis Southern sea otter	FT/-/-	Nearshore from San Mateo County to Santa Barbara County. Forage in both rocky and soft bottom nearshore habitats.	**HP**	**Habitat Present (DCPP):** Individuals commonly observed in both the Intake and Diablo Coves. Typically stay overnight in coves and disperse to forage along the nearby coast during the day. No suitable habitat present at PBMHF, SMVR-SM, and SMVR-SB.
Megaptera novaeangliae Humpback whale - Central America DPS - Mexico DPS	 FE/-/- FT/-/-	Occur in California waters, including waters adjacent to the DCPP site. Typically winter in equatorial breeding grounds and rest of year in higher latitude feeding areas.	**HP – Offshore**	**Habitat Present (DCPP):** Observed regularly at DCPP typically 0.6 – 1.2 miles offshore from late summer through early winter. May encounter vessels used for Project activities. No suitable habitat at PBMHF, SMVR-SM, and SMVR-SB.
Physeter macrocephalus Sperm whale	FE/-/-	Found year-round in California waters, reaching peak abundance from April through mid-June and from the end of August through mid-November.	**HP – Offshore**	**Habitat Present (DCPP):** Occasionally observed offshore DCPP. May encounter vessels used for Project activities. No suitable habitat at PBMHF, SMVR-SM, and SMVR-SB.
Marine Reptiles				
Caretta caretta Loggerhead turtle (Northern Pacific DPS)	FE/-/-	Trans-Pacific migration from nesting sites in Japan to offshore foraging sites in Mexico passes offshore of DCPP.	**HP - Offshore**	**Habitat Present (DCPP):** Offshore habitat present at DCPP. Unlikely to occur nearshore. Low probability to encounter vessels used for Project activities. No known records at DCPP. No suitable habitat present at PBMHF, SMVR-SM, SMVR-SB.

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Table 1: Listed, Proposed Species and Critical Habitat Potentially Occurring or Known to Occur in the Project Area

Scientific/Common Name	Listing Status (Fed/State/ Other)	Habitat Description	Habitat Present/ Absent	Rationale for Presence/Absence Determination
Chelonia mydas Green turtle (east Pacific DPS)	FT/-/-	Forage in coastal waters along open coastline or in protected bays and lagoons in tropical, subtropical, and, to a lesser extent, temperate waters. No nesting beaches occur in California.	**HP - Offshore**	**Habitat Present (DCPP):** Green sea turtles have been documented nearshore at DCPP on 15 occasions since 1977; however, are typically uncommon. No suitable habitat present at PBMHF, SMVR-SM, and SMVR-SB.
Dermochelys coriacea Leatherback turtle	FE, CH/-/-	Forage offshore along the California coast and nest in the western Pacific and Central America.	**HP – Offshore**	**Habitat Present (DCPP):** Potential feeding area several miles offshore of DCPP. No known sightings at DCPP. No suitable habitat present at PBMHF, SMVR-SM, and SMVR-SB.
Lepidochelys olivacea Pacific olive Ridley turtle - Mexico's Pacific coast breeding population - All other populations	FE/-/- FT/-/-	Nest in eastern Pacific on sandy beaches from Mexico to Costa Rica. Typically feeds offshore at oceanic features such as upwelling currents	**A**	**Habitat Absent:** No known records at DCPP site. Not expected to occur at DCPP. No suitable habitat at PBMHF, SMVR-SM, and SMVR-SB.
Essential Fish Habitat				
Surfgrass Beds	HAPC	Nearshore, subtidal habitat physically and ecologically defined and characterized by the presence of *Phyllospadix* sp.	**HP**	**Habitat Present (DCPP):** Surfgrass has been regularly recorded in the lower intertidal zone within Diablo Cove.
Eelgrass Beds	HAPC	Aquatic estuarine community defined by the presence and ecological contribution of *Zostera* sp.	**HP**	**Habitat Present (DCPP):** Eelgrass beds occur in the shallow subtidal habitat within the eastern half of the Intake Cove.

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Scientific/Common Name	Listing Status (Fed/State/ Other)	Habitat Description	Habitat Present/ Absent	Rationale for Presence/Absence Determination
Kelp Forest	HAPC	Marine subtidal biotic community characterized by the presence and ecological influence of kelp (*Macrocystis* sp.*, Nereocystis* sp.).	**HP**	**Habitat Present (DCPP):** Kelp forest habitat is present throughout Diablo Cove and the Intake Cove.
Coastal Pelagic Species	FMP	Managed species with designated habitat areas occur at DCPP site.	**HP**	**Habitat Present (DCPP):** Species with designated habitat areas occur at DCPP.
Highly Migratory Species	FMP	Managed species with designated habitat areas occur at DCPP site.	**HP**	**Habitat Present (DCPP):** Species with designated habitat areas occur at DCPP.
Pacific Coast Groundfish	FMP	Managed species with designated habitat areas occur at DCPP site.	**HP**	**Habitat Present (DCPP):** Species with designated habitat areas occur at DCPP.
Pacific Coast Salmon	FMP	Managed species with designated habitat areas occur at DCPP site.	**HP**	**Habitat Present (DCPP):** Species with designated habitat areas occur at DCPP.

Status Codes:

Federal:

FE = Federal Endangered
FT = Federal Threatened
FC = Federal Candidate
CH = Critical Habitat
MBTA = Migratory Bird Treaty Act

State:

SE = State Endangered
ST = State Threatened
SR = State Rare

Habitat: Presence/Absence:

Absent **[A]** means no further assessment needed. Habitat Present **[HP]** means general habitat is present on site and species may be present.

California Department of Fish and Game:

FP = Fully Protected
CSC= California Species of Special Concern
CDFG Section 3503 = Protected by Section 3503 of CDFG code
SA = On Special Animals List

National Oceanic and Atmospheric Administration Fisheries

HAPC = Habitat Areas of Particular Concern
FMP = Fishery Management Plan

Federally Listed Botanical Species

Of the thirteen federally listed botanical species evaluated in Table 1, three were determined to have the potential to occur within the Project areas: marsh sandwort, Pismo clarkia, and Gambel's watercress.

Marsh Sandwort (*Arenaria paludicola*), Federal and State Endangered / CRPR 1B.1
Marsh sandwort is a perennial herb that is currently only known from two naturally extant populations, in Black Lake Canyon and at Oso Flaco Lake in southern San Luis Obispo County, as well as two re-introduced populations in San Luis Obispo County (CDFW 2013 and CNPS 2020). This species occurs in wet meadows and marshes at elevations below 984 feet (300 meters). The typical blooming period is from late spring to summer (Jepson Flora Project 2020). Documented threats to this species include vehicles, development, erosion and hydrological alterations, and competition from non-native plants (CNPS 2020). Low suitability habitat is present at DCPP and PBMHF. This species was not observed during appropriately timed surveys and therefore is not expected to occur.

