

APPENDIX E

Offshore Special-Status Species Descriptions

This Appendix includes descriptions of offshore special-status species with the potential to occur within the Project site. A list of offshore special-status species was compiled from technical survey information completed in the Project site vicinity, including Appendix G, Essential Fish Habitat Assessment.

OFFSHORE SPECIES

Invertebrates

Four species of abalone have been documented within Project vicinity; red abalone (*Haliotis rufescens*), flat abalone (*H. walallensis*), pinto abalone (*H. kamtschatkana*), and black abalone (*H. cracherodii*) (California Department of Fish and Wildlife [CDFW] 2005). The red abalone is the most abundant subtidal species. Due to low numbers, commercial fishing for all species ceased in the 1990s and in 2001, the white abalone, (*H. sorenseni*) typically occurring only south of Point Conception, was listed as a federally endangered species. Requiring rocky substrates and found from the intertidal (black abalone) to depths of up to 194 feet (white abalone); these species feed on drift algae and attached coralline algae. Because of the absence of hard substrate in close proximity to the marine terminal pipelines, abalone is not anticipated to occur within the Project site (de Wit 2004). Further, no abalone were identified during the 2004 marine biological dive survey of the offshore component of the Project site. As such, these species would not be impacted by construction activities.

Fish

Bocaccio (*Sebastes paucispinis*). Bocaccio is listed as a National Oceanic and Atmospheric Administration (NOAA) species of concern. Bocaccio occurs from Punta Blanca in Baja California to Kruzof Island and Kodiak Island, Alaska. They can occur from shallow water to over 1,000 feet deep. Bocaccio can occur over rocky-reefs and soft bottom, but there is strong site fidelity to rocky bottoms and outcroppings. Juveniles and subadults are more common in shallow water, as in the Project area, but are associated with rocky reefs, kelp canopies, and artificial structures, such as piers and oil platforms (National Marine Fisheries Service [NMFS] 2009a). There is a low likelihood that bocaccio occur in the Project area.

Cowcod (*Sebastes levis*). Cowcod is listed as a NOAA species of concern. Cowcod is a rockfish species that occurs from Ranger Bank and Guadalupe Island in Baja California, Mexico to approximately Usal, California occurring at depths from 60 to 1,200 feet. They prefer high-relief rocky habitat, and oil platforms have become important habitat for the species (NMFS 2009b). Cowcod is unlikely to occur in the Project area due to the lack of high relief rocky reef habitat.

Birds

Four special status bird species use the Project site for foraging purposes; however, no known rookeries for special status bird species are in the Project area. Special status bird species that have the potential to occur include the California least tern, Xantus's murrelet (*Synthliboramphus hypoleucus*), Marbled murrelet (*Brachyramphus marmoratus*), and short-tailed albatross (*Phoebastria albatrus*).

Ashy Storm Petrel (*Oceanodroma homochroa*). The Ashy storm petrel is a CDFW species of special concern. It breeds on islands from northern California south to northern Baja California. It is a pelagic species (spends most of the time offshore) and comes ashore only to breed. The largest known colonies occur at the South Farallon, Santa Barbara, Prince, and Santa Cruz Islands (Shuford et al. 2008). No breeding occurs within the Project area, and their likelihood for occurrence is low.

California Least Tern (*Sterna antillarum browni*). The California least tern was listed as federally endangered species in 1970. No critical habitat has been designated. California least terns live along the coast from San Francisco to northern Baja California, Mexico and migrate from the southern portion of their range to the north. Least terns begin arriving in southern California as early as March and depart following the fledging of the young in September or October. Least terns have historical breeding occurrences within Guadalupe/Nipomo Dunes National Wildlife Refuge. Additionally, breeding currently occurs within Guadalupe Dunes Park and Pismo Beach. This species nests in colonies and use the upper portions of open beaches or inshore flat sandy areas that are free of vegetation. The typical colony size is 25 pairs. Most least terns begin breeding in their third year, and mating begins in April or May. The nest consists of a simple scrape in the sand or shell fragments and, typically, two eggs are in a clutch; egg incubation and care for the young are accomplished by both parents. Least terns can re-nest up to two times if eggs or chicks are lost early in the breeding season (U.S. Fish and Wildlife Service [USFWS] 2006). Least terns dive to capture small fish and require clear water to locate their prey (i.e., anchovies) that is found in the upper water column in the nearshore ocean waters.

