Section 3.3
Biological Resources

SECTION SUMMARY

This section identifies the existing conditions of biological resources at the proposed Project site and analyzes the effects of the proposed Project or any alternative on biological resources at, and adjacent to, the Project site. A description of the proposed Project site is provided in Section 2.4.3, and presented in Figure 2-1. The primary features of the proposed Project and alternatives that could affect these resources include: improvement of the 41-acre backlands; dredging of approximately 20,000 cy at Berth 306; construction of approximately 1,250 lf of wharf at Berth 306; and operation of the marine terminal until 2027.

Section 3.3, Biological Resources, provides the following:

- A description of the existing environmental setting in the Harbor area;
- A description of the existing terrestrial habitats and biological communities;
- A description of the existing aquatic habitats and biological communities;
- A description of vessel collisions with marine mammals and sea turtles;
- A description of Essential Fish Habitat (EFH) and managed species found in the proposed Project vicinity;
- A description of applicable local, state, and federal regulations and policies regarding biological resources that are applicable to construction or operational activities associated with the proposed Project or alternatives;
- A discussion on the methodology used to determine whether the proposed Project or alternatives adversely affect biological resources in the proposed Project site;
- An impact analysis of both the proposed Project and alternatives; and,
- A description of any mitigation measures proposed to reduce any potential impacts, as applicable.

Key Points of Section 3.3:

The proposed Project would expand an existing container terminal, and its operations would be consistent with other uses and container terminals in the vicinity of the proposed Project.

Mitigation measures for biological resources (**MM BIO-1**) and air quality (**MM AQ-10**), as well as a standard condition of approval (**SC BIO-1**), are applicable to the proposed Project and Alternatives 5 and 6. Due to disturbance of the 41-acre backlands, mitigation measure **MM BIO-1** also applies to Alternative 4. With implementation of the following mitigation measures and standard condition of approval, there would be no potential for significant impacts:

- **MM BIO-1. Conduct nesting bird surveys.** This measure applies only if construction on the 41-acre undeveloped area is to occur between February 15 and September 1. Prior to ground-disturbing activities, a qualified biologist shall conduct surveys for the presence of tern nests on the 41-acre backlands, and within the proposed Project site that contains potential nesting bird habitat. Surveys shall be conducted no later than 1 week prior to the clearing, removal, or grubbing of any vegetation or ground disturbance. If active nests of species protected under the MBTA and/or similar provisions of the California Fish and Game Code (i.e., native birds including but not limited to the black-crowned night heron) are located, then a barrier installed at a 50–100 foot radius from the nest(s) shall be established. The barrier will remain until a qualified biologist determines that the young have fledged or the nest is no longer active.

- **SC BIO-1. Avoid marine mammals.** Although it is expected that marine mammals will voluntarily move away from the area at the commencement of the vibratory or "soft start" of pile-driving activities, as a precautionary measure, pile-driving activities occurring as part of the wharf extension shall include establishment of a safety zone, and the area surrounding the operations will be monitored by a qualified marine biologist for pinnipeds. A 100-meter-radius safety zone will be established around the pile-driving site and monitored for marine mammals. As the pile-driving site will move with each new pile, the 100-meter safety zone shall move accordingly.

  Prior to commencement of pile-driving, observers on shore or by boat will survey the safety zone to ensure that no marine mammals are seen within the zone before pile-driving of a pile segment begins. If a marine mammal is observed within 10 meter of pile-driving operations, pile-driving shall be delayed until the marine mammals moves out of the area. If a marine mammal in the 100-meter safety zone is observed, but more than 10 meter away, the contractor shall wait at least 15 minutes to commence pile-driving. If the marine mammal has not left the 100-meter safety zone after 15 minutes, pile-driving can commence with a "soft start." This 15-minute criterion is based on a study indicating that pinnipeds dive for a mean time of 0.50 minutes to 3.33 minutes; the 15-minute delay will allow a more than sufficient period of observation to be reasonably sure the animal has left the proposed Project vicinity.

  If marine mammals enter the safety zone after pile-driving of a segment has begun, pile-driving shall continue. The biologist shall monitor and record the species and number of individuals observed, and make note of their behavior patterns. If the animal appears distressed, and if it is operationally safe to do so, pile-driving shall cease until the animal leaves the area. Prior to the initiation of each new pile-driving episode, the area shall again be thoroughly surveyed by the biologist.

Following is a brief descrption of the related mitigation measure from Section 3.2, Air Quality, Meteorology, and Greenhouse Gases, which would further reduce the potential for vessel collision with marine mammals:

- **MM AQ-10: Vessel Speed Reduction Program**. All ships calling at Berths 302-306 shall comply with the expanded VSRP of 12 knots between 40 nautical miles (nm) from Point Fermin and the Precautionary Area in the following implementation schedule: 2014 and thereafter: 95 percent.

3.3.1 Introduction

This section identifies the existing conditions of biological resources in the proposed Project site and analyzes the effects of the proposed Project and alternatives on biological resources at, and adjacent to, the proposed Project site. The primary features of the proposed Project and alternatives that could affect these resources include:

- Improvement of the 41-acre backlands adjacent to Berth 306;
- Dredging of approximately 20,000 cy at Berth 306; and
- Construction of approximately 1,250 lf of wharf at Berth 306; and
- Operation of the marine terminal until 2027.

Examples of options for disposal of dredged sediments include: beneficial reuse (such as beach nourishment), confined aquatic disposal (CAD), use of a confined disposal facility (CDF), upland disposal, and use of an Ocean Dredged Material Disposal Site (ODMDS). Dredged sediments would be disposed of via three potential methods:

- Suitable sediments would be used as fill at the Cabrillo shallow water habitat in the Outer Harbor;
- Sediments unsuitable for unconfined aquatic disposal would be used at the Los Angeles Harbor Berths 243-245 CDF. Some suitable sediment could also be used at the CDF depending on the space availability at the CDF; and
- Suitable sediments could be used at the LA-2 Ocean Dredged Material Disposal Site (ODMDS).

Environmental effects associated with disposal at the LA-2 ODMDS were evaluated during the site designation process for LA-3 (USEPA and USACE, 2005). Biological impacts due to construction and fill of the CDF, as well as expansion and fill of the Cabrillo shallow water habitat, were evaluated in the Final Supplemental EIS/EIR for the Port of Los Angeles Channel Deepening Project (USACE and LAHD, 2009). This evaluation included mitigation for habitat loss at the Berths 243-245 CDF.