Pismo Clarkia (*Clarkia speciosa* subsp. *immaculata*), Federal Endangered/State Rare/CRPR 1B.1
Pismo clarkia is an annual herb that is endemic to coastal areas of central San Luis Obispo County. This species occurs on sandy coastal hills, generally in openings of oak woodland, as well as disturbed roadsides, at elevations below 328 feet (100 meters). The typical blooming period is from May to July (Jepson Flora Project 2020). Documented threats to this species include development, road maintenance, and possibly grazing (CNPS 2020). Suitable habitat is present at PBMHF; however, this species was not observed during appropriately timed surveys and therefore is not expected to occur.

Gambel's Watercress (*Nasturtium gambelii*), Federal Endangered/State Threatened/CRPR 1B.1
Gambel's watercress is an aquatic perennial herb that is only known from four extant populations in California, along the central and southern coast. This species occurs in marshes, streambanks, and lake margins at elevations below 1,148 feet (350 meters). The typical blooming period is from May to August (Jepson Flora Project 2020). Documented threats to this species include habitat loss, erosion, and altered hydrologic regimes from gum trees (CNPS 2020). Suitable habitat is present at the DCPP site, but known range is limited to marshes and lakes within and south of the Oceano dunes. In addition, this species was not observed during appropriately timed surveys and therefore is not expected to occur.

Federally Listed Wildlife Species

Of the twenty-eight federally listed wildlife species evaluated in Table 1, thirteen were determined to have the potential to occur or have been observed within the Project areas: California red-legged frog, monarch butterfly, steelhead, chinook salmon, black abalone, blue whale, fin whale, southern sea otter, humpback whale, sperm whale, loggerhead turtle, green turtle, and leatherback turtle.

Terrestrial Wildlife

Amphibians

California red-legged frog (*Rana draytonii*), Federal Threatened/State CSC

California red-legged frog (CRLF) is known to occur from Mendocino County to Northern Baja California and eastward through the Northern Sacramento Valley and Sierra Nevada foothills at elevations below 1,525 meters (5,000 feet). They require permanent or semi-permanent bodies of water such as lakes, streams, and ponds with plant cover for foraging and breeding. Reproduction occurs in aquatic habitats from late November to early April. Egg masses are laid in the water following breeding, often on emergent vegetation. Following metamorphosis, juvenile frogs may remain in the breeding ponds or disperse into uplands regardless of topography. CRLF have been documented dispersing over two miles from aquatic habitat. Dispersing frogs may seek refuge in small mammal burrows or soil fractures (Zeiner et al. 1988-1990).

Sections of Diablo Creek and Pismo Creek provide year-round aquatic habitat for CRLF and other aquatic and semi-aquatic species. A CRLF was documented in the scour pool downstream of the 500 kV and 230 kV switchyard culvert at DCPP during protocol surveys (refer to CRLF Survey Report, Terra Verde 2020, and Figure 4.4.1-1 in the TBRA, Terra Verde and ERM 2020). The retention pond adjacent to SMVR-SM likely provides year-round aquatic habitat for CRLF and there is a documented CRLF occurrence within the stormwater basin southeast of the site, approximately 900 feet away.

Terrestrial Invertebrates

Monarch butterfly (*Danaus plexippus*), Federal Candidate

Monarch butterflies begin migrating in early November to over-wintering sites in southern California and Mexico. They fly north for breeding as milkweeds (*Asclepias* spp.) come into bloom in the spring, which is required for larval development. Wintering monarchs have specific habitat requirements for overwintering sites, including dappled sunlight, high humidity, fresh water, and an absence of freezing temperature or high winds (USFWS 2020). Overwintering sites are typically located within 1.5 miles of the Pacific Ocean, in areas with moderate temperatures. In central and southern California, they typically aggregate on Monterey pine (*Pinus radiata*) and blue gums (*Eucalyptus globulus*) (USFWS 2020). The mixed stands of coast live oak woodland and ornamental pine and blue gum trees at the PBMHF and the eucalyptus grove at SMVR-SB provide suitable overwintering habitat for monarch butterfly.

Marine Wildlife

Fish

Steelhead (*Oncorhynchus mykiss*), Federal Endangered (Southern California DPS), Federal Threatened (California Central California, Northern California, Central California coast, South-central California coast DPS)

Steelhead live in the ocean as adults but migrate to freshwater streams or creeks that have cool, flowing water, access to the ocean, and available food sources for spawning. Under the FESA and

the CESA, anadromous steelhead salmon are divided into management units called DPSs. Each DPS is associated with a stretch of coastline that contains several spawning habitats for steelhead salmon. South-central California coast (SCCC) DPS encompasses streams upcoast and downcoast of the DCPP site, from Pajaro River south to, but not including the Santa Maria River (NMFS 2013 and 2016, 61 FR 41541). Adults in San Luis Obispo County enter freshwater systems for spawning from December to March, depending on specific stream conditions. Specific habitat requirements for SCCC steelhead vary by life stage. In general, the crucial requirements of steelhead habitat include adequate substrate, water quality, water quantity, water temperature, water velocity, and cover from riparian vegetation. This distinct population segment of steelhead tends to utilize perennial streams dominated by woody debris with relatively stable water flows (NMFS 2013). Steelhead have been documented in Coon Creek, which enters the ocean approximately 4 miles upcoast of the DCPP site. San Luis Creek joins the ocean approximately 10 miles downcoast of the DCPP site and is known to have spawning steelhead salmon. While *O. mykiss* have been documented in Diablo Creek (Aspen 2005 cited in PG&E 2015) the results of the survey did not determine whether these fish were the anadromous form (steelhead) or resident rainbow trout. Further, *O. mykiss* were observed in lower Diablo Creek by Terra Verde in 2020 and presumed to be resident form rainbow trout (Terra Verde and ERM 2020). Steelhead may occur seasonally within the offshore waters at the Project site because of their known spawning runs within Coon Creek and San Luis Obispo Creek north and south of DCPP and oceanic distribution which overlaps the Project area. In addition, while locally spawning steelhead salmon may be more likely to have originated from the SCCC DPS, steelhead salmon that occur in the marine portions of DCPP may belong to any of the West Coast DPS designated under the FESA. However, despite nearby spawning runs, steelhead have not been recorded in the countless diver surveys at the facility, so are highly unlikely to occur.

Chinook salmon (*Oncorhynchus tshawytscha*), Federal Candidate/State Candidate Endangered/State CSC (Upper Klamath and Trinity rivers ESU), Federal Threatened (California coastal ESU), Federal Endangered/State Endangered (Sacramento River winter-run ESU), Federal Threatened/State Threatened (Central Valley spring-run ESU)

Chinook salmon is an anadromous salmonid fish that spawns in freshwater streams and spends part of its life in the ocean. San Francisco Bay is the most southerly river mouth that Chinook salmon migrate through in California (Riddell et al. 2018). These include fish that are part of the Sacramento River and Central Valley/San Joaquin River ESUs (Satterthwaite et al. 2015). During their oceanic phase, Chinook salmon are present in the area adjacent to the DCPP site (Bellinger et al. 2015). They are regularly caught by recreational and commercial fishermen that launch from Port San Luis and Morro Bay during the California salmon fishing season, which runs from May to October. However, Chinook salmon do not use rivers and streams adjacent to the DCPP site to spawn. Chinook salmon may occur at the Project site because their oceanic distribution overlaps the Project area; however, they have not been recorded in the countless diver surveys at the facility, so are highly unlikely to occur.

