

1 **3.3.4 Biological Resources**

IV. BIOLOGICAL RESOURCES: Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

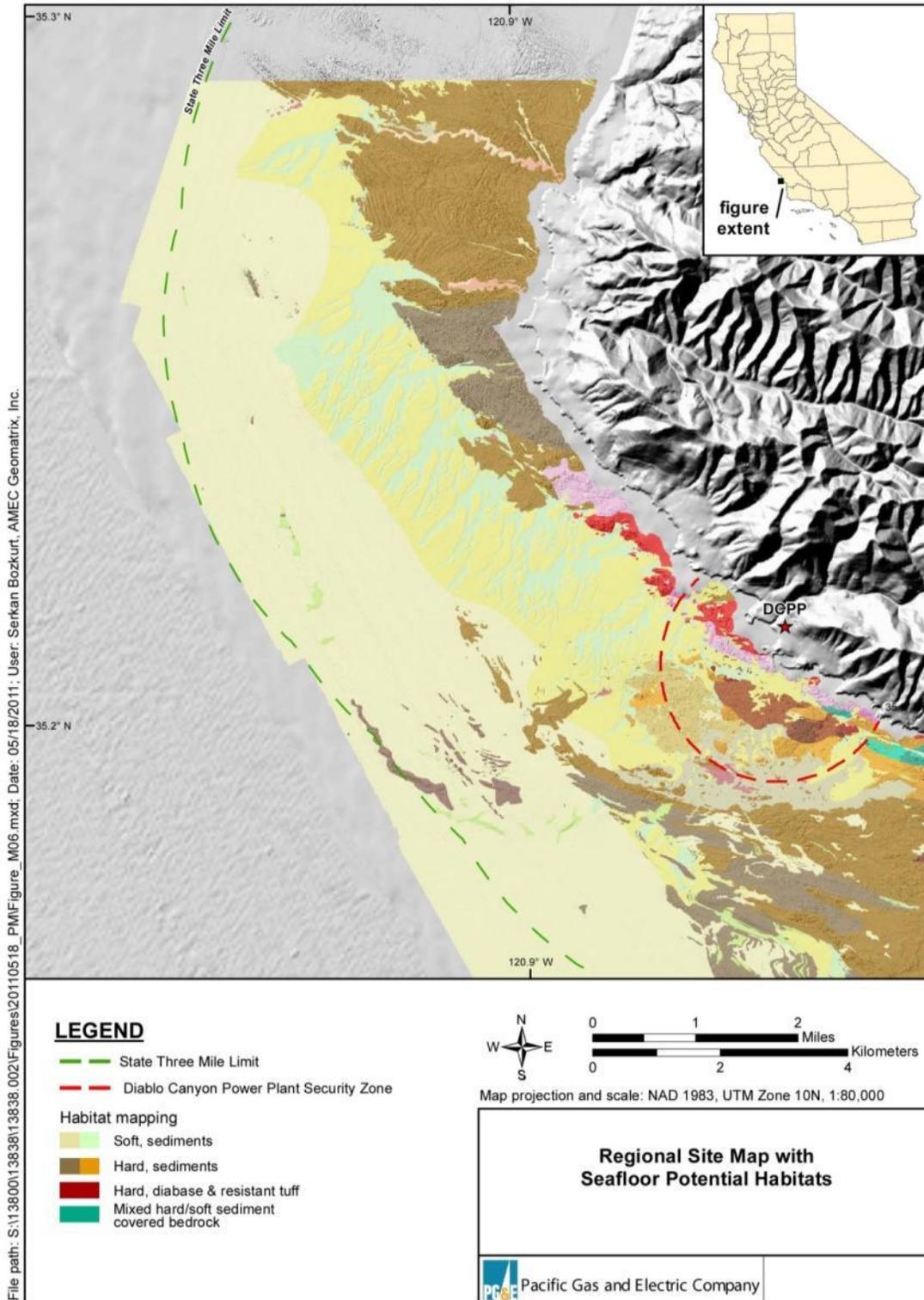
2 **3.3.4.1 Environmental Setting**

3 **Regional Marine Habitats and Biota.** The Project area includes the marine waters
 4 between Point Buchon and Point San Luis (Figure 2-2) and offshore to the 122 m
 5 (400 ft) water depth. As is shown in Figure 3.3.4-1, seafloor and intertidal habitats within
 6 the area range from fine sediments in the deepest water areas to natural and manmade
 7 rock substrates. Offshore, low to high relief rock reefs have been recorded to water
 8 depths of at least 110 m (360 ft) at and seaward of the state 3 nm limit, but are more
 9 common in water depths shallower than 61 m (200 ft).

10 **Intertidal and Nearshore (to -30 m [-100 ft]).** The shoreline of the region is
 11 characterized by a rocky headland approximately 19 km (12 mi) in lateral extent which
 12 trends northwest to southeast and which is bounded to the north and south by extensive
 13 sand beaches.

1

Figure 3.3.4-1. Regional Seafloor Habitats



1 Point Buchon is the prominent feature of this shoreline, which consists of wave-exposed
2 headlands alternating with semi-protected coves. Stable bedrock and variously sized
3 boulders are the predominant substratum. Sand, as fine gravel and shell-debris, is
4 uncommon in the intertidal areas, where it tends to be ephemeral, but becomes the
5 predominant substrate with increasing distance and depth offshore. The nearshore
6 intertidal and subtidal algae, invertebrates, and fishes in the area lying generally
7 between Point Buchon to the north of DCPD and Point San Luis to the south of DCPD
8 have been well studied and are similar to the marine biological communities found in
9 other areas of central California.

10 Thermal effects studies dating back to 1976 have provided an extensive database on
11 the existing intertidal and shallow subtidal habitats and biota within the Project area and
12 have described changes in the intertidal and shallow subtidal biological communities
13 resulting from thermal discharges within the DCPD's outfall area (Diablo Cove). The
14 biological communities in Diablo Cove mainly differ from those along the surrounding
15 coastline by having a higher proportion of warm-tolerant species and fewer cold-tolerant
16 species. Descriptions of the long-term changes can be found in annual monitoring and
17 analysis reports that PG&E has submitted to the Regional Water Quality Control Board
18 (RWQCB) (Tenera 2010).

19 Tenera (2010) characterizes the regional intertidal and subtidal rocky habitats and
20 associated biota. The barren appearance of the splash zone disappears lower in the
21 intertidal zone (+1.2 m [+4 ft] MLLW) as algal cover becomes more conspicuous with
22 scattered clumps of rockweeds (*Fucus* and *Silvetia*) and the turfy red alga *Endocladia*
23 *muricata*. The iridescent red alga *Mazzaella flaccida* is a dominant species in the mid- to
24 low intertidal zone. Other abundant red algae include hollow branch seaweed
25 (*Gastroclonium subarticulatum*), grapestone seaweed (*Mastocarpus papillatus*), and
26 Christmas tree seaweed (*Chondracanthus canaliculatus*). Surf grass (*Phyllospadix*
27 *spp.*), a flowering plant, is the dominant plant in the transition zone between the low
28 intertidal and the shallow-subtidal. Surf grass is listed by the CDFG as a species of
29 special concern.

30 The subtidal algal assemblage is spatially dominated by various species of kelp. Bull
31 kelp (*Nereocystis luetkeana*) is a common surface canopy-forming kelp along the coast
32 in the area of DCPD. Giant kelp (*Macrocystis pyrifera*) occurs with bull kelp in semi-
33 exposed areas, but tends to be more abundant in calmer water. A third surface canopy-
34 forming kelp species, *Cystoseira osmundacea*, also occurs with these two kelps,
35 generally in areas shallower than about 10 m (30 ft). The canopies of all three species
36 develop in the spring and become thickest during summer through fall. Tree kelps
37 (*Pterygophora californica* and *Laminaria setchellii*) do not reach the surface but are
38 perennial species that provide subcanopy structure less than 1 m (3 ft) off the bottom.
39 Below the kelp canopies are the lower growing foliose, branched, filamentous, and
40 crustose understory species consisting mainly of red and brown algae. Among the red
41 algae, the more common and abundant taxa are articulated coralline algae

1 (*Calliarthron/Bossiella/Serraticardia* complex), and other foliose and branching red
 2 algae (*Cryptopleura* spp., *Pikea* spp., *Farlowia* spp., *Callophyllis* spp., *Mastocarpus*
 3 spp., and *Rhodymenia* spp.). Common brown algae include *Dictyoneurum californicum*
 4 and *Desmarestia* spp.

5 An ROV survey completed for a fiber optic cable project approximately 10 km (6 miles)
 6 to the north in similar water depths provides relevant recent data on the biota in the
 7 depth range and seafloor habitat types within the Project area. The survey (Applied
 8 Marine Sciences [AMS] 2008, cited in CSLC 2008) found no macroalgae in water
 9 depths greater than 30 m (100 ft), and the composition of the epibiota and fish
 10 communities varies depending upon substrate type and water depth. Shallower water
 11 data provided in the DCPD thermal effects studies coupled with the aforementioned
 12 deeper water ROV surveys provide a general characterization of the marine fauna of
 13 the region. That survey also found that in water depths of less than 30 m (100 ft),
 14 characteristic sedimentary macroepibiota include the ornate tube worm (*Diopatra*
 15 *ornata*), cancer crabs (*Cancer* sp. and *C. gracilis*), and a sea pen (*Stylatula elongata*).
 16 Three species of seastars, *Asterina* (= *Patiria*) *miniata*, *Mediaster aequalis*, and *Pisaster*
 17 *brevispinus*. Common sediment-associated fish within these water depths include
 18 cuskeels (*Chilara* sp.), flatfishes including sanddabs (*Citharichthys* sp.), tubesnout
 19 (*Aulorhynchus flavidus*), rockfish (*Sebastes* sp.), and, in the water column, northern
 20 anchovies (*Engraulis mordax*).

