### 3.3.4 Biological Resources

<table>
<thead>
<tr>
<th>Would the Project:</th>
<th>Potentially Significant Impact</th>
<th>Less Than Significant with Mitigation</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>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?</td>
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<td>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?</td>
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<td>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?</td>
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<tr>
<td>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?</td>
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<tr>
<td>e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?</td>
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<td>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?</td>
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### 3.3.4.1 Environmental Setting

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

**Intertidal and Nearshore (to -30 m [-100 ft]).** The shoreline of the region is characterized by a rocky headland approximately 19 km (12 mi) in lateral extent which trends northwest to southeast and which is bounded to the north and south by extensive sand beaches.
Figure 3.3.4-1. Regional Seafloor Habitats
Point Buchon is the prominent feature of this shoreline, which consists of wave-exposed headlands alternating with semi-protected coves. Stable bedrock and variously sized boulders are the predominant substratum. Sand, as fine gravel and shell-debris, is uncommon in the intertidal areas, where it tends to be ephemeral, but becomes the predominant substrate with increasing distance and depth offshore. The nearshore intertidal and subtidal algae, invertebrates, and fishes in the area lying generally between Point Buchon to the north of DCPP and Point San Luis to the south of DCPP have been well studied and are similar to the marine biological communities found in other areas of central California.

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

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

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

March 2012

3-27
PG&E Point Buchon Ocean Bottom
Seismometer Project MND

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

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

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

Deeper Water Areas (to -122 m [-400 ft]). In water depths up to 122 m (400 ft), AMS (2008) reports that characteristic sediment-associated biota of the region included sea pens (Stylatula sp. and S. elongata), Pitilosarcus gurneyi, Acanthoptilum sp., and two species of Virgularia), brittle stars (unidentified Ophiuroids and Ophinoneris sp.), sea stars (Petalaster [Luidia] foliolata, Rathbunaster californica, and, in the inshore portions, P. brevispinus). Cerianthid and other anemones (Pachycerianthus sp., Urticina
piscivorus, Urticina sp., and Stomphia coccinea, respectively), cancer crabs including the slender crab (C. gracilis) and octopus (Octopus rubescens) were common to abundant within the sedimentary habitat in this water depth range. Sediment-associated fish species within this depth range include tonguefish (Symphurus atricauda), flatfishes including sanddabs (Citharichthys spp.), California halibut (Paralichthys californicus), Dover sole (Microstomus pacificus), and English sole (Plukenetia [Parophrys] vetulus), eelpouts (Lycodes sp.), poachers (Agonidae), cuskeels, pink surfperch (Zalembius rosaceus), hagfish (Eptatretus stouti), and adult and juvenile rockfish (Sebastes spp).

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

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

Site-Specific Marine Habitats and Biota.

Nearshore Cable Route. Results of a project-specific diver-biologist survey of nearshore portion of the cable route are provided in Tenera (2011); the report is provided in Appendix D. The survey included both intertidal and subtidal observations within that portion of the cable alignment that was within the DCPP intake embayment. The intertidal survey was from the high to low intertidal rip-rap within a 3 m (10 ft) corridor centered along the proposed alignment of the PVC conduit extension. An objective of the intertidal survey was to determine if abalone, including the endangered
black abalone (*Haliotis cracherodii*) was present within the proposed cable corridor. The subtidal segment was along the proposed cable alignment from the base of the rip-rap to an area beyond the breakwaters and consisted of a team of diver-biologists swimming along the alignment shown in Figure 3.3.4-2 and recording habitat type and dominant macroepibiota within a 3.0 to 4.6 m (10 to 15 ft) wide corridor centered on the proposed cable alignment.

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

Tenera (2011) indicates that the intertidal and shallow subtidal habitat (to the -1.5 m [-5.0 ft] isobath) consists of a mixture of armor rock rip-rap, concrete, and native rock. Dominant biota in this zone include limpets, barnacles, the sea lettuce alga *Ulva spp.*, bat stars (*Asterina miniata*), and various brown and red algal species. No abalone (*Haliotis spp.*) were observed within this segment or elsewhere along the proposed nearshore cable route (Tenera 2011). That report also suggests that due to the protected nature of the intake embayment shoreline, black abalone, which prefer open exposed coastlines, would not be expected to occur. The project-specific inter- and subtidal survey completed by Tenera included searching under rock overhangs and in
crevices using flashlights, which was the same methodology used on Tenera’s other abalone monitoring efforts. Tenera has extensive data from focused studies and other intertidal monitoring inside Diablo Cove and in areas extending along the coast from Pt. Buchon to approximately 3.2 km (2.0 mi) south of DCPP. Those studies have documented a black abalone population decline of greater than 95 percent from 1988 through 1998 as a result of withering syndrome. Although there are still black abalone along this stretch of coastline, they are in very low abundances (J. Steinbeck, personal communication, 2011).