Marine Invertebrates

Black abalone (*Haliotus cracherodii*), Federal Endangered

Black abalone is one of eight species of abalone that occur within California's ocean waters. The current geographical range for this species extends from Point Arena (Mendocino County, California) south to Bahia Tortugas, Mexico (NOAA 2018a, NMFS 2018, 2019). Adult black abalone are relatively sedentary, benthic gastropod mollusks (a type of snail) that can reach 8 inches long and can live up to 30 years. Adults and juveniles inhabit rocky faces, overhangs, and cracks in the rocky intertidal and shallow rocky subtidal zone from the upper intertidal to subtidal depths of 20 feet. They are most commonly observed in the middle and lower intertidal in habitats with complex surfaces and deep crevices that provide shelter for juvenile recruitment and adult survival. Attached or drift macroalgae are important food resources for post-metamorphic juvenile and adult black abalone. Black abalone are broadcast spawners and spawning is thought to occur from spring to early autumn. Larval black abalone rely entirely on the egg yolk sac for food (lecithrotrophic) and are understood to drift for 3 to10 days in the plankton before settling to suitable intertidal habitat. Preferred settlement habitat includes rocky intertidal habitat occupied by adults and crustose coralline algae. The black abalone population started declining in the late 1980s and continued through the 1990s. This decline was due to the disease called Withering Syndrome that is caused by a prokaryotic pathogen that is currently called *Candidatus xenohaliotis californiensis*. An established population of black abalone occurs at the DCPP site. One black abalone was found during the recent surveys on the east breakwater and three were found on the west breakwater. All four abalone were observed on the intertidal transects on the outside of the Intake Cove.

Marine Mammals

Blue whale (*Balaenoptera musculus*), Federal Endangered

Blue whale is the largest of the Mysticete whales and occur in California waters, including waters adjacent to the DCPP site. Blue whales spend summers feeding in northern latitudes and migrate to tropical/sub-tropical latitudes in the winter to calve and breed (NOAA 2019). Stock assessments completed under the MMPA distinguish between an eastern and central Pacific stock, based largely on whale song data that indicate population distribution during the feeding season. The eastern Pacific stock feeding grounds range from the Gulf of Alaska to the eastern tropical Pacific. Most blue whales in the eastern Pacific stock are believed to migrate south to spend the winter and spring in high productivity areas off Baja California, the Gulf of California, and on the Costa Rica Dome. Blue whales are seasonally abundant in California from July through October. There are no known occurrences of blue whales at the DCPP site; however, data available from GPS satellite tags (Bailey et al. 2009) indicate the persistent presence of blue whales within ~40 miles of the DCPP site for at least the period from August through September. Blue whales have been observed on 15 occasions on transects completed within 37 miles of the DCPP site between 1987 and 2015 (FIAER et al. 2017). This species is highly unlikely to occur at the Project site during Project activities due to their offshore distribution; however, may encounter vessels used for Project-related barging activities.

Fin whale (*Balaenoptera physalus*), Federal Endangered

Fin whales are a Mysticete whale and demonstrate a similar distribution pattern to blue whales in California waters. Fin whales are typically abundant from June through November, although a resident population is apparent in the Southern California Bight region that appears to overwinter in the southern reaches of this region (Irvine et al. 2019). Some satellite telemetry data appear to support a more offshore distribution for fin whales relative to blue whales (Schorr et al. 2010, Irvine et al. 2019). There are no known occurrences of fin whale at the DCPP site. Fin whales have been observed on eight occasions on transects completed within 37 miles of the DCPP site between 1987 and 2015 (FIAER et al. 2017). It is clear the animal's range encompasses the DCPP area and therefore they may occur at the Project site, but they are infrequently observed in the immediate region. As such, it is highly unlikely that fin whales will occur at the Project site during Project activities; however, this species may encounter vessels used for Project-related barging activities offshore.

Southern sea otter (*Enhydra lutris nereis*), Federal Threatened

The southern sea otter is a small marine dwelling member of the weasel family (Mustelidae). They live along the Pacific Coast from San Mateo County to Santa Barbara County in California (USFWS 2015, USFWS 2019). Southern sea otters forage in both rocky and soft-sediment communities in water depths generally 82 feet or less. Rocky habitats that are topographically heterogeneous and support kelp forests are likely to support the greatest diversity and abundance of sea otter food resources, which include abalone, rock crabs, sea urchins, kelp crabs, clams, turban snails, mussels, octopus, barnacles, scallops, sea stars, and chitons. Mating and pupping occur throughout the year, although peak pupping occurs from October through January and a secondary peak from March through April. Females typically birth a single pup and provide maternal care for up to 6 months after birth. The sea otter was nearly extirpated by the fur trade during the 18th and 19th centuries. Sea otters are commonly seen along the central California coast, and individuals utilize nearshore kelp beds as rafting and feeding areas. Individuals are commonly observed in both the Intake and Diablo Coves with groups of up to approximately 30 southern sea otters regularly occurring within the Intake Cove. These animals typically stay overnight within the cove and disperse to offshore foraging areas during the day. Preferred rafting locations in the immediate vicinity of the DCPP include the protected areas of the Intake Cove, North Diablo Cove, and Lion Rock.

Humpback whale (*Megaptera novaeangliae*), Federal Endangered (Central American DPS), Federal Threatened (Mexico DPS)

Humpback whales are a common Mysticete species seen along the northern and central California coastline. Humpback whales from two DPS, Central American and Mexico, commonly occur in California waters during their feeding season from fall to the beginning of winter (Bettridge et al. 2015). Most humpback whales spend winters in equatorial (lower latitude) breeding grounds and the rest of the year in poleward (higher latitude) feeding areas, however some humpback whales are found in their feeding areas in winter months. Humpback whales are found relatively close to shore and are very active towards the surface, exhibiting behaviors such

as breaching, or slapping the surface of the water with their pectoral fins. Humpback whales are more frequently observed at four discrete feeding areas, the closest of which to the DCPP site begins at Morro Bay and extends south to Point Sal. Whales are most common in this region from April through November. The highest level of feeding activity in central California occurs at the continental shelf edge and decreases inshore of this area. Humpback whales are at risk of vessel strikes and can encounter construction activities due to their close proximity to shore and the surface. Humpback whales are observed regularly at the DCPP site typically 0.6 to 1.2 miles offshore of the facility and most commonly from late summer through early winter (Tenera and ERM 2020). Whales have been observed feeding as close to the DCPP site as the seaward side of Diablo Rock (less than 1,640 feet from the discharge) on at least one occasion (J. Steinbeck [Tenera] pers. obs.) and have been observed on 52 occasions on transects completed within 37 miles of the DCPP site between 1987 and 2015 (FIAER et al. 2017). They are regularly observed at the DCPP site, although their distribution remains offshore of the facility and they do not come close to the Project area (Tenera and ERM 2020). However, due to their offshore presence may encounter vessels used for Project-related barging activities.