21 Rocky habitat-associated epifauna found within these water depths include red and
 22 purple urchins (*Strongylocentrotus franciscanus* and *S. purpuratus*, respectively), brown
 23 turban snails (*Chlorostoma brunnea*), Monterey turban snails (*C. montereyi*), top snails
 24 (*Pomaulax gibberosa* and *P. undosa*), red abalone (*Haliotis rufescens*), giant gumboot
 25 chitons (*Cryptochiton stelleri*), and many smaller species of invertebrates. Invertebrate
 26 predators included the sunflower seastar (*Pycnopodia helianthoides*), the giant spined
 27 seastar (*Pisaster giganteus*), short-spined seastars (*Pisaster brevispinus*), rock crab
 28 (*Cancer antennarius*), Kellet's whelk (*Kelletia kelletii*), octopus (*Octopus* spp.), and a
 29 variety of smaller predatory seastars, gastropods, and crustaceans. The common
 30 deposit feeders, scavengers, and filter feeders include bat stars (*A. miniata*), anemones
 31 (*Anthopleura xanthogrammica*, *A. sola* and *Epiactis prolifera*), cup corals (*Balanophyllia*
 32 *elegans*), sponges (*Tethya californica* and other encrusting forms), tunicates (*Styela*
 33 *montereyensis* and the encrusting colonial/social tunicates), tube snails (*Serpulorbis*
 34 *squamigerus*) and brittle stars (*Ophiothrix spiculata*). Invertebrate grazers include the
 35 nudibranchs *Phidiana hiltoni* and *Doriopsilla albopunctata*.

36 **Deeper Water Areas (to -122 m [-400 ft]).** In water depths up to 122 m (400 ft), AMS
 37 (2008) reports that characteristic sediment-associated biota of the region included sea
 38 pens (*Stylatula* sp. and *S. elongata*, *Ptilosarcus gurneyi*, *Acanthoptilum* sp., and two
 39 species of *Virgularia*), brittle stars (unidentified Ophiuroids and *Ophinoneris* sp.), sea
 40 stars (*Petalaster [Luidia] foliolata*, *Rathbunaster californica*, and, in the inshore portions,
 41 *P. brevispinus*). Cerianthid and other anemones (*Pachycerianthus* sp., *Urticina*

1 *piscivorus*, *Urticina* sp., and *Stomphia coccinea*, respectively), cancer crabs including
2 the slender crab (*C. gracilis*) and octopus (*Octopus rubescens*) were common to
3 abundant within the sedimentary habitat in this water depth range. Sediment-associated
4 fish species within this depth range include tonguefish (*Symphurus atricauda*), flatfishes
5 including sanddabs (*Citharichthys* spp.), California halibut (*Paralichthys californicus*),
6 Dover sole (*Microstomas pacificus*), and English sole (*Plueronectes [Parophrys]*
7 *vetulus*), eelpouts (*Lycodes* sp.), poachers (*Agonidae*), cuskeels, pink surfperch
8 (*Zalembius rosaceus*), hagfish (*Eptatretus stouti*), and adult and juvenile rockfish
9 (*Sebastes* spp).

10 AMS (2008) reported that the rocky habitat within this depth range supported a
11 community of epibiota characterized by gorgonian corals (*Adelogorgia phyllostera* and
12 *Lophogorgia chilensis*), the purple coral, (*Stylaster californicus [=Allopora californica]*)
13 and white-plumed anemones (*Metridium farcimen [=M. senile]*). Rocky substrate-
14 associated fish species common within this depth range include adult and juvenile
15 rockfishes (*Sebastes* spp.), lingcod (*Ophiodon elongatus*), cabezon (*Scorpaenichthys*
16 *marmoratus*) and painted greenling (*Oxylibius pictus*).

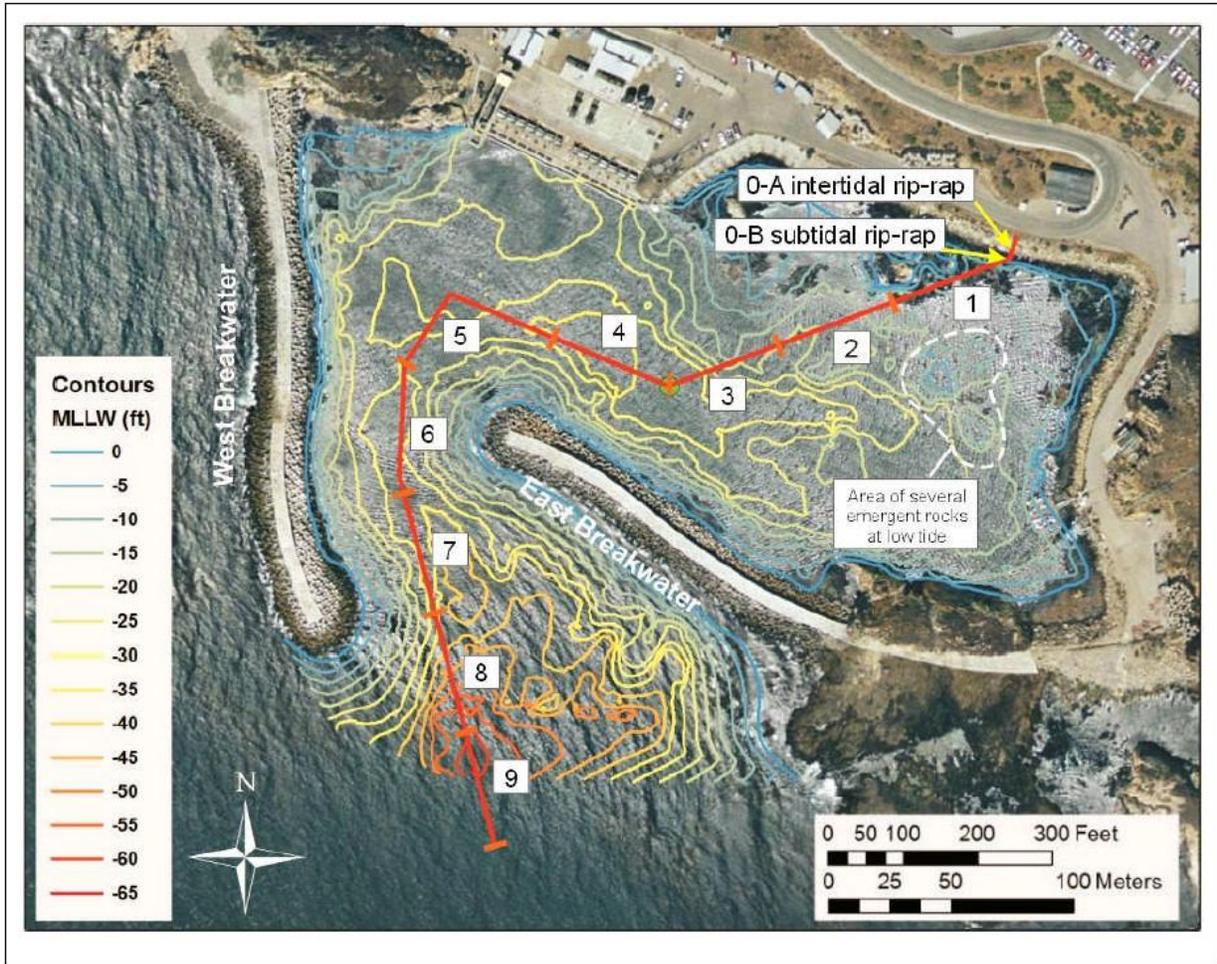
17 The region supports important habitat for seabirds, sea otters and sea lions, and
18 cetaceans (whales, dolphins, and porpoises) (SAIC 2000a). In addition to the diverse
19 habitats of the Morro Bay estuary and surrounding lands, specific areas of importance
20 include nesting areas for seabirds (including black oystercatchers [*Haematopus*
21 *bachmani*], cormorants [*Phalacrocorax* spp], and pigeon guillemots [*Cephus columba*])
22 along Point Buchon and foraging habitat for shorebirds, including the threatened
23 western snowy plover (*Charadrius alexandrinus nivosus*), along Sandspit Beach south
24 of the entrance to Morro Bay harbor. Estero Bay to the north of the Project area is also
25 a foraging ground for marine mammals, and pinnipeds use the nearby beaches and
26 rocky shoreline to haul-out throughout the year. Cetaceans that may be encountered in
27 nearshore areas include bottlenose and common dolphins (*Tursiops truncatus* and
28 *Delphinus delphis*, respectively), humpback whales (*Megaptera novaeangliae*), and
29 Minke whales (*Balaenoptera acutorostrata*) during summer and fall, and gray whales
30 (*Eschrichtius robustus*) during the spring and winter migration periods. Gray whales are
31 most common from December to May, being most abundant in January during the
32 southward migration, and in March during the northward migration. Gray whales tend to
33 come relatively close to Point Buchon (SAIC 2000a).

34 **Site-Specific Marine Habitats and Biota.**

35 **Nearshore Cable Route.** Results of a project-specific diver-biologist survey of
36 nearshore portion of the cable route are provided in Tenera (2011); the report is
37 provided in Appendix D. The survey included both intertidal and subtidal observations
38 within that portion of the cable alignment that was within the DCP intake embayment.
39 The intertidal survey was from the high to low intertidal rip-rap within a 3 m (10 ft)
40 corridor centered along the proposed alignment of the PVC conduit extension. An
41 objective of the intertidal survey was to determine if abalone, including the endangered

1 black abalone (*Haliotis cracherodii*) was present within the proposed cable corridor. The
 2 subtidal segment was along the proposed cable alignment from the base of the rip-rap
 3 to an area beyond the breakwaters and consisted of a team of diver-biologists
 4 swimming along the alignment shown in Figure 3.3.4-2 and recording habitat type and
 5 dominant macroepibiota within a 3.0 to 4.6 m (10 to 15 ft) wide corridor centered on the
 6 proposed cable alignment.