3.3.2 Environmental Setting

The Los Angeles Harbor is the number one port by container volume and cargo value in the United States. The Port alone handled approximately 6.7 million TEUs in calendar year 2009; this is down from 8.5 million TEUs in 2006. In addition, the Harbor provides berthing for cruise ships, sportfishing vessels, commercial fishing vessels, pleasure boaters, and Harbor support vessels. The physical size of the Harbor, diversity of Harbor uses, and ongoing upgrade and development projects result in continuous Harbor modifications. Thus, Harbor waters are subjected to continuous vessel traffic and periodic construction or modification, such as dredging and filling. Commercial vessels and recreational boats produce high levels of underwater noise; ambient noise in San Francisco Bay/Oakland Harbor has been estimated at 120 to 155 dB_{PEAK} (or the peak sound pressure level in decibels) (ICF and Illingworth and Rodkin, 2009). A recent baseline hydroacoustic study in Cerritos Channel (in both Los Angeles and Long Beach Harbors) recorded L_{90} values (sound levels that were exceeded 90 percent of the time during the measurement period) of 120 to 132 dB (Tetra Tech, 2011). By comparison,

ambient noise in the open ocean has been estimated at 74 to 100 dB_{PEAK} on the central California coast.

Biological resources in the Port Complex have been described in several environmental documents, including the Los Angeles and Long Beach Deep Draft Navigation Improvement EIS/EIR (USACE and LAHD, 1992), West Basin Entrance Widening Project EIR (LAHD, 1991), Pier 400 (LAHD, 1999), Channel Deepening Project (USACE and LAHD, 2000, 2009), and biological surveys (MEC, 1988; MBC et al. 2007; MEC and Associates, 2002; MBC, 2009a, b; SAIC, 2010). The following description of biological resources incorporates information from these previous environmental documents, including information from the recent 2008 surveys. Biological resource sampling throughout the Harbor is not undertaken on an annual basis, and the most recent comprehensive surveys were completed in 2008.

Over the years, the Ports of Los Angeles and Long Beach have worked with the state and federal resource agencies to conduct periodic evaluations of biological resources within the Port Complex, which define baseline conditions for habitat assessments associated with Harbor development projects. Based on these assessments, the resource agencies and the Ports determine appropriate Harbor habitat values, as necessary. The major assessment conducted in 2000 resulted in modification of the mitigation values in the Harbor (LAHD, 2004). These modifications were indicative of a gradual increase in habitat value in the Main Channel and resulted in an increase in mitigation requirements in the Main Channel from lower value Inner Harbor habitat to higher value Outer Harbor habitat. While still valuable, the remainder of the Inner Harbor was identified as having lower habitat values relative to the deep and shallow waters of the Outer Harbor (see MEC and Associates, 2002; LAHD, 2004). The waters to the east of the APL Terminal are classified as shallow Outer Harbor, while the waters south of the terminal are deep Outer Harbor (LAHD, 2004).

In general, marine resource fluctuations along the California Coast and in the Harbor can occur both seasonally and annually based on general fluctuations in the environment including, but not limited to, the amount of rainfall and El Niño events. However, in general, substantial improvements in habitat quality associated with improved water quality in the Harbor occurred in the period between the 1970s and mid 1980s. Further improvements in marine resources have occurred since that time, though at a slower pace than in the previous 10-year period (MEC and Associates, 2002). The types of habitats (shallow and deep pelagic, benthic, riprap, and piling in the Inner Harbor and Outer Harbor) and the species associated with them have remained fairly predictable as described for each habitat below. Perhaps the most significant change has been the expansion of eelgrass habitat at Cabrillo Beach and the Shallow Water Habitat off Pier 300 (MEC and Associates, 2002; MBC, 2005; SAIC, 2010). The Shallow Water Habitat site off Pier 300 was constructed, and eelgrass was planted in winter 2002-3, as mitigation for the Pier 400 project (which was implemented as part of the Los Angeles and Long Beach Harbors Deep Draft Navigation Improvements Project). The site was augmented with additional sediment and eelgrass plants in 2007 (SAIC, 2010).

Based on the information summarized above, data from the mid 1980s to 2008 accurately reflect current environmental conditions in the Harbor because those conditions have remained about the same or even improved. The 2002 MEC report was the first survey that included an enumeration and identification of what species constitute non-native taxa that have been introduced over time to the Port Complex.

The aquatic habitats surrounding the APL Terminal include deep channel (approximately -55 to -60 ft MLLW off Berths 302-305) and shallow water habitats (approximately -16 to -26 ft MLLW). These differences in depth result in corresponding differences in water and sediment characteristics as well, such as water temperature and grain size. Therefore, infauna, riprap invertebrate, and fish communities at the Shallow Water Habitat off Pier 300 more closely resemble the communities collected at Cabrillo Beach, which is similar habitat. Likewise, biological communities in the channel south of Pier 300 more closely resemble those from similar depths (MEC and Associates, 2002; SAIC, 2010). Where possible, site-specific data from sampling locations (stations) adjacent to Pier 300 were used to characterize the biological communities.

3.3.2.1 Terrestrial Habitats

All of the proposed Project site and adjacent areas are already developed and paved, with the exception of the 41-acre backlands. As such, very little vegetation or terrestrial habitats exist at the proposed Project site. The 41-acre backlands was created using dredged material from the Channel Deepening Project, and construction was completed in 2005. It was surveyed for the proposed Project by biologists on January 12, 2010 (Figure 3.3-1). Prior to the survey, biologists reviewed aerial photographs and information on sensitive plant and animal species that could potentially occur in the area from the California Natural Diversity Data Base (CNDDB) and California Native Plant Society (San Pedro and Long Beach Quadrangles). The CNDDB and Native Plant Society data sources provided information on the historical presence and numbers (if any) of sensitive resources at the proposed Project site. The CNDDB included 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 U.S. Fish and Wildlife Service), and the U.S. Secretary of Commerce (National Oceanographic and Atmospheric Administration). Summary tables from the CNDDB are included in Appendix F1.