Sperm whale (*Physeter macrocephalus*), Federal Endangered

Sperm whales are the largest member of the Odontocetes (toothed whales) and occur in California waters, including waters adjacent to the DCPP site. Sperm whales are distributed across the entire North Pacific and into the southern Bering Sea in summer, but the majority are thought to be south of 40°N latitude in winter (NOAA 2018b). Sperm whales are found year-round in California waters, but they reach peak abundance from April through mid-June and from the end of August through mid-November. Sperm whales have been observed on five occasions on transects completed within 37 miles of the DCPP site since between 1987 and 2015; all instances occurred on May 16, 2008 (FIAER et al. 2017). However, there are no known occurrences of sperm whale at the DCPP site (Tenera and ERM 2020). Sperm whales are highly unlikely to occur at the Project site during Project activities due to their offshore distribution; however, may encounter vessels used for Project-related barging activities offshore.

Marine Reptiles

Loggerhead turtle (*Caretta caretta*), Federal Endangered

Loggerhead turtles are globally distributed, with populations inhabiting the Pacific, Atlantic, Indian, and Mediterranean basins (Conant et al. 2009, Seminoff et al. 2012). The species is divided into nine DPSs under the FESA. The North Pacific Ocean DPS encompasses all loggerhead turtles that may occur in Pacific waters of the U.S. Japan is the only documented location for nesting loggerhead turtles in the North Pacific DPS. While it is possible that juvenile loggerhead turtle may transit waters adjacent to California on their trans-Pacific migration from Japan to foraging areas offshore Mexico, and adults may be found in California on their migration from Mexico to nesting areas in Japan, these turtles are highly unlikely to be close enough to the shoreline and subsequently the DCPP site. There are no known records of loggerhead turtle sightings at the

DCPP site; however, this species may encounter vessels used for Project-related barging activities offshore.

Green turtle (*Chelonia mydas*), Federal Threatened

Green turtles occur throughout tropical, subtropical waters, and, to a lesser extent, temperate waters around the world (Seminoff et al. 2015). Most green turtles spend the majority of their lives in coastal foraging grounds along open coastline or in protected bays and lagoons. They primarily consume marine algae and seagrass, although eastern Pacific green turtles forage on a greater proportion of invertebrates than other green turtles. This species nest on sandy, ocean-facing mainland and island beaches in the tropics and sub-tropics. No nesting beaches occur in California, and green turtles are not resident in any parts of California north of a persistent population in San Diego Bay that seasonally aggregated in the warm-water discharge of a power plant (MacDonald et al. 2012). However, rare occurrences of green turtles have been reported in the DCPP vicinity. Green turtles were observed on two occasions at the DCPP site in 1977, prior to reactor start-up and plant commercial operation. Since operation of the facility, live green turtles have been discovered at DCPP's Intake Structure on thirteen occasions during commercial operations: July 26, 2019; September 22, 2014; September 21, 2012; August 08, 2010; September 08, 2009; July 23, 2007; February 27, 2001; April 16, 2000; August 24, 1999; May 29, 1999; June 12, 1997; January 10, 1997; and April 27, 1994 (per correspondence with Bryan Cunningham, PG&E and John Steinbeck, Tenera on August 18, 2020). Therefore, they may occur at the Project site, however they are typically uncommon and so have a low likelihood of occurring during Project activities.

Leatherback turtle (*Dermochelys coriacea*), Federal Endangered

Leatherback turtles are a species of marine turtle found in the Pacific Ocean, across the Caribbean, the Atlantic Ocean, and the Gulf of Mexico (NMFS and USFWS 1998). Leatherback turtles that occur in California waters migrate here to feed from nesting areas in both the western Pacific and Central America. Leatherback turtles are estimated to be the most common sea turtle in U.S. Pacific waters with sightings along the coast of California peaking in August. While there are no known records of leatherback turtle sightings at the DCPP site, telemetry studies (Benson et al. 2011) indicate potential feeding areas several miles offshore of the DCPP site. Due to their offshore distribution, leatherback turtles are highly unlikely to occur at the Project site during Project activities; however, they may be encountered by vessels used for Project-related barging activities.

Essential Fish Habitats

Surfgrass

Surfgrass is regularly recorded in the lower intertidal zone within Diablo Cove; however, it was not observed during the surveys conducted immediately around the Discharge Structure and was not observed within the Intake Cove. Surfgrass is not an alga, but a flowering plant, and is categorized as a HAPC because it provides habitat for a variety of fishes and invertebrates.

Surfgrass is sensitive to turbidity effects that can reduce the amount of sunlight that reaches the plant, thereby affecting its ability to photosynthesis.

Eelgrass Beds

Beds of eelgrass occur in the shallow subtidal habitat within the eastern half of the Intake Cove (refer to Figure 3.1.2.2-3 in the MBRA [Tenera and ERM 2020]). These beds are in areas closely adjacent to the most downcoast extent of the riprap and graded road. Eelgrass beds are a protected habitat under the Magnuson-Stevens Fishery Act as HAPC because they provide habitat for a variety of fishes and invertebrates. Similar to surfgrass, eelgrass is sensitive to turbidity effects that can reduce the amount of sunlight that reaches the plant, thereby affecting its ability to photosynthesis.

Kelp Forests

Kelp forest habitat is present throughout Diablo Cove and the Intake Cove. Kelp is categorized as a HAPC because it provides habitat for a variety of fishes and invertebrates. Kelp is sensitive to turbidity effects that can reduce the amount of sunlight that reaches the plant. Visual surveys of kelp canopy across Diablo Cove have indicated that the location of kelp in parts of the cove have shifted constantly over the decades since 1971. During some years, canopy kelp is extensive and during other years, it is less abundant and patchy. Bull kelp (*Nereocystis lutkeana*) was the dominant species prior to plant operation, but now giant kelp, which is more tolerant of the warmer ocean temperatures inside Diablo Cove caused by the thermal discharge, is more dominant. The subtidal habitat in front of the Discharge Structure was not surveyed due to its inaccessibility while the discharge is operated. However, it is likely to contain canopy forming kelps and understory kelps that are typical throughout the rest of Diablo Cove. Giant kelp was observed throughout the Intake Cove and was particularly dense through the center, at the transition from the sandy area to the west and the more rocky and muddy area to the east. Kelp forest habitat also occurs along the inshore portion of the breakwaters. The presence of this habitat is likely partly created by the operation of the DCPP intake. The intake draws in a large volume of seawater relative to the volume of the Intake Cove, creating a higher rate of seawater exchange than would occur due to tidal exchange alone. This consistent flow of seawater into the Intake Cove provides nutrients and other benefits that likely enhance the productivity of this ecosystem. After operation of the intake ceases, this rate of water exchange is expected to be reduced and may result in a decline in the quality of kelp forest habitat in this area.

Fishery Management Plans

In addition to surfgrass beds, eelgrass beds, and kelp forest, there are four FMPs on the Pacific Coast of North America. All four have managed species with designated habitat areas that occur at the DCPP site (Pacific Fishery Management Council [PFMC] 2016, 2018, 2019a, 2019b). Each FMP designates specific EFH areas and lists specific managed species, or taxonomic groups. Species managed as part of each of the four FMPs have been observed as part of the ongoing Receiving Water Monitoring Program sampling program maintained by Tenera (Tenera and ERM

2020). In addition, managed species that have not been directly observed may occur at the site based on their known distribution.

