Section 3.2
Biological Resources

Section Summary

This section identifies the biological resources at the Project site and analyzes the effects of the Proposed Project on biological resources at and adjacent to the Project site. The Project site is described in Section 2.4 of Chapter 2, Project Description, and presented in Figure 2-2. The primary features of the Proposed Project that could affect biological resources include wharf demolition, piling removal and driving, wharf construction, and vessel operations.

Section 3.2, Biological Resources, covers the following:

- The environmental setting of the Proposed Project, including the terrestrial habitats and biological communities;
- Local, state, and federal regulations and policies regarding biological resources that are applicable to the Proposed Project;
- The methodology used to determine whether the Proposed Project adversely affect biological resources at the Project site or in the Project area;
- Vessel collisions with marine mammals and sea turtles;
- Essential Fish Habitat (EFH) and managed species in the Proposed Project vicinity;
- An impact analysis of the Proposed Project; and
- Mitigation measures proposed to reduce significant impacts.

Although the Initial Study/Notice of Preparation (IS/NOP) for the Proposed Project concluded that impacts related to California Environmental Quality Act (CEQA) Guidelines Appendix G checklist issues IV b) through f) would be either less than significant or there would be no impact, the subsequent discovery of eelgrass in the area of the Project site warranted consideration under checklist issue IV b). Accordingly, the analysis in this Draft Environmental Impact Report (Draft EIR) considers checklist issues IV a) and IV b*)*:

- IV 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?"*
- IV b): *Would the project have a substantial adverse effect on sensitive natural aquatic communities and habitats identified in the city or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?*

Key Points of Section 3.2

The Proposed Project would include demolishing the existing wharf at Berths 150-151; constructing a new, pile-supported vessel unloading platform at Berths 150-151 (including installation of a new mooring

dolphin at Berth 149); and constructing various landside improvements. The Proposed Project would increase the annual ship calls by no more than 80 vessels relative to the CEQA baseline of 1,863 vessel calls at the Port of Los Angeles and would not change the types of petroleum commodities handled at the facility. Underwater noise from pile driving could exceed NOAA Fisheries' behavioral harassment threshold for marine mammals and could result in auditory injury to California sea lions if project-specific peak sound pressure level or 24-hour cumulative sound exposure level criteria are exceeded. Accordingly, Mitigation Measure (MM) BIO-1 (Protect Marine Mammals, see Section 3.2.4.3) was included and would reduce potential impacts to marine mammals to less than significant.

Small areas of eelgrass (*Zostera marina*) are present within ½-mile of the Project site, including two beds approximately 1,000 feet away, and the Project site includes a small area of potential eelgrass habitat. Construction of the Proposed Project has the potential to adversely affect eelgrass through turbidity, which would represent a significant impact to a special habitat. Accordingly, MM BIO-2 (Protect Eelgrass, see Section 3.2.4.3) would be made a part of the Proposed Project and would reduce potential impacts to less than significant.

Impacts from other construction and operational activities that have the potential to affect managed species, Essential Fish Habitat, and other special status species or their habitats, such as dredging, in-water construction, and vessel transits, would be less than significant because of the construction best management practices that would be employed and the small number of additional vessels (80) relative to total baseline vessel traffic (1,863).

3.2.1 Introduction

This section identifies the existing conditions of biological resources at the Project site and analyzes the effects of the Proposed Project and alternatives on biological resources at and near the Project site. The primary features of the Proposed Project and alternatives that could affect these resources are associated with in-water construction and operation (described in Section 2.5).

Construction at Berths 150-151 would include demolishing the existing wharf by removing the timber wharf deck, approximately 540 timber piles and 14 concrete piles, and the topside cargo transfer infrastructure; installing 51 steel piles of 24 to 84-inch diameter within the footprint of the Berths 150-151 wharf and a mooring dolphin at Berth 149; and constructing concrete and steel vessel loading, spill containment, and mooring/breasting platforms on the new pilings. The new structures would reduce the over-water footprint of the facility by approximately 16,000 square feet (0.37 acre) and would decrease the total number of piles by approximately 483. Operation of the Proposed Project would include the arrival and departure of up to 75 oceangoing tanker vessels and 296 barges per year.

3.2.2 Environmental Setting

The Port of Los Angeles (Port) is part of the larger Los Angeles-Long Beach Port Complex in San Pedro Bay. The Port consists of approximately 7,500 acres of land and water, approximately 3,200 acres of which is open-water habitat. In addition to extensive industrial cargo facilities, the Port supports commercial water-related activities such as cruise ships, sportfishing and commercial fishing, recreational boating, and maritime support facilities.

The Port has been an active port for over 100 years and has undergone significant physical changes associated with its development, including the construction of the San Pedro and Middle Breakwaters, deepening of navigational channels and basins, and creation of new land, via dredging and filling former marshes and open-water areas, to support cargo terminals and other Port facilities. These changes have resulted in basin, channel, dock/piling, riprap, and open-water habitats. The Port also includes isolated pockets of salt and freshwater wetlands, mudflats, and sandy beach. The Port is in a highly urbanized setting, surrounded by industrial, commercial, and residential areas.

Harbor waters are subjected to continuous vessel traffic and periodic construction activities such as wharf construction, dredging, and filling. Commercial vessels and recreational boats produce high levels of underwater noise. For example, a hydroacoustic study conducted in 2023 at two Port of Los Angeles locations found that sound levels ranged between 115 dB and 130 dB more than 92 percent of the time (Pi Environmental 2024), similar to a baseline hydroacoustic study in Cerritos Channel (connecting Los Angeles and Long Beach Harbors) that found L_{90} values (i.e., sound levels that were exceeded 10 percent of the time during the measurement period) of 120 to 132 decibels (dB) (Tetra Tech 2011). Ambient noise in San Francisco Bay/Oakland Harbor has been estimated at 120 to 155 dB_{PEAK} (the peak sound pressure level in decibels) (ICF and Illingworth &Rodkin 2009). By comparison, Pi Environmental (2024) cites studies finding that ambient underwater noise in the ocean along the central California coast has been estimated at 74 to 100 dB_{PEAK}.

Biological resources in the Port have been described in several environmental documents, including the Los Angeles and Long Beach Deep Draft Navigation Improvement Environmental Impact Statement (EIS)/ EIR (USACE and LAHD 1992), the Pier 400 Container Terminal and Transportation Corridor Project (LAHD 1999), and regular biological surveys (MEC 1988; MEC and Associates 2002; SAIC 2010; MBC 2016; Wood E&IS 2021). The 2000 study (MEC and Associates 2002) was the first survey that specifically discussed non-native taxa that have been introduced over time into the Port.

Over the years, the Ports of Los Angeles and Long Beach have worked with the state and federal resource agencies to conduct periodic biological surveys within the Port Complex to assess biological conditions of the various harbor habitats; the most recent evaluation was conducted in 2018-2019 (Wood E&IS 2021). Based on those assessments, the resource agencies and the Ports determine marine habitat values and evaluate the potential impacts of port projects on marine resources. The periodic surveys have documented an increase in habitat value over time and have supported a division of the Port of Los Angeles portion of the Port Complex into Enhanced Harbor, Standard Harbor, and Constrained Harbor habitats as designated in the Port's habitat mitigation bank enabling instrument ("BEI" LAHD 2017b). The Constrained Harbor habitat, which includes much of the harbor north of the Vincent Thomas Bridge, is considered by the resource agencies to have lower habitat value to wildlife than the other habitats, primarily because of restricted water circulation and legacy pollution. The Project site is at the boundary of the BEI's Constrained and Standard Harbor designations, with the water area at Berths 150-151 in the Standard Harbor area, which has full habitat value.

Marine resources along the California coast, and within the Port fluctuate on both a seasonal basis due to changes in factors such as water temperature and rainfall, and on a longer-term basis due to large-scale oceanographic processes. One of the most notable trends affecting biological communities within the Port Complex is long-term climate patterns, such as "El Niño" and "La Niña" measured by the Oceanic Niño Index (ONI), and the more recently recognized phenomenon of marine heatwaves that can evolve and persist in the northeastern Pacific Ocean (Jacox et al. 2019). Substantial improvements in water quality in the Port occurred following enactment of the Clean Water Act of 1972, as documented by a series of environmental studies known as the Harbors Environmental Project performed by the University of Southern California (USC) in the 1970s and mid-1980s. Further improvements in marine resources have occurred since that time (MEC and Associates 2002; SAIC 2010; MBC 2016; Wood E&IS 2021), although changes have been more gradual than in the previous period. The types of habitats (shallow and deep pelagic, soft-bottom benthic, and riprap and piling) in the Port, and most of the species associated with those habitats, have remained fairly stable over time, as described below. Perhaps the most significant recent changes have been the expansion of eelgrass (*Zostera marina*) habitat at Inner Cabrillo Beach and the Pier 300 Shallow Water Habitat/Seaplane Lagoon, and the expansion of giant kelp beds along the Outer Harbor breakwaters and piers (MEC and Associates 2002; SAIC 2010; MBC 2016; Wood E&IS 2021).

Information on sensitive plant and animal species that could potentially occur in the area is available from the California Natural Diversity Database (CNDDB) and California Native Plant Society (CNPS) (San Pedro and Long Beach Quadrangles). The CNDDB includes species listed as threatened or endangered (or proposed for listing) by the California Fish and Game Commission, the U.S. Secretary of the Interior (for the U.S. Fish and Wildlife Service [USFWS]), and the U.S. Secretary of Commerce (for the National Oceanographic and Atmospheric Administration [NOAA]).

Data from the biological surveys conducted in 2000 through 2018, particularly the 2018 Biological Surveys (Wood E&IS 2021), accurately reflect current environmental conditions at the Project site because conditions throughout the Port have remained reasonably stable. Site-specific data from the 2018 surveys' sampling locations (stations) adjacent to Berths 148-151 are used to characterize the biological communities. Data from biological surveys prior to 2000 are used for context.

3.2.2.1 Terrestrial Habitats

The Project site and most of the adjacent area is developed and paved, accordingly, very little vegetation or terrestrial habitat exists on or near the site, and there is little or no suitable habitat for native animal species. The sparse vegetation on the site consists of isolated introduced ornamentals that have escaped cultivation, and grasses (non-native) and weeds, (e.g., tarweeds, dandelions) growing along edges and from gaps in deteriorated pavement.

The majority of terrestrial wildlife species that have the potential to occur within the area are adapted to human-disturbed landscapes. These include various common insects; native lizards; and a variety of native and non-native small mammals, including Norway rat (*Rattus norvegicus*), black rat (*R. rattus*), house mouse (*Mus musculus*), Virginia opossum (*Didelphis virginiana*), and feral cats (*Felis catus*) (LAHD 2012). Bats are known to occur in the Port, where they roost under bridges; building crevices and eaves are also potential habitats for bats. Yuma and Mexican free-tailed bats (*Myotis yumanensis* and *Tadarida brasiliensis*, respectively) are the most likely to occur (Port of Long Beach and Caltrans 2010).

A number of upland bird species may be found at and near the Project site. Rock pigeon (*Columba livia*) and barn swallow (*Hirundo rustica*) were the most abundant upland bird species in the 2018 Biological Surveys (Wood E&IS 2021); other abundant species included American crow (*C. brachyrynchos*), European starling (*Sturnus vulgaris*), and common raven (*Corax corax*). These common species are adapted to urban and disturbed habitats. Rock pigeon and European starling are non-native species.

Several of the above-mentioned bird species may nest at the Project site. For example, the 2013 and 2018 biological surveys (MBC 2016, Wood E&IS 2021) observed nesting in various parts of the Port by rock pigeons, house sparrows, American crows, cliff swallows, and barn swallows. Swallows, sparrows, and rock pigeons often nest under eaves and dock structures, and hummingbirds, starlings, warblers, finches, and house sparrows commonly nest in shrubs and palm trees (LAHD 2012); some of these features are present at or near the Project site.

Several raptors occur in the Port, including American kestrel (*Falco sparverius*), Cooper's hawk (*Accipiter cooperii*), red-tailed hawk (*Buteo jamaicensis*), peregrine falcon (*Falco peregrinus*), and osprey (*Pandion haliaetus*) (MBC 2016, Wood E&IS 2021). In the Port area, American kestrels typically nest in cavities of structures or under dead palm tree leaves (Port of Long Beach and Caltrans 2010). Peregrine falcons have been reported as nesting on several bridges in Los Angeles-Long Beach Harbor (MEC and Associates 2002, SAIC 2010). Hawks and ospreys have generally not been observed nesting in the Port, the only observation being of an osprey nesting in Slip 3 of the Port of Long Beach, over 3 miles from the Project site (Wood E&IS 2021).

3.2.2.2 Marine Habitats

Benthic Environments

Soft-Bottom Habitats

Benthic organisms are those associated with seafloor sediments; animals that live within soft sediments, primarily invertebrate species, are referred to as infauna, while those living on the sediment surface are referred to as epifauna. Fish primarily associated with the soft-bottom habitat are known as demersal fish. Benthic marine organisms are an important component of the food web and are indicators of environmental quality. Since the 1950s, improvements in water quality have aided the establishment of diverse assemblages of benthic organisms in areas that were once largely devoid of marine life. Currently at least 369 species of infaunal invertebrates and 121 species of epifaunal invertebrates occur in the Port Complex (Wood E&IS 2021).

As summarized in HEP (1980) and Wood E&IS (2021), sampling studies in the 1950s through the 1970s showed that the pollution-tolerant polychaetes *Cossura candida* and *Tharyx parvus* were the most abundant benthic infaunal organism in soft-bottom samples. An assessment of dominant species in the Port Complex in 2000 (MEC and Associates 2002) found that *T. parvus* was no longer among the ten most abundant species, although a number of other pollution-tolerant species were still abundant at Inner Harbor stations. That study's data indicated a gradient of increasing environmental stress (enrichment/contamination) from the Outer Harbor to the Inner Harbor and from basins to slips. The 2008 Biological Surveys (SAIC 2010) documented relatively similar abundances between the Inner Harbor and Outer Harbor but found that abundances at Outer Harbor shallow-water stations were markedly higher than those in deeper water. Furthermore, the benthic assemblages at Inner Harbor stations were distinctly different from those at Outer Harbor stations, being characterized by higher proportions of pollution-tolerant species. The 2013 Biological Surveys (MBC 2016) found that, for the first time, a pollution-sensitive crustacean, the amphipod *Amphideutopus oculatus*, was the most abundant benthic infaunal species in the Port Complex, which was also the case in the 2018 Biological Surveys (Wood E&IS 2021). Over time, therefore, benthic assemblages throughout the Port Complex have indicated a trend towards increasingly healthy environmental conditions.

At the Project site, the benthic habitat consists of the sediments at the bottom of the Turning Basin and West Basin, which the 2013 Biological Surveys (MBC 2016) characterized as clayey silt. The benthic community at Station LA15, in the Turning Basin just south of Berths 150-151, was made up of 64 distinct species or higher taxa, dominated by polychaete and oligochaete worms. By far the most abundant species were the polychaetes *Euchone limnicola* and *Lumbrineris* spp. and oligochaete worms. The biomass of infauna at Station LA15 in 2018 was 0.5 g/m^2 in spring and 1.3 g/m^2 in summer (Wood E&IS 2021).

About five percent of the benthic infaunal species collected throughout the Port Complex in the 2018 Biological Surveys were non-native (Wood E&IS 2021). That is a higher proportion than seen in the previous harbor-wide surveys, but Wood E&IS (2021) point out that the relative abundance of non-native soft-bottom benthic organisms has decreased over time, from 30 percent of the organisms collected in the 2000 Biological Surveys to 18 percent in the 2018 Biological Surveys (MEC and Associates 2002, Wood E&IS 2021).

Crustaceans (shrimp and crabs) constitute most of the epifaunal invertebrate species and over 90 percent of the total abundance in the Port Complex. The 2018 Biological Surveys collected 691 organisms belonging to 26 species or higher taxa at Station LA15 (Wood E&IS 2021). Target shrimp (*Sicyonia penicillata*), blackspot bay shrimp (*Crangon nigromaculata*), tunicates (e.g., *Ciona* sp.), and swimming crabs (*Portunus xanthusi*) were the most abundant species.

Two species of demersal fish, white croaker (*Genyonemus lineatus*) and queenfish (*Seriphus politus*), have dominated the demersal fish assemblage in the Port Complex since sampling began in the 1970s (MEC and Associates 2002; SAIC 2010; MBC 2016; Wood E&IS 2021). Other consistently abundant species include white surfperch (*Phanerodon furcatus*), California tonguefish (*Symphurus atricauda*), speckled sanddab (*Citharichthys stigmaeus*), barred sand bass (*Paralabrax nebulifer*), staghorn sculpin (*Leptocottus armatus*), California halibut (*Paralichthys californicus*), specklefin midshipman (*Porichthys myriaster*), and shiner surfperch. More recently, California lizardfish (*Synodus lucioceps*) has been among the most abundant demersal species. Several recreationally important species, such as California halibut and barred sand bass, are common in the Port Complex.