7 **Figure 3.3.4-2. Nearshore Cable Route Diver-Biologist Survey Area**

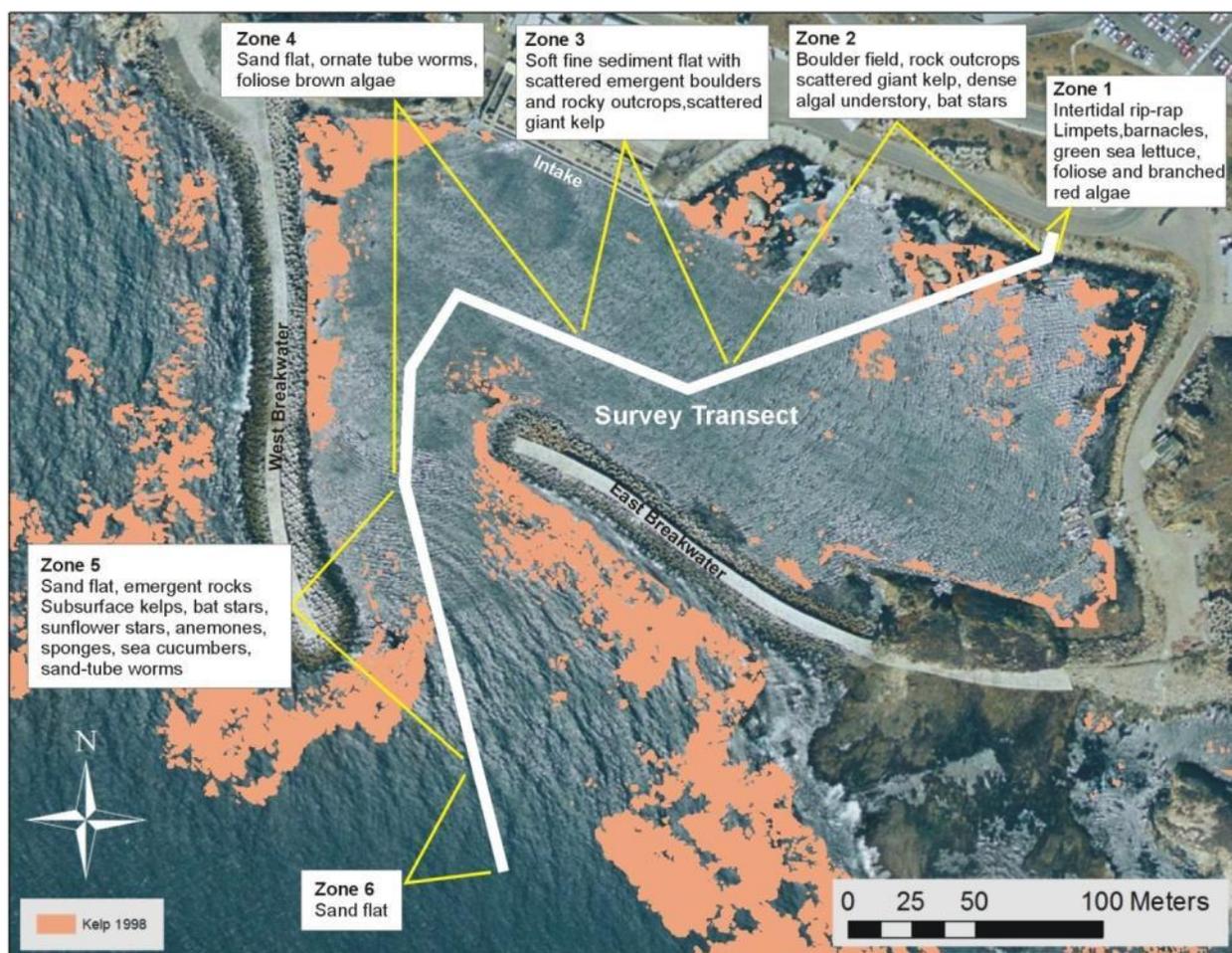


8 Tenera (2011) indicates that the intertidal and shallow subtidal habitat (to the -1.5 m [-
 9 5.0 ft]) isobath) consists of a mixture of armor rock rip-rap, concrete, and native rock.
 10 Dominant biota in this zone include limpets, barnacles, the sea lettuce alga *Ulva spp.*,
 11 bat stars (*Asterina miniata*), and various brown and red algal species. No abalone
 12 (*Haliotis spp.*) were observed within this segment or elsewhere along the proposed
 13 nearshore cable route (Tenera 2011). That report also suggests that due to the
 14 protected nature of the intake embayment shoreline, black abalone, which prefer open
 15 exposed coastlines, would not be expected to occur. The project-specific inter- and
 16 subtidal survey completed by Tenera included searching under rock overhangs and in

1 crevices using flashlights, which was the same methodology used on Tenera’s other
2 abalone monitoring efforts. Tenera has extensive data from focused studies and other
3 intertidal monitoring inside Diablo Cove and in areas extending along the coast from Pt.
4 Buchon to approximately 3.2 km (2.0 mi) south of DCP. Those studies have
5 documented a black abalone population decline of greater than 95 percent from 1988
6 through 1998 as a result of withering syndrome. Although there are still black abalone
7 along this stretch of coastline, they are in very low abundances (J. Steinbeck, personal
8 communication, 2011).

9 The seafloor habitat along the deeper subtidal segments of the nearshore portion of the
10 proposed cable route is predominantly sedimentary, although isolated boulders and low-
11 relief rock reefs are present. The proposed cable route does cross a boulder field in
12 Zone 2 (see Figure 3.3.4-3), and some pebble and shell hash was found near the
13 offshore end of the survey area.

14 **Figure 3.3.4-3. Intertidal and Seafloor Habitats within Nearshore Cable Route**



1 **Offshore Cable Route and OBS Locations.** Greene (2011) (see Appendix E) provided
2 a characterization of the deeper water seafloor habitats, including that found at each of
3 the proposed OBS locations, based on the interpretation of previously-collected
4 multibeam side sonar data within the Project area. Greene estimates that the majority of
5 the 17.8 km (11.0 mi) cable route between the end of the Tenera survey and the OBS-1
6 location is sedimentary; however, isolated boulders and rock features are present in
7 several areas. A relatively continuous low-relief rock reef habitat is present along an
8 approximate 1 km (0.6 mi) segment in water depths of 25 to 27 m (82 to 89 ft). Figures
9 B to E in Appendix E discuss and provide figures of the seafloor habitat types and
10 bathymetry for the individual segments discussed in Greene (2011). The seafloor at all
11 of the temporary and long-term OBS sites is sedimentary. No rock features were found
12 within 15 m (50 ft) of any of the proposed OBS locations (Greene 2011).

13 A Project-specific ROV survey of segments of the sedimentary seafloor where the OBS
14 units will be placed was completed in December 2011 to identify the type and amount of
15 rock substrates across which the cable will be laid. Onboard observations made during
16 a prior survey conducted in June 2011 (Greene 2011) indicates that the sedimentary
17 habitat is coarse to fine grain sand in water depths up to 40 m (120 ft) and grade into
18 finer, silty surficial sediments in deeper water. Dominant sediment-associated epibiota
19 include sea stars (*A. miniata*, *Pisaster* spp, and *Luidea* sp.) and sea pens (*Stylatula*
20 *elongata*, *Acanthoptilum* sp. and in deeper water, *Ptilosarcus* sp.). Sand waves are
21 present in some areas and the sediments in those areas is coarse grain sand and shell
22 hash; few epibiota were observed in the sand wave habitat.

23 Rocky habitat ranges from isolated boulders to low and high-relief (up to 1.5 m [4.9 ft])
24 high. Rocky features were most common between the 25 and 40 m (82.0 and 131.2 ft)
25 and comprise isolated boulders up to 1.0 m (3.3 ft) high, low-relief bedrock reefs, and
26 isolated higher-relief (up to 1.5 m [4.9 ft]) bedrock reefs. Within this depth range,
27 sediment comprises approximately 60 percent of the seafloor habitat. Characteristic
28 macroepibiota on the rock habitats include unidentified red algae (present to common
29 on the tops of features at least 0.5 m (1.6 ft) high, seastars (*Orthasterias* sp., *Mediaster*
30 sp., *A. miniata*, and *Pisaster* spp), unidentified solitary corals, gorgonians (*Lophogorgia*
31 sp.) and solitary anemones (*Corynactis* sp., *Metridium giganteus*, and unidentified
32 species). Fish were not commonly observed around the nearshore rock features,
33 although flatfish, including sanddabs (*Citharichthys* spp) were common within the
34 sedimentary habitat within this depth range.

35 During the December survey (in water depths from 53 to 65 m [173.8 to 213.2 ft], see
36 Figure 2-2 and Appendix I) the seafloor habitat between Stations 6 and 8 (depths 53 to
37 62 m [173.8 to 203.4 ft]) was observed to be 95 percent sedimentary, consisting of
38 areas of coarse sand and shell hash where sand waves from approximately 0.2 to 1 m
39 [0.7 to 3.3 ft] high) were present and relatively flat areas of fine sediment. Rock features
40 along this segment of the alignment consisted of a sediment-covered, low relief (0.3 to
41 0.6 m [1.0 to 2.0 ft]) broken rock reef in 58.0 m (190.2 ft) of water approximately 305.0

1 m (1,000.4 ft) east of Station 6. Other rock features observed were from 9.0 to 31.0 m (29.5 to 101.7 ft) north or south of the proposed alignment, and consisted of low to high (up to 3.0 m [9.8 ft]) relief reefs and scattered rock. Those features were located at Station 7 and at a site approximately 457.0 m (1,499.0 ft) east of Station 6 (Figure 3.3.4-5).

6 Dominant sediment-associated macroepibiota observed within this area included three species of sea pens (*Stylatula elongata*, *Ptilosarcus* sp, and *Acanthoptilum* sp), a sea slug (*Pleurobranchus* sp), an unidentified burrowing anemone, and three seastars (*Astropecten* sp, *Orthasterias koehleri*, and a multi-armed sunstar *Solaster* sp). Dungeness crabs (*Metacarcinus =Cancer magister*), juvenile lingcod (*Ophiodon elongatus*), and sanddabs (*Citharichthys sordidus*) were present but not common on the sedimentary seafloor within these water depths.

13 Although lower relief rock features tended to be covered with a veneer of sediment, that substrate supported epifauna typical of that reported in other surveys within these water depths. Near the base of the features, solitary corals (i.e. *Coenocyathus bowersi*), unidentified ectoprocts and hydroids, and the strawberry anemone (*Corynactis californica*) were present to common. The powder puff anemone (*Metridium senile*) was common to abundant on the upper surfaces of the higher relief features where sediment cover was absent. A gorgonian coral (cf *Eugorgia* sp) was also present on the higher features. Fish were not abundant on any of the rock features surveyed within these water depths; however the yellowtail rockfish (*Sebastes flavidus*) and the convict fish (*Oxylebius pictus*) were observed.

23 The seafloor along the approximately 549.0 m (1,800.7 ft) section between Stations 5 and 4 was observed to be 70 percent sediment (sand waves with coarse sand and shell hash and flat surface with fine surficial sediments), with the remainder comprised of rocky substrate (cobble/boulder and broken rock low relief features and high relief ridges). The highest relief area was a series of 2.0 to 3.0 m (6.6 to 9.8 ft)-high ridges approximately 76.0 m (249.3 ft) northwest of Station 5; lower relief features were observed approximately 152.0 and 229.0 m (498.6 and 751.1 ft) north of Station 5. The feature located approximately 15.0 m (49.2 ft) southeast of Station 4 consisted of low-relief ledges, boulders, and broken rock pieces. Water depths between Stations 4 and 5 ranged from 62.0 to 65.0 m (203.4 to 213.2 ft).