Xantus's Murrelet (*Synthliboramphus hypoleucus*). The Xantus's murrelet is currently a candidate for Federal listing. The historical and current breeding range of Xantus's murrelets is from the Channel Islands in southern California to islands off the west coast of Baja California, Mexico (USFWS 2009). Known nesting islands in southern California included San Miguel, Santa Cruz, Anacapa, Santa Barbara, San Clemente, and Santa Catalina islands, collectively known as the Channel Islands. breeding is known to occur on the Coronado islands but not within San Luis Obispo County. Xantus's murrelets spend most of their lives at sea, only coming to land to nest. They begin arriving within the vicinity of nesting colonies in December and January (USFWS 2009). They likely begin breeding at 2 to 4 years of age, and usually nest at the same site each year with

the same mate. They begin visiting nest sites up to 2 months before egg-laying, but typically 2 to 3 weeks prior (USFWS 2009). Nesting within the population is asynchronous, spanning a period of up to 4 months (March-June), and peak time of egg-laying varies from year to year (USFWS 2009). Xantus's murrelets swim underwater to capture prey, using their wings to propel themselves forward in a technique known as pursuit-diving. They feed offshore in small, dispersed groups, usually in singles and pairs, but occasionally in groups of up to eight. They feed on small schooling fish and zooplankton, and may forage at ocean fronts where prey is concentrated near the surface of the water (USFWS 2009). During the breeding season, the distance that they travel from nesting colonies to obtain prey is highly variable and probably dependent upon the availability and location of prey patches (USFWS 2009). For example, murrelets from Santa Barbara Island foraged far from the island in 1996 (mean = 38 miles) and 1997 (mean = 69 miles), whereas murrelets from Anacapa Island in 2002 and 2003 usually foraged within 12.4 miles of the island (USFWS 2009).

Marbled murrelet (*Brachyramphus marmoratus*). The marbled murrelet was listed as a federally threatened species in 1992. Revised critical habitat was designated in 2011, which does not include the Project area A recovery plan was issued in 1997. Marbled murrelets breeding range extends from Bristol Bay, Alaska to the Monterey Bay area in California. This bird is rare in central California and has only been recorded nesting north of San Luis Obispo County (CDFW 2017). Nesting generally occurs in the marine fog belt within 24.9 miles of the coast in coast redwood, Douglas fir, western red cedar, western hemlock, and Sitka spruce forests. The marbled murrelet would only occur as a fall/winter migrant within or near the area of Project area. This species is a small sea bird that spends most of its life in the nearshore marine environment, but nests and roosts inland in low-elevation old growth forests. Marbled murrelets produce one egg per nest and usually only one nest per year, although uncommon, re-nesting has been observed. In un-forested portions of their range they nest on the ground or in rock cavities. In California, this species typically nests in trees, which include large Douglas-fir (*Pseudotsuga menziesii*) or coast redwood (*Sequoia sempervirens*). The duration from egg laying to fledging lasts approximately 60 days with both sexes incubating the egg alternating 24-hour shifts. Fledglings fly directly from the nest to the ocean. Marbled murrelets are opportunistic feeders that consume a variety of prey of diverse sizes and species.

Short-tailed albatross (*Phoebastria albatrus*). The short-tailed albatross was listed as a federally endangered species in 2000. No critical habitat has been designated for the species. A Recovery Plan was issued in September 2008. As of 2008, 80 to 85 percent of the known breeding short-tailed albatross use a single colony, Tsubamezaki, on Torishima Island. The remaining population nests on other islands surrounding Japan. During the non-breeding season, short-tailed albatross range along the Pacific Rim from southern Japan to northern California, primarily along continental shelf margins. This species is not expected to occur in the vicinity of the Project site; however, it could be in California during the non-breeding season of fall and early winter. This species is a large

pelagic bird with long narrow wings adapted for soaring just above the water surface. Nests consist of a divot on the ground lined with sand and vegetation. Eggs hatch in late December and January. The diet of this species is not well studied; however, research suggests at sea during the non-breeding season that squid, crustaceans, and fish are important prey (USFWS 2000).