The 2018 Biological Surveys collected 59 species and over 28,000 individuals of demersal fish in the Port Complex. However, relatively few fish were collected in the Project area: in four sampling events, 142 fish in 16 species were collected at Station LA15 (Wood E&IS 2021). The most abundant demersal species collected by otter trawl were queenfish, barred sand bass, and specklefin midshipmen.

Hard Substrate Habitats

Hard surfaces in the waters of Los Angeles Harbor include rock dikes and riprap (shoreline protection composed of boulders, cobbles, and recycled concrete); concrete, steel, and timber pilings; sheet piling; and concrete or timber seawalls. Wharf structures and piers, with their thousands of pilings and miles of shoreline protection, form extensive hard substratum supporting a rich community of marine organisms. Given the prevalence of riprap in the harbor, the invertebrate and algal communities inhabiting these hard surfaces are known in biological surveys of the Port Complex as the "riprap biota." The shoreline of the Project site consists entirely of riprap and wharf pilings.

Riprap and piling biota were sampled throughout the Port Complex, including in the Inner Harbor, in the 2018 Biological Surveys (Wood E&IS 2021). On these substrates, the upper intertidal zone is typically characterized by barnacles and bare rock and the mid-lower intertidal and the subtidal zones by a diverse assemblage of marine organisms, including mussels, red algae, and many species that cannot withstand the harsh conditions of the upper intertidal, such as green and brown algae, amphipods, sabellid and spirorbid worms, bryozoans, brittle stars, urchins, and tunicates.

The piling community at the West Basin station (LAPP3) was dominated by tunicates, bryozoans, barnacles, sponges, and brown algae. Divers observed several species of sea perches as well as kelp bass associated with the pilings. West Basin riprap (stations T19 and LARR3) was largely bare rock; the dominant organisms were bryozoans, sea urchins, rock scallops, polychaete worms, various crustaceans, anemones, sponges, barnacles, the green alga *Ulva*, coralline red algae, and two species of the brown alga *Sargassum*. Although giant kelp (*Macrocystis pyrifera*) is common on the riprap in the Outer Harbor, it is not found in the Turning Basin or the West Basin (Wood E&IS 2021).

Of the 507 species identified in riprap and piling samples in the 2018 Biological Surveys, 32 are introduced, indicating that approximately 6 percent of the hard-substrate biota is potentially non-native in origin. The most conspicuous non-native species at the West Basin piling and riprap stations were the polychaete *Pseudopolydora branchiata*, the amphipods *Grandidierella japonica* and *Caprella simia*, and the tunicate *Ciona savignyi*.

Water Column Habitats

The water column habitat at the Project site consists of the waters of the West Basin and Turning Basin. Organisms in the water column include plankton, which consists of small, free-floating plants (phytoplankton) and animals (zooplankton), as well as juvenile and adult fish and a number of marine mammals and sea turtles. In addition to a variety of invertebrates, the zooplankton includes fish eggs and larvae, which are termed ichthyoplankton. Unlike the benthic and riprap biota, the organisms that live in the water column tend to swim or be carried by currents over wide areas. Accordingly, the abundance and species composition of the water column community tends to vary considerably in time and space, and the organisms collected in a sample at a given point and time are not necessarily resident there.

The water column community of the Turning Basin was characterized by ichthyoplankton and fish sampling conducted at Station LA15 during the 2018 Biological Surveys (Wood E&IS 2021). Juvenile and adult fish are characterized as either pelagic, meaning they swim freely throughout the water column, or demersal, meaning they live primarily near the bottom. The two types of fish are sampled with different gear: a lampara net (a type of seine widely used by the commercial fishing industry) for pelagic fish and bottom trawls for demersal (bottom-living) fish.

Plankton and Ichthyoplankton

The phytoplankton and zooplankton communities of the Port Complex are generally not sampled in routine biological surveys, having been thoroughly described in earlier studies (e.g., HEP 1980, from which the following summary is taken). Phytoplankton consists largely of diatoms such as *Chaetoceros* spp. and *Skeletonema costatum*, unicellular flagellates, and dinoflagellates such as *Prorocentrum micans*, *Dinophysis caudata*, and *Noctiluca scintillans*. In basins and slips, runoff of nutrients from the land and restricted circulation sometimes lead to bloom conditions, in which phytoplankton grow to dense concentrations before being dispersed by wind and current or subsiding after depleting the nutrients. In the late summer and fall these episodes can result in so-called “red tides” in which the water is discolored by high concentrations of dinoflagellates. The zooplankton community in the Port Complex is dominated by copepods such as *Acartia* spp., *Oithona* spp., and *Paracalanus parvus*, and by cladocerans. These organisms feed on phytoplankton and are in turn consumed by fish larvae, suspension-feeding invertebrates such as ctenophores, shrimp, anemones, and corals, and plankton-eating adult fish such as anchovies and sardines.

The ichthyoplankton is dominated by species that are also common in the Port Complex as adults. During the 2018 Biological Surveys, mean densities of fish eggs harbor-wide were highest during the spring survey (568 eggs/100 cubic metesr [m^3]) and lowest during the summer survey (182 eggs/100 m^3) (Wood E&IS 2021); egg densities at Station LA15 were substantially lower than the harbor-wide mean. Most fish eggs are unidentifiable to species, although many of the eggs at Station LA15 were identified as turbot and anchovy eggs.

A total of 45 taxa of fish larvae occurred in the Port Complex in the 2018 Biological Surveys. As in previous studies (MEC and Associates 2002, SAIC 2010, MBC 2016), the most abundant larval fish taxa in the 2018 Biological Surveys were gobies (the genera *Clevelandia*, *Ilypnus*, *Quietula*, *Lepidogobius*, *Tridentiger*, and *Acanthogobius*); other prominent species in the ichthyoplankton included blennies, northern anchovy (*Engraulis mordax*), and white croaker (*Genyonemus lineatus*). These harbor-wide patterns were generally true at sampling Station LA15, although only 15 taxa were captured at LA15 and gobies and blennies comprised a greater proportion of the larval fish than harbor-wide (Wood E&IS 2021). Fish larvae were most abundant in spring and summer.

Juvenile and Adult Fish

The Port Complex provides habitat for more than 130 species of juvenile and adult fish; some of them are transient visitors and some are permanent residents (MEC 1988, MEC and Associates 2002, Allen and Pondella 2006, SAIC 2010, MBC 2016, Wood E&IS 2021). The pelagic fish assemblage in the Port Complex has been consistently dominated by northern anchovy; that species typically accounts for over two-thirds of the individuals (MEC and Associates 2002, SAIC 2010, MBC 2016), although in the 2018 Biological Surveys it was the second-most abundant pelagic fish and accounted for only one-quarter of the abundance (Wood E&IS 2021). Other commonly caught pelagic species include topsmelt (*Atherinops affinis*; the most abundant pelagic fish in 2018), jacksmelt (*Atherinopsis californiensis*), California grunion (*Leuresthes tenuis*), Pacific sardine (*Sardinops sagax*), Pacific mackerel (*Scomber japonicus*), and jack mackerel (*Trachurus symmetricus*). Lampara sampling for pelagic fish conducted during the 2018 Biological Surveys at Station LA15, captured a total of 381 fish belonging to 6 species, with topsmelt and jack mackerel dominating the catch (Wood E&IS 2021).

Water Birds

Numerous water-associated birds use the Port Complex both as residents and as seasonal visitors. The 2018 biological survey recorded 64 species in the Port Complex that depend on marine habitats, as well as another 23 species of upland birds (Wood E&IS 2021). Gulls, aerial fish foragers (terns and pelicans), and waterfowl (grebes, cormorants, ducks) were the dominant groups observed throughout the Port Complex, as was the case in previous biological surveys (MEC and Associates 2002, SAIC 2010, MBC 2016). Large and small shorebirds, wading/marsh birds, upland birds, and raptors were also present, but in much smaller numbers. The most abundant species, in order of decreasing abundance, were western gull (*Larus occidentalis*), western grebe (*Aechmophorus occidentalis*), elegant tern (*Thalasseus elegans*), rock pigeon (*Columba livia*, an upland bird), Brandt's cormorant (*Phalacrocorax penicillatus*), brown pelican (*Pelecanus occidentalis californicus*), double-crested cormorant (*P. auritus*), Heermann's gull (*L. heermanni*), surf scoter (*Melanitta perspicillata*), and great blue heron (*Ardea herodias*).

In the Turning Basin near the Project site (Survey Zone 31a in Wood E&IS 2021), the 2018 Biological Surveys identified a total of 85 individual birds in 12 monthly surveys, mostly western gulls. The Turning Basin area generally supported fewer birds than other areas of the Port Complex, likely because of the scarcity of foraging opportunities, and recent studies recorded very few aerial fish foragers (e.g., terns) in Inner Harbor and channel areas such as the waters adjacent to the Project site (MBC 2016; Wood E&IS 2021).

Special-Status Species

A number of marine animal species that are considered by federal and state resource agencies to have special status have historically been observed or have the potential to

occur in the Port (Table 3.2-1). These comprise 26 species of birds, 5 species of marine mammals, and one marine reptile species.

Threatened or Endangered Bird Species

Five species of birds (western snowy plover, *Charadrius alexandrinus nivosus*; Belding's savannah sparrow, *Passerculus sandwichensis beldingi*; Scripp's murrelet, *Synthliboramphus scrippsi*; western burrowing owl (*Athene cunicularia hypugaea*); and California least tern, *Sternula antillarum browni*) that occur or have occurred in the Port Complex are listed by federal and/or state agencies as threatened or endangered or, in the case of burrowing owl, candidate for listing.

The federally threatened western snowy plover is a transient migratory visitor; a few individuals are typically observed most years on Pier 400 during California least tern monitoring efforts but have not been noted to nest there in the past two decades (eGIS 2014, 2015a,b; Keane Biological Consulting 2000, 2002a,b, 2003b, 2005a,b, 2007a,b, 2008, 2009, 2011-2013; Langdon 2017, 2019a,b, 2021a-c; Rincon et al. 2022, 2024-2026). Furthermore, there is no suitable nesting habitat (i.e., sandy beaches) in the vicinity of the Project site.

The State-listed endangered Belding's savannah sparrow is only found in pickleweed marshes (USACE and LAHD 1992). No suitable habitat for this species is present in the area of the Proposed Project, and there have been no sightings of this species in the Port since the early 1970s (and then only as strays).

Scripp's murrelet, a small seabird that nests on the Channel Islands, is occasionally spotted in the Outer Harbor. One was observed in Fish Harbor during the 2013 Biological Surveys (MBC 2016) but none were observed during the 2018 Biological Surveys (Wood E&IS 2021). Because there is no nesting habitat for the species in the Harbor and it is so rarely observed, this species is not considered further in this analysis.

Western burrowing owl is a small owl that breeds and roosts in burrows created by ground squirrels. In 2024, CDFW proposed listing the species as endangered due primarily to habitat loss from various causes (CDFW 2024). Although the species has only once been observed during the periodic port-wide biological surveys, one or two individuals have been observed over the years at various locations in the Port Complex, most frequently at Pier 400 during California least tern monitoring efforts (POLA 2026 and see references under snowy plover, above). Observations were usually of a single individual, and no nesting behavior was observed; in total, the Port is aware of 32 observations since 2000, although in some years multiple observations were thought to be of the same individual (POLA 2026). The exposed sandy soils of the Pier 400 site represent favorable habitat, but no suitable habitat for burrowing owls exists at or near the Project site, which is largely paved and industrialized.

The California least tern was federally listed as fully protected in 1970 and state listed as endangered in 1971. Loss of nesting and nearby foraging habitat due to human activities caused a decline in the number of breeding pairs (U.S. FWS 1992). The biology of this species has been described in the Biological Opinion for the Los Angeles Harbor Development Project (FWS File No. 1-6-92-F-25, U.S. FWS 1992.), and the Deep Draft Navigation Improvement EIS/EIR (USACE and LAHD 1992), which are incorporated by reference. The following summarizes information on California least terns in the Port.

The California least tern has been known to nest during the summer in the Los Angeles Harbor area since the late 1800s, and regular nest monitoring on Terminal Island started in 1973 (Keane Biological Consulting 2013). In 1979, the Los Angeles Harbor

Department (LAHD) began providing nesting habitat for the species, and in 1984 entered into a Memorandum of Agreement (MOA) with USFWS, the USACE, and the California Department of Fish and Wildlife (CDFW) for management of a 6-hectare (15 acre) California least tern nesting site in the Port. The MOA allows the designated nesting site to be relocated in response to Port development activities, which has occurred several times. From 1970 through 1997, nesting occurred at sites on Terminal Island near what is now the Pier 300 Shallow Water Habitat (Keane Biological Consulting 2013). In 1997, LAHD prepared a new nesting site at the southern tip of Pier 400 (Keane Biological Consulting 2013), and since then all successful California least tern nesting on Terminal Island has occurred at that site. The Pier 300 nesting site was decommissioned in 1998.

California least terns are plunge divers, diving headfirst into the water to catch small fish, including northern anchovies (*Engraulis mordax*) and topsmelt (*Atherinops affinis*). These schooling prey species are frequently very abundant in open water, although locations of the schools can be highly variable. Studies conducted in the Port have demonstrated that shallow-water areas (less than six meters [20 feet] deep), especially near the nesting site, provide important foraging habitat for the California least tern (Keane Biological Consulting & Aspen Environmental 2004), although in 2019 the birds fed preferentially in deep waters adjacent to the Pier 400 nesting site (Langdon Biological Consulting 2021a). During harbor-wide least tern foraging studies in 2001, 2002, 2014, and 2019, very few foraging flights, dives, and transits were observed in Inner Harbor areas (Keane Biological Consulting 2003a; eGIS 2015a, b; Langdon Biological Consulting 2021a). In general, foraging is lowest at areas more distant from the nesting site, such as the Turning Basin. A foraging study conducted during 2019 observed 834 foraging dives and 1574 foraging flights in the harbor, but only 0.8 percent of dives and 0.1 percent of flights occurred near the Project site (Langdon Biological Consulting 2021a).

During the year-long avian surveys conducted as part of the 2013 and 2018 biological surveys, California least terns were observed from April through July, as is typical (MBC 2016; Wood E&IS 2021). Most birds were observed in survey zones immediately adjacent to the Pier 400 nesting colony, or flying over the colony, and none were observed near the Project site. During the 2021 nesting season (the CEQA baseline year), California least tern monitors recorded 198 nesting pairs and estimated that the least tern colony on Pier 400 produced 91 fledging birds (Langdon Biological Consulting 2021b).

Table 3.2-1. Special Status Species (Designated by NOAA, USFWS, and CDFW) Observed in the Port Area

Species	Agency/Designation (see notes, below, for acronyms)	Notes
Birds		
Belding's Savannah Sparrow (*Passerculus sandwichensis*)	CDFW – SE	Inhabits coastal salt marches of southern California. Not observed in POLA and POLB Biological Surveys performed from 2000 to present (2018-2019)
Black Oystercatcher (*Haematopus palliates*)	USFWS – BCC	Known to nest in the Port Complex. 320 individuals recorded in the Port Complex during the 2018 POLA and POLB Biological Survey. Species observed along Middle Breakwater.
Black Skimmer (*Rhyncops niger*)	USFWS – BCC CDFW – SCC	Year-round species. Known to nest annually at Pier 400. 184 individuals recorded in the Port Complex during the 2018 POLA and POLB Biological Surveys. Most observations at Cabrillo Beach.