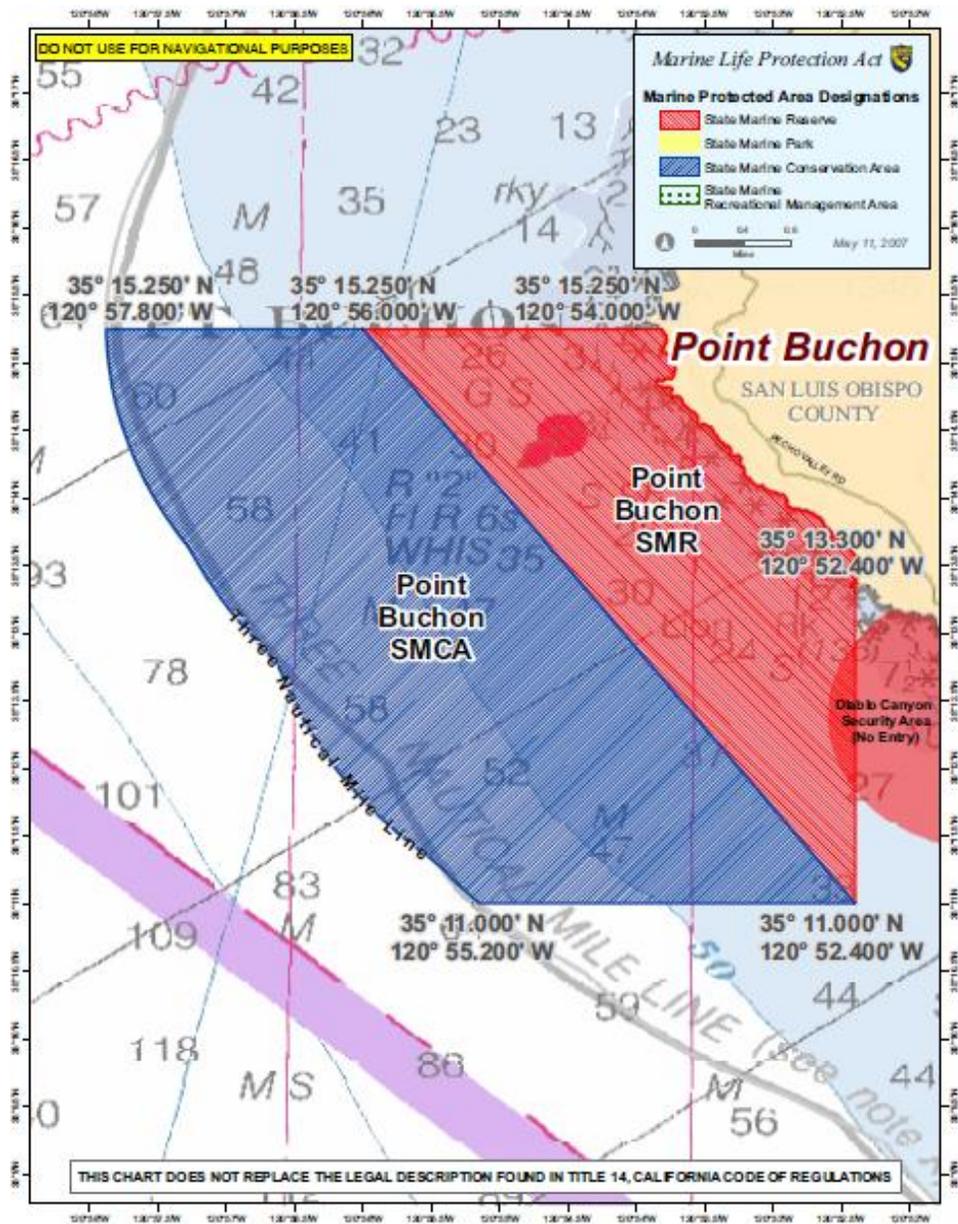
33 The sediment-associated epifauna within this segment was similar to that observed between Stations 6 and 8 discussed above; however, unidentified brittle stars were locally abundant in the flat, fine-sediment areas. Rock habitat biota on the features observed here was similar to that described above; however, powder puff anemones were less abundant than on features between Stations 6 and 8, except at the rock feature southeast of Station 4. Rockfish, including yellowtail, rosy, copper, and blue (*S. rosaceus*, *S. caurinus*, and *S. mystinus*, respectively), were observed in the water above and around these features. Lingcod were also present around the base and on the lower relief features within this segment.

1 The two rock features east of Stations 1 and 2 consisted of low to moderate relief (0.3 to
 2 1 m [1.0 to 3.3 ft) ledges that supported relatively abundant powder puff anemones.
 3 Gorgonian and solitary corals were also present, but not abundant, and three yellowtail
 4 rockfish were observed around those features.

5 The only marine mammals observed during the June and December ROV surveys were
 6 California sea lions (*Zalophus californica*), which were observed during the transit
 7 between Morro Bay and the Project area and at the survey sites.

8 **Special Status Habitats and Species.** The Point Buchon MPA is within the Project
 9 area (Figure 3.3.4-4).

10 **Figure 3.3.4-4. Point Buchon Marine Protected Area**



11

1 Within that MPA, there are two different area designations: the inshore SMR and the
2 offshore SMCA. According to California Code of Regulations, Title 14, section 632,
3 subsection (b)(47), an SMR designation prohibits the take of all living marine resources;
4 within an SMCA, take of all living marine resources is prohibited except the commercial
5 and recreational take of salmon and albacore (Cal. Code Regs., tit. 14, § 632, subd.
6 (b)(48)).

7 As described in Section 2, Project Description, authorization to take marine and
8 intertidal invertebrates during the proposed placement and operation of the proposed
9 OBS units and cable within the MPA may be granted under an amendment to scientific
10 collecting permits (SCPs) issued by the CDFG.

11 Rocky intertidal and subtidal habitat and kelp are located along and offshore the Point
12 Buchon peninsula in water depths up to 37 m (120 ft) between Point San Luis and the
13 mouth of Islay Creek. Rocky intertidal habitats throughout the Project area should be
14 considered sensitive and, in addition to offshore kelp beds, some nearshore rocky
15 features could support stands of surf grass (*Phyllospadix* spp.), which is considered an
16 important habitat for commercial invertebrates and fish, and the federally-endangered
17 black abalone (*Haliotis cracherodii*). Lion Rock is the most prominent offshore feature in
18 the Project area to the north of DCPD and Pecho Rock is the most prominent to the
19 south of DCPD.

20 In addition to the black abalone, one listed fish and nine listed marine mammals and
21 reptiles could occur within the marine waters of the Project area and/or site. A brief
22 description of each of those species is provided below.

23 *Black Abalone.* The black abalone (*Haliotis cracherodii*) is a federally listed endangered
24 species. It is a relatively large prosobranch gastropod mollusk ranging from
25 approximately Point Arena in northern California to Bahia Tortugas and Isla Guadalupe,
26 Mexico. Populations of black abalone on offshore Islands, especially those of southern
27 California, were particularly large prior to the middle 1980s. Black abalone occur in
28 rocky intertidal and shallow subtidal habitats on exposed outer coasts, where they occur
29 primarily in crevice microhabitats and feed preferentially on large drifting fragments of
30 marine algae such as kelps. All forms of legal harvest of black abalone were suspended
31 by the State of California in 1993, in response to documentation of population damage
32 caused by withering syndrome. The black abalone was granted endangered species
33 status on January 14, 2009.

34 *Steelhead, South-Central California Coast ESU.* The south-central California coast
35 evolutionarily significant unit (ESU) steelhead (*Oncorhynchus mykiss*) is a federally
36 listed endangered species. Its range extends from the Pajaro River basin in Monterey
37 Bay south to, but not including, the Santa Maria River basin near the city of Santa
38 Maria. Historical data on the South-Central California Coast steelhead ESU are sparse.
39 In the mid-1960s, CDFG 1965 (cited in NOAA 2005) estimated that the ESU-wide run
40 size was about 17,750 adults. No comparable recent estimate exists; however, recent

1 estimates exist for five river systems (Pajaro, Salinas, Carmel, Little Sur, and Big Sur),
2 indicating runs of fewer than 500 adults where previous runs had been on the order of
3 4,750 adults.

4 *Rockfish*. Several species of rockfish (genus *Sebastes*) are known or could be expected
5 to occur within the Project area. Many of these species are considered depleted by
6 state and federal agencies, and some species (i.e., cowcod and canary rockfish) have
7 had specific areas set aside to protect it from commercial catch. Another species, the
8 Southern Distinct Population Segment of bocaccio (*Sebastes paucispinis*), is a federal
9 species of concern. Rockfish use kelp beds and rocky seafloor habitats within the
10 Project area and were observed during the Project-specific ROV survey,

11 *Blue whale*. The blue whale is a federally listed endangered species, due to intensive
12 historical commercial whaling. Blue whales are distributed worldwide in circumpolar and
13 temperate waters and inhabit both coastal and pelagic environments (Leatherwood et
14 al. 1982; Reeves et al. 1998). Like most baleen whales, they migrate between warmer
15 waters used for breeding and calving in winter and high-latitude feeding grounds where
16 food is plentiful in the summer. The most recent estimates of blue whale indicate that at
17 a minimum of 2,039 individuals are known to occur off the U.S. West Coast (National
18 Marine Fisheries Service [NMFS] 2009). Data available from Barlow, et al. (2009),
19 which summarizes observations made along specific aerial survey lines over the past
20 30 years, indicate that during that time, one observation of two blue whales has been
21 recorded within the Project area. That observation was made in July 2000,
22 approximately 2.4 km (1.5 mi) southwest of Pt. Buchon.

23 *Fin whale*. The fin whale is a federally endangered species, due to a severe worldwide
24 population decline due to intensive commercial whaling. The most recent estimates of
25 the fin whale population indicate that at least 2,541 individuals are known to occur off
26 California, Oregon, and Washington (NMFS 2009). There is some evidence that recent
27 increases in fin whale abundance have occurred in California waters (Barlow 1994;
28 Barlow and Gerodette 1996, NOAA 2005), but these have not been significant (Barlow
29 et al. 1997).