Reptiles

Sea Turtles. Several species of sea turtles occur within waters off the southern California coast; however, four species are most likely to occur within the Project area: Olive ridley turtle (*Lepidochelys olivacea*), leatherback turtle (*Dermochelys coriacea*), green turtle (*Chelonia mydas*), and the loggerhead turtle (*Caretta caretta*). Two of the sea turtles (green and olive Ridley) are listed as federally threatened species, while the leatherback and loggerhead turtles are federally endangered in the northeast Pacific Ocean. In the eastern Pacific, most of the turtles' nest along the coasts of Mexico and Central America. No nesting occurs within the Project area. Turtles observed within the Project area are primarily foraging on seasonal increases of polyps and jellyfish (CaliforniaHerps 2015). General distribution and species-specific information is provided in the following paragraphs.

Green turtle. Green turtles generally occur worldwide in waters with temperatures above 68 degrees Fahrenheit (°F). In the eastern North Pacific, green turtles have been sighted from Baja California, Mexico to southern Alaska, but most commonly occur from San Diego, California south. 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. 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 (NMFS 2015).

Leatherback turtle. Leatherback turtles are the most common sea turtle off the west coast of the U.S. Leatherback turtles have been sighted as far north as Alaska and as far south as Chile. Their extensive latitudinal range is due to their ability to maintain warmer body temperatures in colder waters. Off the U.S. west coast, leatherback turtles are most abundant during the summer and fall months (NMFS 2012a). Their appearance off the U.S. west coast is "two pronged" with sightings occurring in northern California, Oregon, Washington, and southern California, with few sighting occurring along the intermediate coastline. In southern California waters, leatherback turtles are most common in years when water temperatures are above normal. In January 2012, NMFS revised the current Critical Habitat for the leatherback sea turtle to include the coastal areas between Point Arenas to Point Vicente in California (NMFS 2012b).

Critical Habitat was proposed in 2010, and a Final Rule was issued in the Federal Register on January 2012 for the eastern Pacific Ocean population (NMFS 2012b). Critical Habitat

extends to a depth of 262.5 feet from the ocean surface and out to the 9,843 feet isobath. The Project area is not within designated Critical Habitat.

Loggerhead turtle. Loggerhead turtles primarily occur in subtropical to temperate waters and are generally found over the continental shelf. Loggerheads are omnivorous and feed on a variety of marine life including shellfish, jellyfish, squid, sea urchins, fish, and algae. 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 sea turtle distribution. In the eastern Pacific, loggerheads have been reported as far north as Alaska and as far south as Chile. On the western U.S. coast, occasional sightings are reported from the coasts of Washington and Oregon, but most records are juveniles off the coast of California (NMFS 2015). In the U.S., nesting occurs only in Florida and the worldwide population appears to be decreasing (Conant et al. 2009).

Olive ridley turtle. The olive ridley turtle is distributed circum-globally and is regarded as the most abundant sea turtle in the world. Within the east Pacific, the normal range of Pacific Ridley sea turtles is from Southern California to Northern Chile (NMFS 2015). The olive ridley sea turtle is omnivorous, feeding on fish, crabs, shellfish, jellyfish, sea grasses and algae. Major nesting beaches are located on the Pacific coasts of Mexico and Costa Rica (NMFS 2015). According to the Marine Turtle Specialist Group of the International Union for Conservation of Nature (IUCN), overall population size has been reduced by 50 percent since the 1960s.

Marine Mammals

Cetaceans

*Fin whale (*Balaenoptera physalus*).* The fin whale is listed as a federally endangered species due to a severe worldwide population decline due to intensive historical commercial whaling. Fin whales occur year-round off the coast of California, Oregon, and Washington (NMFS 2014). The most recent estimates of the fin whale population indicate that at least 2,598 individuals occur off California, Oregon, and Washington (NMFS 2014). There is some evidence that recent increases in fin whale abundance have occurred in the California current between 1991 and 2008. NMFS (2014) reports that the abundance in waters out to 300 nautical miles off the coast of California approximately doubled between 1991 and 1996, from approximately 800 to 1400 individuals, suggesting probably dispersal of animals into this area.