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

**Figure 3.3.4-3.** Intertidal and Seafloor Habitats within Nearshore Cable Route
**Environmental Checklist – Biological Resources**

March 2012

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

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

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

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

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.

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.

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).

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

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

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

**Figure 3.3.4-4. Point Buchon Marine Protected Area**
Environmental Checklist – Biological Resources

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

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

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

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

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

**Steelhead, South-Central California Coast ESU.** The south-central California coast evolutionarily significant unit (ESU) steelhead (Oncorhynchus mykiss) is a federally listed endangered species. Its range extends from the Pajaro River basin in Monterey Bay south to, but not including, the Santa Maria River basin near the city of Santa Maria. Historical data on the South-Central California Coast steelhead ESU are sparse. In the mid-1960s, CDFG 1965 (cited in NOAA 2005) estimated that the ESU-wide run size was about 17,750 adults. No comparable recent estimate exists; however, recent
estimates exist for five river systems (Pajaro, Salinas, Carmel, Little Sur, and Big Sur), indicating runs of fewer than 500 adults where previous runs had been on the order of 4,750 adults.

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

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

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

**Humpback whale.** The humpback whale is a federally endangered species, due to intensive historical commercial whaling. Humpbacks are distributed worldwide and undertake extensive migration in parts of their range (Leatherwood et al. 1982; NMFS 1991a). The population in the Project area is referred to as the eastern Northern stock, which spends the winter/spring months in coastal Central America and Mexico for breeding and calving and migrates to the coast of California to southern British Columbia in summer/fall to feed (NMFS 2008). During migration, humpback whales are known to occur within the vicinity of the Channel Islands. Migrants passing through central California appear to follow a more inshore path than blue, or fin whales (Bonnell and Dailey 1993). The most recent estimates of humpback whale indicate that at least 1,250 individuals are known to occur off California, Oregon, and Washington (NMFS 2009). This population estimate is anticipated to be increasing (NMFS 2009).
Northern right whale. The northern right whale is federally endangered, due to intensive historical commercial whaling. Like other baleen whales, right whales appear to migrate from high-latitude feeding grounds toward more temperate waters in the fall and winter, although the location of seasonal migration routes is unknown (Scarff 1986). The usual wintering ground of northern right whales extended from northern California to Washington, although sightings have been recorded as far south as Baja California and near the Hawaiian Islands (Scarff 1986; Gendron et al. 1999). Estimates of the regional population are not available; however, in 2002, two of the 13 individuals observed between 1999 and 2001 were “re-observed” (NMFS 2008a). It is believed that the population is between 100 to 200 individuals (Braham 1984). Due to the low population numbers and lack of data, no long-term population trends have been determined.

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

Southern sea otter. The southern sea otter (Enhydra lutris nereis) is a federally threatened species. Historically the range of sea otters extended from the northern islands of the Japanese Archipelago northeast along Alaska and southward along North America to Baja California (Dailey et al. 1993). The sea otter was nearly extirpated by the fur trade during the 18th and 19th centuries. The current range is restricted to the waters of the coast of Alaska and California. Currently, the sea otter is expanding its range southward along the coast, including a recent expansion south of Point Conception into the Santa Barbara area. This species prefers rocky shoreline with water depth of less than 50 feet, which support kelp beds where they feed on benthic macroinvertebrates including clams, crabs, abalone, sea urchins, and sea stars. Based on the spring 2010 data (the latest available), the “three-year running average” indicates that the California population of the southern sea otter numbers approximately 2,711, a 3.6 percent decrease over 2009 (USGS, 2011).
Several species of sea turtles occur within waters off the California coast; however, four species are most likely to occur within the Project area waters: olive Ridley turtle (*Lepidochelys olivacea*), leatherback turtle (*Dermochelys coriacea*), the green turtle (*Chelonia mydas*), and the loggerhead turtle (*Caretta caretta*). Overall, populations of marine turtles have been greatly reduced due to over-harvesting and loss of nesting sites in coastal areas (Ross 1982). Three (olive Ridley, leatherback, and green) are listed as threatened under the U.S. Endangered Species Act while the leatherback turtle is federally listed as an endangered species.