Impacts to Federally Listed Botanical Species

None of the three federally listed botanical species with suitable habitat present in the Project areas were observed at any of the sites during appropriately timed surveys. As such, no Project impacts to federally listed botanical species are expected.

Impacts to Federally Listed Wildlife Species

Amphibians

California Red-legged Frog

California red-legged frog were identified in lower Diablo Creek at the DCPP site during protocol surveys. No new facilities or decommissioning of existing facilities are proposed within Diablo Creek; however, Project-related work will occur adjacent to the Diablo Creek corridor. As such, California red-legged frogs have potential to be impacted during Project work within areas adjacent to Diablo Creek. California red-legged frogs present in Diablo Creek may disperse through work areas adjacent to the creek, particularly during the rainy season. In addition, there is potential for California red-legged frogs to use small mammal burrows for refuge and cover in nearby upland areas. As such, excavation or crushing of any burrows in uplands adjacent to Diablo Creek during construction may result in direct impacts to this species.

At the PBMHF, California red-legged frogs could utilize Pismo Creek. If they are present at the time of Project implementation, juveniles and adults may disperse through the Project site, particularly during the rainy season and temporarily inhabit aquatic features onsite.

At SMRV-SM, California red-legged frogs have the potential to be impacted during Project work adjacent to the retention pond and stormwater basin when suitable aquatic habitat is present. California red-legged frogs, if present, may disperse through work areas adjacent to the retention pond and stormwater basin, particularly during the rainy season. In addition, there is potential for California red-legged frogs to use small mammal burrows for refuge and cover in nearby terrestrial areas. As such, excavation or crushing any burrows adjacent to the retention basin and stormwater basin during construction may result in direct impacts to this species.

During Project activities, California red-legged frogs may be crushed or trampled by vehicles and equipment. In addition, heavy equipment and ground disturbing activities may collapse burrow systems or completely remove them, resulting in injury to or death of the inhabitants or exclusion by the removal of a vital resource. Vegetation may also be removed as a result of construction activities. Ectotherms rely on vegetative cover for temperature regulation and, further, vegetation provides habitat for prey species.

Terrestrial Invertebrates

Monarch Butterfly

If overwintering populations of monarch are present at PBMHF or SMVR-SB, there is potential for indirect impacts to occur during construction adjacent to eucalyptus groves during the overwintering period (November to February).

Fish

Steelhead

Suitable habitat for steelhead is limited to the lower section of Diablo Creek. No new facilities or decommissioning of existing facilities are proposed within Diablo Creek; however, Project-related work will occur adjacent to the Diablo Creek corridor. As such, indirect impacts may occur as a result of storm related silt and sediment discharges during decommissioning activities, which would result in increased turbidity and reduced water quality.

Chinook Salmon

Chinook salmon may occur at the Project site because their oceanic distribution overlaps the Project area; however, they have not been recorded in the countless diver surveys at the facility, so are highly unlikely to occur. As such, no impacts are expected to Chinook salmon as a result of the Project.

Marine Invertebrates

Black Abalone

Suitable habitat for black abalone is present within the intertidal habitat around the Discharge Structure, in the Intake Cove and along the breakwaters; however, black abalone was only observed along the ocean side of the breakwaters (Tenera and ERM 2020). If present around the Discharge Structure during Project implementation, black abalone may be crushed or killed during cofferdam installation and dewatering. If present along the front of the Intake Structure during Project implementation, black abalone may be crushed or killed during placement of the temporary steel form for Intake Structure closure.

Marine Mammals

Blue Whale, Fin Whale, Humpback Whale, Sperm Whale, and Southern Sea Otter

Listed marine mammals that have potential to occur may be directly impacted by underwater noise produced by impact pile driving during cofferdam construction. If present near the Project site, listed marine mammals may suffer permanent hearing damage due to impact pile driving. The distance at which permanent hearing loss would occur was assessed by hearing groups and is summarized in Table 2 below (PG&E 2020a). In addition, listed marine mammals may be struck and killed or seriously injured by support vessels and vessels used for Project-related offshore barging activities or become entangled in anchoring lines. Indirect impacts due to habitat avoidance may occur as a result of underwater noise from vibratory pile driving for cofferdam construction, and barging and support vessel traffic.

Table 2: Summary of Distances to Underwater Noise Impacts to Listed Marine Mammal Hearing Groups

	Impact Pile Driving		Vibratory Pile Driving		Vessel Noise	
Species group	**Permanent Hearing Loss Distance (meters)**	**Behavioral Shift Distance (meters)**	**Permanent Hearing Loss Distance (meters)**	**Behavioral Shift Distance (meters)**	**Permanent Hearing Loss Distance (meters)**	**Behavioral Shift Distance (meters)**
Low-frequency cetacean (blue whale, fin whale, humpback whale)	830.9	1,825	27.2	4,000	1.3	395
Mid-frequency cetacean (sperm whale)	29.6	1,825	2.4	4,000	0.1	395
Southern sea otter	32.4	1,825	1.2	4,000	0.1	395

Marine Reptiles

Loggerhead Turtle, Green Turtle, and Leatherback Turtle

Listed marine turtle species may be struck and killed or seriously injured by vessels used for Project-related offshore barging activities. Underwater noise generated during Project activities is not expected to directly impact listed turtle species; however, indirect impacts may occur due to temporary habitat avoidance (PG&E 2020a).

Impacts to Essential Fish Habitats

HAPC – Surfgrass Beds, Eelgrass Beds, and Kelp Forest

Kelp forest around the Discharge Structure will be directly impacted during cofferdam installation and dewatering. There is potential for direct impacts to kelp forest, surfgrass beds, and eelgrass beds due to inadvertent release of hazardous material such as fuel and oil from construction equipment and barging and support vessels, and the introduction of non-native aquatic species by barging and support vehicles. Indirect impacts may occur to kelp forest, eelgrass beds, and surfgrass beds as a result of increased turbidity due to offshore Project activities and onshore grading activities. Indirect impacts to eelgrass beds may occur due to shading from barges anchoring within the Intake Cove.

FMP – Coastal Pelagic Species, Highly Migratory Species, Pacific Coast Groundfish, Pacific Coast Salmon

Installation of the temporary cofferdam around the Discharge Structure will result in direct impacts due to the temporary loss of intertidal and subtidal habitat; however, most of the areas affected are severely impacted by the warm discharge waters from the Power Plant during operation and represent poor-quality communities. The area immediately downcoast of the

Discharge Structure that lies beneath the cofferdam footprint supports some good-quality habitat that will be temporary lost. However, once the cofferdam is removed, it is likely this area will provide improved-quality habitat. Therefore, there will be a net benefit of the decommissioning activity that will offset any short-term effects on habitat associated with the four FMPs. As such, no mitigation measures have been recommended (Tenera and ERM 2020).