Photographs of the proposed Project site are presented in Appendix F2. Russian thistle (*Salsola tragus*, also 'tumbleweed') was the dominant plant species, and grew in a patchy distribution on the flat 41-acre expanse. Two other species were relatively common: bassia (*Bassia hyssopifolia*) and slender-leaved iceplant (*Mesembryanthemum nodiflorum*). These two species and all of the other less-common species listed in Table 3.3-1 were found on the perimeter of the backlands. Only three of the species identified are classified as native [mule fat (*Baccharis salicifolia*), telegraph weed (*Heterotheca grandiflora*), and wire lettuce (*Stephanomeria virgata*)]. During the January 2010 survey, the only wildlife observed on the backlands was a rabbit (probably desert cottontail [*Sylvilagus audoboni*]). There was no other evidence of habitat use, such as tracks or scat, by mammals.

Figure 3.3-1: Location of APL Terminal Project site, including 41-acre backlands, and triangular habitat area.

Table 3.3-1: Plant Species Observed in the 41-acre Backlands Area, January 2010

Common name	Scientific name	Abundance	Status
Bassia	*Bassia hyssopifolia*	Common	Introduced weed
Bristly ox-tongue	*Picris echioides*	Occasional	Introduced
Flax-leaved horseweed	*Conyza bonariensis*	Occasional	Introduced
Mule fat, Seep-willow	*Baccharis salicifolia*	Occasional	Native
Russian thistle	*Salsola tragus*	Abundant	Noxious weed
Slender-leaved iceplant	*M. nodiflorum*	Common	Introduced
Sow-thistle	*Sonchus* sp.	Occasional	Introduced
Telegraph weed	*Heterotheca grandiflora*	Occasional	Native
Tree Tobacco	*Nicotiana glauca*	Occasional	Introduced
Unidentified grasses	Poaceae	Occasional	Introduced
White sweetclover	*Melilotus alba*	Occasional	Introduced
Wire lettuce	*Stephanomeria virgata*	Occasional	Native

There is also a small, triangular-shaped parcel adjacent to the proposed Project site at the northeast corner of the terminal (identified as an "Accreted Area" on Figure 3.3-1). This area would not be developed or disturbed, but was surveyed in January 2010 to document visible plant and animal species. This site consists of sandy intertidal and terrestrial plant species growing at higher elevations. Plant species observed during the January 2010 survey are listed in Table 3.3-2. Two species of shorebirds were observed in the intertidal zone: marbled godwit (*Limosa fedoa*) and willet (*Tringa semipalmatus*), and western meadowlark (*Sturnella neglecta*) was observed in the upland area.

Table 3.3-2: Plant Species Observed Adjacent to the Northeast Corner of the Proposed Project Site (Triangular Habitat), January 2010

Common name	Scientific name	Abundance	Status
Bassia	*Bassia hyssopifolia*	Common	Introduced weed
California broom	*Lotus scoparius*	Occasional	Native
Castorbean	*Ricinus communis*	Occasional	Introduced
Highway iceplant	*Carpobrotus edulis*	Abundant	Introduced, invasive
Mule fat, Seep-willow	*Baccharis salicifolia*	Common	Native
Pampas grass	*Cortaderia* sp.	Uncommon	Introduced
Telegraph weed	*Heterotheca grandiflora*	Occasional	Native
Tree Tobacco	*Nicotiana glauca*	Occasional	Introduced

3.3.2.2 Benthic Environments

3.3.2.2.1 Soft-Bottom Habitats

Organisms that live on and in the bottom sediments act to modify the character of the bottom. Those that live in the sediments, primarily invertebrate species, are referred to as infauna, while those living on the sediment surface are referred to as epifauna. These species are important as a food source for fish, crabs, and other benthic organisms. Since

the 1950s, improvements in water quality have aided the establishment of diverse assemblages of benthic animals in previously disturbed Inner Harbor and channel areas which were once largely devoid of marine life (MEC and Associates, 2002; SAIC, 2010). Data from the 1970s show that the polychaete *Tharyx parvus* accounted for most of the benthic organisms in soft-bottom samples (Soule and Oguri, 1976; USACE, 1980). An assessment of dominant species in the Harbor indicates a gradient of increasing environmental stress (enrichment/contamination) from the Outer Harbor to Inner Harbor and from basins to slips (MEC and Associates, 2002). The most recent infaunal assessment documented relatively similar densities between Inner Harbor and Outer Harbor, but densities at shallow water stations were markedly higher than those in deeper water (SAIC, 2010). The proposed wharf/berth areas at the APL Terminal are considered deep water habitat. Highest species diversity and abundance were recorded at the Pier 300 Shallow Water Habitat (SAIC, 2010). Over time, there has been an increasing tendency of movement of healthy Outer Harbor assemblages up the Main Channel and improved benthic indicators in the Inner Harbor areas (MEC and Associates, 2002; MBC, 2009a; SAIC, 2010).

In 2008, one station (Station LA9) was sampled in winter and summer at the proposed Project site off Berth 303 (SAIC, 2010). In winter, 25 infaunal taxa were collected, and the most abundant species were the polychaetes *Laonice cirrata* and *Pista wui*, the ghost shrimp *Neotrypaea gigas*, and the Asian clam (*Theora lubrica*). The Asian clam is thought to have been introduced from the Western Pacific, and was first recorded by the Intersea Research Corporation (IRC) in the West Basin of Los Angeles Harbor in 1980 (IRC, 1981). The abundance of non-native species such as the Asian clam has increased throughout the Los Angeles and Long Beach Harbor complex since the 1970s. About 12 percent of the infaunal abundance collected in 2008 was comprised of non-indigenous taxa, including the Asian clam, which was collected at 86 percent of the stations sampled and accounted for 10 percent of infaunal abundance. In summer 2008, abundance was higher than in winter and twice as many species (50) were collected. The most abundant taxa were the Asian clam, the mollusk *Gadilla aberrans*, and the polychaetes *Paramage scutata* and *Pista agassizi*.

In 2008, the biomass of invertebrates in sediments off Berth 303 averaged 15.3 grams per 0.1 square meter (g/0.1 m^2) (SAIC, 2010). Annual and seasonal variations in density of infaunal organisms are to be expected as a result of variations in oceanographic (chemical and physical) conditions over time and human activities (USACE and LAHD, 1992).