*Humpback whale (*Megaptera novaeangliae*).* The humpback whale is a federally endangered species, due to intensive historical commercial whaling. Humpback whales are distributed worldwide and travel great distance during their seasonal migration, the farthest migration of any animal (NOAA 2015a). Humpback whales spend the winter and spring months offshore Central America and Mexico for breeding and calving, and then migrate to their summer and fall range between California and southern British Columbia

to feed (NMFS 2014). Although humpback whales typically travel over deep, oceanic waters during migration, their feeding and breeding habitats are in shallow, coastal waters over continental shelves (NOAA 2015a). Cold and productive coastal waters characterize feeding grounds (NOAA 2015a). In the North Pacific, the California/Oregon/Washington stock winters in coastal Central America and Mexico, and migrates to areas ranging from the coast of California to southern British Columbia in summer/fall (NOAA 2015a). The most recent population estimates of humpback whales indicate that at least 1,876 individuals occur off California, Oregon, and Washington (NMFS 2014). This population appears to be increasing (NMFS 2014).

Blue whale (Balaenoptera musculus). The blue whale is a federally endangered species due to intensive historical commercial whaling. Blue whales are distributed worldwide in circumpolar and temperate waters, and although they are found in coastal waters, they are thought to occur generally offshore compared to other baleen whales (NOAA 2015b). Like most baleen whales, they migrate between warmer water breeding and calving areas in winter and high-latitude feeding grounds in the summer. Feeding grounds have been identified in coastal upwelling zones off the coast of California primarily within two patches near the Gulf of the Farallones and at the western part of the Channel Islands (Irvine et al. 2014). The most recent estimates of eastern north Pacific blue whale population indicate that at a minimum of 1,551 individuals exist (NMFS 2014).

Fissipeds

Southern sea otter (Enhydra lutris nereis). The southern sea otter is the only fissiped species known to occur along the central California coast. It is listed as federally threatened under the Federal Endangered Species Act, depleted under the Marine Mammal Protection Act, and Fully Protected under California Fish and Game Code. The sea otter was nearly extirpated by the fur trade during the 18th and 19th centuries. Historically, southern sea otters ranged from Punta Abreojos, Baja California, Mexico to Oregon, or possibly as far north as Prince William Sound, Alaska (USFWS 2014). The current range extends from about Half Moon Bay in northern California to Santa Barbara, California in the south. A small, satellite population of an estimated 59 animals also occurs at San Nicolas Island, the result of a translocation effort in the late 1980s (USFWS 2014). This species prefers rocky shoreline with water depth of less than 200 feet, which supports kelp beds where they feed on benthic macroinvertebrates including clams, crabs, abalone, sea urchins, and sea stars (Allen et al. 2011). Recent minimum population estimates for southern sea otters in California indicate that at least 2,944 individuals are known to occur, and no long-term trends in this population are available (USFWS 2014). Southern sea otters were observed regularly from late summer through winter of 2012 during marine mammal monitoring events within or near Project area waters (Padre 2012); however, sea otters are also resident to the area and can also be observed year-round.