Species	Agency/Designation (see notes, below, for acronyms)	Notes
Black-crowned Night Heron (*Nycticorax nycticorax*)	CDFW – SA	Year-round species. No nesting was observed during the 2018 POLA and POLB Biological Surveys, but 37 individuals sighted in the Port Complex.
Brant (*Branta bernicla*)	CDFW – SA	Uncommon in the Port, but found regionally. No known nesting has occurred in the Port Complex. 1 individual observed during the 2018 POLA and POLB Biological Surveys.
Brown Pelican (*Pelecanus occidentalis*)	CDFW – FP	No known nesting site in the Port Complex. 2,780 individuals recorded in the Port Complex during the 2018 POLA and POLB Biological Surveys. Primarily observed in Outer Harbor along breakwaters and in shallow water habitats.
Burrowing Owl (*Athene cunicularia*)	USFWS – BCC	Primarily transient. Last observed nesting in Port Complex during the 2008 POLA and POLB Biological Surveys. Not observed during the 2018 POLA and POLB Biological Surveys. However, they are observed transiting occasionally during their migration season.
California Gull (*Larus californicus*)	CDFW – WL	Year-round species, nests in the Port Complex. 261 individuals recorded in the Port Complex during the 2018 POLA and POLB Biological Surveys.
California Least Tern (*Sterna antillarum browni*)	USFWS – FE CDFW – SE, FP	Migratory species. Designated nesting site at Pier 400. 90 individuals recorded in the Port Complex during the 2018 POLA and POLB Biological Surveys. Foraging occurs primarily around Pier 400, the breakwater and shallow water habitats.
Caspian Tern (*Hydroprogne caspia*)	USFWS – BCC	Migratory species. Known to nest at Pier 400 CLT nesting site. 210 individuals recorded in the Port Complex during the 2018 POLA and POLB Biological Surveys. Most observations at Pier 300, Pier 400, and Cabrillo Beach.
Common Loon (*Gavia immer*)	CDFW – SCC	Migratory species. Not known to nest in the Port Complex. 3 individuals observed roosting in the Port Complex during the 2018 POLA and POLB Biological Surveys.
Double-crested Cormorant (*Phalacrocorax auratus*)	CDFW – WL	Year-round species. Known to nest in Port Complex. 1,894 individuals recorded in the Port Complex during the 2018 POLA and POLB Biological Surveys. Observed primarily along the Middle Breakwater.
Elegant Tern (*Thalasseus elegans*)	CDFW – WL	Migratory species. Known to nest at the Pier 400 CLT nesting site. 5,127 individuals recorded in the Port Complex during the 2018 POLA and POLB Biological Surveys. Observed regularly foraging at the shallow water habitat at Cabrillo Beach and Seaplane Lagoon during the 2018 POLA Biological Survey.
Great Blue Heron (*Ardea herodias*)	CDFW – SA	Resident species. Known to nest in trees near POLA Main Channel Wilmington marinas. 704 individuals recorded throughout the Port Complex during the 2018 POLA and POLB Biological Surveys.
Great Egret (*Ardea alba*)	CDFW – Sensitive	Resident species but rare, nests in the Port Complex. 6 individuals recorded in the Port Complex during the 2018 POLA and POLB Biological Surveys.
Loggerhead Shrike (*Lanius ludovicianus*)	USFWS – BCC	Migratory species. Last observed in Port Complex during 2000 POLA and POLB Biological Surveys. Not observed in 2018 POLA and POLB Biological Surveys.
Long-billed Curlew (*Numenius americanus*)	USFWS – BCC	Migratory species. Not known to nest in the Port Complex. 2 individuals recorded in the Port complex during the 2018 POLA and POLB Biological Surveys.

Species	Agency/Designation (see notes, below, for acronyms)	Notes
Marbled Godwit (*Limosa fedoa*)	USFWS – BCC	Migratory species. 3 individuals recorded in the Port Complex during the 2018 POLA and POLB Biological Surveys. Observed primarily at Cabrillo Beach.
Osprey (*Pandion halieatus*)	CDFW – WL	Migratory species. Known to nest at Pier D-E in POLB. 43 observations in the Port Complex during the 2018 POLA and POLB Biological Surveys.
Peregrine Falcon (*Falco occidentalis*)	USFWS – BCC CDFW – FP	Resident species. Known to nest on Schuyler F. Heim Bridge and former Gerald Desmond Bridge in POLB. 1 individual recorded at Pier 400 during the 2018 POLA and POLB Biological Surveys.
Scripps's Murrelet (*Synthliboramphus scrippsi*)	USFWS – BCC	Ocean-dwelling species rarely observed on land. Last observed in Port Complex during 2013 POLA and POLB Biological Surveys.
Snowy Egret (*Egretta thula*)	CDFW – SA	Known to nest in the Port Complex in 2018. 145 individuals recorded in the Port Complex during the 2018 POLA and POLB Biological Surveys, primarily at Cabrillo Beach.
Tufted Puffin (*Fratercula cirrhata*)	CDFW – SSC	Not observed in the 2018 POLA and POLB Biological Surveys. Last observed in the Port Complex during the 2000 POLA and POLB Biological Surveys.
Western Snowy Plover (*Charadrius nivosus nivosus*)	USFWS – BCC, ESA Threatened	Migratory. Observed as transient visitors at the Pier 400 CLT nesting site in 14 of the past 25 years but never observed to nest in the Port Complex.
Western Burrowing Owl (*Athene cunicularia hypugaea*)	CDFW – SE candidate	Occasionally observed as 1-2 individuals at various locations in the Port throughout the past 25 years, most often near Pier 400 CLT nesting site; nesting status in Port Complex unknown. Only once observed in a POLA and POLB Biological Survey.
Whimbrel (*Numenius phaeopus*)	USFWS – BCC	Migratory species, nests in the Port Complex. 42 individuals recorded in the Port Complex during the 2018 POLA and POLB Biological Surveys. Observed primarily at Cabrillo Beach.
White-faced Ibis (*Plegadis chihi*)	CDFW – WL	Resident species. Not observed in 2018 POLA and POLB Biological Surveys. Last observed in the Port Complex during the 2000 POLA and POLB Biological Surveys.
Marine Mammals		
California Sea Lion *(Zalophus californianus)*	USFWS, NMFS – MMPA Protected	Resident species. Common. 587 individuals recorded in the Port Complex during the 2018 POLA and POLB Biological Surveys.
Common Bottlenose Dolphin *(Tursiops truncatus)*	USFWS, NMFS – MMPA Protected	18 individuals recorded in the Port Complex during the 2018 POLA and POLB Biological Surveys.
Common Dolphin (*Delphinus* spp.)	USFWS, NMFS – MMPA Protected	40 individuals recorded in the Port Complex during the 2018 POLA and POLB Biological Surveys.
Gray Whale (*Eschrichtius robustus*)	USFWS, NMFS – MMPA Protected	Transitory. 1 observation recorded in the Port Complex during the 2018 POLA and POLB Biological Surveys.
Harbor Seal *(Phoca vitulina)*	USFWS, NMFS – MMPA Protected	Resident species. Common. 223 individuals recorded in the Port Complex during the 2018 POLA and POLB Biological Surveys.
Other		
Green Sea Turtle *(Chelonia mydas)*	USFWS, NMFS – ESA Protected	Not observed in POLA and POLB Biological surveys performed from 2000 to present (2018). Known in region.

Notes: USFWS = United States Fish and Wildlife Service; NMFS = National Marine Fisheries Service (NOAA Fisheries); CDFW = California Department of Fish and Wildlife; CDF = California Department of Forestry and Fire Protection; MMPA = Marine Mammal Protection Act; ESA = Endangered Species Act; BCC = Bird of Conservation Concern; SA= Special Animal; SSC = Species of Special Concern; FP = Fully Protected; FE = Federally Endangered; WL = Watch List; SE = State Endangered. Sources: USFWS 2021; NOAA Fisheries 2021a, b; CDFW 2021, CDFW 2024.

1

Other Special-Status Bird Species

Twenty-two bird species that are not listed as threatened or endangered but nevertheless have special status designated by either the CDFW (state) or USFWS (federal) have been observed in the Port Complex (Table 3.2-1). Two of those species (double-crested cormorant and great blue heron) were observed in the Turning Basin during the 2018 Biological Surveys (Wood E&IS 2021). Several special-status species are known to nest in the Port Complex, but nesting by those species on or near the Project site has not been observed.

Sea Turtles and Marine Mammals

Sea Turtles

Several endangered or threatened sea turtle species are found in the eastern Pacific Ocean, including loggerhead sea turtles (*Caretta caretta*), green sea turtles (*Chelonia mydas*), leatherback sea turtles (*Dermochelys coriacea*), and olive ridley sea turtles (*Lepidochelys olivacea*). Although no sea turtles have been observed in the Port Complex during any of the biological surveys over the past 25 years (MEC 1988; MEC & Associates 2002; SAIC 2010; MBC 2016; Wood E&IS 2021), sporadic sightings of sea turtles in Los Angeles-Long Beach Harbor have been reported over the years (LAHD 1997). Accordingly, any of these species may be rare visitors to the Port.

Green sea turtles, federally listed as threatened, are found in all temperate and tropical waters throughout the world. They are rarely observed in the open ocean, primarily remaining near the coastline and around islands and inhabiting bays and protected shores, especially in areas with seagrass beds. In the eastern North Pacific, green turtles have been sighted from Baja California to southern Alaska, but most commonly occur from San Diego south (NOAA Fisheries 2021a). A small population of green sea turtles has been observed in the lower San Gabriel River, and studies are underway to determine the movements and habitat preferences of these animals (Crear et al. 2017, Massey et al. 2023). This species is, due to the proximity of the San Gabriel River population to the Port, the most likely to be encountered.

The North Pacific distinct population segment of loggerhead sea turtles is federally listed as endangered (NOAA Fisheries & USFWS 1998a), as are leatherback sea turtles (NOAA Fisheries 2012). Olive ridley sea turtles, federally listed as threatened, are found in tropical regions of the Pacific Ocean (NOAA Fisheries & USFWS 1998b).

Marine Mammals

All marine mammals, which include sea otters, pinnipeds (sea lions and seals), and cetaceans (whales and dolphins), are protected under the Marine Mammal Protection Act (MMPA) of 1972; some (Table 3.2-1) are also protected by the Endangered Species Act (ESA) of 1973. Some species of marine mammals forage in the Port, but none breeds there. Of the pinnipeds, only California sea lions (*Zalophus californianus*) and harbor seals (*Phoca vitulina*) were recorded during the biological surveys of the Port Complex (MEC & Associates 2002; SAIC 2010; MBC 2016; Wood E&IS 2021). Sea lions were observed throughout the Port, including two individuals in the Turning Basin, while harbor seals, which were far less abundant than sea lions, were largely limited to Outer Harbor waters and were not observed in the Turning Basin. Neither of these species is threatened or endangered, and there are no designated significant ecological areas for either species within the Port.

Outside the breakwaters, a variety of marine mammals use nearshore waters. The blue, fin, humpback, sperm, and gray whales ("baleen whales") are all listed as endangered

under the ESA, although the Eastern Pacific gray whale population was delisted by NOAA in 1994. The most common whale species in the area is the gray whale (*Eschrichtius robustus*), which migrates from the Bering Sea to Mexico and back each year and generally are found as single individuals or in pods of a few individuals. Gray whales are often seen close to shore and have very occasionally been seen in the Outer Harbor, including during the 2018 Biological Surveys (Wood E&IS 2021).

Most of the other baleen whale species (principally blue, fin, and humpback) usually occur several miles from shore, in deeper water, and are also generally found as single individuals or in pods of a few individuals. However, the distributions of these species overlap established vessel traffic routes. Calambodikis et al. (2015) documented important whale feeding areas in the Santa Barbara Channel (heavily used by coastal traffic to and from north of the Port of Los Angeles) and offshore waters between Santa Monica Bay and Long Beach (the approaches to Los Angeles Harbor).

Several species of dolphin and porpoises are commonly found in coastal areas near Los Angeles, including the Pacific white-sided dolphin (*Lagenorhynchus obliquidens*), Risso's dolphin (*Grampus griseus*), Dall's porpoise (*Phocoenoides dalli*), bottlenose dolphin (*Tursiops truncatus*), northern right-whale dolphin (*Lissodelphis borealis*), and common dolphin (*Delphinus delphis*), with the common dolphin the most abundant (Forney et al. 1995). Bottlenose and common dolphin are commonly observed in the open waters of the Outer Harbor (SAIC 2010, MBC 2016; Wood E&IS 2021). None of the biological surveys have observed cetaceans in the Turning Basin.

Vessel Collisions with Sea Turtles and Marine Mammals

Ship strikes involving marine mammals and sea turtles have been documented for the following listed species in the eastern North Pacific: blue, fin, gray, humpback, and sperm whales, southern sea otter, and loggerhead, olive ridley, leatherback, and green sea turtles (NOAA Fisheries 2021a, b; NOAA Fisheries and USFWS 1998a, 1998b, 1998c, 1998d; Carretta et al. 2009). As Shoeman et al. (2020) point out, large vessels (e.g., oceangoing cargo ships) pose a higher risk of fatal results to these animals.

From 2007 through 2020 (a time frame that is consistent with the baseline of the Proposed Project), approximately 25 whales were believed to have been struck by ships in Southern California (NOAA Marine Sanctuaries 2021). These included 11 fin whales, 6 blue whales, 3 humpback whales, and 1 unidentified whale. Data supplied by NOAA Fisheries (Greenman 2022) list 16 whales presumed to have been killed or injured in vessel collisions between 2011 and 2020 in Los Angeles, Ventura, and Orange County waters, including 6 fin whales, 3 gray whales, 2 blue whales, 2 humpback whales, 2 sei whales, and one unidentified whale. However, the actual number of whales struck is likely to have been greater because not all strikes are reported or even detected. These incidents likely involved a variety of vessel types, such as containerships, military vessels, fishing and research vessels, general cargo vessels, and private pleasure vessels (Schoeman et al 2020). Recent data suggest that increases in ship strikes are largely attributable to higher abundances of whales in nearshore waters and higher vessel speeds (Schoeman et al 2020).

In Southern California, strikes involving blue whales are of particular concern, in part due to low population numbers compared to historical populations (Redfern et al. 2019) and the high risk of strikes relative to other areas (Rockwood et al. 2017). Blue whales normally pass through the Santa Barbara Channel enroute from breeding grounds in Mexico to feeding grounds farther north. Their migration pattern along the California coast crosses the established shipping channels in and out of California ports, thereby

increasing the opportunities for whale/vessel collisions. In the North Pacific, the pre-whaling population is estimated to have been approximately 4,900 individuals; the recent population estimate is approximately 1,500 (Carretta et al. 2021). Along the California coast, there is evidence that blue whale abundance has increased over the past three decades despite vessel strikes (Carretta et al. 2009, 2021), and Redfern et al (2019) estimate that the blue whale population is at 97 percent of its carrying capacity, suggesting that density dependence (not ship strikes) is the primary factor affecting population size. Other potential causes of whale mortality in the region include domoic acid poisoning, mid-frequency acoustic testing, ambient noise, and infectious disease (Abramson et al. 2011).

Reported yearly blue whale mortalities in California attributed to ship strikes have varied widely from year to year, from 0 to 5, with an average of 0.4 per year. However, reported strikes are a minimum figure: modelling by Rockwood et al. (2017) suggests that blue whale mortality from ship strikes substantially exceeds NOAA Fisheries' recommended maximum human-caused mortality limit.

In addition to geographic factors, vessel speed influences whale/ship collision incidences (e.g., NOAA Sanctuaries 2021; Vanderlaan and Taggart 2007; Conn and Silber 2013). Jensen and Silber (2003) reported that of 134 cases of known vessel strikes in U.S. coastal waters (20 of which involved container/cargo ships/freighters), vessel speed was known for 58 cases (43.3 percent): most were traveling at 13 to 15 knots, but some travelled at 16 to 24 knots. Vanderlaan and Taggart (2007) suggest that the risk of a lethal injury in a whale-ship collision drops substantially at vessel speeds below 12 knots, which is reinforced by Jensen and Silber (2003) who found that only 12.3 percent of the ship strikes they studied occurred when vessels were traveling at speeds of 10 knots or less.

In 2013, the International Maritime Organization (IMO) amended the Traffic Separation Scheme (TSS) in the Santa Barbara Channel and the approach to the Port Complex. TSS are maritime traffic management systems that regulate vessel traffic in busy waterways, thereby minimizing the risk of head-on collisions. The TSS amendment reduced the width of the separation zone from two nautical miles to one nautical mile by shifting the inbound lane shoreward, away from known whale concentrations (the outbound lane remained unchanged). Narrowing the separation zone is expected to reduce co-occurrence of ships and whales while maintaining navigational safety.

Vessel collisions are considered to be a minor source of California sea lion and harbor seal deaths compared to fishery nets, shooting, and hook-and-line fisheries. Stock assessments for bottlenose and common dolphins do not list ship strikes as sources of mortality (Carretta et al. 2021). Sea turtles do suffer mortality from ship strikes, although quantitative data are sparse (Schoeman et al. 2020).