Epifaunal invertebrates associated with, but not living in, soft-bottom sediments are generally larger than infaunal organisms and are also referred to as macroinvertebrates. These species are most commonly caught during trawl sampling. Epifaunal abundance varied spatially and temporally in the 2008 surveys of the Port Complex. The number of individuals per trawl was five times higher at night (103 individuals) than during the day (21 individuals), although epifaunal biomass was similar between night and day.

One trawl station adjacent to the proposed Project site was sampled in 2008: Station LA7, located at the Pier 300 Shallow Water Habitat at a depth of 16 ft. A combined mean of six epifaunal invertebrate species were collected at that location in 2008, with a mean of two species collected during the day sampling and a mean of five species collected at night (SAIC, 2010). Mean abundance at the station was substantially higher at night (62 individuals) than during the day (2 individuals). Another station (Station LA1) was sampled in the Outer Harbor just northwest of Angel's Gate at a depth of 72 ft. A

combined mean of 11 epifaunal species was collected at that station, with a mean of four species collected during day sampling and a mean of six species collected at night. Mean abundance was similar between day (65 individuals) and night (74 individuals). Throughout the Port Complex the most abundant invertebrates were: blackspotted bay shrimp (*Crangon nigromaculata*; 38 percent of total abundance), ridgeback rock shrimp (*Sicyonia ingentis*; 16 percent), blacktail bay shrimp (*Crangon nigricauda*; 14 percent), and Xantus swimming crab (*Portunus xantusii*; 11 percent). Blackspotted bay shrimp, Xantus swimming crab, and shrimp of the genus *Heptacarpus* were collected at all stations during the 2008 surveys.

Surveys in the Outer Harbor in 2006 and 2007 by the City of Los Angeles indicate that the composition of the epifaunal community has remained relatively consistent with time, with blackspotted bay shrimp and New Zealand bubble snail (*Philine auriformis*) recorded as the most widespread and abundant taxa collected (CLA-EMD, 2008). In 2006-2007, however, ridgeback rock shrimp was by far the most abundant invertebrate in trawl samples. Clade analysis[1] of fishes and invertebrates combined were indicative of species-site fidelity, and indicated that previous environmental perturbations in the Outer Harbor (such as construction of Pier 400 and ongoing fill) have less influence on the fish/invertebrate communities than in the past. Fish associated with soft bottoms are discussed in Section 3.3.2.3, Water Column Habitats.

3.3.2.2.2 Hard Substrates

Surveys of invertebrate communities on riprap, pilings, and concrete were conducted at eight stations throughout the Port Complex in 2008 (SAIC, 2010). The surveys include quantitative observations by biologist-divers, as well as scraping samples that were preserved and analyzed in the laboratory. Elevations/depths of sampling stations were not measured; instead biologists used a combination of tidal zones and biological zones to delineate the upper intertidal, lower intertidal, and subtidal zones. For example, the "barnacle zone" distinguished the upper intertidal, while the "mussel zone" marked the lower intertidal. Mean abundance was highest in the lower intertidal (233 individuals per 0.01 m^2), lowest in the upper intertidal (140 individuals per 0.01 m^2), and intermediate in the subtidal zone (183 individuals per 0.01 m^2). Abundance was relatively similar between Inner and Outer Harbor stations, though highest abundance was recorded on the Middle Breakwater. Abundance was also relatively similar among substrate types. On average, the number of species was substantially higher in the low intertidal and subtidal zones (38 and 40 species, respectively) than in the upper intertidal (12 species). Mean biomass was similar among depth zones (24.1 to 25.6 grams per 0.01 m^2).

In 2008, the upper intertidal zone (as measured in the scraped quadrats) was dominated by the barnacles *Chthamalus fissus*, *Balanus glandula*, and *Balanus crenatus* (SAIC, 2010). The dominant members of the lower intertidal and subtidal communities included the amphipods *Photis* spp. 1 and *Caprella simia*, and the brittlestar *Amphipholis squamata*. Divers observed several motile species, including California spiny lobster (*Panulirus interruptus*), kelp crabs (such as *Mimulus foliatus* and *Pugettia* spp.), and hermit crabs (*Pagurus* spp.). The riprap studies in 2000 identified a more robust community in Outer Harbor areas compared with the Inner Harbor (MEC and Associates, 2002); however, the communities in 2008 appeared to be relatively similar among

[1] Clade analysis of trawl data in the Outer Harbor examined the association, or co-occurrence, of species with one another.

locations with no distinct gradient between Inner and Outer Harbor. Overall, results suggested improved conditions in the riprap communities since 2000 (SAIC, 2010).

Of the 334 observed species in 2008, 12 were introduced and another 31 were considered cryptogenic (of unknown origin), indicating up to 13 percent of the riprap biota was potentially non-native in origin. The most conspicuous non-native species observed during 2008 was the bay mussel (or Mediterranean mussel, *Mytilus gallovprovincialis*), although the most abundant was the amphipod *Caprella simia*.

During a biological survey in January 2010, intertidal/subtidal species observed on the riprap along the perimeter of the 41-acre backlands site included: bay mussel, short-spined sea star (*Pisaster brevispinus*), the barnacles *Balanus glandula* and *Chthamalus fissus*, file limpet (*Lottia limatula*), ribbed limpet (*Lottia digitalis*), festive murex (*Pteropurpura festiva*), and giant keyhole limpet (*Megathura crenulata*). The brown seaweed *Sargassum muticum* was growing on the riprap, and drift giant kelp (*Macrocystis pyrifera*) was observed occasionally near shore. Fish associated with hard substrates are discussed in the following Section 3.3.2.3, Water Column Habitats.