Impacts to Critical Habitat

Black Abalone Critical Habitat

Direct impacts may occur to black abalone Critical Habitat due to the inadvertent release of hazardous material such as fuel and oil from construction equipment and barging and support vessels. In addition, the construction and dewatering of the cofferdam around the Discharge Structure and the placement of the temporary steel form for the Intake Structure closure will result in the temporary loss of Critical Habitat for black abalone. Indirect impacts may occur to immediately adjacent Critical Habitat due to increased turbidity created during cofferdam construction, dewatering, and removal, placement of the temporary steel form for the Intake Structure closure, vessels anchoring to the seabed, barging activities, and onshore grading activities. However, the intertidal and subtidal habitats that will be directly and indirectly impacted represent relatively poor-quality habitat for this species due to high water temperatures from the facility's discharge waters and due to the vertical concrete curtain forming the ocean-side of the Intake Structure (Tenera and ERM 2020). In addition, the habitat restoration efforts following removal of the Discharge Structure will result in higher quality habitat for black abalone.

Leatherback Turtle Critical Habitat

Direct impacts may occur to leatherback turtle Critical Habitat due to the inadvertent release of hazardous material such as fuel or oil from construction equipment and barging and support vessels. Indirect impacts may occur due to increased turbidity created during offshore Project activities and onshore grading activities.

Mitigation Measures

The following measures have been incorporated here from the various technical biological studies completed for the Project and are recommended to avoid or minimize Project impacts to listed species and associated critical habitat and essential fish habitat areas.

TBIO-1 ***Environmental Awareness Training***

An environmental awareness training shall be presented to all construction personnel by a qualified biologist prior to start of any Project activities. The training shall include color photographs and a description of the ecology of all special-status species known, or with potential, to occur on site, as well as other sensitive resources requiring avoidance near the Project site. The training shall

also include a description of protection measures required by discretionary permits, an overview of the FESA and CESA, and implications of noncompliance with these regulations. This will include an overview of the required avoidance, minimization, and mitigation measures and Project boundaries and avoidance areas. A sign-in sheet with the name and signature of the qualified biologist who presented the training and the names and signatures of the environmental awareness trainees will be kept. A fact sheet conveying the information provided in the environmental awareness training will be provided to all Project personnel and anyone else who may enter the Project site.

When new construction personnel join the Project after the initial training period, they will receive the environmental awareness training from the qualified biologist before beginning work. Visitors to the Project site, such as company executives, administrative staff, or other guests, are not required to receive the environmental awareness training as their time in the Project area will be of short duration. Visitors may be independent on the Project site if they elect to receive the training, but otherwise must be escorted by someone who is trained.

TBIO-2 ***Site Maintenance and General Operations***

The following general measures are recommended to minimize impacts during active construction:

- A 15-mile per hour speed limit will be established for all unpaved roads.
- The use of heavy equipment and vehicles shall be limited to the Project limits and defined staging areas/access points. The boundaries of each work area shall be clearly defined and marked with high visibility fencing. No work shall occur outside these limits.
- In the vicinity of sensitive resources and habitats (e.g., wetlands and drainages), signs shall be posted at the boundary of the work area indicating the presence of sensitive resources.
- Project plans, drawings, and specifications shall show the boundaries of all sensitive resource areas and the location of erosion and sediment controls, delineation of construction limits, and other pertinent measures to ensure the protection of sensitive habitats and resources.
- Disturbance or removal of vegetation will not exceed the minimum necessary to complete operations.
- Staging of equipment and materials shall occur in designated areas with appropriate demarcation and perimeter controls. No staging areas shall be located within 100 feet of sensitive habitat or jurisdictional aquatic resources.
- Secondary containment, such as drip pans, shall be used to prevent leaks and spills of potential contaminants.

- Washing of concrete, paint, or equipment, and refueling and maintenance of equipment shall occur only in designated staging areas. These activities will occur at a minimum of 100 feet from sensitive habitat or jurisdictional aquatic resources, including drainages and wetlands. Sandbags and/or absorbent pads and spill control kits shall always be available for use in the case of a spill or leak.
- Construction equipment shall be inspected by the operator daily to ensure that equipment is in good working order and no fuel or lubricant leaks are present.
- Plastic monofilament netting (erosion control matting) or similar material will not be used on site due to the potential for entangling special-status small mammals or reptiles. Acceptable substitutes are coconut coir matting or tackified hydroseeding compounds.

TBIO-3 ***General Wildlife Protection***

The following general measures are recommended to limit impacts to all wildlife species. Use of these measures does not give "take" authority under FESA or CESA:

- The extent of disturbances will be reduced to the smallest possible area, considering the existing travel network; topography; placement of facilities; location of burrows, nesting sites, and dens; Project safety; and other limiting factors.
- To the extent possible, previously disturbed areas will be used for stockpiling excavated materials, equipment storage and staging, vehicle parking, and other surface-disturbing actions.
- Existing roads and routes will be used to the maximum extent possible.
- All excavations will have wildlife exit ramps maintained at a slope no greater than 1:1 (45 degrees). Excavations will be checked in the morning before beginning work and at the end of each working day. Before trenches are filled, they will be thoroughly inspected for wildlife. All wildlife will be allowed to exit unharmed. If a special-status species does not exit the trench within a reasonable period of time, the appropriate agency will be contacted for guidance. All instances of a federal- or state-listed species discovered within a trench will be reported to the appropriate agency.
- Any contractor, employee, or third party responsible for the inadvertent "take" of a federal- or state-listed species, or that finds a dead or injured special-status species, will immediately report the incident to the Project biologist who will then notify the appropriate agencies within 24 hours by phone and by email. Notification must include date, time, and location of the incident and other pertinent information. Written notification will be provided

to the appropriate agency contacts within 3 working days of the incident and will include the same notification information listed above.

- Any contractor, employee, or third party responsible for inadvertently violating the terms or conditions of the Project will immediately report the incident to the Project biologist who will notify the appropriate agencies within 24 hours by phone and by email. Such violations may include unauthorized habitat disturbance, destruction of a protected plant population, or impacts to wildlife that do not fall into the actions covered by the Project permits. All non-emergency actions will cease immediately until guidance is received from the appropriate agencies. Notification must include the date, time, location, and other pertinent information of the incident.

TBIO-4 ***Biological Resources Monitoring Plan***

A Biological Resources Monitoring Plan shall be developed by a qualified biologist prior to start of any Project activities. The plan shall be submitted to the County and other applicable resources agencies for review and will outline all protocols and procedures for protection of sensitive biological resources on site including responsible parties and contact information. The plan shall require that all initial ground disturbance and vegetation clearing within or immediately adjacent to undeveloped areas will be monitored by a qualified biologist. Specifically, monitoring will be conducted within suitable habitat for known or presumed special-status plant and wildlife species. At a minimum, full time biological monitoring will be conducted by a qualified biologist on a daily basis during the start of construction during initial ground disturbances and for all vegetation removal activities within undeveloped areas or immediately adjacent to undeveloped areas. During the full-time monitoring period, all known occurrences of special-status plants and wildlife, and sensitive resources will be inspected. Once initial site disturbance has been completed, full-time monitoring will be reduced to part-time monitoring during normal Project operations. Exceptions to this would be if an active bird nest or other sensitive species is present that requires full-time or otherwise more frequent monitoring.