30 *Humpback whale*. The humpback whale is a federally endangered species, due to
31 intensive historical commercial whaling. Humpbacks are distributed worldwide and
32 undertake extensive migration in parts of their range (Leatherwood et al. 1982; NMFS
33 1991a). The population in the Project area is referred to as the eastern Northern stock,
34 which spends the winter/spring months in coastal Central America and Mexico for
35 breeding and calving and migrates to the coast of California to southern British
36 Columbia in summer/fall to feed (NMFS 2008). During migration, humpback whales are
37 known to occur within the vicinity of the Channel Islands. Migrants passing through
38 central California appear to follow a more inshore path than blue, or fin whales (Bonnell
39 and Dailey 1993). The most recent estimates of humpback whale indicate that at least
40 1,250 individuals are known to occur off California, Oregon, and Washington (NMFS
41 2009). This population estimate is anticipated to be increasing (NMFS 2009).

1 *Northern right whale*. The northern right whale is federally endangered, due to intensive
2 historical commercial whaling. Like other baleen whales, right whales appear to migrate
3 from high-latitude feeding grounds toward more temperate waters in the fall and winter,
4 although the location of seasonal migration routes is unknown (Scarff 1986). The usual
5 wintering ground of northern right whales extended from northern California to
6 Washington, although sightings have been recorded as far south as Baja California and
7 near the Hawaiian Islands (Scarff 1986; Gendron et al. 1999). Estimates of the regional
8 population are not available; however, in 2002, two of the 13 individuals observed
9 between 1999 and 2001 were “re-observed” (NMFS 2008a). It is believed that the
10 population is between 100 to 200 individuals (Braham 1984). Due to the low population
11 numbers and lack of data, no long-term population trends have been determined.

12 *Steller sea lion*. The Steller or northern sea lion (*Eumetopias jubatus*) is a federally
13 threatened species. Historically, this species was the most abundant pinniped in the
14 Southern California Bight (SCB). Numbers have declined precipitously in the last several
15 decades, but the causes of the decline are not well understood (Bartholomew 1967; Le
16 Boeuf and Bonnell 1980). The SCB is the southern extreme of the historical breeding
17 range of the species: 96 percent of the world population is found in Alaska or Siberian
18 waters (Loughlin et al. 1980). The most recent population estimate for the Steller sea lion
19 indicate that at least 2,396 individuals were observed in California (NMFS 2009). This
20 population is believed to be decreasing (NMFS 2009). Available information indicates that
21 Steller sea lions are rarely observed in the Project area; however they have been
22 observed historically at Lion Rock, north of the DCP intake embayment (Chambers,
23 1979). The furthest south rookery is Año Nuevo Island, north of Santa Cruz (NOAA,
24 2011b). Tenera also indicates that during the weekly endangered species surveys they
25 conduct around DCP for PG&E, very few, and usually only single individuals have
26 been observed. The most recent observation was in 2010 around the DCP breakwater
27 (J. Steinbeck, personal communication, 2011).

28 *Southern sea otter*. The southern sea otter (*Enhydra lutris nereis*) is a federally
29 threatened species. Historically the range of sea otters extended from the northern
30 islands of the Japanese Archipelago northeast along Alaska and southward along North
31 America to Baja California (Dailey et al. 1993). The sea otter was nearly extirpated by
32 the fur trade during the 18th and 19th centuries. The current range is restricted to the
33 waters of the coast of Alaska and California. Currently, the sea otter is expanding its
34 range southward along the coast, including a recent expansion south of Point
35 Conception into the Santa Barbara area. This species prefers rocky shoreline with water
36 depth of less than 50 feet, which support kelp beds where they feed on benthic
37 macroinvertebrates including clams, crabs, abalone, sea urchins, and sea stars. Based
38 on the spring 2010 data (the latest available), the “three-year running average” indicates
39 that the California population of the southern sea otter numbers approximately 2,711, a
40 3.6 percent decrease over 2009 (USGS, 2011).

1 Several species of sea turtles occur within waters off the California coast; however, four
2 species are most likely to occur within the Project area waters: olive Ridley turtle
3 (*Lepidochelys olivacea*), leatherback turtle (*Dermochelys coriacea*), the green turtle
4 (*Chelonia mydas*), and the loggerhead turtle (*Caretta caretta*). Overall, populations of
5 marine turtles have been greatly reduced due to over-harvesting and loss of nesting
6 sites in coastal areas (Ross 1982). Three (olive Ridley, leatherback, and green) are
7 listed as threatened under the U.S. Endangered Species Act while the leatherback turtle
8 is federally listed as an endangered species.

9 *Green turtle.* The green turtle generally occur worldwide in waters with temperatures
10 above 20° C (MFS Globenet Corp./WorldCom Network Services [MGCWCNS] 2000).
11 Green sea turtles have been reported as far north as Redwood Creek in Humboldt
12 County and off the coasts of Washington, Oregon, and British Columbia (Channel
13 Islands National Marine Sanctuary [CINMS] 2000; MGCWCNS 2000). The green turtle
14 is thought to nest on the Pacific coasts of Mexico, Central America, South America, and
15 the Galapagos Islands. There are no known nesting sites along the West Coast of the
16 U.S., and the only known nesting location in the continental U.S. is on the east coast of
17 Florida (MGCWCNS 2000). Green turtles are sighted year-round in marine waters off
18 the southern California coast, with the highest concentrations occurring during July
19 through September. Green turtles are omnivores, feeding primarily on algae and sea
20 grasses, but also on fish and invertebrates (e.g., sardines, anchovies, jellies, mollusks,
21 worms, etc.) (MGCWCNS 2000). Recent minimum population estimates for green
22 turtles indicate that at least 3,319 individuals are known to occur in the eastern Pacific;
23 this population is believed to be increasing (NOAA 2011a).

24 *Olive Ridley turtle.* The olive (or Pacific) Ridley turtle is distributed circumglobally and is
25 regarded as the most abundant sea turtle in the world (Eguchi et al. 2007). Within the
26 east Pacific, the normal range of olive Ridley turtles is from southern California to Peru
27 (NOAA 2011); however, they have been reported as far north as Washington, Oregon,
28 and are a rare visitor to the California coast (MGCWCNS 2000). The olive Ridley turtle
29 is omnivorous, feeding on fish, crabs, shellfish, jellyfish, sea grasses and algae (CINMS
30 2000; MGCWCNS 2000), and may dive to considerable depths (83.2-313.6 m [273 to
31 1,029 ft]). Major nesting beaches are located on the Pacific coasts of Mexico and Costa
32 Rica (MGCWCNS 2000; Eguchi et al. 2007). The number of olive Ridley nests has
33 increased from 50,000 in 1988 to over 700,000 in 1994 to more than a million nests in
34 2000 (Márquez et al. 2002). The eastern tropical Pacific population is estimated at 1.39
35 million, consistent with the dramatic increases of olive Ridley nesting populations that
36 have been reported (Eguchi et al. 2007).

37 *Leatherback turtle.* Leatherback turtles are the most common sea turtle off the West
38 Coast of the U.S. (CINMS 2000). Leatherback sea turtles have been sighted as far
39 north as Alaska and as far south as Chile (CINMS 2000; MGCWCNS 2000). Their
40 extensive latitudinal range is due to their ability to maintain warmer body temperatures
41 in colder waters (MGCWCNS 2000). Off the U.S. West Coast, leatherback turtles are

1 most abundant from July to September. In January, 2010, NOAA submitted a proposal
2 to revise the current habitat for the leatherback turtle to include the coastal areas
3 between Point Arena to Point Vicente in California.

4 Leatherback turtles are omnivores, but feed principally on soft prey items such as
5 jellyfish and planktonic chordates (e.g., salps) (CINMS 2000; MGCWCNS 2000).
6 Recent population estimates for the eastern Pacific leatherback turtles indicate that at
7 least 178 individuals are known to occur off of California (Benson et al. 2007). This
8 population is believed to be decreasing worldwide; however, nesting trends on U.S.
9 beaches have been increasing in recent years (NOAA 2011).

10 *Loggerhead turtle*. Loggerhead turtles primarily occur in subtropical to temperate waters
11 and are generally found over the continental shelf (MFS Globenet Corp./WorldCom
12 Network Services 2000). Loggerhead turtles are omnivorous and feed on a wide variety
13 of marine life including shellfish, jellyfish, squid, sea urchins, fish, and algae
14 (MGCWCNS 2000; CINMS 2000).

15 The eastern Pacific population of loggerhead turtles breeds on beaches in Central and
16 South America. Southern California is considered to be the northern limit of loggerhead
17 turtle distribution (MGCWCNS 2000); however, loggerhead turtles have stranded on
18 beaches as far north as Washington and Oregon (CINMS 2000; MGCWCNS 2000). In
19 addition, in 1978, a loggerhead turtle was captured near Santa Cruz Island in southern
20 California (MGCWCNS 2000). Loggerhead turtle abundance in southern California
21 waters is higher in the winter during warm years than cold years; however, during the
22 summer months (July through September) abundance is similar in warm and cold years.
23 In the U.S., nesting occurs only in Florida and the worldwide population appears to be
24 decreasing (Conant et al. 2009).

25 3.3.4.2 Regulatory Setting

26 This section identifies and discusses the regulations and policies administered by
27 resource agencies pertaining to those biological resources that are known to exist
28 and/or have the potential to occur within the Project area.

29 **Federal**

30 **Endangered Species Act of 1972.** The Federal Endangered Species Act (FESA),
31 administered by the USFWS and the NOAA Fisheries, provides protection to species
32 listed as Threatened (FT) or Endangered (FE), or proposed for listing as Threatened
33 (PFT) or Endangered (PFE). In addition to the listed species, the Federal Government
34 also maintains lists of species that are neither formally listed nor proposed, but could
35 potentially be listed in the future. The Federal candidate species (FC) list includes taxa
36 for which substantial information on biological vulnerability and potential threats exists,
37 and is maintained in order to support the appropriateness of proposing to list the taxa as
38 an endangered or threatened species. Federal Species of Concern (FSC) comprise
39 those species that should be given consideration during environmental review.

1 Section 9 of the FESA prohibits the “take” of any member of a listed species. Take is
2 defined as, “...to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect,
3 or to attempt to engage in any such conduct.” Harass is “an intentional or negligent act
4 or omission that creates the likelihood of injury to a listed species by annoying it to such
5 an extent as to significantly disrupt normal behavior patterns that include, but are not
6 limited to, breeding, feeding, or sheltering.” Harm is defined as “...significant habitat
7 modification or degradation that results in death or injury to listed species by
8 significantly impairing behavioral patterns such as breeding, feeding, or sheltering.”