3.3.2.3 Water Column Habitats

Organisms in the water column include plankton (small floating animals and plants) and fish. Phytoplankton (plant) communities tend to be less diverse in the Inner Harbor than in the Outer Harbor, but productivity can be higher in the Inner Harbor due to warmer water temperatures, nutrient inputs, and reduced circulation (Allan Hancock Foundation, 1980). Inner Harbor zooplankton (animal) communities are dominated by copepods that have seasonal peaks and declines. Ichthyoplankton (fish eggs and larvae) species and abundances vary on a spatial and temporal basis in Los Angeles and Long Beach Harbors. During three ichthyoplankton surveys throughout the Port Complex in 2008, the most abundant larval taxa included CIQ gobies (gobies of the genus *Clevelandia*, *Ilypnus*, and *Quietula*), combtooth blennies (*Hypsoblennius* spp.), bay goby (*Lepidogobius lepidus*), clingfishes (Gobiesocidae), yellowfin goby (*Acanthogobius flavimanus*), and white croaker (*Genyonemus lineatus*) (SAIC, 2010). Most of the fish eggs could not be identified during the study. The weighted mean abundance during 2008 was highest at Station LA7, which was located in the Pier 300 Shallow Water Habitat, where density (4,831 larvae per 100 m^2) was nearly four times higher than the Harbor-wide mean (1,294 larvae per 100 m^2). CIQ gobies comprised 93 percent of ichthyoplankton density at that station, followed by yellowfin goby (2 percent) and unidentified larvae (2 percent). Yellowfin goby is a non-native species common in bays and estuaries of California. It was first identified in Los Angeles Harbor around 1977 (Haaker, 1979). It was the only exotic adult/juvenile fish species collected during the 2008 fish surveys.

There is distinct stratification in the vertical distribution of ichthyoplankton in Los Angeles and Long Beach Harbors. In 2008, fish eggs were nearly twice as abundant (847 eggs per 100 cubic meters [m^3]) in the neuston, or surface waters, than in midwater (456 eggs per 100 m^3) or epibenthos (433 eggs per 100 m^3). Fish larvae, however, were more abundant in midwater (139 larvae per 100 m^3) and the epibenthos (134 larvae per 100 m^3) than in the neuston (39 larvae per 100 m^3). The overall weighted mean densities throughout the water column were 5,402 fish eggs and 1,293 fish larvae per 100 m^2 of surface area.

The species composition and abundance of ichthyoplankton in the Harbor has been shown to be similar to that of the juvenile and adult fish community (Brewer, 1983),

suggesting that the Harbor is a nursery for nearly all of the fish species found there as adults (MBC, 1984; MEC, 1988). Results from 2008 were relatively similar to those recorded during biweekly surveys in 2006 (MBC et al., 2007) and quarterly surveys in 2000 (MEC and Associates, 2002).

The Port Complex consists of habitat for more than 130 species of juvenile and adult fish, some of them transient visitors and some permanent residents (USACE, 1980; Horn and Allen, 1981; Brewer, 1983; MEC, 1988; MEC and Associates, 2002; Allen and Pondella, 2006; SAIC, 2010). Several species, however, have dominated fish populations in the Harbor: white croaker, northern anchovy (*Engraulis mordax*), queenfish (*Seriphus politus*), Pacific sardine (*Sardinops sagax*), and topsmelt (*Atherinops affinis*) (Brewer, 1983; MEC and Associates, 2002; SAIC, 2010). Some of the other species that are also relatively abundant and are considered important residents of the Harbor include: white seaperch (*Phanerodon furcatus*), California tonguefish (*Symphurus atricauda*), speckled sanddab (*Citharichthys stigmaeus*), and shiner perch (*Cymatogaster aggregata*) (Horn and Allen, 1981). Juvenile and adult individuals of most species are usually more abundant during the spring and summer than in winter (Horn and Allen, 1981); however, pelagic fishes in 2008 were most abundant in winter (SAIC, 2010). The Harbor also provides habitat for recreationally important species such as California halibut (*Paralichthys californicus*), barred sand bass (*Paralabrax nebulifer*), and Pacific barracuda (*Sphyraena argentea*).

At Station LA7, located at the Pier 300 Shallow Water Habitat, abundance of pelagic fishes as sampled by lampara net[2] was relatively low during 2008, with means of three individuals during the day and 44 at night (SAIC, 2010). For comparison, the Harbor-wide station mean was 113 individuals during the day and 358 at night. The total numbers of species collected at Station LA7, however, were nearly double the Harbor-wide means: seven and 15 species during day and night, respectively, compared with means of three and six species throughout the Port Complex. The most abundant species collected by lampara were northern anchovy, queenfish, and topsmelt. At Station LA1, located in deeper water near Angel's Gate, mean abundance and total species richness were also relatively low (10 fish and two species during the day and 26 fish and two species at night). Topsmelt and northern anchovy were the only two species collected by lampara at Station LA1.

Abundance of demersal fishes sampled by otter trawl in 2008 at Station LA7 was relatively high, with means of 834 individuals during the day and 161 at night (SAIC, 2010). For comparison, the Harbor-wide station mean was 177 individuals during the day and 179 at night. The total numbers of species collected at Station LA7 (12 species during the day and 19 at night) were almost identical the Harbor-wide mean of 13 and 18 species, respectively. The most abundant species collected by otter trawl were northern anchovy, white croaker, queenfish, shiner perch, and white seaperch. At Station LA1, located in deeper water near Angel's Gate, mean abundance and total species richness were lower than at Station LA7 (424 fish and 11 species during the day and 310 fish and 14 species at night). White croaker, queenfish, and northern anchovy were the three most abundant species collected by otter trawl at Station LA1.

Shallow-water fishes were sampled by beach seine at the Pier 300 Shallow Water Habitat in 2008. A total of five species were collected during the three surveys, and the most

[2] The typical gear used for commercial fishing and sampling are nets known as lampara or seines.

abundant species were topsmelt and unidentified gobies (Gobiidae) (SAIC, 2010). Abundance was substantially higher at the Shallow Water Habitat in April (949 individuals) and July (774 individuals) than in January 2008 (13 individuals).

The fish community in Outer Los Angeles Harbor in the vicinity of the Terminal Island Water Reclamation Plant discharge has been sampled regularly since the 1990s (CLA-EMD, 2008). In 2006-7, the most abundant fish taxa were white croaker, queenfish, speckled sanddab, California lizardfish (*Synodus* lucioceps), and California tonguefish, which together comprised 97 percent of total abundance during the two-year survey period. Most of the white croaker and queenfish collected were young-of-the-year (juveniles).