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

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

**Leatherback turtle.** Leatherback turtles are the most common sea turtle off the West Coast of the U.S. (CINMS 2000). Leatherback sea turtles have been sighted as far north as Alaska and as far south as Chile (CINMS 2000; MGCWCNS 2000). Their extensive latitudinal range is due to their ability to maintain warmer body temperatures in colder waters (MGCWCNS 2000). Off the U.S. West Coast, leatherback turtles are
most abundant from July to September. In January, 2010, NOAA submitted a proposal to revise the current habitat for the leatherback turtle to include the coastal areas between Point Arena to Point Vicente in California.

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

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

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

3.3.4.2 Regulatory Setting

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

**Federal**

**Endangered Species Act of 1972.** The Federal Endangered Species Act (FESA), administered by the USFWS and the NOAA Fisheries, provides protection to species listed as Threatened (FT) or Endangered (FE), or proposed for listing as Threatened (PFT) or Endangered (PFE). In addition to the listed species, the Federal Government also maintains lists of species that are neither formally listed nor proposed, but could potentially be listed in the future. The Federal candidate species (FC) list includes taxa for which substantial information on biological vulnerability and potential threats exists, and is maintained in order to support the appropriateness of proposing to list the taxa as an endangered or threatened species. Federal Species of Concern (FSC) comprise those species that should be given consideration during environmental review.
Section 9 of the FESA prohibits the “take” of any member of a listed species. Take is defined as, “...to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.” Harass is “an intentional or negligent act or omission that creates the likelihood of injury to a listed species by annoying it to such an extent as to significantly disrupt normal behavior patterns that include, but are not limited to, breeding, feeding, or sheltering.” Harm is defined as “…significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns such as breeding, feeding, or sheltering.”

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

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

**Magnuson-Stevens Fishery Conservation and Management Act and Sustainable Fisheries Act of 1996.** The Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) (16 USC § 1801 et seq.), is intended to implement procedures to conserve and manage fishery resources. Further, as amended by the Sustainable Fisheries Act of 1996, review of projects whose business is conducted pursuant to federal permits and licenses must consider the designation, promotion and protection of essential fish habitat (EFH) for those species included in a Federal Fishery Management Plan, as established pursuant to 16 USC §§ 1851-1863. Specifically, section 303(a)(7) of the Magnuson-Stevens Act, as amended, requires that EFH be properly described and identified.
Essential Fish Habitat is defined as “…those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity.” As used in this definition, “waters” are defined to include “aquatic areas and their associated physical, chemical, and biological properties that are used by fish.” These may include “…areas historically used by fish where appropriate; ‘substrate’ to include sediment, hard bottom, structures underlying the waters, and associated biological communities.” “Necessary” means “the habitat required to support a sustainable fishery and the managed species’ contribution to a healthy ecosystem.”

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

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

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

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

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

Other relevant federal environmental regulations include:

- The Clean Water Act (CWA) is a comprehensive piece of legislation that generally includes reference to the Federal Water Pollution Control Act of 1972, its substantial supplementation by the CWA of 1977, and subsequent amendments. Overall, the CWA seeks to protect the nation's water from pollution by setting water quality standards for surface water and by limiting the discharge of effluents into waters of the U.S., which are enforced by the EPA. The CWA also provides for a permitting system to control discharges to surface waters. State operation of the program is encouraged. The ACOE is responsible for the issuance of permits for the placement of dredged or fill material into waters of the U.S. pursuant to CWA section 404. As defined in 33 CFR 328.3(a)(3), waters of the U.S. are those that are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide; tributaries and impoundments to such waters; all interstate waters including interstate wetlands; and territorial seas.

- The Marine Plastic Pollution Research and Control Act of 1987 (33 USC § 1901 et seq.) prohibits the disposal of plastics and non-biodegradable material into the marine waters.