Part-time monitoring will consist of weekly site visits. During these weekly visits, all occurrences of special-status plants and wildlife, and sensitive resources within or immediately adjacent to work areas will be checked. Although weekly biological monitoring is expected for normal operations, the biological monitor will be available during all construction activities via cell phone. The “on-call” biologist will be prepared to address any biological resource concerns and/or mobilize to the Project site to aid in species protection measures as needed. Frequent communication will be held between the biologist and PG&E to ensure monitoring is effectively implemented during the appropriate Project activities.

TBIO-10 ***Preconstruction Surveys and Monitoring for California red-legged frogs***

A qualified biologist shall complete a preconstruction survey for CRLFs within 48 hours prior to the start of all work within 100 feet of Diablo Creek and associated suitable aquatic habitat areas at DCPP, within 100 feet of wetlands and Drainage 1 at PBMHF, and within 100 feet of the retention basin and stormwater basin adjacent to SMVR-SM. Surveys shall include an inspection of all work areas, staging areas, and access routes. If work stops for a period of a month or greater, preconstructions surveys will be refreshed prior to work restarting.

Further, when work is occurring within 100 feet of Diablo Creek and associated suitable aquatic habitat areas at DCPP, within 100 feet of wetlands and Drainage 1 at PBMHF, and within 100 feet of the retention basin and stormwater basin adjacent SMVR-SM, daily site inspections shall be completed each morning prior to the start of work within these areas throughout the construction phase. All vehicles, equipment, and materials staged on site overnight shall be inspected during pre-activity surveys and daily site inspections.

In addition, a qualified biologist shall monitor all vegetation clearing and initial earth disturbance within 100 feet of suitable aquatic habitat areas at DCPP, PBMHF, and SMVR-SM. If CRLFs are discovered in the work areas, they shall be allowed to leave the area on their own volition or be relocated by a qualified biologist with appropriate authorization from the USFWS to pre-determined suitable habitat areas located outside the immediate impact area.

TBIO-12 ***Preconstruction Surveys and Protection for Monarch Butterfly***

If work is scheduled to occur at the PBMHF or SMVR-SB during the monarch butterfly over-wintering period (i.e., November to February) within 50 feet of suitable habitat (i.e., Eucalyptus spp. trees), a qualified biologist shall complete a survey for any roosting butterflies. If roosting butterflies are detected, a 50-foot buffer shall be placed around the tree(s) and the dust control measures described below shall be implemented to avoid and/or minimize dust emission impacts.
During the clearing, grading and earth moving operations, water trucks or sprinkler systems shall be used in sufficient quantities to significantly prevent dust emissions from leaving the site. At a minimum, this will include the wetting down of such areas in the late morning hours and at the close of each day's activities. Increased watering frequency will be required whenever there are high wind conditions. The entire area of disturbed soil shall be wet down in such a manner as to create a soil crust at the end of each day's activities.
If work stops for a period of a month or greater, preconstructions surveys will be refreshed prior to work restarting.

TBIO-16 Federal and State Waters/Wetlands, ESHA, and Sensitive Habitat Areas

In addition to Measure TBIO-2, the following recommendations have been provided to protect drainages, wetlands, ESHA, and other sensitive habitats:

- Construction activity in natural areas within 100 feet of drainages and wetlands shall occur only when conditions are dry (between June 1 and September 31).
- To prevent erosion and sedimentation into drainages and wetlands during construction, an erosion and sedimentation control plan shall be developed and implemented. It shall outline best management practices (BMPs) for short-term, temporary stabilization of all disturbance areas within 100 feet of drainages, wetlands, and sensitive habitat areas. Acceptable stabilization methods include the use of weed-free, natural fiber (i.e., non-monofilament) rolls, jute or coir netting, and/or other industry standards. Erosion control devices shall be installed and maintained for the duration of the Project.
- Silt settling basins will be located away from streams to prevent discolored, silt-bearing water from reaching the stream. Following grading and, as appropriate, these basins will be re-contoured and connected to the newly graded site as part of site grading.
- Preparation will be made so that runoff from steep, erodible surfaces is diverted into stable areas with little erosion potential.
- Frequent water checks, such as water bars, will be placed on dirt roads, cat tracks, or other work trails to control erosion.
- Wash water containing mud or silt from aggregate washing or other operations will not be allowed to enter flowing streams.
- All discharges associated with construction activities are prohibited except for the stormwater and non-stormwater discharges specifically authorized by the Construction General Permit or another National Pollutant Discharge Elimination System Permit (NPDES). BMPs will be implemented to ensure that no debris, litter, rubble, discarded refuse, remains of destroyed inorganic anthropogenic waste, plastic, trash materials, and hazardous substances in excess of reportable quantities will be allowed to be discharged from the site unless a separate NPDES Permit has been issued to regulate those discharges.
- When operations are completed, any excess material or debris will be removed from the work area.
- Restoration will include the revegetation of all stripped or exposed areas.
- Rock, riprap, or other erosion protection will be placed in areas where vegetation cannot reasonably be expected to become reestablished.
- Prior to Project initiation, all applicable agency permits with jurisdiction over the Project area (i.e., USACE, CDFW, and CCRWQCB) should be obtained, as necessary.

MBIO-2 General Marine Operations and Wildlife Protection Measures

The following general measures are recommended to minimize impacts to all wildlife species during active construction. Use of these measures does not give "take" authority under FESA, CESA, or MMPA.

- Construction equipment shall be inspected by the operator daily to ensure that equipment is in good working order and no fuel or lubricant leaks are present.
- Any contractor, employee, or third party responsible for the inadvertent "take" of a federal- or state-listed species, or that finds a dead or injured special-status species, will immediately report the incident to the Project biologist who will then notify the appropriate agencies within 24 hours by phone and by email. Notification must include date, time, and location of the incident and other pertinent information. Written notification will be provided to the appropriate agency contacts within 3 working days of the incident and will include the same notification information listed above.
- Any contractor, employee, or third party responsible for inadvertently violating the terms or conditions of the Project will immediately report the incident to the Project biologist who will notify the appropriate agencies within 24 hours by phone and by email. Such violations may include unauthorized habitat disturbance, destruction of a protected plant population, or impacts to wildlife that do not fall into the actions covered by the Project permits. All non-emergency actions will cease immediately until guidance is received from the appropriate agencies. Notification must include the date, time, location, and other pertinent information of the incident.

MBIO-3 Turbidity Mitigation Plan

A Turbidity Mitigation Plan (TMP) shall be developed to provide protection of sensitive habitats and protected species from turbidity generated by seabed disturbance and dewatering activities. The TMP should identify and include recommendations made in the California Department of Transportation Construction Site Best Management Practices Manual[1]. The TMP should be integrated into construction planning for all phases of the decommissioning. Dewatering activities should consider sensitive habitats and species when choosing the dewatering discharge location to avoid potential for impacts from increased turbidity. In particular, the dewatering activities should avoid pumping water close to the seabed. If dewatered seawater is highly turbid, settling tanks or

[1] California Department of Transportation Construction Site Best Management Practices (BMP) Manual. CTSW-RT-17-314.18.1. May 2017.

some other method for limiting the release of fine sediments should be considered.