Results from recent studies of the fish communities in the Port Complex were consistent with those in other recent studies, although differences in sampling methods and gear precluded direct comparisons in many cases (SAIC, 2010). Fish collections in 2008 did not discern any distinct spatial pattern in the distribution of pelagic fishes throughout the Port Complex (SAIC, 2010). In contrast, Outer Harbor areas generally were typified by a greater number, biomass, and variety of trawl-caught fish than Inner Harbor areas. Number of fish species collected by otter trawl has been relatively consistent since 1986. However, the number of species collected by beach seine has been variable. The number of fish species collected by beach seine in 2008 (seven) was intermediate to results from past studies (between four and 37 species), but differences in sampling methods and gear precluded direct comparisons (SAIC, 2010).

3.3.2.4 Water Birds

Numerous water-associated birds use the Harbor as residents and as seasonal visitors. Recent surveys found 68 species in the Harbor that depend on marine habitats and another 28 species that do not (SAIC, 2010). Waterfowl, gulls, and aerial fish foragers were the dominant groups observed throughout the Port Complex in 2008. All other types of birds (large shorebirds, wading/marsh birds, upland birds, and raptors) were also represented but in much smaller numbers. The most abundant species, in order of decreasing abundance, were western gull (*Larus occidentalis*), Brandt's cormorant (*Phalacrocorax penicillatus*), surf scoter (*Melanitta perspicillata*), California brown pelican (*Pelecanus occidentalis californicus*), western grebe (*Aechmophorus occidentalis*), Heermann's gull (*L. heermanni*), and elegant tern (*Thelasseus elegans*). The areas in the Harbor with the highest reported bird observations in 2008 were the Main Channel, the channel adjacent to the proposed Project site off Berths 301-305, and the Pier 300 Shallow Water Habitat.

During the biological survey in January 2010, the most abundant species observed in waters adjacent to the proposed Project site was surf scoter. Other commons species included bufflehead (*Bucephala albeola*) and western grebe, while species occasionally observed included pied-billed grebe (*Podilymbus podiceps*), Forster's tern (*Sterna forsteri*), California brown pelican, western gull, great blue heron (*Ardea herodias*), willet (*Tringa semipalmatus*), and cormorants (*Phalacrocorax* spp.). Great blue herons have nested periodically atop the light standards and cranes at some marine terminals in the Port Complex, and at least one great blue heron nest has been documented atop a light standard at the proposed Project site (Prickett, pers. comm., 2010).

3.3.2.5 Special-Status Species

Three state and federally listed threatened or endangered species are known to be present, at least seasonally, in the Ports Complex (Table 3.3-3). One endangered bird species, the California least tern (*Sternula antillarum browni*), regularly uses the Port Complex. The California least tern is present only in the Harbor area during its breeding season, April to September. This species is described in detail in Section 3.3.2.5.1. The threatened western snowy plover (*Charadrius alexandrinus nivosus*) is a transient migratory visitor, and a few individuals have been observed on Pier 400 in recent years (Keane Biological Consulting, 2005a, 2005b). Western snowy plover forages on sandy beaches, and is occasionally observed on Pier 400 during migration; it has also been observed outside the Port Complex at Point Fermin and Cabrillo Beach (Keane Biological Consulting, 2009). It was not observed during the year-long bird surveys of 2007-2008 (SAIC, 2010). Belding's savannah sparrow (*Passerculus sandwichensis beldingi*) inhabits pickleweed marshes exclusively (USACE and LAHD, 1992). No suitable habitat for this species is present in the area of the proposed Project, and there have been no known sightings of this species in Los Angeles Harbor.

Table 3.3-3: Threatened and Endangered Bird Species in the Proposed Project Area.

Species	Status		Notes
	Federal	State	
California least tern	E	E	Breeds on Pier 400 from about approximately April through August; forages preferentially over shallow waters; 14 sightings near Pier 300 in May and June 2008.
Western snowy plover	T, BCC	SSC	Infrequent visitor to Harbor; observed on Pier 400. No observations during 2007-2008 surveys.
Belding's savannah sparrow	–	E	Inhabits pickleweed marsh; transient visitor to Harbor. No individuals observed in 2007-2008.

Note: E = Endangered, T = Threatened, SSC = CDFG Species of Special Concern, BCC = USFWS Birds of Conservation Concern. Designations from CDFG 2011a. Data in Notes from SAIC (2010) and Keane (2009, 2010).

There are multiple bird species that are not listed by the state or federal governments as threatened or endangered, but have special status designated by either the California Department of Fish and Game (state) or U.S. Fish and Wildlife Service (federal) (Table 3.3-4) (CDFG 2011b). These include:

- **CDFG Species of Special Concern:** Vertebrates with declining population levels, limited ranges, and/or continuing threats make them vulnerable to extinction.
- **CDFG Watch List:** Birds that are: (1) not on the Bird Species of Special Concern list, but were on previous lists, and have not been listed under the California ESA; (2) were previously state or federally listed, and now are on neither list; or (3) are on the list of Fully Protected Species.
- **CDFG Fully Protected:** This was the state's initial effort to identify and protect animals that were rare or faced possible extinction. Most of the animals on the Fully Protected list were subsequently listed under state and/or federal ESAs. It is unlawful to take these species except with an authorization for necessary scientific research.

- **USFWS Birds of Conservation Concern:** Birds of Conservation Concern are those identified by the USFWS that represent the highest conservation priorities. The designation is meant to draw attention to species in need of conservation action.

California brown pelican was previously listed as endangered; however, this species recovered and was delisted by the state in June 2009 and by the federal government in November 2009. It is a Fully Protected species, and is present year-round throughout the Port Complex. It accounted for 9.6% of the total bird observations in 2007-8, with most of the individuals observed roosting on the riprap of the breakwaters of the Outer Harbor (SAIC, 2010). It was observed in all but one survey in the waters off Pier 300.

Peregrine falcon (*Falco peregrines*), which was listed as endangered, was delisted by the federal government in 1999 and by the state in November 2009 (CDFG, 2011a). It is designated as Fully Protected by the CDFG and a Bird of Conservation Concern by the USFWS. Peregrine falcon nest at several locations in the Port Complex, but the nesting site nearest to the proposed Project is on the Vincent Thomas Bridge, approximately 1.1 miles (1.8 km) from the APL Terminal. A total of three peregrine falcon were observed near Pier 300 in August and September 2008 (SAIC, 2010). The decrease in California least tern nests at Pier 400 (see Section 3.3.2.5.1) in recent years has been attributed, in part, to an increase in peregrine falcon activity near the nesting site (Keane, 2009).