- The National Aquatic Invasive Species Act was originally passed in 1990 in response to the invasion of the zebra mussel and other species that damaged...
the Great Lakes. That law brought much-needed attention to the global movement of aquatic species. It also established the federal interagency Aquatic Nuisance Species Task Force, which became a key resource for regional and state efforts. The 2005 reauthorization specifies the requirements related to the exchange/discharge of ballast water from ocean-going vessels that enter federal waters or U.S. lakes.

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

**State**

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

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

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

CDFG maintains lists of Candidate-Endangered species (SCE) and Candidate-Threatened species (SCT). California candidate species are afforded the same level of protection as listed species. CDFG also designates Species of Special Concern (CSC) that are species of limited distribution, declining populations, diminishing habitat, or unusual scientific, recreational, or educational value. These species do not have the
same legal protection as listed species, but may be added to official lists in the future.
The CSC list is intended by CDFG as a management tool to call attention to declining populations and focus efforts on decreasing threats to long-term viability.

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

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

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


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

Marine Life Protection Act of 1999 (MLPA) (Fish & G. Code, § 2850 et seq.). The MLPA directs the state to redesign California’s system of MPAs to function as a network in order to: increase coherence and effectiveness in protecting the state’s marine life and habitats, marine ecosystems, and marine natural heritage, as well as to improve recreational, educational and study opportunities provided by marine ecosystems subject to minimal human disturbance. There are six goals that guide the development of MPAs in the MLPA planning process: 1) Protect the natural diversity and abundance of marine life, and the structure, function and integrity of marine ecosystems; 2) Help sustain, conserve and protect marine life populations, including those of economic value, and rebuild those that are depleted; 3) Improve recreational, educational and study opportunities provided by marine ecosystems that are subject to minimal human disturbance, and to manage these uses in a manner consistent with protecting
biodiversity; 4) Protect marine natural heritage, including protection of representative
and unique marine life habitats in California waters for their intrinsic values; 5) Ensure
California’s MPAs have clearly defined objectives, effective management measures and
adequate enforcement and are based on sound scientific guidelines; and 6) Ensure the
State’s MPAs are designed and managed, to the extent possible, as a network.

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

- **State Marine Reserves:** In a state marine reserve, it is unlawful to injure,
damage, take, or possess any living, geological, or cultural marine resource,
extcept under a permit or specific authorization from the Commission for
research, restoration, or monitoring purposes.

- **State Marine Conservation Areas:** In a state marine conservation area, it is
unlawful to injure, damage, take, or possess any living, geological, or cultural
marine resource for commercial or recreational purposes, or a combination of
commercial and recreational purposes except as specified in section 632,
subdivision (b) in Title 14 of the California Code of Regulations, areas and
special regulations for use. The Commission may permit research, education,
and recreational activities, and certain commercial and recreational harvest of
marine resources, provided that these uses do not compromise protection of the
species of interest, natural community, habitat, or geological features.

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

**Local**

**San Luis Obispo County LCP Policy A. Sensitive Habitats.** Policy A indicates that
environmentally sensitive habitat areas are settings in which plant or animal life (or their
habitats) are rare or especially valuable due to their special role in an ecosystem.
Designation of environmentally sensitive habitats include but are not limited to: 1)
wetlands and marshes; 2) coastal streams and adjacent riparian areas; 3) habitats
containing or supporting rare and endangered or threatened species; 4) marine habitats
containing breeding and/or nesting sites and coastal areas used by migratory and
permanent birds for resting and feeding. The Coastal Act provides protection for these
areas and permits only resource-dependent uses within the habitat area. Development adjacent must be sited to avoid impacts.

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

3.3.4.3 Impact Analysis

a) Would the Project 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?

See response below.

b) Would the Project have 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 U.S. Fish and Wildlife Service?

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

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

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

- Aligning the cable route within sedimentary seafloor habitat wherever possible.

  The approximate 1.6 km (1.0 mi) rock habitat crossed is low relief and does not support any sensitive resources. The alignment precludes the crossing or any sea grass or kelp (Macrocystis spp) as documented in Tenera (2011).
- Locating the conduit extension over existing rock rip-rap that does not support black abalone. Tenera (2011) reports that no black abalone were observed within a 3.0 to 4.6 m (9.8 to 15.1 ft) wide corridor centered on the proposed cable alignment.