9 Applicants proposing projects with a federal nexus that “may affect” a federally-listed or
10 proposed species are required to consult with USFWS or NOAA Fisheries, as
11 appropriate, under Section 7 of the ESA. Section 7 of the ESA provides that each
12 federal agency must ensure, in consultation with the Secretary of the Interior or
13 Commerce, that any actions authorized, funded, or carried out by the agency are not
14 likely to jeopardize the continued existence of any endangered or threatened species or
15 result in the destruction or adverse modification of areas determined to be critical
16 habitat. A biological opinion is issued by USFWS or NOAA Fisheries at the completion
17 of formal consultation. The biological opinion can conclude that the Project as proposed
18 is either likely or not likely to jeopardize the continued existence of the species. If the
19 biological opinion concludes “no jeopardy,” but that take will occur, the biological opinion
20 will contain an incidental take statement that authorizes a specified level of take
21 anticipated to result from the proposed action, as well as “reasonable and prudent
22 measures” that are designed to minimize the level of incidental take and that must be
23 implemented as a condition of the take authorization. If the biological opinion concludes
24 “jeopardy,” USFWS or NOAA Fisheries will identify “reasonable and prudent
25 alternatives” to the proposed action that would avoid jeopardizing the species.

26 **Federal Migratory Bird Treaty Act (MBTA) of 1918** (16 United States Code [USC], §
27 703-711). Under the MBTA, which is also administered by the USFWS, it is unlawful to
28 take, possess, buy, sell, purchase, or barter any migratory bird listed in 50 Code of
29 Federal Regulations (CFR) section 10 (50 CFR 10), including feathers or other parts,
30 nests, eggs or products, except as allowed by implementing regulations (50 CFR 21).

31 **Magnuson-Stevens Fishery Conservation and Management Act and Sustainable**
32 **Fisheries Act of 1996**. The Magnuson-Stevens Fishery Conservation and Management
33 Act (Magnuson-Stevens Act) (16 USC § 1801 et seq.), is intended to implement
34 procedures to conserve and manage fishery resources. Further, as amended by the
35 Sustainable Fisheries Act of 1996, review of projects whose business is conducted
36 pursuant to federal permits and licenses must consider the designation, promotion and
37 protection of essential fish habitat (EFH) for those species included in a Federal Fishery
38 Management Plan, as established pursuant to 16 USC §§ 1851-1863. Specifically,
39 section 303(a)(7) of the Magnuson-Stevens Act, as amended, requires that EFH be
40 properly described and identified.

1 Essential Fish Habitat is defined as “...those waters and substrate necessary to fish for
2 spawning, breeding, feeding, or growth to maturity.” As used in this definition, “waters”
3 are defined to include “aquatic areas and their associated physical, chemical, and
4 biological properties that are used by fish.” These may include “...areas historically used
5 by fish where appropriate; ‘substrate’ to include sediment, hard bottom, structures
6 underlying the waters, and associated biological communities.” “Necessary” means “the
7 habitat required to support a sustainable fishery and the managed species’ contribution
8 to a healthy ecosystem.”

9 **Marine Protection, Research, and Sanctuaries Act of 1972.** The Marine Protection,
10 Research, and Sanctuaries Act (MPRSA) establishes a framework for the control of
11 dumping material in the territorial sea and seaward and includes specific criteria and
12 conditions for permissible dumping. The MPRSA is the primary federal environmental
13 statute governing the discharge of dredged material in the ocean.

14 Section 102 of the MPRSA authorizes the EPA to announce environmental criteria for
15 evaluation of all dumping permit actions, to retain review authority over ACOE section
16 103 permits, and to designate ocean disposal sites for dredged and other material
17 disposal. The EPA’s regulations for ocean disposal are published at 40 CFR § 220-229.
18 Under the authority of section 103 of the MPRSA, the ACOE may issue ocean dumping
19 permits for dredged and other material if EPA concurs with the decision. If EPA does
20 not agree with the ACOE permit decision, a waiver process under section 103 allows
21 further action to be taken. The permitting regulations advertised by the ACOE, under
22 MPRSA, appear in 33 CFR § 320-330 and § 335-338. Based on an evaluation of
23 compliance with the regulatory criteria of 40 CFR § 227, both EPA and the ACOE may
24 prohibit or restrict disposal of material that does not meet the criteria. The EPA and the
25 ACOE also may determine that ocean disposal is inappropriate because of Ocean
26 Dredged Material Disposal Site management restrictions or because options for
27 beneficial use(s) exist(s). Site management guidance is provided in 40 CFR § 228.7-
28 228.11.

29 **Marine Mammal Protection Act** (16 USC § 1361 et seq.). The Marine Mammal
30 Protection Act (MMPA) of 1972, as amended, establishes a national policy designed to
31 protect and conserve marine mammals and their habitats. Section 101 (a) (5) (D) of the
32 MMPA provides for the issuance of Incidental Take Authorizations for non-listed marine
33 mammals. Under the MMPA, the Secretary of Commerce is responsible for the
34 conservation and management of pinnipeds (other than walruses) and cetaceans. This
35 act also specifies and defines actions that are considered harassment and provides for
36 agency-mandated compliance with mitigations to reduce impacts to the protected
37 species. The Secretary of the Interior is responsible for walruses, sea and river otters,
38 polar bears, manatees and dugongs. The Secretary of Commerce delegated MMPA
39 authority to NOAA Fisheries. Part of the responsibility that NOAA Fisheries has under
40 the MMPA involves monitoring populations of marine mammals to make sure that they
41 stay at optimum levels. If a population falls below its optimum level, it is designated as

1 "depleted," and a conservation plan is developed to guide research and management
2 actions to restore the population to healthy levels.

3 **Migratory Bird Treaty Act of 1918** (16 USC § 703 et seq., as amended). The
4 Migratory Bird Treaty Act (MBTA) was agreed to by the U.S. and Canada in 1918; the
5 1936 Convention for the Protection of Migratory Birds and Animals, between the U.S.
6 and Mexico; and subsequent amendments to these Acts provide legal protection for
7 almost all breeding bird species occurring in the U.S. The MBTA restricts the killing,
8 taking, collecting, and selling or purchasing of native bird species or their parts, nests,
9 or eggs. Certain game bird species are allowed to be hunted for specific periods
10 determined by federal and state governments. The intent of the MBTA is to eliminate
11 any commercial market for migratory birds, feathers, or bird parts, especially for eagles
12 and other birds of prey.

13 **Rivers and Harbors Act** (33 USC § 401). Section 10 of the Rivers and Harbors Act
14 limits the construction of structures and the discharge of fill into navigable waters of the
15 U.S. This regulation is used by the ACOE to control, and permit, the placing of
16 structures or the operation of vessels within the waters of the U.S. Several Nationwide
17 Permits, which are used to authorize specific activities that have been previously
18 assessed under NEPA, provide an expedited permitting process for the more "routine"
19 in-water construction activities such as placing scientific equipment, construction of
20 pipelines, and placing shoreline protective devices.

21 Other relevant federal environmental regulations include:

- 22 • The Clean Water Act (CWA) is a comprehensive piece of legislation that
23 generally includes reference to the Federal Water Pollution Control Act of 1972,
24 its substantial supplementation by the CWA of 1977, and subsequent
25 amendments. Overall, the CWA seeks to protect the nation's water from pollution
26 by setting water quality standards for surface water and by limiting the discharge
27 of effluents into waters of the U.S., which are enforced by the EPA. The CWA
28 also provides for a permitting system to control discharges to surface waters.
29 State operation of the program is encouraged. The ACOE is responsible for the
30 issuance of permits for the placement of dredged or fill material into waters of the
31 U.S. pursuant to CWA section 404. As defined in 33 CFR 328.3(a)(3), waters of
32 the U.S. are those that are currently used, or were used in the past, or may be
33 susceptible to use in interstate or foreign commerce, including all waters which
34 are subject to the ebb and flow of the tide; tributaries and impoundments to such
35 waters; all interstate waters including interstate wetlands; and territorial seas.
- 36 • The Marine Plastic Pollution Research and Control Act of 1987 (33 USC § 1901
37 et seq.) prohibits the disposal of plastics and non-biodegradable material into the
38 marine waters.
- 39 • The National Aquatic Invasive Species Act was originally passed in 1990 in
40 response to the invasion of the zebra mussel and other species that damaged

1 the Great Lakes. That law brought much-needed attention to the global
2 movement of aquatic species. It also established the federal interagency Aquatic
3 Nuisance Species Task Force, which became a key resource for regional and
4 state efforts. The 2005 reauthorization specifies the requirements related to the
5 exchange/discharge of ballast water from ocean-going vessels that enter federal
6 waters or U.S. lakes.

- 7 • The Oil Pollution Act of 1990 (OPA 90) (33 USC § 2712) requires owners and
8 operators of facilities that could cause substantial harm to the environment to
9 prepare and submit plans for responding to worst-case discharges of oil and
10 hazardous substances. The passage of OPA 90 directed the State of California
11 to pass a more stringent spill response and recovery regulation and to create the
12 State Office of Spill Prevention and Response (OSPR) to review and regulate oil
13 spill plans and contracts.

14 **State**

15 **California Aquatic Invasive Species Management Plan.** In 2008 the State of
16 California developed a plan to control the introduction and spread of non-native species
17 within the aquatic and marine waters of the state. That plan proposes management
18 actions for addressing aquatic invasive species (AIS) threats to the State of California. It
19 focuses on the non-native algae, crabs, clams, fish, plants and other species that
20 continue to invade California’s creeks, wetlands, rivers, bays and coastal waters.

21 **California Coastal Act of 1976.** The Coastal Act requires anyone who proposes any
22 development in the coastal zone to secure a CDP from either the CCC or local
23 jurisdiction with a certified LCP. In general, the CCC is responsible for determining a
24 project’s consistency with the Coastal Act and/or the CCMP and for granting CDPs for
25 projects within the California coastal zone not covered by LCPs. The San Luis Obispo
26 County has a certified LCP; therefore, the County’s coastal policies are applicable to the
27 onshore portion of the Project.

28 **California Endangered Species Act** (Fish & G. Code, § 2050 et seq.). The CDFG
29 administers a number of laws and programs designed to protect fish and wildlife
30 resources. Principal of these is the California Endangered Species Act of 1984 (CESA)
31 that regulates the listing and take of State endangered (SE) and threatened species
32 (ST). Under section 2081 of CESA, CDFG may authorize the take of an Endangered
33 and/or Threatened species, or candidate species by a permit or Memorandum of
34 Understanding (MOU) for scientific, educational, or management purposes, or for the
35 incidental take associated with implementation of a project.