Underwater Noise

Ambient underwater sound levels in the Port of Los Angeles reflect the Port's existing industrial and commercial setting, where vessel traffic, tug operations, and other routine harbor activities contribute to the overall soundscape. A 2023 hydroacoustic monitoring study conducted at two locations in the Port, one near the Project site, found that ambient sound levels were variable but generally similar across daytime, nighttime, and workday periods, with a small measurable increase during typical workday hours when port activity is greatest (Pi 2024). Most recorded 1-minute RMS sound levels were between 115 and 130 dB re 1 µPa, and the study found that these levels are generally consistent with other ambient underwater sound data collected in California marine waters. The

study concluded that the Project area already experiences an elevated and variable underwater noise environment associated with ongoing port operations; however, short-duration, high-intensity construction activities such as impact pile driving would still represent a distinct noise source that should be evaluated separately for potential effects on marine biological resources.

3.2.2.3 Wildlife Movement Corridors

The Conservation Element of the City of Los Angeles General Plan addresses terrestrial wildlife corridors, the purpose of which is to facilitate the movement of animals between large habitat areas. The Port does not provide any such corridors. Some marine fish species move into and out of the Port for spawning or as another part of their life cycle, and some marine mammals migrate along the coast offshore of the Port.

3.2.2.4 Invasive Species

There are at least 46 non-native aquatic species in the Los Angeles and Long Beach Harbor (Wood E&IS 2021). Non-native species can become invasive, and compete with or prey upon indigenous species, thereby altering the local ecology. This may cause economic impacts as well. Invasive species in the Port Complex include three species of brown algae (*Sargassum muticum*, *S. horneri*, *Undaria pinnatifida*); four species of bryozoans, notably the warm-water species *Amathia verticillata*; two species of anemone; four species of annelid worms, including the abundant polychaete *Pseudopolydora branchiata*; seven species of molluscs, including New Zealand bubble snail (*Philine auriformis*), Japanese mussel (*Musculista senhousia*), Mediterranean mussel (*Mytilus galloprovincialis*), and Asian clam (*Theora lubrica*); 12 species of crustaceans, including the amphipods *Grandidierella japonica* and *Corophium heteroceratum;* 12 species of tunicates (notably two species of *Styela*); and two species of fish (yellowfin goby, *Acanthogobius flavimanus*, and larval tripletooth goby, *Tridentiger* sp.). *T. lubrica* and *P. auriformis* have been consistently widespread throughout the Port Complex, but the other species have varied in abundance and distribution over the past 20 years, some not being collected at all prior to 2013 (Wood E&IS 2021).

The primary sources of invasive aquatic organisms in harbors are believed to be hull fouling (organisms that grow on the exterior surfaces of ships) and the discharge of ballast water from cargo vessels (CDFW-OSPR 2021). Other potential sources include fisheries, natural dispersal, aquatic plant shipments, discarded seafood, pet releases, discarded bait, aquaculture escape, biocontrol, cargo, scientific escape, and habitat restoration (CDFW-OSPR 2021). Non-native terrestrial species have been introduced either deliberately (e.g., rock doves and ornamental plants) or by accident through being carried in cargo or possessions (e.g., rats and many non-native grasses).

A comparison of the three most recent harbor-wide surveys indicates that the non-native taxa collected or observed over the past 15 years have remained reasonably constant, as has the proportion of the total number of species that are non-native (Wood E&IS 2021). In the case of invertebrates (infauna, epifauna, riprap), introduced species have consistently accounted for approximately three to six percent of the total taxa, in the case of fish from one to three percent, and for kelp and macroalgae, approximately 10 percent.

One species of invasive algae has been of particular concern for Southern California in recent years. The aquarium strain of *Caulerpa* (*C. taxifolia*) has infested more than 30,000 acres in the Mediterranean Sea and is listed as a federal noxious weed under the

U.S. Plant Protection Act. The species is of particular concern because in areas outside its native range it can grow very rapidly, causing ecological devastation by overwhelming local seaweed species and altering fish distributions. Its rampant growth has also resulted in huge economic losses by harming tourism, pleasure boating, fishing, and the diving industry. Although this species has never been observed in the Port Complex, it is a threat in Southern California, having been found in two Southern California coastal lagoons in 2000. Its potential to create severe ecological and economic losses has prompted regulatory control measures, including the requirement to complete a *Caulerpa* survey in accordance with the *Caulerpa* Control Protocol prior to specific underwater construction activities such as bulkhead and dock repair, dredging, and placement of navigational aids (NOAA Fisheries and CDFW 2021).

3.2.2.5 Significant Ecological Areas

The County of Los Angeles has established Significant Ecological Areas (SEAs) and Coastal Resource Areas (CRAs) to preserve a variety of biological communities for public education, research, and other non-disruptive outdoor uses. These designations limit but do not preclude development that is compatible with the biological community. Policies and regulations for SEAs and CRAs do not apply within city boundaries. There are no SEAs in the vicinity of the Project site; the closest designated CRA to the Proposed Project, and the only CRA located in the Port, is the Terminal Island Pier 400 CRA, which consists of the Pier 400 California least tern nesting site, approximately three miles from the Proposed Project (County of Los Angeles 2015). There are no designated Marine Protected Areas (MPAs) within the Port.

3.2.2.6 Area Contingency Plan

An Area Contingency Plan (ACP) is a reference document prepared for the use of all agencies engaged in responding to emergencies that may have environmental consequences, such as an oil spill. Numerous agencies have a direct role in the discharge (or substantial threat of discharge) of oil in the Los Angeles-Long Beach area including the U.S. Coast Guard, CDFW, Office of Spill Prevention and Response, and local enforcement authorities (e.g., Los Angeles Port Police). The ACP applicable to the Port Complex lists four ‘environmentally sensitive sites’ within the Port Complex: Cabrillo Beach Wetlands, Los Angeles Harbor Breakwater, Middle Breakwater, and Long Beach Breakwater. All four are categorized as “extremely sensitive” (Category A), largely because of their importance as seabird and marine mammal habitat.

3.2.2.7 Essential Fish Habitat

The Proposed Project is located in an area designated as an EFH for federally managed species under two Fishery Management Plans (FMPs) developed and administered by the Pacific Fishery Management Council (PFMC): the Coastal Pelagics FMP (PFMC 2016) and the Pacific Coast Groundfish FMP (PFMC 2020). Of the 89 managed fish species included under these plans (not including Ecosystem Component Species, described below), 21 are known to occur in the Port and could potentially be affected by the Proposed Project or alternatives (Table 3.2-2). Most of those 21 species have been collected only sporadically and in very low numbers in the Port; the more commonly encountered species are considered below.

Coastal Pelagics FMP: Two coastal pelagic fish—northern anchovy (*Engraulis mordax*) and Pacific sardine (*Sardinops sagax*)—commonly occur in the vicinity of the Proposed

Project. Northern anchovy is the most widespread and abundant fish species in the Port Complex. In the 2018 Biological Surveys, anchovy larvae were present throughout the Port Complex during all three seasonal sampling periods (Wood E&IS 2021). Juvenile and adult anchovies have consistently been collected during fish sampling at Station LA15, near the Project site (MEC and Associates 2002; SAIC 2010, MBC 2016; Wood E&IS 2021).

Table 3.2-2. Managed Fish Species Most Likely to Occur At or Near the Project Site in Los Angeles Harbor Based on Past Occurrences

Common Name	Preferred Habitats	Occurrence in Project Area	
		Larvae	Juvenile/Adult
Coastal Pelagics			
Northern anchovy	Open water.	Abundant	Abundant
Pacific sardine	Open water.	Uncommon	Uncommon
Pacific (chub) mackerel	Open water, juveniles off sandy beaches and around kelp beds.	—	Rare
Jack mackerel	Open water, young over shallow banks and around kelp beds.	Rare	Rare
Pacific Coast Groundfish			
English sole	Soft bottom habitats.	Rare	Uncommon
Pacific sanddab	Soft bottom habitats.	Rare	Uncommon
Butter sole	Soft bottom habitats.	Rare	Rare
Black rockfish	Along breakwaters, deep piers and pilings, kelp, eelgrass, and reefs.	—	Rare
Bocaccio	Multiple habitats, including soft and hard bottom, kelp, eelgrass.	—	Rare
Brown rockfish	Prefer hard substrata and rocky interfaces.	—	Rare
Calico rockfish	Prefer hard substrata and rocky interfaces.	—	Rare
California scorpionfish	Benthic, on soft and hard bottoms, as well as around structures.	—	Uncommon
Grass rockfish	Common on hard substrate, kelp, and eelgrass habitats.	—	Rare
Kelp rockfish	Common on hard substrate, kelp; reported along breakwater.	—	Rare
Olive rockfish	Common around hard substrate, kelp; reported along breakwater.	—	Rare
Vermilion rockfish	Juveniles over soft bottom and kelp, adults associated with hard substrate.	—	Rare
Lingcod	Prefer hard substrata and rocky interfaces.	—	Rare
Cabezon	Prefer hard substrata and rocky interfaces.	Rare	Rare
Pacific hake	Offshore, juveniles in open water.	Rare	Rare
Leopard shark	Multiple habitats including soft bottom, kelp, eelgrass, structures.	N/A	Rare
Spiny dogfish	Pelagic and on muddy bottoms.	N/A	Rare

Sources: MBC (2016); MEC (1988); MEC and Associates (2002); SAIC (2010); Wood E&I 2021.

--: Not identified (most rockfish larvae are not identifiable to species). N/A = Not applicable, internal fertilization.
Note: Abundant>Common>Uncommon>Rare.
Note: Ecosystem Component Species are not included in this table.

Pacific sardine is an epipelagic species (occurring in about the upper 200 meters of the ocean) that forms loosely aggregated schools, mostly offshore (Wolf et al. 2001). Pacific sardine larvae have been uncommon in the Port in previous surveys, in which only occasional individuals have been collected, always in the Outer Harbor, and the same was true for the 2018 Biological Surveys (Wood E&IS 2021). Adult and juvenile Pacific sardines are much less common than northern anchovy in the Port, although in the past it has been one of the 10 most abundant pelagic species in the Port Complex (MEC and Associates 2002; SAIC 2010). Fewer than 200 were collected in lampara samples in the 2013 Biological Surveys, six of them at Station LA15, and 540 were collected in the 2018 Biological Surveys, eight of them at Station LA15 (MBC 2016, Wood E&IS 2021). Accordingly, although the species is considered to be common in the Port Complex it is uncommon near the Project site.

In past Harbor-wide surveys, jack mackerel (*Trachurus symmetricus*) and Pacific mackerel (*Scomber japonicus*) were collected much less frequently and in much lower numbers than northern anchovy and Pacific sardine. In the 2013 and 2018 biological surveys, however, both species were among the ten most abundant pelagic (i.e., lampara-caught) species (MBC 2016; Wood E&IS 2021) and are therefore considered common. In the two most recent surveys, most individuals of both species were caught in the Outer Harbor. In the 2013 Biological Surveys a single Pacific mackerel was captured at Station LA15 and in the 2018 Biological Surveys no individuals of either species were captured at Station LA15.

In 2010, jacksmelt (*Atherinopsis californiensis*) and Pacific herring (*Clupea pallasii pallasii*) were added as "Ecosystem Component Species" (ECS) to the Coastal Pelagics FMP (PFMC 2016). Ecosystem Component Species must: (1) be a non-target stock/species; (2) not be subject to overfishing, approaching overfished, or overfished and not likely to become subject to overfishing or overfished in the absence of conservation and management measures; and (3) not generally retained for sale or personal use. Amendment 15 to the Coastal Pelagics FMP prohibits the development of commercial fisheries for the additional species until and unless the PFMC has had time to study and assess the scientific information related to any proposed fishery directed at that species and assess potential impacts of the proposed fishery on existing fisheries, fishing communities, and the marine ecosystem. The incidental catch of ECS will continue to be monitored by the PFMC.

The Port is near the southern limit of the range of Pacific herring (Miller and Lea 1972), and the species has not been collected during harbor-wide fish studies (MEC 1988; MEC and Associates 2002; SAIC 2010, MBC 2016, Wood E&IS 2021). Jacksmelt were collected in relatively small numbers in 1986–1987, 2000, and 2008, and were most abundant in shallow-water areas of the Outer Harbor (MEC 1988; MEC and Associates 2002; SAIC 2010). In the 2013 and 2018 Biological Surveys, jacksmelt was the fifth most abundant pelagic species in the Port Complex and was caught in modest numbers at Station LA15 (MBC 2016, Wood E&IS 2021).

In 2016, several more species were added to the Coastal Pelagics FMP as ECS (PFMC, 2016). However, the only ones of those known to occur in or near the Port Complex are topsmelt (*Atherinops affinis*) and California grunion (*Leuresthes tenuis*). Topsmelt and grunions were abundant in pelagic and shallow nearshore samples in the 2018 Biological

Surveys (Wood E&IS 2021), although not at Station LA15, where only four grunion and 342 topsmelt were collected (Wood E&IS 2021).

Pacific Coast Groundfish FMP: None of the species covered under the Pacific Coast Groundfish FMP (PFMC 2020) were collected at Station LA15 during the 2018 Biological Surveys (Wood E&IS 2021) and only a few individuals of a few of the species were collected during previous harbor-wide biological surveys. Accordingly, all of the Pacific Coast Groundfish species are considered rare or uncommon in the area of the Proposed Project.

Pacific sanddab (*Citharichthys sordidus*) can be considered common in the Port Complex as a whole because it was collected by trawl in three previous harbor-wide biological surveys, although not in great numbers (MEC 1988; MEC and Associates 2002; SAIC 2010); the species was not collected at all in the 2013 Biological Surveys (MBC 2016) and only one individual was collected in the 2018 Biological Surveys (Wood E&IS 2021).

English sole (*Parophrys vetulus*) has been collected during all five of the cited harbor-wide studies, but in low numbers: one individual in 1986, three in 2000, 24 in 2008, two in 2013 and one in 2018. Larvae of English sole were collected in 2008, probably not in 2013 (unidentified Paralichthyidae larvae were collected but could not be identified to genus or species), and not in 2018.

California scorpionfish (*Scorpaena guttata*) is another managed species collected in all five harbor-wide surveys, including 11 individuals in 2008, 29 in 2013, and 50 in 2018.

Vermilion rockfish (*Sebastes miniatus*) was collected during the 2000 (four individuals), 2008 (20 individuals), 2013 (45 individuals), and 2018 (11 individuals) biological surveys. Although adult vermilion rockfish occur between 20 and 1,440 feet, they are most common between 165 and 495 feet, meaning that the Port is at the very shallow end of their depth preference. Juveniles are common in shallower water (20 to 120 feet), where they hover over sand patches near algae or structures, including pier pilings (Love et al. 2002).

One gopher rockfish (*Sebastes carnatus*) and one brown rockfish (*S. auriculatus*) were captured in the 2018 Biological Surveys, neither near the Project site. These species have been collected in previous harbor-wide surveys, but never more than a few individuals.

Two Pacific Groundfish Ecosystem Component Species, California skate (*Raja inornata*) and big skate (*R. binoculata*), have been collected by trawl during harbor-wide biological surveys. In 2008, only 23 California skate were collected, in 2013 62 individuals were collected, seven of them in the vicinity of the Proposed Project, and in 2018 six individuals, none of them in the vicinity of the Proposed Project. No big skate were collected in the studies since the 2000 studies. Both species prefer soft-bottom habitat, although California skate prefers much deeper water (60 to 2,200 feet) than big skate (10 to 360 feet) (Miller and Lea 1972).

The remaining species in Table 3.2-3 have only been collected sporadically in the Port Complex, generally as single or a few individuals.

3.2.2.8 Special Habitats

Wetlands

Wetlands are considered "special aquatic sites" under the CWA (40 Code of Federal Regulations [CFR] 230.41) and impacts on wetlands are regulated by USACE. The definition of wetlands varies among state and federal agencies, but USACE uses a three-parameter method that includes assessing vegetation, hydrology, and soils (Environmental Laboratory 1987). Wetlands commonly present in estuarine or marine habitats are salt marshes dominated by pickleweed (*Salicornia virginica*) and other salt-tolerant plant species.

No wetlands under state or USACE jurisdiction are present at or near the Proposed Project site. The closest wetland is the Anchorage Road Wetlands, which is a small wetland that was contoured and enhanced in 2010 with pickleweed and other native plant species to mitigate for the loss of pickleweed habitat in the Northwest Slip (Weston Solutions 2016). This site is just under two miles from the Project site.