In addition to careful construction planning, a TMP should be developed that will include the following:

- measures intended to reduce prolonged and large sediment releases during dewatering.
- visual monitoring and potential instrumentation monitoring during construction activities.
- thresholds for turbidity exceedance in accordance with the California Ocean Plan and Construction Environmental Monitors who have the authority to impose STOP WORK orders on contractors should thresholds be reached.
- kelp removed from the area prior to construction should be disposed of in the marine environment. This will allow for the conservation of this marine resource in the ecosystem as it is assimilated as a food source and is an efficient alternative to other disposal methods (e.g., transporting to landfill).

MBIO-4 ***Site-Specific Stormwater Pollution Prevention Plan***

A site-specific Stormwater Pollution Prevention Plan (SWPPP) will be prepared in support of a Construction General Permit that will be required because the area of disturbance will be greater than one acre. The SWPPP will identify potential pollutant sources vulnerable to rainwater events along the coastal bluffs surrounding the Discharge Structure and Intake Cove. Pathways that lead to the intertidal zone and ocean, which could contain pollutants, will be identified and a series of standard Best Management Practices will be developed to ensure adequate prevention of slope erosion and silt and sedimentation impacts to adjacent intertidal areas. Implementation of the site specific SWPPP will reduce potential water quality impacts due to stormwater runoff during decommissioning activities.

MBIO-5 ***Preconstruction Survey for Black Abalone***

Prior to installation of the cofferdam, dewatering, and cofferdam removal around the Discharge Structure, and prior to placement of the temporary steel form for Intake Structure closure, a survey shall be conducted by a qualified biologist within the area of impact to identify black abalone. If black abalone are discovered in the work areas, they shall be relocated by a qualified biologist with appropriate authorization from NOAA Fisheries to pre-determined suitable habitat areas located outside the immediate impact area. All black abalone preconstruction surveys and relocations shall be documented in a technical report for submittal to NOAA Fisheries.

MBIO-6 Eelgrass Mitigation Plan

An Eelgrass Mitigation Plan (EMP) shall be developed to provide protection of eelgrass beds that are established in the eastern end of the Intake Cove. Development of the EMP shall include a full characterization of these eelgrass beds and should be integrated into the construction planning for this phase of the decommissioning. The EMP is likely to include:

- a detailed characterization of the eelgrass beds based on a biological survey prior to construction planning;
- measures to protect existing eelgrass beds from equipment, including barge anchorage, which may scour or otherwise damage the beds and impacts from vessels blocking sunlight;
- measures to reduce the likelihood of smothering due to disturbance of soft seabed material;
- turbidity monitoring and control measures for limiting the duration and magnitude of turbid plumes during construction; and
- pre- and post-construction surveys in line with agency recommendations for eelgrass surveys to demonstrate that impacts were effectively avoided.

MBIO-7 Marine Habitat Restoration and Monitoring Plan

The Marine Habitat Restoration and Monitoring Plan that has been developed for the Project shall be implemented as part of Project activities (PG&E 2020b). This plan addresses the restoration and monitoring of the marine areas impacted by the demolition of the Discharge Structure. This plan shall be updated as needed to reflect Project changes and modifications and include recommendations in the Intake Structure Closure and Barge Loading Plan (PG&E 2021).

MBIO-8 Marine Wildlife Contingency Plan

The Marine Wildlife Contingency Plan that has been developed for the Project shall be implemented as part of Project activities (PG&E 2020c). This plan provides recommendations intended to ensure the avoidance and minimization of potential impacts to marine wildlife during Project activities within the marine environment. This plan shall be updated as needed to reflect Project changes and modifications and include recommendations in the Intake Structure Closure and Barge Loading Plan (PG&E 2021).

MBIO-9 ***Underwater Noise Reduction***

To minimize predicted underwater noise resulting from pile driving, the following measures shall be employed:

- Vibratory pile driving shall be used to the extent practicable, and impact pile driving shall only be used when required for proofing to verify the load-bearing capacity of the piles.
- A properly designed air bubble curtain attenuation system shall be deployed around pile driving operations (PG&E 2020a).
- A soft start or "ramp-up" procedure shall be utilized during pile driving to provide nearby wildlife with an opportunity to respond by avoiding the sound source and vacating the area (PG&E 2020a).

MBIO-10 ***Offshore Vessel Traffic***

Best management practices shall be implemented throughout the barge transit operations and shall include, but not be limited to: using existing shipping lanes, larger vessels maintaining a rate of travel of 10 knots or less, and, if possible, travel outside of the known migration period for gray and humpback whales and MPAs (PG&E 2020d).

MBIO-11 ***Oil Spill Response Plan***

The Oil Spill Response Plan that has been developed for the Project shall be implemented as part of Project activities (PG&E 2020e). This plan outlines procedures to be followed in the event of an inadvertent release of hazardous materials such as fuel or oil as a result of Project activities.

Conclusion and Determination

Thirteen federally listed wildlife species have been documented or have potential to occur within the Project areas. In addition, Critical Habitat for two of these species and seven Essential Fish Habitats are present. A series of mitigation measures have been recommended to avoid and/or minimize impacts to these federally listed species and associated critical habitat and essential fish habitat areas. The affects determination for these listed species, Critical Habitats, and Essential Fish Habitats are summarized below in Table 3.

Table 3: Summary of Affects Determination for Federally Listed Wildlife, Critical Habitat, and Essential Fish Habitat

Species Name	Determination
Wildlife	
Amphibians	
California red-legged frog	May affect, likely to adversely affect
Terrestrial Invertebrates	
Monarch butterfly	May affect, not likely to adversely affect
Fish	
Steelhead	May affect, not likely to adversely affect
Chinook salmon	May affect, not likely to adversely affect
Marine Invertebrates	
Black abalone	May affect, likely to adversely affect
Marine Mammals	
Blue whale	May affect, not likely to adversely affect
Fin whale	May affect, not likely to adversely affect
Southern sea otter	May affect, likely to adversely affect
Humpback whale	May affect, not likely to adversely affect
Sperm whale	May affect, not likely to adversely affect
Marine Reptiles	
Loggerhead turtle	May affect, not likely to adversely affect
Green turtle	May affect, not likely to adversely affect
Leatherback turtle	May affect, not likely to adversely affect
Critical Habitat	
Black abalone	May affect, not likely to adversely affect
Leatherback turtle	May affect, not likely to adversely affect
Essential Fish Habitat	
Surfgrass Beds	May affect, not likely to adversely affect
Eelgrass Beds	May affect, likely to adversely affect

Species Name	Determination
Kelp Forest	May affect, likely to adversely affect
Coastal Pelagic Species	No effect
Highly Migratory Species	No effect
Pacific Coast Groundfish	No effect
Pacific Coast Salmon	No effect

If you should have any questions or require additional information, please contact me at (925) 381-4893 or ssnyder@terraverdeweb.com, or Brian Dugas at bdugas@terraverdeweb.com or (805) 701-4648.

Sincerely,

Sara Snyder
Biologist

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