36 CDFG maintains lists of Candidate-Endangered species (SCE) and Candidate-
37 Threatened species (SCT). California candidate species are afforded the same level of
38 protection as listed species. CDFG also designates Species of Special Concern (CSC)
39 that are species of limited distribution, declining populations, diminishing habitat, or
40 unusual scientific, recreational, or educational value. These species do not have the

1 same legal protection as listed species, but may be added to official lists in the future.
2 The CSC list is intended by CDFG as a management tool to call attention to declining
3 populations and focus efforts on decreasing threats to long-term viability.

4 CDFG administers other state laws designed to protect wildlife and plants. Under
5 sections 3511, 4700, 5050, and 5515 of the Fish and Game Code, CDFG designates
6 species that are afforded “fully protected” (FP) status. Under this protection, CDFG may
7 authorize take or capture of a designated species for “...*necessary scientific research,*
8 *including efforts to recover fully protected, threatened, or endangered species*” and
9 “...*live capture and relocation of those species pursuant to a permit for the protection of*
10 *livestock.*”

11 Section 3503 of the Fish and Game Code prohibits the needless destruction of the
12 nests and eggs of all birds; section 3503.5 protects all birds-of-prey, their eggs, and
13 their nests.

14 CDFG also manages the California Native Plant Protection Act of 1977 (Fish & G.
15 Code, § 1900 et seq.), which was enacted to identify, designate and protect rare plants.
16 In accordance with CDFG guidelines, California Native Plant Society 1B list plants are
17 considered “rare” under the Act, and are evaluated under CEQA.

18 **California Harbors and Navigation Code, Sections 1-7340.** The California Harbors
19 and Navigation Code describes and defines provisions and legislative policy for
20 California harbors, navigable waters, traffic, cargo, wrecks and salvage, marinas,
21 construction/improvements, and harbor and port mitigation.

22 **Lempert-Keene-Seastrand Oil Spill Prevention and Response Act (OSPRA).** The
23 OSPRA established OSPR within the CDFG to provide protection of California's natural
24 resources from the potential effects of an oil spill within the ocean waters. The Act
25 covers all aspects of marine oil spill prevention and response in California. It established
26 an Administrator who is given broad powers to implement the provisions of the Act. The
27 Act requires that the CDFG, the Administrator of OSPR, establishes rescue and
28 rehabilitation stations for seabirds, sea otters, and other marine mammals.

29 **Marine Life Protection Act of 1999 (MLPA)** (Fish & G. Code, § 2850 et seq.). The
30 MLPA directs the state to redesign California's system of MPAs to function as a network
31 in order to: increase coherence and effectiveness in protecting the state's marine life
32 and habitats, marine ecosystems, and marine natural heritage, as well as to improve
33 recreational, educational and study opportunities provided by marine ecosystems
34 subject to minimal human disturbance. There are six goals that guide the development
35 of MPAs in the MLPA planning process: 1) Protect the natural diversity and abundance
36 of marine life, and the structure, function and integrity of marine ecosystems; 2) Help
37 sustain, conserve and protect marine life populations, including those of economic
38 value, and rebuild those that are depleted; 3) Improve recreational, educational and
39 study opportunities provided by marine ecosystems that are subject to minimal human
40 disturbance, and to manage these uses in a manner consistent with protecting

1 biodiversity; 4) Protect marine natural heritage, including protection of representative
2 and unique marine life habitats in California waters for their intrinsic values; 5) Ensure
3 California's MPAs have clearly defined objectives, effective management measures and
4 adequate enforcement and are based on sound scientific guidelines; and 6) Ensure the
5 State's MPAs are designed and managed, to the extent possible, as a network.

6 To help achieve these goals, three types of MPA designation types are used: SMRs,
7 SMCAs, and state marine parks. Public Resources Code section 36710 lists the
8 restrictions applied to SMR and SMCA areas (the Project does not include any areas
9 designated as a state marine park):

- 10 • *State Marine Reserves*: In a state marine reserve, it is unlawful to injure,
11 damage, take, or possess any living, geological, or cultural marine resource,
12 except under a permit or specific authorization from the Commission for
13 research, restoration, or monitoring purposes.
- 14 • *State Marine Conservation Areas*: In a state marine conservation area, it is
15 unlawful to injure, damage, take, or possess any living, geological, or cultural
16 marine resource for commercial or recreational purposes, or a combination of
17 commercial and recreational purposes except as specified in section 632,
18 subdivision (b) in Title 14 of the California Code of Regulations, areas and
19 special regulations for use. The Commission may permit research, education,
20 and recreational activities, and certain commercial and recreational harvest of
21 marine resources, provided that these uses do not compromise protection of the
22 species of interest, natural community, habitat, or geological features.

23 **Porter-Cologne Water Quality Control Act of 1969** (Cal. Water Code, § 13000 et
24 seq.). This Act mandates that waters of the State shall be protected, such that activities
25 which may affect waters of the State shall be regulated to attain the highest quality. This
26 Act establishes the State Water Resources Control Board (SWRCB) as the principal
27 state agency for the coordinated control of water quality in California. The SWRCB
28 provides regulations that mandate a “non-degradation policy” for state waters,
29 especially those of high quality. The SWRCB is divided into local regional boards which
30 have been delegated authority to issue permits or waive water quality conditions under
31 section 401 of the CWA (see above) for the ACOE permitting process.

32 **Local**

33 **San Luis Obispo County LCP Policy A. Sensitive Habitats.** Policy A indicates that
34 environmentally sensitive habitat areas are settings in which plant or animal life (or their
35 habitats) are rare or especially valuable due to their special role in an ecosystem.
36 Designation of environmentally sensitive habitats include but are not limited to: 1)
37 wetlands and marshes; 2) coastal streams and adjacent riparian areas; 3) habitats
38 containing or supporting rare and endangered or threatened species; 4) marine habitats
39 containing breeding and/or nesting sites and coastal areas used by migratory and
40 permanent birds for resting and feeding. The Coastal Act provides protection for these

1 areas and permits only resource-dependent uses within the habitat area. Development
2 adjacent must be sited to avoid impacts.

3 Policy 38: Protection of Kelp Beds, Offshore Rocks, Rocky Points, Reefs and Intertidal
4 Areas of the San Luis Obispo County LCP states that “uses shall be restricted to
5 recreation, education and commercial fishing. Adjacent development shall be sited and
6 designed to mitigate impacts that would be incompatible with the continuance of such
7 habitat areas.”

8 3.3.4.3 Impact Analysis

9 **a) Would the Project have a substantial adverse effect, either directly or**
10 **through habitat modifications, on any species identified as a candidate,**
11 **sensitive, or special status species in local or regional plans, policies, or**
12 **regulations, or by the California Department of Fish and Game or U.S. Fish**
13 **and Wildlife Service?**

14 See response below.

15 **b) Would the Project have a substantial adverse effect on any riparian habitat**
16 **or other sensitive natural community identified in local or regional plans,**
17 **policies, regulations or by the California Department of Fish and Game or**
18 **U.S. Fish and Wildlife Service?**

19 The Project would result in the placement of temporary and long-term OBS units and
20 cable onto the seafloor offshore the DCP; the recovery of the temporary OBS units
21 after two weeks; and the installation of approximately 24.0 m (78.7 ft) of 10.0 cm (4.0 in)
22 diameter plastic conduit along existing rip-rap. Eleven special status marine species
23 could be present within the Project area (Section 3.3.4.1 above), including the
24 endangered black abalone (*H. cracherodii*), which prefers open ocean rocky intertidal
25 habitats.

26 Impacts to special status species or habitats could occur from the placement of OBS
27 units and/or cable onto individuals or across a substantial area of sensitive habitat,
28 including rock features, eelgrass, surf grass, or kelp. Other significant effects could
29 occur if there were a substantial increase in noise; entanglement of a listed species in
30 the cable during offshore deployment; or from a collision with a Project vessel. The
31 potential for the Project to result in these types of impacts to special status species and
32 sensitive habitat is evaluated below.

33 PG&E has incorporated several measures into the Project to reduce or eliminate the
34 potentially significant impacts to marine resources, including:

- 35 • Aligning the cable route within sedimentary seafloor habitat wherever possible.
36 The approximate 1.6 km (1.0 mi) rock habitat crossed is low relief and does not
37 support any sensitive resources. The alignment precludes the crossing or any
38 sea grass or kelp (*Macrocystis* spp) as documented in Tenera (2011).

- 1 • Locating the conduit extension over existing rock rip-rap that does not support
2 black abalone. Tenera (2011) reports that no black abalone were observed within
3 a 3.0 to 4.6 m (9.8 to 15.1 ft) wide corridor centered on the proposed cable
4 alignment.

- 5 • A Project-specific Marine Wildlife Contingency Plan has been prepared (see
6 Appendix H). Among other items, that plan specifies that a qualified marine
7 wildlife observer will be onboard the *MV Michael Uhl* throughout the OBS and
8 cable installation (and recovery) periods. The observer will be located in an area
9 of the vessel that allows clear views of the direction of travel during transit
10 periods and around the vessel during OBS and cable deployment. Should an
11 interaction with a marine mammal or turtle be imminent, the onboard observer
12 will have the authority to curtail operations until the animal is out of the area. The
13 onboard monitor will maintain a record of marine wildlife observations and
14 prepare and submit a post-installation observation report to the CSLC.

- 15 • PG&E has located all OBS units within sedimentary habitat. Greene (2011)
16 reports that the habitat under and within 15.0 m (49.2 ft) of all proposed OBS unit
17 locations is sedimentary, thereby precluding impacts to rock features. Water
18 depths of all OBS unit locations are deeper than those which would support kelp
19 or sea grass. Therefore, those sensitive resources will not be affected.

20 As proposed and with the incorporation of these measures, along with the Mitigation
21 Measures listed in Section 3.3.4.4 as MM BIO-1, MM BIO-2, and APM-1 through APM-
22 9, no significant impacts to sensitive marine resources, listed species or habitat used by
23 those species, or sensitive habitats such as seagrass and kelp beds and rocky features
24 are expected, because the measures either provide a mechanism for avoidance of one
25 or more of the potential impacts identified above or incorporate specific requirements
26 and limitations on how Project activities are conducted. The only area where kelp could
27 be crossed is within the DCCP intake embayment. Rocky features crossed outside of
28 that area are too deep of water to support kelp.