Table 3.3-4: Special Status Bird Species (Designated by CDFG and USFWS) in the Proposed Project Area

Species	Status / Designation	Notes
Black oystercatcher	USFWS BCC	Nested in Ports Complex in 2007-8; 6 individuals observed between Piers 300-400 in 2007-2008.
Black skimmer	CDFG SSC, USFWS BCC, and others	No nesting in the Harbor in 2008; 2 individuals observed near Pier 300 in 2007-2008.
Brant	CDFG SSC	Six individuals observed during February 2008 in Long Beach Outer Harbor; no observations near Pier 300.
Burrowing owl	CDFG SSC, USFWS BCC	Observed on Pier 400 in 2007-2008; nesting status within the Port Complex unknown.
California brown pelican	CDFG FP	Abundant throughout Ports Complex; 567 observations near Pier 300 in 2007-2008.
Caspian tern	USFWS BCC	Nested on Pier 300 in 2008-9; about 170 observations during 2007-2008 surveys near Pier 300. Nesting occurred at Berth 305 backlands in April 2010, but subsequently was abandoned.
Common loon	CDFG SSC	Thirteen individual observed throughout Ports Complex in 2007-2008; no observations near Pier 300.
Double-crested cormorant	CDFG Watch List	Nested in transmission towers in Long Beach Harbor in 2007-2008; among most abundant birds in the Harbor.
Elegant tern	CDFG Watch List	Nested on Pier 400 in 1998-2005, and on Pier 300 since 2007-2008; very abundant, forages over water near nests. Nesting occurred at Berth 305 backlands in April 2010, but subsequently was abandoned.
Loggerhead shrike	CDFG SSC, USFWS BCC	Observed in Inner Harbor areas of Port Complex in 2001-2002; no observations near Pier 300 in 2007-2008.
Long-billed curlew	CDFG Watch List, USFWS BCC	Single individual observed near Pier 300 during 13 surveys in 2007-2008.
Merlin	CDFG Watch List	One individual observed on riprap in Long Beach Outer Harbor in December 2007; no observations near Pier 300 in 2007-2008.
Osprey	CDFG Watch List	Observed in Ports Complex during all surveys in 2007-2008; 10 observations (all single individuals) near Pier 300.
Peregrine falcon	CDFG FP, USFWS BCC	Nests on the Schuyler Heim and Gerald Desmond Bridges. Usually observed near nesting sites; three observations near Pier 300 in 2007-2008.

Note: USFWS BCC = U.S. Fish and Wildlife Service Bird of Conservation Concern; CDFG = California Dept. of Fish and Game; SSC = Species of Special Concern; FP = Fully Protected. Data in Notes from SAIC (2010) and Keane (2009, 2010).

Black oystercatcher (*Haematopus bachmani*) nested on the breakwaters during the 2000-2001 and 2007-2008 biological surveys of the Port Complex, and six individuals were observed flying or resting on riprap near Pier 300 in 2007-2008 (SAIC, 2010). Nesting in the Port Complex is considered unusual for this species (SAIC, 2010).

Black skimmer (*Rynchops niger)* nested in the Harbor at Pier 400, but have not nested there since 2000. Six brant (*Branta bernicla*) were observed in Long Beach Harbor in

February 2008. This species (a "sea goose") is considered a common migrant offshore Los Angeles County, but is rarely observed in harbor and estuarine habitats (SAIC, 2010).

The burrowing owl (*Athene cunicularia*) was sighted on Pier 400 in 2007 and 2008, but its nesting status within the Port Complex is unknown. It was not observed near Pier 300 in 2007-2008 (SAIC, 2010).

A total of 13 common loon (*Gavia immer*) were observed during the 2007-2008 bird surveys in the Ports Complex; none of the observations were near Pier 300 (SAIC, 2010).

Double-crested cormorant (*Phalacrocorax auritus)* is one of the most abundant species in the Port Complex, and nests on transmission towers in Long Beach Harbor. It was the second most abundant special-status bird species observed near Pier 300 in 2007-2008, with 125 observations (SAIC, 2010).

The elegant tern nested on Pier 400 from 1998 through 2005, but has not returned to nest at that site since then (Keane Biological Consulting, 2009, 2010). However, elegant tern nested on Pier 300 (on the 41-acre fill site) in 2008 and 2009. By May 24, 2009, an estimated 4,200 elegant terns, 220 Caspian terns (*Hydroprogne caspia*), and an undetermined number of royal terns (*Thalasseus maximus)* were nesting near the backlands of Berth 305 (on the 41-acre fill site). By mid-June the number of elegant terns was estimated at 4,500 individuals. Elegant tern was the most abundant special-status bird species observed near Pier 300 during biweekly bird surveys in 2007-2008, with 3,284 observations. Caspian terns nested on Pier 400 from 1997 until 2005, when they left the area due to a nocturnal predator. They began nesting on the 41-acre fill site in 2008, and 174 observations of this species were made near Pier 300 in 2007-2008 (SAIC, 2010). More recently, Caspian terns and elegant terns were observed nesting at the backlands of Berth 305 on April 23, 2010. However, the following week, the terns had abandoned the area (Keane Biological Consulting, 2010). No further nesting activities by Caspian or elegant terns were observed at the backlands of Berth 305 or elsewhere in the Los Angeles Harbor in 2010, aside from limited nesting on Connolly Pacific barges from April through July (K. Keane pers. comm., 2011).

Loggerhead shrike (*Lanius ludovicianus*) was observed in 2001 and 2002, but not during the latest yearlong bird study. In 1984, loggerhead shrike was one of only five bird species known to nest in the Port Complex (USACE, 1984).

Long-billed curlew (*Numenius americanus*) is common in southern California, and 2007-2008 all but one of the 14 observations throughout the Ports Complex occurred in the three survey zones near Pier 300 (SAIC, 2010). The observations usually consisted of a single individual.

Merlin (*Falco columbarius*) is considered an uncommon winter visitor, and a single individual was observed on the riprap in Outer Long Beach Harbor in December 2007 (SAIC, 2010).

Osprey (*Pandion haliaetus*) was 1 of 20 bird species observed during all surveys in 2007-2008. A total of 10 observations of this species was made in the three survey zones near Pier 300, all consisting of single individuals (SAIC, 2010).