Eelgrass Beds

Eelgrass beds are also considered "special aquatic sites" under the CWA (40 CFR 230.43). Eelgrass is a rooted aquatic plant that inhabits shallow soft-bottom habitats in quiet waters of bays and estuaries, as well as sheltered coastal areas (Dawson and Foster 1982). Eelgrass can form dense beds that provide substrate, food, habitat, and nursery grounds for a variety of marine organisms. Eelgrass has been mapped in the Port Complex during all of the harbor-wide biological surveys (MEC and Associates 2002; SAIC 2010; MBC 2016; Wood E&IS 2021). Surveys in 2023 (Merkel & Associates 2024) documented a maximum of 164 acres of eelgrass (*Zostera marina*) in the Port of Los Angeles, over 95 percent of it in extensive beds along Inner Cabrillo Beach (about two miles from the Project site) and in the Pier 300 Shallow Water Habitat/Seaplane Lagoon area (about 1.5 miles from the Project site).

Water depths at the Project site (approximately 30 – 35 feet at the wharf face at low tide) are likely too deep to support substantial amounts of eelgrass, as insufficient light penetrates so deep. Most of the eelgrass in the Port occurs in water depths of less than 10 feet, and the 2018 Biological Surveys (Wood E&IS 2021) found none in water deeper than 25 feet. However, the most recent eelgrass surveys, in 2023 (Merkel & Assoc. 2024), revealed a small area of eelgrass along the shoreline at the junction of Berths 147 and 148, approximately 1,000 feet northwest of the construction area; that find was confirmed during recent repair work at Berth 148. Two other nearby patches are 800 feet east at Berth 170-171 and approximately one-half-mile northeast at Berths 162-164 (Merkel & Associates 2024).

Shallow Water

Shallow-water areas (less than 20 feet deep) in the Port Complex can provide nursery habitat for fish and foraging habitat for fish-eating birds. Two created shallow-water areas are located in Los Angeles Harbor: the Cabrillo Shallow Water Habitat inside the San Pedro Breakwater is approximately two and one-half miles from Berths 148-151, and the Pier 300 Shallow Water Habitat/Seaplane Lagoon area is approximately one and one-half miles from Berths 148-151.

Kelp Beds

Kelp canopy is considered a Habitat Area of Particular Concern (HAPC) in the Pacific Coast Groundfish FMP. Kelp beds provide nursery areas for many species of fish, and act as feeding areas for fish and seabirds. In Southern California, the primary canopy-forming kelp species is giant kelp (*Macrocystis pyrifera*), which can form dense beds in shallow areas with rocky or hard substrate bottoms. Beds of giant kelp have been mapped in all four harbor-wide studies. They occur exclusively in the Outer Harbor, where water circulation is favorable to the growth of the species and are concentrated along the outer breakwaters and on riprap and rock dikes protecting Outer Harbor channels, piers, and submerged sediment storage sites (MEC and Associates 2002; SAIC 2010; MBC 2016; Wood E&IS 2021). The 2018 Biological Surveys mapped a maximum of 118 acres of kelp canopy in the Port Complex, which was substantially more than in 2008 and 2000, but approximately 10 percent less than in 2013 (Wood E&IS 2021).

The nearest kelp beds to the Proposed Project site are near the Main Channel entrance (adjacent to Berth 72) and are about two and one-half miles from Berths 148-151. Giant kelp is not expected to occur at or near the Proposed Project because protected locations do not experience the vigorous water circulation that kelp depends upon.

Mudflats

The shoreline at and near the Project site is rock riprap and concrete seawall. No mudflats, which are also considered a "special aquatic site" under the CWA (40 CFR 230), are present at or near the Project site. The nearest known mud flats are located at Berth 78 along the west side of Main Channel (approximately two miles from the Project site) and at the Salinas de San Pedro Salt Marsh (approximately three miles from the Project site).

3.2.3 Applicable Regulations

3.2.3.1 Ballast Water Discharge and Biofouling Regulations

At the federal level, the United States Coast Guard (USCG)'s Ballast Water Management Program (33 CFR 151 Part D) and the United States Environmental Protection Agency (USEPA)'s Vessel General Permit (VGP) regulate ballast water discharges. The VGP requires vessels subject to its provisions to comply with the USCG program. The Vessel Incidental Discharge Act (VIDA), passed by Congress in December 2018, authorizes USEPA to establish technology-based performance standards for ballast water treatment systems and USCG to begin enforcing those standards. VIDA specifically pre-empts state programs and allows USCG to establish a phased schedule to meet performance standards. The USCG program requires that vessels engaged in international trade operating in U.S. waters do one of the following: have an on-board ballast water management system, refrain from discharging ballast water, use potable water for ballast, discharge ballast water to a shore side treatment facility, or conduct offshore ballast water exchange (this last option is available only until the performance standard compliance schedule is phased in, generally at each ship's next major dry docking). Ballast water treatment systems must be approved by USCG.

The California State Lands Commission (CSLC) administers the State Marine Invasive Species Program in collaboration with the CDFW Office of Spill Prevention and

Response (OSPR) and the State Water Resources Control Board. Regulations establish procedures, performance standards and reporting requirements for ballast water and biofouling management (2 Code of California Regulations [CCR] 2270 - 2298). California state law requires ballast water and biofouling management for ships that arrive at California ports unless safety is threatened. A Ballast Water Management Report must be submitted in advance of each arrival at a California port. If a voyage is greater than 24 hours, the Ballast Water Management Report must be submitted 24 hours in advance of arrival. If the voyage is less than 24 hours, the Ballast Water Management Report must be submitted prior to leaving the port of departure. Additionally, the Marine Invasive Species Program Annual Vessel Reporting Form must be submitted to the CSLC at least 24 hours in advance of the first arrival of each calendar year. A Ballast Water Management Plan and Ballast Water Logbook must be maintained on board the vessel and made available for inspection.

To conform with VIDA, the state Legislature recently amended California's ballast water management requirements, effective on 1 January 2022, to incorporate federal ballast water discharge standards, delay some compliance dates due to feasibility issues, establish monitoring and recordkeeping requirements for vessels, and expand CSLC's sample collection authority.

California Biofouling Regulations

Vessels that are newly delivered or have a regularly scheduled out-of-water maintenance on or after January 1, 2018, must maintain a Biofouling Management Plan and Biofouling Record Book, and manage biofouling on wetted surfaces and niche areas. These requirements are enforced by CSLC.

3.2.3.2 Clean Water Act

The Clean Water Act (CWA; 33 United States Code [USC] 1251 et seq.) provides for the restoration and maintenance of the physical, chemical, and biological integrity of waters of the United States. Specifically, Sections 401, 402, and 404 may be applicable to various elements of the Proposed Project.

Through the authority of the State Water Resources Control Board (SWRCB), the state administers requirements and permitting under Sections 401 and 402 of the CWA through agreement with the USEPA. As the Proposed Project would result in the discharge of dredge or fill material into waters of the United States, a Section 401 water quality certification or waiver from the Regional Water Quality Control Board (RWQCB) is necessary for issuance of a Section 404 permit. Section 402 of the CWA created the National Pollutant Discharge Elimination System (NPDES) to enforce effluent limitations. The NPDES program prohibits the point-source discharge of pollutants unless an NPDES discharge permit has been obtained. The ultimate goal of the NPDES program is the complete elimination of all non-stormwater discharges. The NPDES program was expanded in 1987 to regulate non-point source stormwater discharges (runoff) originating from municipal and industrial sources. Compliance with the Section 402 NPDES General Construction Permit for Storm Water Discharges Associated with Construction Activity (including the development of a Storm Water Pollution Prevention Plan [SWPPP] issued by the SWRCB) for projects that will disturb one or more acres may also be required for the Proposed Project.

3.2.3.3 Rivers and Harbors Appropriations Act of 1899

Section 10 of the Rivers and Harbors Appropriations Act (33 USC 401 et seq.) regulates work, including structures (e.g., wharves and piles), in, over, and under navigable waters of the United States. The USACE issues permits under Section 10 for work and structures.

3.2.3.4 Federal Endangered Species Act

The Federal ESA (16 USC 1531 et seq.) protects threatened and endangered species, as well as the ecosystems upon which they depend. Section 9 prohibits such take of listed species, and defines "take" as to harm, harass, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. Take, when incidental to otherwise lawful activities, can be authorized under Section 7 when there is a federal nexus (e.g., federal funding, license, or authorization) and under Section 10 when there is no federal nexus. USFWS and NOAA Fisheries share responsibilities for administering the ESA. Whenever actions authorized, funded, or carried out by federal agencies could adversely affect listed species or designated critical habitat, the federal lead agency must consult with USFWS and/or NOAA Fisheries under Section 7.

3.2.3.5 Magnuson-Stevens Fishery Conservation and Management Act

The 1996 amendments to the Magnuson-Stevens Fishery Management and Conservation Act (16 USC 1801 et seq.) require federal agencies that fund, permit, or carry out activities that may affect EFH or federally managed species to consult with NOAA Fisheries and respond in writing to the conservation recommendations provided by NOAA Fisheries. In addition, NOAA Fisheries is required to comment on any state agency activities that would affect EFH or federally managed species.

3.2.3.6 Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) (16 USC 703 et seq.), as amended, provides for the protection of migratory birds by making it illegal to possess, pursue, hunt, take, or kill any migratory bird species, unless specifically authorized by a regulation implemented by the Secretary of the Interior, such as designated seasonal hunting. The act also applies to removal of nests occupied by migratory birds during the breeding season. Under certain circumstances, a depredation permit can be issued to allow limited and specified take of migratory birds.

3.2.3.7 California Endangered Species Act

The California Endangered Species Act (CESA) (California Fish and Game Code §2050 et seq.) provides for the protection of rare, threatened, and endangered plants and animals, as recognized by the CDFW, and prohibits the taking of such species without authorization by CDFW under the Fish and Game Code (§2081). state lead agencies must consult with CDFW during the California Environmental Quality Act (CEQA) process if state-listed threatened or endangered species are present and could be affected by a Proposed Project. For projects that could affect species that are both state and federally listed, such as the Proposed Project, compliance with the federal ESA will satisfy the

CESA if CDFW determines that the federal incidental take authorization is consistent with the State Fish and Game Code (§2080.1).

3.2.3.8 Marine Mammal Protection Act

The Marine Mammal Protection Act (MMPA; 16 USC 1361 et seq.) prohibits the taking (including harassment, disturbance, capture, and death) of any marine mammals, except as set forth in the Act. All marine mammal species that may be found in the Port Complex are under the jurisdiction of NOAA Fisheries.

3.2.3.9 Oil Spill Prevention and Response

The California Office of Spill Prevention and Response (OSPR) is a multi-agency effort that implements the requirements of the Clean Water Act and Oil Pollution Act with respect to oil spill prevention and response. It involves the USCG, the CSLC, and the CDFW's Marine Safety Branch (the Marine Safety Branch is the lead agency). The OSPR requires all marine facilities (including marine terminals) and tank vessels carrying petroleum products as cargo, and all non-tank vessels over 300 gross tons, to have a California-approved oil spill contingency plan (OSCP). Marine terminals are also required to prepare and implement a spill prevention, control and countermeasures (SPCC) plan

3.2.4 Impacts and Mitigation Measures

3.2.4.1 Methodology

Impacts on biota were assessed (1) by estimating the amount of habitat that would be affected through analysis of water quality and sediment data, (2) by reviewing evidence from similar, past projects in the Port, (3) by reviewing biological resources that may be present or may use the area adjacent to Berths 148-151, and (4) from preparer expertise and judgment. The assessment of impacts is based on the assumption that the Proposed Project would include the following:

- A CWA Section 404 and Rivers and Harbor Act Section 10 permit would be obtained from USACE for in-water construction activities, which would include a requirement to conduct a pre-construction Caulerpa survey.
- A CWA Section 401 Water Quality Certification would be obtained from the RWQCB for construction activities. The RWQCB would also require standard Waste Discharge Requirements (WDRs) pursuant to the California Porter-Cologne Water Quality Control Act.
- Coverage under the NPDES General Permit for Stormwater Discharges Associated with Construction Activity (Construction General Permit) for the onshore portions of the Proposed Project (and alternatives) would be obtained by Phillips 66 as the Legally Responsible Person that would delegate applicable responsibilities to the construction contractor.
- Monitoring to verify that the Best Management Practices (BMP)s are implemented and kept in good working order would be conducted.
- Phillips 66 would obtain and implement the applicable stormwater discharge permit (such as the General Industrial Activities Stormwater Permit [GIASP]). LAHD would incorporate applicable measures required by the municipal

separate storm sewer system (MS4)/Low Impact Development (LID) permit into the Proposed Project design for review and approval by the City of Los Angeles Department of Building and Safety.

- The SPCC plan required by the LARWQCB and the OSCP required by OSPR would be implemented. Preparation and implementation of the plans would be the responsibility of Phillips 66 during construction and operations.

CEQA Baseline

The CEQA Guidelines (§15125) require EIRs to include a description of the physical environmental conditions in the vicinity of a project that exist at the time of publication of the NOP. It is LAHD's normal practice to define the baseline as conditions in the first full calendar year preceding preparation of the IS/NOP. Since preparation of the IS/NOP began in 2022, the LAHD has determined that 2021 is the baseline year for the CEQA analysis. The CEQA baseline conditions are described in Section 2.6.

3.2.4.2 Thresholds of Significance

The significance criteria in this Draft EIR are based on Appendix G of the 2021 CEQA Guidelines. The IS/NOP for the Proposed Project (Appendix A) concluded that impacts related to CEQA Guidelines Appendix G checklist issues IV b) through f) would be either less than significant or there would be no impact. Subsequently, the LAHD determined that the presence of eelgrass in the area of the Project site warranted consideration under checklist issue IV b. Accordingly, the analysis in this Draft EIR considers checklist issues IV a and IV b through the following two criteria:

BIO-1: Would the Proposed 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 Wildlife or U.S. Fish and Wildlife Service?

BIO-2: Would the Proposed Project have a substantial adverse effect on sensitive natural aquatic communities and habitats identified in the city or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

3.2.4.3 Impact Determination

Proposed Project

Impact BIO-1: Would the Proposed 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 Wildlife or U.S. Fish and Wildlife Service?

Some upland species of birds such as sparrows and finches may use bushes and trees on the site for nesting, but no candidate, sensitive, or special-status bird species (see Table 3.2-1) are known to nest or forage on the Project site. Because the Project site is sparsely vegetated, bats are unlikely to be present.

With respect to marine bird species, the Project site is unlikely to serve as nesting habitat for any sensitive species because of its developed nature. California least terns nest on Pier 400, nearly three miles from the Project site, and the harbor waters adjacent to the Project site are not considered critical foraging habitat for California least tern or the other listed marine bird species. Snowy plovers have not nested in the harbor in at least 20 years (See Section 3.2.2), and no suitable nesting habitat is present in or near the Project site.

Only one protected species of marine mammal (California sea lion) is likely to occur in the waters of the Turning Basin. As described in Section 3.2.2.2, California sea lions are common in the Port, including in the vicinity of the Project site. Harbor seals occasionally can be seen resting on riprap or buoys in various locations throughout the outer harbor areas of the Port Complex, but they have not been observed in the Turning Basin during the biological surveys (SAIC 2010, MBC 2016, Wood E&IS 2021). As described in Section 3.2.2, cetaceans (whales, porpoises, and dolphins) have not been observed in the Turning Basin and therefore no adverse effects on cetaceans from project construction would be expected.

Construction

The Proposed Project would involve upland and in-water construction activities (see Section 2.5.1 for details). Upland construction would largely involve paved areas. No sensitive upland species would be adversely affected by construction because the Project site does not constitute critical habitat for those species, which in any case are not known to occur on the site.

In-water construction could affect sensitive bird species, marine mammals (sea lions and harbor seals), eelgrass, and fish through general disturbance from construction activity and, more particularly, turbidity and underwater noise from pile removal and driving (considered separately below). Impacts to eelgrass, as a sensitive natural aquatic community, are considered in BIO-2, below.

Approximately 37 new steel piles of various sizes would be installed to support the new loading platform at Berth 150-151 and a new mooring dolphin at Berth 149 (see Section 2.5.1). The new piles would occupy less area of soft-bottom habitat than the existing approximately 540 timber and concrete piles and would themselves provide habitat for the encrusting organisms typical of pilings (see Section 3.2.2.2). Furthermore, the footprint of the new platform would be approximately 16,000 square feet less than that of the existing wharf. Accordingly, there would be no net loss of marine habitat. Any dredge activities would be required to obtain LARWQCB and USACE approvals.

With respect to general construction activity, sea lions (the only marine mammal likely to be in or near the area of construction) would be expected to avoid or move away from areas of disturbance. Sea lions are acclimated to the active harbor environment and would be able to use other areas in the Port if construction activities forced them from the work area. No critical habitat for sea lions is present at the Project site. Fish, including species managed under the Coastal Pelagics and Pacific Groundfish FMPs, would likewise be expected to avoid the immediate vicinity of construction activity.