REFERENCES

- Allen, S., Mortenson, J., and, S. Webb. 2011. Field Guide to Marine Mammals of the Pacific Coast: Baja, California, Oregon, Washington, British Columbia. University of California Press. Berkeley and Los Angeles, California.
- CaliforniaHerps. 2015. A Guide to the Amphibians and Reptiles of California. Website: www.californiaherps.com. Accessed December 8, 2015.
- California Department of Fish and Wildlife (CDFW). 2005. Final Abalone Recovery and Management Plan Adopted by the California Fish and Game Commission. December 9, 2005.
- _____. 2017. CNDDDB RAREFIND 5 Query for marbled murrelet, short-tailed albatross, and California least tern in San Luis Obispo county completed January 2017.
- Conant, T.A., Dutton, P.H., Eguchi, T., Epperly, S.P., Fahy, C.C., Godfrey, M.H., MacPherson, S.L., Possardt, E.E., Schroeder, B.A., Seminoff, J.A., Snover, M.L., Upite, C.M., and B.E. Witherington. 2009. Loggerhead sea turtle (*Caretta caretta*) 2009 status review under the U.S. Endangered Species Act. Report of the Loggerhead Biological Review Team to the National Marine Fisheries Service, August 2009. 222 pages.
- de Wit, L.A. 2004. Technical Report Marine Biological Survey of Proposed Anchor Locations and Existing Pipeline Corridor. Duke Energy Morro Bay Power Plant, Marine Terminal Decommissioning Project. Prepared for Associated Pacific Constructors, Inc. November 2004.
- Irvine, L.M., Mate, B.R., Winsor, M.H., Palacios, D.M., Bograd, S.J., et al. 2014. Spatial and Temporal Occurrence of Blue Whales off the U.S. West Coast, with Implications for Management. PLoS ONE 9(7): e102959. doi:10.1371/journal.pone.0102959
- National Marine Fisheries Service (NMFS). 2009a. Bocaccio Species of Concern Fact Sheet. Accessed online at: http://www.nmfs.noaa.gov/pr/pdfs/species/bocaccio_detailed.pdf. Access on March 24, 2015.
- _____. 2009b. Cowcod Species of Concern Fact Sheet. Accessed online at: http://www.fisheries.noaa.gov/pr/pdfs/species/cowcod_detailed.pdf. Accessed on March 24, 2015.
- _____. 2012a. Final Biological Report. Final Rule to Revise the Critical Habitat Designation for Leatherback Sea Turtles. January 2012.
- _____. 2012b. Endangered and Threatened Species: Final Rule to Revise Critical Habitat Designations for the Endangered Leatherback Sea Turtle. Federal Register 77 (17): 4170-4202.
- _____. 2014. Marine Mammal Stock Assessment Reports by Species. Website: <http://www.nmfs.noaa.gov/pr/sars/species.htm>. Accessed on March 24, 2015.

- ___ 2015. Protected Resources: Sea Turtles. Website:
<http://www.nmfs.noaa.gov/pr/species/turtles/index.htm>. Updated June 11, 2015.
Accessed on December 8, 2015.
- National Oceanic and Atmospheric Administration (NOAA). 2015a. Humpback whale (*Megaptera novaeangliae*) species profile. Website:
<http://www.nmfs.noaa.gov/pr/species/mammals/whales/humpback-whale.html>.
Accessed on October 8, 2015.
- ___ 2015b. Blue whale (*Balaenoptera musculus*) species profile. Website:
<http://www.fisheries.noaa.gov/pr/species/mammals/whales/blue-whale.html>.
Accessed on October 8, 2015.
- Padre Associates, Inc. (Padre). 2012. Marine Wildlife Monitoring Report, Chevron Estero Marine Terminal Bathymetric and Geophysical Surveys. December.
- Shuford, W. D., and T. Gardali, editors. 2008. California Bird Species of Special Concern: A ranked assessment of species, subspecies, and distinct populations of birds of immediate conservation concern in California. Studies of Western Birds 1. Western Field Ornithologists, Camarillo, California, and California Department of Fish and Game, Sacramento.
- U.S. Fish and Wildlife Service (USFWS). 2014. Southern Sea Otter (*Enhydra lutris nereis*) Stock Assessment Report. January 2014.
- ___ 2009. Species Assessment and Listing Priority Assignment Form - Xantus's murrelet (*Synthliboramphus hypoleucus*). http://ecos.fws.gov/docs/candforms_pdf/r8/B098_V01.pdf.
- ___ 2006. California least tern (*Stenula antillarum browni*) 5-year review, summary and evaluation. Carlsbad, CA. USFWS, Carlsbad Fish and Wildlife Office.
- ___ 2000. Endangered and Threatened Wildlife and Plants: Final rule to List the Short-tailed Albatross as Endangered in the United States. July 31, 2000.