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

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

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

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

The Project also includes an extension of an existing cable conduit from its current location on top of the armor rock rip-rap along the east side of the DCPP intake bay into the water where it will terminate on the natural sedimentary seafloor. The rock rip-rap does not provide any sensitive habitat and Project-specific surveys of the proposed
conduit/cable route determined that this Project component would not result in significant impacts to sensitive species (e.g., black abalone).

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

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

c) Would the Project 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?

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

d) Would the Project 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?

The OBS units are approximately 0.3 m (1.0 ft) high and the cable will be laid onto the seafloor where it is expected to naturally bury itself into the sediments. If sections of the cable are not covered with sediment, it will provide additional solid substrate for epibiont. The cable will be laid across low-relief rock features where necessary; however no trenching or removal of rock will be required. The conduit extension will be laid onto the existing rip-rap. None of these items are expected to interfere with
movements of biota as they will not be impenetrable and organisms will be able to go around or over all of the items. Kelp beds, which are nursery areas for some organisms, have been avoided with the proposed alignment and no other nursery areas, including marine mammal rookeries, will be affected by the Project. Therefore, as currently designed, no significant impacts to the movement of organisms, the migratory, or nursery areas are expected as a result of the proposed actions.

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

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

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

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

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

Recommended Mitigation Measures

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

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

- Quantification (in square meters) of seafloor impacts and estimated numbers and species of organisms affected as well as a map of the survey route noting the location of the impacted areas included in this quantification and the video time stamp of each relevant site in the ROV survey video;

- A restoration proposal that is based on the results of the survey and proportional to the actual amount of soft substrate and rocky habitat affected. The proposal shall contain direct restoration actions that repair or restore affected areas and/or a contribution to an ongoing restoration program in the area (e.g., SeaDoc Society Lost Fishing Gear Recovery Project), as specified by the CSLC or CDFG staffs (and/or other requesting agencies); and

- A schedule for implementing and completing the required restoration.

Applicant-Proposed Mitigation Measures (APMs)

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

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

**APM-3** The cable has been routed to avoid rocky substrate wherever possible. Two pre-construction remotely operated vehicle (ROV) surveys of the...
rock habitat expected to be crossed by the cable have been conducted and information collected has been used to avoid potential impacts.

APM-4 All operations shall be completed during the daytime hours; no nighttime operations are proposed.

APM-5 Onboard spill response equipment and contracted services shall be sufficient to contain and recover the worst-case scenario spill of petroleum products.

APM-6 To reduce the area of seafloor disturbance, no vessel anchoring is proposed, and the cable between the long-term OBS units shall not be manually buried into the sediment or trenched through the rocky substrate.

APM-7 A qualified marine wildlife observer shall be onboard the *MV Michael Uhl* during the deployment of the OBS units and cable. That observer shall monitor and record the presence of marine wildlife (mammals and reptiles) and shall have the authority to cease operations if the actions are resulting in potentially significant impacts to wildlife.

APM-8 All OBS units shall be located on sedimentary seafloor habitat. All Project-related material, including concrete ballast tubes, shall be removed from the seafloor after data collection is completed.

APM-9 The Applicant shall implement the marine wildlife contingency plan for OBS deployment, cable lay, and equipment recovery that includes measures to reduce the chance of vessel/marine mammal and reptile interactions (see Appendix H). This Plan includes: (1) the provision for marine mammal monitors approved by the NOAA Fisheries or CSLC staff to be onboard the OBS/cable installation vessel throughout the daytime marine operations; and (2) measures that (a) specify the distance, speed, and direction transiting vessels would maintain when in proximity to a marine mammal or reptile; (b) qualifications, number, location, and authority of onboard marine mammal and reptile monitors; and (c) reporting requirements in the event of an observed impact to marine wildlife.

APM-10 To avoid rock features, a 275 m (902 ft) long section of the cable from 200 m (656 ft) northwest of Station 5 to 75 m (246 ft) southeast of Station 4 shall be moved 50 m (164 ft) east of the proposed alignment, as shown in Figure 4 in Appendix I, December 2011 ROV Survey – Summary Report.

**Residual Impacts.** With the incorporation of the recommended mitigation, there will be no residual impacts to the existing marine biological resources.