Turbidity: Pile installation and any clean-up dredging that may be necessary, with the resultant turbidity, has the potential to affect foraging by terns. However, as described in Section 3.2.2.2, least terns do not utilize the Turning Basin and West Basin to any great extent as a foraging area: very few terns were observed in those areas in the 2000, 2008, or 2013 harbor-wide biological surveys and none in the 2018 Biological Surveys (Wood

E&IS 2021). Foraging studies in 2001, 2002, 2014, and 2019 all showed that the Turning Basin and adjacent Main Channel was among the least used area in the Harbor (Keane Biological Consulting 2003a, eGIS 2015, and Langdon Biological Consulting 2021a). Furthermore, existing data do not suggest that dredging activities adversely affect least tern foraging (Keane and Smith 2016); as that study focused on dredging turbidity, the same would be true of the more limited turbidity generated by pile removal and installation. In addition, the water quality management plan that would be required by the LARWQCB's CWA 401 certification employed during dredging and pile removal/driving (see Section 3.2.4.1) would limit the extent and severity of turbidity. Accordingly, the extent and duration of turbidity that would be generated by pile removal and driving and the clean-up dredging of up to 2,000 cubic yards of sediment and debris would be too limited to have an adverse effect on foraging activity, even if such foraging were to occur. Likewise, the limited extent of turbidity would prevent substantial adverse effects on EFH for managed fish species.

Western snowy plovers, while occasional visitors to the Port, have never been observed resting or foraging in or near the Turning Basin, and no suitable nesting or foraging habitat exists there. Brown pelicans and double-crested cormorants frequent the Turning Basin, but they are acclimated to human activity, including construction projects, and forage widely throughout the Port Complex. The special-status Caspian tern has occasionally been observed near the Project area; that species would experience impacts similar to those described for California least terns. The remaining special-status birds, including burrowing owls, seldom or never occur in the Project area, and none are known to nest there. No critical habitat for any of the special-status bird species is present at or near the Project site.

Noise and Vibration: Installation of the new piles would be accomplished using impact pile driving, which produces underwater sound that is treated as an impulsive source. Impulsive sound sources are characterized by transient, brief (<1 second), broadband signals with high peak sound pressure and rapid rise and decay times. Underwater noise is of concern because marine mammals and fish can be disturbed and, at sufficiently high levels, injured by exposure to anthropogenic sound. NOAA Fisheries' 2024 Technical Guidance (NOAA 2024) identifies acoustic criteria for the onset of temporary threshold shift (TTS) and auditory injury (AUD INJ) in marine mammals from underwater and in-air sound sources. For impulsive underwater sources such as impact pile driving, the 2024 AUD INJ criteria are expressed using dual metrics: weighted cumulative sound exposure level (SEL24h) and peak sound pressure level (PK SPL). NOAA's behavioral harassment threshold for non-explosive impulsive sources, such as impact pile driving, is 160 dB RMS re 1 µPa and is evaluated separately from the 2024 AUD INJ criteria.

Underwater noise has the potential to affect marine mammals through both temporary and permanent changes in hearing sensitivity. A TTS is defined as a reversible increase in the level at which an animal can detect sound, typically considered meaningful at or above a 6 dB shift beyond normal variability in hearing (NOAA 2024). Auditory injury (AUD INJ) refers to damage to inner ear structures, which may include loss of cochlear function or auditory nerve impairment and can occur with or without a resulting permanent threshold shift (PTS) (NOAA 2024). PTS is an irreversible increase in hearing threshold, representing lasting hearing loss; available data from mammals suggests that a shift on the order of 40 dB is indicative of the onset of permanent damage.

To account for differences in how species detect sound, marine mammals are categorized into seven functional hearing groups: low-, high-, and very high-frequency cetaceans, and

phocid and otariid pinnipeds in water and in air (Table 3.2-3). Acoustic thresholds are evaluated using weighted 24-hour cumulative sound exposure levels (SEL24h), which incorporate auditory weighting functions specific to each group to reflect their hearing sensitivity.

Table 3.2-3. Marine Mammal Functional Hearing Groups

Hearing Group	Generalized hearing range	AUD INJ onset criteria — impulsive	AUD INJ onset criteria — non-impulsive
Low-frequency (LF) cetaceans	7 Hz to 36+ kHz	222 dB PK SPL; 183 dB SEL24h	197 dB SEL24h
High-frequency (HF) cetaceans	150 Hz to 160 kHz	230 dB PK SPL; 193 dB SEL24h	201 dB SEL24h
Very High-frequency (VHF) cetaceans	200 Hz to 165 kHz	202 dB PK SPL; 159 dB SEL24h	181 dB SEL24h
Phocid pinnipeds, underwater (PW)	40 Hz to 90 kHz	223 dB PK SPL; 183 dB SEL24h	195 dB SEL24h
Otariid pinnipeds, underwater (OW)	60 Hz to 68 kHz	230 dB PK SPL; 185 dB SEL24h	199 dB SEL24h
Phocid pinnipeds in air (PA)	42 Hz to 52 kHz	162 dB PK SPL; 140 dB SEL24h	154 dB SEL24h
Otariid pinnipeds in air (OA)	90 Hz to 40 kHz	177 dB PK SPL; 163 dB SEL24h	177 dB SEL24h

Source: NOAA 2024
AUD INJ = auditory injury; dB = decibel; Hz = hertz; kHz = kilohertz; PK SPL = peak sound pressure level; SEL24h = weighted 24-hour cumulative sound exposure level. Underwater sound levels are referenced to 1 microPascal (re 1 µPa), and in-air sound levels are referenced to 20 microPascals (re 20 µPa). Hearing ranges are generalized and are used to categorize marine mammals into groups with similar hearing abilities. For impulsive sounds, such as impact pile driving, NOAA's auditory injury criteria use two metrics: PK SPL, which represents the loudest instant of sound, and SEL24h, which represents the total sound energy received over a 24-hour period. The larger resulting distance to the auditory injury threshold is used for impact assessment and mitigation planning. For nonimpulsive sounds, NOAA's auditory injury criteria are based on SEL24h. These auditory injury criteria are separate from behavioral disturbance thresholds.

Marine mammals that occur in the Port Complex (Table 3.2-4) were identified based on available biological survey data (i.e., Wood E&IS 2021) and regional occurrence records. These species represent a range of marine mammal hearing groups and include both resident and transitory species known to use the Port Complex. Of the five species listed in Table 3.2-4, the California sea lion is the most common throughout the harbor and is the only marine mammal likely to be present during in-water construction activities.

Table 3.2-4. Marine Mammals Likely to Occur in the Port Complex

Species	Hearing Group	Occurrence
California Sea Lion *(Zalophus californianus)*	Otariid pinniped	Resident species. Common. 587 individuals recorded in the Port Complex during the 2018 POLA and POLB Biological Surveys.
Common Bottlenose Dolphin *(Tursiops truncatus)*	HF cetacean	18 individuals recorded in the Port Complex during the 2018 POLA and POLB Biological Surveys.
Common Dolphin (*Delphinus* spp.)	HF cetacean	40 individuals recorded in the Port Complex during the 2018 POLA and POLB Biological Surveys.
Gray Whale (*Eschrichtius robustus*)	LF cetacean	Transitory. One observation recorded in the Port Complex during the 2018 POLA and POLB Biological Surveys.
Harbor Seal *(Phoca vitulina)*	Phocid pinnipeds	Resident species. Common. 223 individuals recorded, all in Outer Harbor areas of the Port Complex, during the 2018 POLA and POLB Biological Surveys.

Sound transmission in the underwater environment can be affected by local bathymetry, substrates, currents, and stratification of the water column. Generally, underwater sound propagation can be divided into two main categories, deep water and shallow water. Conditions for this project were assumed to be shallow water, or less than 100 meters depth. The sound volume produced during pile driving is determined by the size and type of pilings – larger piles and steel piles generally produce higher sound volume than smaller piles and timber or concrete piles – and by method of driving, sediment conditions, bathymetry, and oceanographic conditions. According to Caltrans (2020), peak sound pressure levels from impact driving of large steel piles could reach 220 dB and 205 dB RMS. The peak sound level approaches the AUDINJ thresholds in Table 3.2-3 and the RMS value would exceed the behavioral harassment threshold of 160 dB.

Implementation of marine mammal exclusion zones, protected species monitoring, soft-start procedures, and shutdown procedures would reduce the potential for marine mammals to be exposed to sound levels exceeding auditory injury thresholds during in-water construction. These measures would also minimize behavioral disturbance by requiring monitoring of the applicable zones during pile-driving activities and stopping work when marine mammals enter defined exclusion zones.

Marine mammal exclusion zones can be established using calculated underwater noise propagation distances for each pile type, using expected pile sizes and pile-driving activity levels. The zones are calculated prior to the start of construction once the construction details are known. Exclusion zones represent the areas within which marine mammals could be exposed to sound levels exceeding the applicable auditory injury or behavioral disturbance thresholds and are intended to support the implementation of avoidance and minimization measures. Distances to the relevant acoustic threshold isopleths are calculated separately for each marine mammal hearing group and construction scenario based on the predicted source levels and sound propagation characteristics. The resulting exclusion zones provide the basis for determining appropriate monitoring and mitigation requirements during in-water construction activities.

Underwater noise from pile driving and other in-water construction could affect managed fish species in the Coastal Pelagics and Pacific Groundfish FMPs and the fish that are prey for managed species. Acoustic impacts may include avoidance of the area, injury, or death; smaller fish are more susceptible to acoustic injury. Scientific investigations on the effect of noise on fish indicate that sound levels below 183 to 187 dB do not appear to result in any acute physical damage or mortality to fish (ICF and Illingworth & Rodkin, 2009). A consortium of federal and state wildlife agencies and highway authorities has established an "interim injury criterion" for fish of 206 dB_{peak} (Caltrans 2020). The most common behavioral changes include temporary dispersal of fish schools. Since in-water construction activities are assumed to generate peak noise levels in excess of 200 dB, managed fish species could experience injury or loss of individuals in the immediate vicinity of the pile driving activity. The small size of the area that would be affected in relation to the total harbor habitat utilized by managed species, particularly fish in the Coastal Pelagics FMP, means that the number of individuals of managed species that could be affected would be small relative to the populations in the Port.

Construction-related noise, including noise from pile driving, could cause special-status marine birds to avoid the construction area. However, as noted above, such species are very infrequent visitors to the Project area.

Operation

Operation of the Proposed Project would not adversely affect any of the special-status bird species listed in Table 3.2.3-1 because, as described above, such species are unlikely to use the Project site for foraging or resting. The addition of up to 80 vessels annually to harbor vessel traffic would not result in a loss of habitat or individuals for sensitive birds that use the water surface for resting or foraging. No critical habitat for any listed or special status bird, marine mammal, or sea turtle species is present in the vicinity of Berths 148-151; therefore, no critical habitat would be affected by operation of the Proposed Project.

Vessel Operations: Underwater sound from cargo vessels and the tugboats used to maneuver them to and from Berth 150-151 would add to the existing vessel traffic noise in the Outer Harbor, Main Channel, and Turning Basin, thus potentially affecting marine mammals. Vessel machinery (e.g., main engine) can contribute noise vibrationally especially at low speeds, but the primary source is propellor cavitation. The propeller itself also has an impact on the level of noise. A propellor with high cavitation inception speed, optimized design, cleanliness (i.e., removal of marine fouling), and rudder interactions can aid in lowering the radiated noise (Yu 2020). Because the increase of 80 vessels would be small relative to the total number of vessels calling in the Port of Los Angeles (1,863 in 2021), the Proposed Project would not result in a substantial change in overall noise. Additionally, few individual animals would be affected and those present would be expected to avoid sound levels that could cause damage to their hearing. Therefore, the increase in vessel calls would not adversely affect sensitive species.

Vessels approaching Angel's Gate would pass through nearshore waters, and sound from their engines and drive systems could disturb marine mammals, including whales and dolphins, in the vicinity. However, few whales and dolphins would be affected because the animals are generally sparsely distributed offshore (Forney et al. 1995) and because the change in vessel activity under the Proposed Project would not substantially alter the underwater sound environment. These animals would likely move away from the sound as it increased in intensity from the approaching vessel, and exposure would be of short duration (Blackwell et al. 2004).

Noise levels associated with vessel traffic generally range between 120 and 143 dB RMS (WSDOT 2015; ICF and Illingworth & Rodkin 2009; Pi Environmental 2024). Noise levels below 180 dB re 1µPa @ 1m rms would not result in auditory injury to any marine mammal hearing groups.

As discussed in Section 3.2.2.2, cargo ships transiting the coastal waters of Southern California to and from Berths 150-151 could potentially cause harm by colliding with endangered, threatened, or species of concern, such as marine mammals and sea turtles. However, there is a low probability of additional strikes attributable to the Proposed Project. The 80 additional vessel calls annually resulting from the Proposed Project, compared to the CEQA baseline, would be a minor increase in overall vessel calls to the Port. Furthermore, the compliance with the Vessel Speed Reduction Program (MM AQ-6, see Section 3.1 Air Quality) means that in the approaches to Los Angeles Harbor, where whale abundances are likely to be highest (see Section 3.2.2), vessels associated with the Proposed Project would be moving at 12 knots or less, a speed which would materially reduce the risk of collision with whales.

Spills and Leaks: Accidental spills of petroleum hydrocarbon cargo, fuel, or other vessel fluids during operation could occur as a result of a vessel collision, which could have adverse effects on special-status species through toxicity and physical coating. The likelihood of a collision resulting in a spill is considered remote because experienced Port pilots are used to navigate cargo vessels through the harbor, vessels are required to travel at slow speeds in the harbor, and tugs are used to guide vessels to and from the berths. However, if an accident were to occur that resulted in a release of cargo, fuels, or lubricants into harbor or ocean waters, the existing spill response mechanisms in Los Angeles-Long Beach Harbor would limit the severity and consequences of the spill.

Accidental spills of pollutants during terminal operations on land would be small because, although large quantities of such substances would be handled, the safeguards built into the product storage and transport systems (e.g., containment berms, pipeline pressure sensors, shutoff valves, and spill containment systems and measures) would prevent upland spills from reaching navigable waters. Furthermore, the site drainage system would include structural and procedural BMPs to prevent untreated storm water from being discharged to harbor waters, in accordance with the Industrial General Permit (IGP), MS4 and LID requirements (see Section 2.5.1 for further information). These measures would reduce the likelihood of upland spills from terminal operations adversely affecting marine organisms.

Light: Night lighting during operations would be similar to baseline conditions, although displaced eastward from Berths 148-149 to Berths 150-151. Accordingly, the Proposed Project would not change the light regime of the vicinity, which is already bright due to the nearby presence of three container terminals.

Impact Determination

As described above, construction of the Proposed Project is not likely to result in the loss of individuals of a state or federally listed endangered, threatened, managed, rare, protected, candidate, or sensitive species or a Species of Special Concern or the reduction of existing critical habitat for those species or of EFH for managed fish species. In-water construction would cause localized turbidity that could affect birds and marine mammals. However, those impacts would be temporary and limited to the waters in the vicinity of construction activities. In addition, the small size of the Project area relative to the Port and the fact that the Project area is not heavily utilized by sensitive species reduce the likelihood and severity of potential adverse effects.

Implementation of required water quality monitoring during dredging according to the requirements of the RWQCB, implementation of standard dredging BMPs via adaptive management of the dredging, and the requirement for a pre-construction *Caulerpa* survey would further reduce adverse impacts. No critical habitat for sensitive bird species, including nesting and foraging habitat, is present at the Project site. The combination of the temporary and localized nature of construction effects, the small number of individuals of sensitive species that would be affected, and the implementation of standard construction controls would ensure that impacts related to turbidity on sensitive species would be less than significant.

Sediment management and disposal would be conducted in accordance with the conditions in the USACE and Los Angeles Regional Water Quality Control Board (LARWQCB) permits. These controls include preparation of a dredging management plan, water quality monitoring, and adaptive management and use of BMPs. As a result of these controls, turbidity at the Project site and disposal sites would be localized and temporary, and impacts on special-status species and their habitats would be less than significant. Because sediments disposed of at inland landfills would be managed at those sites in accordance with the facility permits and BMPs, impacts of disposal would be less than significant.

In-water construction equipment (barges, workboats, tugs, and crane delivery vessels) would cause localized noise that could affect birds and marine mammals. However, these impacts would be temporary and limited to the waters in the vicinity of construction activities. Pile driving could exceed NOAA Fisheries' behavioral harassment threshold for California sea lions and harbor seals in the vicinity of operations and could result in auditory injury. Pile driving could also result in the loss of individual managed fish species in the immediate vicinity of pile-driving activity. Accordingly, impacts of in-water construction related to underwater noise are considered significant, and MM BIO-1 (Protect Marine Mammals) would be required. With implementation of this measure, impacts on marine mammals and managed fish species would be less than significant.