29 The organisms that could be potentially affected by the deployment of the proposed
30 OBS units and associated cable include polychaete worms, sea pens, anemones,
31 solitary and gorgonian corals, seastars, mollusks, and possibly small, leafy red algae
32 attached to the upper portions of some of the shallow-water rock features). The loss of
33 those individuals by burial under the OBS units or burial or abrasion by the cable is not
34 considered significant. The less than significant impact determination is based on the
35 consistency of habitat and biota within the affected area to that of the region, and the
36 availability of similar habitat nearby.

37 The Project also includes an extension of an existing cable conduit from its current
38 location on top of the armor rock rip-rap along the east side of the DCCP intake bay into
39 the water where it will terminate on the natural sedimentary seafloor. The rock rip-rap
40 does not provide any sensitive habitat and Project-specific surveys of the proposed

1 conduit/cable route determined that this Project component would not result in
2 significant impacts to sensitive species (e.g., black abalone).

3 NOAA Fisheries has established guidelines for noise levels that could affect marine
4 mammals. While some studies have shown that behavioral changes in marine
5 mammals occur with a received impulse sound pressure level (SPL) of 160 decibels
6 (dB) in reference to one micro Pascal root mean square (dB re 1 μ Pa rms), mitigation is
7 usually required by NOAA Fisheries within the area within which SPLs between 180 dB
8 and 190 dB (both re 1 μ Pa rms) are predicted. The 180 dB level is generally applicable
9 within areas where cetaceans (whales and dolphins) are present, and the 190 dB
10 distance applies to areas supporting otarids and pinnipeds (seals and sea lions).
11 Available scientific evidence suggests that harassment of these marine mammals could
12 occur from SPLs at or above these levels and mitigations are developed on a case-by-
13 case basis through consultation with the NOAA Fisheries office within the region.

14 Data presented in Entrix (2004), which cites various published sources, indicate that
15 underwater noise levels generated by tugs and supply boats range from 147 to 156 dB
16 at 10 m (33 ft) from the source; those levels decrease to 107 to 116 dB within 1.0 km
17 (0.6 mi). The Project vessel-generated noise is expected to be within this range and
18 within the normal ambient range of the area which is subject to regular vessel traffic,
19 including larger commercial fishing vessels. The OBS units are “passive” and generate
20 no noise. Therefore, no significant noise-related impacts to special status species are
21 expected.

22 ***c) Would the Project have a substantial adverse effect on federally protected***
23 ***wetlands as defined by Section 404 of the Clean Water Act (including, but***
24 ***not limited to, marsh, vernal pool, coastal, etc.) through direct removal,***
25 ***filling, hydrological interruption, or other means?***

26 The Project is within the marine waters and shoreline area of the Pacific Ocean and
27 does not include any federally protected wetlands. Discussions with B. Henderson
28 (pers. comm.) of the ACOE indicated that the Project would not require a 404
29 authorization from the ACOE. The OBS and cable are not considered “fill” and therefore
30 no impacts to wetlands would occur.

31 ***d) Would the Project interfere substantially with the movement of any native***
32 ***resident or migratory fish or wildlife species or with established native***
33 ***resident or migratory wildlife corridors, or impede the use of native wildlife***
34 ***nursery sites?***

35 The OBS units are approximately 0.3 m (1.0 ft) high and the cable will be laid onto the
36 seafloor where it is expected to naturally bury itself into the sediments. If sections of the
37 cable are not covered with sediment, it will provide additional solid substrate for
38 epibiota. The cable will be laid across low-relief rock features where necessary;
39 however no trenching or removal of rock will be required. The conduit extension will be
40 laid onto the existing rip-rap. None of these items are expected to interfere with

1 movements of biota as they will not be impenetrable and organisms will be able to go
2 around or over all of the items. Kelp beds, which are nursery areas for some organisms,
3 have been avoided with the proposed alignment and no other nursery areas, including
4 marine mammal rookeries, will be affected by the Project. Therefore, as currently
5 designed, no significant impacts to the movement of organisms, the migratory, or
6 nursery areas are expected as a result of the proposed actions.

7 ***e) Would the proposed Project conflict with any local policies or ordinances***
8 ***protecting biological resources, such as a tree preservation policy or***
9 ***ordinance?***

10 Except for the conduit area along the existing armor rock rip-rap, the Project is located
11 within the state marine waters. The Project area is not within any areas that are
12 protected by local policies or ordinances. Therefore no conflicts between existing local
13 policies and ordinances will occur.

14 ***f) Would the proposed Project conflict with the provisions of an adopted***
15 ***Habitat Conservation Plan, Natural Community Conservation Plan, or other***
16 ***approved local, regional, or state habitat conservation plan?***

17 Without specific authorization from the CFGC, through the CDFG Scientific Collecting
18 Permit (SCP) process, the Project would conflict with and be in violation of the
19 regulations that govern the use of the Point Buchon MPA because of the potential for
20 take of organisms within the MPA. Without mitigation (i.e., formal authorization) the
21 Project would be inconsistent with the no take requirements of the MPA.

22 None of the organisms within the MPA boundaries that could be potentially affected by
23 the deployment of the proposed OBS units and associated cable are “special status”
24 species. Species that may be affected include polychaete worms, sea pens, anemones,
25 seastars, mollusks, and possibly small, leafy red algae attached to the upper portions of
26 some of the rock features), and the loss of those individuals by burial under the OBS
27 units or burial or abrasion by the cable is not considered significant. The less than
28 significant impact determination is based on the consistency of habitat and biota within
29 the affected area to that of the region, and the availability of similar habitat nearby;
30 however, because habitat and organisms that are within the Point Buchon MPA could
31 be affected, take of those animals and plants would violate MPA regulations and is
32 therefore considered a potentially significant impact. Impacts associated with the take of
33 non-listed species within the MPA would be reduced to a less than significant level with
34 the implementation of the requirements of an amended SCP issued by the CDFG,
35 because the Project would no longer conflict with the regulations governing activities
36 within the MPA.

1 3.3.4.4 Mitigation and Residual Impacts

2 **Recommended Mitigation Measures**

3 **MM BIO-1** The Applicant shall comply with the requirements identified in the SCPs
4 for activities in the Point Buchon Marine Protected Area.

5 **MM BIO-2** The Applicant shall install the cable in such a way as to avoid areas of rocky
6 substrate whenever feasible and perform a post-installation ROV survey
7 upon completion of cable installation activities. The survey will document
8 the length of cable in areas of rocky substrate and the actual amount of
9 rocky substrate and number of organisms affected by the cable placement.
10 A CSLC staff-approved marine biologist shall be onboard the post-lay ROV
11 survey vessel to observe and record the effects of cable lay operations on
12 the seafloor substrates and the biota along the entire cable route and at
13 each OBS unit. The Applicant shall subsequently prepare a technical report
14 and shall submit the report and video of the ROV survey to the CSLC and
15 California Department of Fish and Game (CDFG) staffs within 90 days
16 following the ROV survey. The report shall include all of the following:

- 17 ○ Quantification (in square meters) of seafloor impacts and estimated
18 numbers and species of organisms affected as well as a map of the
19 survey route noting the location of the impacted areas included in this
20 quantification and the video time stamp of each relevant site in the
21 ROV survey video;
- 22 ○ A restoration proposal that is based on the results of the survey and
23 proportional to the actual amount of soft substrate and rocky habitat
24 affected. The proposal shall contain direct restoration actions that
25 repair or restore affected areas and/or a contribution to an ongoing
26 restoration program in the area (e.g., SeaDoc Society Lost Fishing
27 Gear Recovery Project), as specified by the CSLC or CDFG staffs
28 (and/or other requesting agencies); and
- 29 ○ A schedule for implementing and completing the required restoration.

30 **Applicant-Proposed Mitigation Measures (APMs)**

31 **APM-1** Vessel fueling shall only occur at an approved docking facility. No
32 cross vessel fueling shall be allowed. Marine vessels generally will
33 contain petroleum products within tankage that is internal to the hulls of
34 the vessels.

35 **APM-2** Project installation schedule shall be limited to June-July to avoid gray
36 whale migration periods and when weather conditions are conducive to
37 expeditious and safe vessel operations.

38 **APM-3** The cable has been routed to avoid rocky substrate wherever possible.
39 Two pre-construction remotely operated vehicle (ROV) surveys of the

- 1 rock habitat expected to be crossed by the cable have been conducted
2 and information collected has been used to avoid potential impacts.
- 3 **APM-4** All operations shall be completed during the daytime hours; no
4 nighttime operations are proposed.
- 5 **APM-5** Onboard spill response equipment and contracted services shall be
6 sufficient to contain and recover the worst-case scenario spill of
7 petroleum products.
- 8 **APM-6** To reduce the area of seafloor disturbance, no vessel anchoring is
9 proposed, and the cable between the long-term OBS units shall not be
10 manually buried into the sediment or trenched through the rocky
11 substrate.
- 12 **APM-7** A qualified marine wildlife observer shall be onboard the *MV Michael*
13 *Uhl* during the deployment of the OBS units and cable. That observer
14 shall monitor and record the presence of marine wildlife (mammals and
15 reptiles) and shall have the authority to cease operations if the actions
16 are resulting in potentially significant impacts to wildlife.
- 17 **APM-8** All OBS units shall be located on sedimentary seafloor habitat. All
18 Project-related material, including concrete ballast tubes, shall be
19 removed from the seafloor after data collection is completed.
- 20 **APM-9** The Applicant shall implement the marine wildlife contingency plan for
21 OBS deployment, cable lay, and equipment recovery that includes
22 measures to reduce the chance of vessel/marine mammal and reptile
23 interactions (see Appendix H). This Plan includes: (1) the provision for
24 marine mammal monitors approved by the NOAA Fisheries or CSLC
25 staff to be onboard the OBS/cable installation vessel throughout the
26 daytime marine operations; and (2) measures that (a) specify the
27 distance, speed, and direction transiting vessels would maintain when
28 in proximity to a marine mammal or reptile; (b) qualifications, number,
29 location, and authority of onboard marine mammal and reptile
30 monitors; and (c) reporting requirements in the event of an observed
31 impact to marine wildlife.
- 32 **APM-10** To avoid rock features, a 275 m- (902 ft) long section of the cable from 200
33 m (656 ft) northwest of Station 5 to 75 m (246 ft) southeast of Station 4 shall
34 be moved 50 m (164 ft) east of the proposed alignment, as shown in Figure
35 4 in Appendix I, December 2011 ROV Survey – Summary Report.
- 36 **Residual Impacts.** With the incorporation of the recommended mitigation, there will be
37 no residual impacts to the existing marine biological resources.