Terminal activity under the Proposed Project, including increased vessel calls, would be greater than the CEQA baseline; however, operational activities would result in no loss of EFH or of habitat for rare, threatened, endangered, protected, or candidate species, or species of special concern (as described in Impact BIO-2 below, any loss of eelgrass would be fully mitigated). There would be no impacts on critical habitat because there is no critical habitat is present in the vicinity of Berths 150-151. Increased vessel activity from the Proposed Project (i.e., 80 additional vessels per year) could result in a slightly increased underwater noise environment. However, impacts would be less than significant because this increase would not result in an exceedance of regulatory guidelines for underwater noise nor lead to the loss of individuals or habitat of sensitive species. The risk of spills from vessels and from landside operations would be small, and the impacts would be less than significant.

The increase in vessel traffic would incrementally increase the likelihood of vessel collisions with marine mammals or sea turtles, which could result in injury or mortality. This impact would be less than significant because, given the minor increase in vessel traffic in the Port (up to 80 additional vessels per year above baseline) and the low speed of most vessels in compliance with the Port's Vessel Speed Reduction program (MM AQ-6, see Section 3.1.5.1), the probability of additional vessel strikes would be very low.

Mitigation Measures

Mitigation measure MM BIO-1 would reduce impacts to marine mammals and managed fish species to less than significant.

> **MM BIO-1: Protect Marine Mammals.** Although it is expected that marine mammals will voluntarily move away from the area at the commencement of the "soft start" of pile-driving activities, site-specific safety and monitoring zones shall be established by a qualified marine mammal professional. The zones shall be developed using the most recent version of NOAA Fisheries' Technical Guidance for Assessing the Effects of Anthropogenic Sound on Marine Mammal Hearing, applicable NOAA behavioral harassment thresholds, and project-specific pile-driving assumptions. The area surrounding the pile-driving activities, including the safety and monitoring zones, shall be monitored by a qualified marine mammal observer[1]. The pile driving site will move with each new pile; therefore, the safety zones will move accordingly.

Residual Impacts

With implementation of MM BIO-1 (Protect Marine Mammals), impacts would be less than significant.

Impact BIO-2: Would the Proposed Project have a substantial adverse effect on sensitive natural aquatic communities and habitats identified in the city or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

As described in Section 3.2.2.1, the only sensitive natural aquatic community present in the immediate vicinity of the Proposed Project is eelgrass. In 2023 surveys (Merkel & Associates 2024) eelgrass was detected along the shoreline at the junction of Berths 147 and 148, approximately 1,000 feet northwest of the Berths 150-151 construction area; at Berth 170-171 approximately 800 feet east of the Project site; and at Berths 162-164 approximately one-half-mile northeast of the Project site. The design of the new loading/unloading structure at Berths 150-151 exposes an area of shallow water adjacent to the shoreline that could also provide suitable eelgrass habitat.

Construction

Pile removal and driving and other in-water construction activities at Berths 150-151 and installation of the mooring dolphin at Berth 149 have the potential to adversely affect any eelgrass present at Berths 150-151. The effect would be the result of turbidity that could cause light reduction and physical smothering by sediment re-settlement. Turbidity and sediment re-settlement are unlikely to have adverse impacts on eelgrass at Berths 147-149 or farther away because the standard control measures required by the permits issued under Clean Water Act sections 401 and 402 (see sections 3.2.3.2 and 3.2.4.1, above) would ensure that turbidity would remain localized to the construction area.

[1] Marine mammal professional qualifications shall be identified based on criteria established by the Los Angeles Harbor Department (LAHD) during the construction bid specification process. Upon selection as part of the construction team, the qualified marine mammal professional shall develop site specific pile-driving safety zone requirements, which shall follow the most recent National Oceanic and Atmospheric Administration (NOAA) Fisheries Technical Guidance for Assessing the Effects of Anthropogenic Sound on Marine Mammal Hearing in consultation with the Acoustic Threshold White paper prepared for this purpose by LAHD (LAHD 2017). Final pile-driving safety zone requirements developed by the selected marine mammal professional shall be submitted to LAHD Construction and Environmental Management Divisions prior to commencement of pile-driving.

Operation

Operation of the Proposed Project, consisting of vessel activity at Berths 150-151, would generate localized turbidity from prop wash during vessel arrivals and departures. The effects would be similar in nature and intensity to baseline conditions: the increase of 80 vessel calls per year would not be substantial in the context of overall activity in the area of the West Basin and Turning Basin, given the proximity of several other marine terminals. Furthermore, the presence of eelgrass in the vicinity of the Project site (specifically, at Berths 147-148) indicates that vessel activity has not prevented the establishment of eelgrass in the area.

Impact Determination

The potential effects of construction-related turbidity on eelgrass, if any is present, would constitute a significant impact on a special habitat, and mitigation is required.

Because, as described above, operational activities would not substantially increase adverse effects on eelgrass, impacts of operation of the Proposed Project on sensitive aquatic communities or special habitats, particularly eelgrass, would be less than significant, and no mitigation is required.

Mitigation Measures

Mitigation Measure MM BIO-2 would reduce potential impacts on eelgrass to less than significant.

> **MM BIO-2. Protect Eelgrass.** The Proposed Project shall comply with the California Eelgrass Mitigation Policy. Pursuant to the Policy, the following activities shall be performed:
>
> - A pre-construction eelgrass survey to map the location and extent of eelgrass that could potentially be affected by wharf demolition and construction;
> - Use of minimization measures or Best Management Practices. such as silt curtains to reduce potential effects to eelgrass during Project construction (if present);
> - A post-construction eelgrass survey, if required, to map the location and extent of eelgrass after completion of wharf demolition and construction; and
> - If eelgrass is lost due to Project construction. eelgrass shall be mitigated at a ratio determined by the U.S. Army Corps of Engineers in consultation with the U.S. Fish and Wildlife Service.
>
> Timing of eelgrass surveys. including the frequency of post-mitigation surveys (if applicable) shall comply with provisions in the USACE permit, Section 401 of the CWA Water Quality Certification, and the California Eelgrass Mitigation Policy.

Residual Impacts

With implementation of MM BIO-2 (Protect Eelgrass), impacts would be less than significant.

Summary of Alternatives

Alternative 1 – No Project Alternative

Under the No Project Alternative (Alternative 1), no construction or new operational activities would occur at the Project site. The existing Berths 148-151 marine oil terminal (MOT) would cease operations and that termination clauses associated with existing entitlement would be carried out. No subsequent use of the site has been proposed or is being considered at this time. The No Project Alternative would not preclude future improvements at the site, but any such improvements would need to be analyzed in a separate environmental document as a new project.

Because there would be no construction at Berths 148-151, there would be no activities, including pile removal and driving or dredging, that could cause loss of individuals or habitat of special-status species. There would be no vessel or other terminal activity and, consequently, no potential for vessel strikes with protected species or spills from oceangoing vessels, or introduction of non-native species. There would be no change in stormwater discharges from the landside portion of the site. Because there would be no construction or operational activity at the Project site, no impacts would occur.

Alternative 2 – Reduced Project Alternative

Under the Reduced Project Alternative (Alternative 2), all the physical features of the Proposed Project would be constructed except the refurbishment of 11 idle tanks. Accordingly, the operational activities would be the same as those of the Proposed Project (see Section 2.5.2); only the construction would differ from the Proposed Project.

The impacts of construction of the Reduced Project (Alternative 2) would be somewhat less than those of the Proposed Project, but the in-water components would be the same. Accordingly, there would be potentially significant impacts to marine mammals from pile driving-generated underwater noise and potential adverse effects on eelgrass. Implementation of MM BIO-1 (Protect Marine Mammals) and MM BIO-2 (Protect Eelgrass) would reduce impacts to less than significant. The Reduced Project (Alternative 2) would result in the same operational activities as the Proposed Project. Accordingly, impacts of operation would be less than significant.

3.2.5 Summary of Impact Determinations

Table 3.2-3 summarizes the impact determinations of the Proposed Project and each alternative related to biological resources, as described in the discussions above. This table is meant to allow easy comparison among the potential impacts of the Proposed Project and alternatives with respect to this resource. Identified potential impacts may be based on federal, state, and City of Los Angeles significance criteria, LAHD criteria, and the scientific judgment of the report preparers.

For each impact threshold, the table describes the impact, notes the CEQA impact determination, describes any applicable mitigation measures, and notes the residual impacts (i.e., the impact remaining after mitigation). All impacts, whether significant or not, are included in this table.

Table 3.2-3. Summary Matrix of Potential Impacts and Mitigation Measures for Biological Resources Associated with the Proposed Project

Alternative	Environmental Impacts	Impact Determination	Applied Mitigation Measures	Residual Impacts After Mitigation	Lease Measure
Proposed Project	**BIO-1**: Would the Proposed 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 Wildlife or U.S. Fish and Wildlife Service?	Significant impact	**MM BIO-1**: Protect Marine Mammals	Less than significant	N/A
	BIO-2: Would the Proposed Project have a substantial adverse effect on sensitive natural aquatic communities and habitats identified in the city or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	Significant impact	**MM BIO-2:** Protect Eelgrass	Less than significant	N/A
Alternative 1: No Project	**BIO-1**: Would the No Project Alternative 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 Wildlife or U.S. Fish and Wildlife Service?	No impact	Mitigation not required	No impact	N/A

Alternative	Environmental Impacts	Impact Determination	Applied Mitigation Measures	Residual Impacts After Mitigation	Lease Measure
	BIO-2: Would the No Project Alternative have a substantial adverse effect on sensitive natural aquatic communities and habitats identified in the city or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	No impact	Mitigation not required	No impact	N/A
Alternative 2: Reduced Project	**BIO-1**: Would the Reduced Project Alternative 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 Wildlife or U.S. Fish and Wildlife Service?	Significant impact	**MM BIO-1**: Protect Marine Mammals	Less than significant	N/A
	BIO-2: Would the Reduced Project Alternative have a substantial adverse effect on sensitive natural aquatic communities and habitats identified in the city or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	Significant impact	**MM BIO-2:** Protect Eelgrass	Less than significant	N/A

3.2.6 Mitigation Measure Monitoring

The mitigation monitoring program below is applicable to the mitigation measures of the Proposed Project.

Mitigation Measure	**MM BIO-1: Protect Marine Mammals.** Although it is expected that marine mammals will voluntarily move away from the area at the commencement of the "soft start" of pile-driving activities, site-specific safety and monitoring zones shall be established by a qualified marine mammal professional. The zones shall be developed using the most recent version of NOAA Fisheries' Technical Guidance for Assessing the Effects of Anthropogenic Sound on Marine Mammal Hearing, applicable NOAA behavioral harassment thresholds, and project-specific pile-driving assumptions. The area surrounding the pile-driving activities, including the safety and monitoring zones, shall be monitored by a qualified marine mammal observer[2]. The pile driving site will move with each new pile; therefore, the safety zones will move accordingly. [1]Marine mammal professional qualifications shall be identified based on criteria established by LAHD during the construction bid specification process. Upon selection as part of the construction team, the qualified marine mammal professional shall develop site specific pile-driving safety zone requirements, which shall follow the most recent version of NOAA Fisheries Technical Guidance Assessing the Effects of Anthropogenic Sound on Marine Mammal Hearing in consultation with the acoustic threshold white paper prepared for this purpose by LAHD (LAHD 2017a). Final pile-driving safety zone requirements developed by the selected marine mammal professional shall be submitted to LAHD Construction and Environmental Management Divisions prior to commencement of pile-driving.
Timing	During construction (pile driving).
Methodology	LAHD will include this measure in the permit with Phillips 66. Phillips 66 will include this measure in the contract specifications for construction. LAHD will review the contract specifications prior to construction and will monitor implementation of the measure during construction.
Mitigation Measure	**MM BIO-2. Protect Eelgrass.** The Proposed Project shall comply with the California Eelgrass Mitigation Policy. Pursuant to the Policy, the following activities shall be performed: • A pre-construction eelgrass survey to map the location and extent of eelgrass that could potentially be affected by wharf demolition and construction; • Use of minimization measures or Best Management Practices. such as silt curtains to reduce potential effects to eelgrass during Project construction (if present); • A post-construction eelgrass survey to map the location and extent of eelgrass after completion of wharf demolition and construction; • If eelgrass is lost due to Project construction. eelgrass shall be mitigated at a ratio determined by the U.S. Army Corps of Engineers in consultation with the U.S. Fish and Wildlife Service.

	Timing of eelgrass surveys. including the frequency of post-mitigation surveys (if applicable). shall comply with provisions in the U.S. Army Corps of Engineers (USACE) permit, Section 401 of the Clean Water Act (CWA) Water Quality Certification, and the California Eelgrass Mitigation Policy.
Timing	Prior to start of construction (pile driving).
Methodology	LAHD will include this measure in the permit with Phillips 66. Phillips 66 will include this measure in the contract specifications for construction. LAHD will review the contract specifications prior to construction and will monitor implementation of the measure during construction.

3.2.7 Significant Unavoidable Impacts

The Proposed Project would not result in significant, unavoidable impacts.

References

Abramson, L., S Polevka, S Hastings, and K. Bor. 2011. Reducing the threat of ship strikes on large cetaceans in the Santa Barbara Channel Region and Channel Islands National Marine Sanctuary: Recommendations and Case Studies. A Report by the Channel Islands National Marine Sanctuary. Marine Sanctuaries Conservation Series ONMS-11-1. https://sanctuaries.noaa.gov/science/conservation/ship_strikes.html.

Allen, L.G. and D.J. Pondella, II. 2006. Surf Zone, Coastal Pelagic Zone, and Harbors. Ch. 6 in: Allen, L.G., D.J. Pondella, II, and M.H. Horn (eds.). The Ecology of Marine Fishes: California and Adjacent Waters. Univ. Calif. Press, Berkeley, CA. 660 p.

Blackwell, S.B., J.W. Lawson, and M.T. Williams. 2004. Tolerance by Ringed Seals (Phoca hispida) to Impact Pipe-Driving and Construction Sounds at an Oil Production Island. The Journal of the Acoustical Society of America. Vol. 115, No. 5. pp. 2346- 2357.

Calambodikis, J., G.H. Steiger, C. Curtice, J. Harrison, M.C. Ferguson, E. Becker, M. DeAngelis, and S.M. VanParijs. 2015. Biologically important areas for selected cetaceans within U.S. waters – West Coast region. Aquatic Mammals 2015 41(1): 39-53.

Caltrans (California Department of Transportation). 2020. Technical Guidance for the Assessment of Hydroacoustic Effects of Pile Driving on Fish. 2020 Update. Caltrans Report CTHWANP-RT-20-365.01.04. (Molnar, M, et al.). October.

Carretta, J.V., K.A. Forney, M. S. Lowry, J. Barlow, J. Baker, D. Johnston, B. Hanson, R. L. Brownell Jr., J. Robbins, D. K. Mattila, K. Ralls, M. M. Muto, D. Lynch, and L. Carswell. 2009. U.S. Pacific Marine Mammal Stock Assessments: 2008. NMFS. Southwest Fisheries Science Center. NOAA Technical Memorandum NOAA-TM-NMFS-SWFCS-434.

Caretta, J.V., E.M. Oleson, K.A. Forney, M.M. Muto, D.W. Weller, A.R. Lang, J. Baker, B. Hanson, A.J. Orr, J. Barlow, J.E. Moore, and R.L. Brownell. 2021. U.S. Pacific Marine Mammal Stock Assessments: 2020. NOAA Technical Memorandum NMFS NOAA-TM-NMFS-SWFSC-646.

CDFW (California Department of Fish and Wildlife). 2021. State & Federally Listed Endangered & Threatened Animals of California. October. 31 p.

_____. 2024. California Fish and Game Commission Notice of Findings -- Western Burrowing Owl (Athene cunicularia hypugaea). 2024. California Fish and Game Commission Notice of Findings-Western Burrowing Owl .

CDFW-OSPR (California Department of Fish and Wildlife, Office of Spill Prevention and Response). 2021. Common Invasive Species Pathways. https://wildlife.ca.gov/OSPR/Science/Marine-Invasive-Species-Program/Definition.

Conn, P.B. and G.K. Silber. 2013. Vessel speed restrictions reduce risk of collision-related mortality for North Atlantic right whales. Ecosphere 4(4):43. 16 p.

County of Los Angeles. 2015. Los Angeles County General Plan – Chapter 9: Conservation and Natural Resources Element. 2015. Available: https://planning.lacounty.gov/assets/upl/project/gp_final-general-plan-ch9.pdf.

Crear, D.P., D. Lawson, J.A. Seminoff, T. Eguchi, R.A. LaRoux, and C.G Lowe. 2017. Habitat use and behavior of the east Pacific green turtle, Chelonia mydas, in an urbanized system. Bull. So. Calif. Acad. Sci. 116(1).

Dawson, E.Y., and M.S. Foster. 1982. Seashore Plants of California. Berkeley, Los Angeles, London: University of California Press.

eGIS (Environmental & GIS Services, LLC). 2014. Final Monitoring Report for the California Least Tern 2013 Season. Prepared for: Los Angeles Harbor Department Environmental Management Division. April.

_____. 2015a. Final Monitoring Report for the California Least Tern 2014 Season. Prepared for: Los Angeles Harbor Department Environmental Management Division. March.

_____. 2015b. Final Monitoring Report for the California Least Tern 2015 Season. Prepared for: Los Angeles Harbor Department Environmental Management Division. December.

Forney, K.A., J. Barlow, and J.V. Carretta. 1995. The Abundance of Cetaceans in California Waters. Part II: Aerial Surveys in Winter and Spring of 1991 and 1992. Fish. Bull. 93:15-26.

Greenman, J. 2022. WCR Vessel Collisions 2011 – 2020. Excel file. Personal communication (e-mail) to T. Johnson 1/11/2022.

HEP (Harbors Environmental Projects). 1980. The Marine Environment In Los Angeles and Long Beach Harbors During 1978, Marine Studies Of San Pedro Bay, California Part 17. Report for City of Los Angeles Department of Public Works, Port of Long Beach Division of Environmental Management, and Port of Los Angeles Environmental Analysis Office. University of Southern California. Office of Sea Grant and Allan Hancock Foundation, University of Southern California. D. F. Soule and M. Oguri (Eds.). https://repository.library.noaa.gov/view/noaa/35621.

ICF and Illingworth and Rodkin (ICF Jones & Stokes, and Illingworth & Rodkin, Inc.). 2009. Technical Guidance for Assessment and Mitigation of the Hydroacoustic Effects of Pile Driving on Fish. Prepared for Caltrans. Feb. 5.

Jacox, M.G., Tommasi, D., Alexander, M.A., Hervieux, G. and Stock, C.A. 2019. Predicting the evolution of the 2014-2016 California Current system marine heatwave from an ensemble of coupled global climate forecasts. Frontiers in Marine Science 6:497.

Jensen, A.S. and G.K. Silber. 2003. Large Whale Ship Strike Database. US Department of Commerce, NOAA Technical Memorandum NMFS-OPR-25. 37 pp. https://media.fisheries.noaa.gov/dam-migration/lwssdata.pdf.

Keane Biological Consulting (KBC). 2000. Breeding Biology of the California Least Tern in Los Angeles Harbor 2000 Season. Prepared for Los Angeles Harbor Department, Environmental Management Division. November.

_____. 2002a. Breeding Biology of the California Least Tern in Los Angeles Harbor 2001 Season. Prepared for Los Angeles Harbor Department, Environmental Management Division. January.

_____. 2002b. Breeding Biology of the California Least Tern in Los Angeles Harbor 2002 Season. Prepared for Los Angeles Harbor Department, Environmental Management Division. December

._____. 2003a. Foraging Patterns of the California Least Tern in Los Angeles. Harbor, 1994-2002 Seasons. Prepared for MEC Analytical Systems, Inc. and the U.S. Army Corps of Engineers, Los Angeles District. August.

_____. 2003b. Breeding Biology of the California Least Tern in Los Angeles Harbor 2003 Season. Prepared for Los Angeles Harbor Department, Environmental Management Division. December.

_____. 2005a. Breeding Biology of the California Least Tern in Los Angeles Harbor, 2004 Season. Prepared for Los Angeles Harbor Department, Environmental Management Division. January.

———. 2005b. Breeding Biology of the California Least Tern in Los Angeles Harbor, 2005 Season. Prepared for Los Angeles Harbor Department, Environmental Management Division. December.

_____. 2007a. Breeding Biology of the California Least Tern in Los Angeles Harbor 2006 Season. Prepared for Los Angeles Harbor Department, Environmental Management Division. February.

_____. 2007b. Breeding Biology of the California Least Tern in Los Angeles Harbor 2007 Season. Prepared for Los Angeles Harbor Department, Environmental Management Division. November.

_____. 2008. Breeding Biology of the California Least Tern in Los Angeles Harbor 2008 Season. Prepared for Los Angeles Harbor Department, Environmental Management Division. December.

_____. 2009. Breeding Biology of the California Least Tern in Los Angeles Harbor 2009 Season. Prepared for Los Angeles Harbor Department, Environmental Management Division. December.

_____. 2011. Breeding Biology of the California Least Tern in Los Angeles Harbor 2010 Season. Prepared for Los Angeles Harbor Department, Environmental Management Division. April.

_____. 2012. Breeding Biology of the California Least Tern in Los Angeles Harbor 2011 Season. Prepared for Los Angeles Harbor Department, Environmental Management Division. March.

———. 2013. Breeding Biology of the California Least Tern in Los Angeles Harbor 2012 Season. Prepared for the Port of Los Angeles, Environmental Management Division. Final Report. April.

Keane Biological Consulting (KBC) and Aspen Environmental Group. 2004. Monitoring of California Least Tern Foraging, Port of Los Amgeles Channel Deepening Project, 2003 Nesting Season and Comparison with 2001 and 2002 Survey Results. Prepared for US Army Corps of Engineers (CESPL). CESPL Contract No.: DACA09-99-D-003. August.

Keane, K and L.J. Smith. 2016. California Least Tern Foraging Ecology in Southern California: A Review of Foraging Behavior Relative to Proposed Dredging Locations. U.S. Army Corps of Engineers Engineer Research and Development Center Publication ERDC/EL CR-16-3. May.

Langdon Biological Consulting. 2017. Monitoring Report for the California Least Tern 2016 Season. Prepared for the Los Angeles Harbor Department Environmental Management Division. March.

_____. 2019a. Monitoring Report for the California Least Tern 2017 Season. 2019 Addendum. Prepared for the Los Angeles Harbor Department Environmental Management Division. February.

_____. 2019b. Monitoring Report for the California Least Tern 2018 Season. 2019 Addendum. Prepared for the Los Angeles Harbor Department Environmental Management Division. February.

_____. 2021a. 2019 California Least Tern Foraging Study Within the Port of Los Angeles. Prepared for the Los Angeles Harbor Department Environmental Management Division and Wood E&IS. April.

_____. 2021b. Monitoring Report for the California Least Tern 2021 Nesting Season. Prepared for the Los Angeles Harbor Department Environmental Management Division. October.

_____. 2021c. Monitoring Report for the California Least Tern 2020 Season. Prepared for the Los Angeles Harbor Department Environmental Management Division. June.

Los Angeles Harbor Department (LAHD). 1997. West Basin Transportation Improvement Project. Draft Environmental Report. September 1997.

_____. 1999. Pier 400 Container Terminal and Transportation Corridor Project. Final Environmental Impact Report. State Clearinghouse Number 98031135. October.

_____. 2012. City Dock No. 1 Marine Research Center Project Draft Environmental Impact Report, Volume I. ADP No. 100114-199. SCH No. 2010121013. Prepared for Los Angeles Harbor Department, Environmental Management Division. Prepared by ICF Jones & Stokes. May 2012. https://www.portoflosangeles.org/environment/environmental-documents.

_____. 2017a. Acoustic Threshold Calculation For Marine Mammal Hearing Groups Pertaining To Pile Driving Activities. Prepared for the Port of Los Angeles Environmental Management Division by Pi Environmental LLC.

_____. 2017b. Port of Los Angeles Harbor Habitat Mitigation Bank: Bank Enabling Instrument and Exhibits. LAHD Environmental Management Division. December.

Love, M.S., M. Yoklavich, and L. Thorsteinson. 2002. The Rockfishes of the Northeast Pacific. Univ. Calif. Press, Berkeley, CA. 404 p.

Massey, L.Mm, S.. Penna, E. Xahn, D. Lawson, and C.M. Davis. 2023. Monitoring Green Sea Turtles in the San Gabriel River of Southern California. Animals 13:434. https://doi.org/10.3390/ani13030434.

MBC (MBC Applied Environmental Sciences). 2016. 2013-2014 Biological Surveys of Long Beach and Los Angeles Harbors. In association with: Merkel & Associates. Prepared for the Ports of Long Beach and Los Angeles. 1 June 2016. 305 p. plus appendices.

MEC Analytical Systems, Inc. (MEC). 1988. Biological Baseline and Ecological Evaluation of Existing Habitats in Los Angeles Harbor and Adjacent Waters. Final Report. Prepared for Port of Los Angeles.

MEC and Associates. 2002. Ports of Long Beach and Los Angeles Year 2000 Biological Baseline Study of San Pedro Bay. Prepared for Port of Long Beach and Port of Los Angeles.

Merkel & Associates, Inc. 2024. West San Pedro Bay 2023 Eelgrass Surveys. Memorandum prepared for the Port of Los Angeles. May 1.

Miller, D. J. and R. N. Lea. 1972. Guide to the coastal marine fishes of California. Calif. Dept. Fish and Game Fish Bull. 157. 249 p.

NOAA Fisheries. 2012. Endangered and Threatened Species: Final Rule To Revise the Critical Habitat Designation for the Endangered Leatherback Sea Turtle. Federal Register / Vol. 77, No. 17 / Thursday, January 26, 2012 / Rules and Regulations.

_____. 2021a. Green Sea Turtle. https://www.fisheries.noaa.gov/species/green-turtle .

_____. 2021b. Marine Mammals on the West Coast – Species Information. https://www.fisheries.noaa.gov/west-coast/marine-mammal-protection/marine-mammals-west-coast#species-information.

_____. 2024. 2024 Update to: Technical Guidance for Assessing the Effects of Anthropogenic Sound on Marine Mammal Hearing (Version 3.0). Underwater and In-Air Criteria for Onset of Auditory Injury and Temporary Threshold Shifts. NOAA Technical Memorandum NMFS-OPR-71 October.

NOAA Fisheries and CDFW (National Oceanic and Atmospheric Administration National Marine Fisheries Service and California Department of Fish and Wildlife). 2021. Caulerpa

Control Protocol. Version 5. October 20. https://media.fisheries.noaa.gov/2021-12/caulerpa-control-protocol-v5.pdf.

NOAA Fisheries and USFWS (National Oceanic and Atmospheric Administration National Marine Fisheries Service and U.S. Fish and Wildlife Service). 1998a. Recovery Plan for U.S. Pacific Populations of the Loggerhead Turtle (Caretta caretta). Silver Spring, Maryland, NOAA Fisheries.

_____. 1998b. Recovery Plan for U.S. Pacific Populations of the Olive Ridley Turtle (Lepidochelys olivacea). Silver Spring, Maryland, NOAA Fisheries. https://repository.library.noaa.gov/view/noaa/15966.

_____. 1998c. Recovery Plan for U.S. Pacific Populations of the Leatherback Turtle (Dermochelys coriacea). Silver Spring, Maryland, NOAA Fisheries.

_____. 1998d. Recovery Plan for U.S. Pacific Populations of the East Pacific Green Turtle (Chelonia mydas). Silver Spring, Maryland, NOAA Fisheries.

NOAA Marine Sanctuaries. 2021. Whale Conservation. Website, Office of National Marine Sanctuaries, National Oceanic and Atmospheric Administration. https://farallones.noaa.gov/eco/whales/.

PFMC (Pacific Fishery Management Council). 2016. Coastal Pelagic Species Fishery Management Plan as Amended through Amendment 15. February. 49 p. plus appendices.

_____. 2020. Pacific Coast Groundfish Fishery Management Plan: For the California, Oregon, and Washington Groundfish Fishery. August. 145 p. plus appendices.

Pi Environmental. 2024. Port of Los Angeles Ambient Sound Levels. Prepared for Port of Los Angeles. May.

Port of Long Beach and Caltrans (Port of Long Beach and California Department of Transportation). 2010. Final Gerald Desmond Bridge Replacement Project. Environmental Impact Assessment and Application Summary Report. July 2010.

POLA (Port of Los Angeles). 2026. Unpublished compilation of burrowing owl observations in the ports of Los Angeles and Long Beach. Excel file prepared by Environmental Management Division. June.

Redfern, J.V., T.J. Moore, E.A. Becker, J. Calambokidis, S.P. Hastings, L.M. Irvine, B.R. Mate, and D.J. Palacios. 2019. Evaluating stakeholder-derived strategies to reduce the risk of ships striking whales. Diversity and Distributions 25:1575-1585.

Rincon Consultants, Inc, Wildlife Investigations, and Ryan Ecological Consultants. 2022. Pier 400 California Least Tern Nest Surveys and Monitoring. 2022 Nesting Season Annual Report. Prepared for Los Angeles Harbor Department, Environmental Management Division. December.

_____. 2024. Pier 400 California Least Tern Nest Surveys and Monitoring. 2023 Nesting Season Annual Report. Prepared for Los Angeles Harbor Department, Environmental Management Division. January.

_____. 2025. Pier 400 California Least Tern Nest Surveys and Monitoring. 2024 Nesting Season Annual Report. Prepared for Los Angeles Harbor Department, Environmental Management Division. January.

_____. 2026. Pier 400 California Least Tern Nest Surveys and Monitoring. 2025 Nesting Season Annual Report. Prepared for Los Angeles Harbor Department, Environmental Management Division. January.

Rockwood, R.C., J. Calambodikis, and J. Jahnke. 2017. High mortality of blue, humpback, and fin whales from modeling of vessel collisions on the U.S. West Coast suggests population impacts and insufficient protection. PLOS ONE 12(8). 24 p.

SAIC (Science Applications International Corporation). 2010. Final 2008 Biological Surveys of Los Angeles and Long Beach Harbors. In Association with Seaventures, Keane Biological Consulting, Tenera Environmental, ECORP Consulting Inc., and Tierra Data Inc. April.

Schoeman, R.P., C. Patterson-Abrolat, and S. Plon. 2020. A global review of vessel collisions with marine mammals. Frontiers in Marine Science 7(292), 25 pp.

Tetra Tech, Inc. 2011. Final Baseline Hydroacoustic Survey Report, Commodore Schuyler F. Heim Bridge Demolition and Replacement Project. Prepared for the Alameda Corridor Transportation Authority. May 5.

USACE and LAHD (U.S. Army Corps of Engineers and Los Angeles Harbor Department). 1992. Deep Draft Navigation Improvements, Los Angeles and Long Beach Harbors, San Pedro Bay, California - Final Environmental Impact Statement/Report. [ref]

USFWS (United States Fish & Wildlife Service). 2021. Birds of Conservation Concern 2021. Migratory Bird Program. https://www.fws.gov/migratorybirds/pdf/management/birds-of-conservation-concern-2021.pdf.

Vanderlaan, A. and C.T. Taggart. 2007. Vessel Collisions With Whales: The Probability Of Lethal Injury Based On Vessel Speed. Marine Mammal Science 23(1): 144-156.

Weston Solutions. 2016. Anchorage Road Wetland Habitat Mitigation: Final Report. Prepared for Port of Los Angeles Environmental Management Division. June 2016. 26 pp. plus appendices.

Wolf, P., P.E. Smith, and D.R. Bergen. 2001. Pacific Sardine. In: California's Living Marine Resources: A Status Report. W.S. Leet, C.M. DeWees, R. Klingbeil, and E.J. Larson, eds. Calif. Dept. of Fish and Game, Univ. Calif. Agricul. Nat. Res. Pub. SG01-11.

Wood E&IS (Wood Environment & Infrastructure Solutions, Inc.). 2021. 2018 Biological Surveys of the Los Angeles and Long Beach Harbors. Prepared for Port of Los Angeles (Agreement #: 17-3509), Port of Long Beach (Contract #: HD-8803). April.

WSDOT (Washington State Department of Transportation). 2015. Compendium of Background Sound Levels for Ferry Terminals in Puget Sound. WSF Underwater Background Monitoring Project. Prepared by J. Laughlin. May. https://wsdot.wa.gov/sites/default/files/2021-10/Env-Noise-MonRpt-WSFBackgroundSoundLevels.pdf.

Yu, Q. 2020. Reducing Underwater Radiated Noise From Ships. Retrieved April 2023 from Riviera - News Content Hub - Reducing underwater radiated noise from ships (rivieramm.com).