Sporadic sightings of sea turtles have been reported in Los Angeles-Long Beach Harbor over the years; however, none have been observed during more than 20 years of baseline biological surveys (MEC, 1988; MEC and Associates, 2002; Keane Biological Consulting, 2007; SAIC, 2010). Because several green sea turtles (*Chelonia mydas*) have been observed in nearby Alamitos Bay and in the San Gabriel River (Lawson, pers. comm., 2009), it is possible that this species and perhaps other species of sea turtle listed below may be rare visitors to the Outer Harbor areas.

Several turtle species are found in the eastern Pacific Ocean, including loggerhead sea turtles (*Caretta caretta*), green sea turtles, leatherback sea turtles (*Dermochelys coriacea*), and olive ridley sea turtles (*Lepidochelys olivacea*). The North Pacific distinct population segment of loggerhead sea turtles is federally listed as endangered. Loggerhead sea turtles are found in all temperate and tropical waters throughout the world and are the most abundant species of sea turtle found in U.S. coastal waters (NMFS, 2011).

Green sea turtles, federally listed as threatened, are found in all temperate and tropical waters throughout the world. They primarily remain near the coastline and around islands and live in 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 (NMFS, 2011). A small population of green sea turtles has been observed in the lower San Gabriel River, and studies are proposed to determine more information on these animals (Lawson, pers. comm., 2009). They rarely are observed in the open ocean.

Leatherback sea turtles, federally listed as endangered, are the most widely distributed of all sea turtles and are found worldwide with the largest north and south range of all the sea turtle species. The Pacific Ocean leatherback population is smaller than the Atlantic Ocean population (NMFS, 2011).

Olive ridley sea turtles, federally listed as threatened, are found in tropical regions of the Pacific, Indian, and Atlantic Oceans. They typically forage offshore in surface waters or dive to depths of 500 ft to feed on bottom-dwelling crustaceans.

All marine mammals are protected under the Marine Mammal Protection Act (MMPA) of 1972, and some are protected by the Endangered Species Act (ESA) of 1973. These species may forage in Los Angeles Harbor but do not breed there. Sightings of marine mammals were recorded during the 2008 biological surveys of Los Angeles and Long Beach Harbors (SAIC, 2010). Both California sea lion (*Zalophus californianus*) and Pacific harbor seals (*Phoca vitulina vitulina*) were observed during the 2008 surveys near the proposed Project site off Pier 300. During 2008 California sea lions were observed throughout Los Angeles-Long Beach Harbor, while harbor seals were limited to Outer Harbor waters. During the January 2010 biological survey at the proposed Project site, two California sea lions were hauled out (resting) on mooring buoys in the channel to the east of the 41-acre backlands.

Outside the breakwater, a variety of marine mammals use nearshore waters. These include the gray whale (*Eschrichtius robustus*), which migrates from the Bering Sea to Mexico and back each year. This and other species of baleen whales generally are found as single individuals or in pods of a few individuals. Toothed whales, and particularly dolphins, can be found in larger groups up to a thousand or more (Leatherwood and

Reeves, 1983). Several species of dolphin and porpoise are commonly found in coastal areas near Los Angeles, including the Pacific white-sided dolphin (*Lagenorhynchus obliquidens*), Risso's dolphin (*Grampus grisseus*), 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 were observed during the 2008 baseline surveys; except for bottlenose dolphin sighted near the San Pedro Waterfront in the Main Channel, all other observations were in the Outer Harbors (SAIC, 2010).

Vessel Collisions with Marine Mammals and Sea Turtles

Ship strikes involving marine mammals and sea turtles, although uncommon, have been documented for the following listed species in the eastern North Pacific: blue whale (*Balaenoptera musculus)*, fin whale (*Balaenoptera physalus)*, gray whale, humpback whale *(Megaptera novaeangliae)*, sperm whale (*Physeter macrocephalus)*, southern sea otter (*Enhydra lutris nereis*), loggerhead sea turtle, green sea turtle, olive ridley sea turtle, and leatherback sea turtle (NOAA Fisheries and USFWS 1998a, 1998b, 1998c, 1998d; Stinson 1984; Carretta et al., 2009; NMFS 2010). The blue whale, fin whale, humpback whale, sperm whale, and gray whale are all listed as endangered under the ESA; however, the Eastern Pacific gray whale population was delisted by the NOAA in 1994.

Determining the cause of death for marine mammals and sea turtles that wash ashore dead or are found adrift is not always possible, nor is it always possible to determine whether propeller slashes were inflicted before or after death. In the case of a sea otter for example, wounds originally thought to represent propeller slashes were determined to have been inflicted by great white sharks (Ames and Morejohn, 1980). In general, dead specimens of marine mammals and sea turtles showing injuries consistent with vessel strikes are not common.

Between 2000 and 2004, 13 California sea lion deaths were attributed to collisions with boats along the coasts of California, Oregon and Washington combined, while eight harbor seals were killed and two injured by vessel strikes in California between 1999 and 2003 (Carretta et al., 2009). Stock assessments for bottlenose dolphin (coastal and offshore stocks) do not list any information on ship strikes; dolphins (as well as seals, sea lions, and some whale species) are susceptible to injury and mortality from fishery interactions (i.e., entanglement in nearshore gill nets). From January 2000 through June 2010, two olive ridley sea turtles were found with injuries consistent with ship strikes: one washed ashore near the launch ramp in Alamitos Bay in 2003, and the other washed ashore at Goleta (Santa Barbara County) in 2004 (NMFS, 2010).

Whale Strikes

While vessel collisions with all marine mammals and sea turtles have been reported, the majority of incidents involve whales. The National Marine Fisheries Service (NMFS), which is a division of the National Oceanic and Atmospheric Administration (NOAA), has records of vessel strikes with whales in U.S. coastal waters. From January 2000 through June 2010, 23 whales were believed to have been struck by ships in southern California (NMFS, 2010). These included seven gray whales, five fin whales, five blue whales, and six unidentified whales. Of these 23, eight were struck by a vessel and their final disposition was unknown. The other 15 were either found dead with wounds consistent with ship strikes, or were found dead on the bow of cargo vessels. Ten of these 15 were found in or near the Port Complex, including one blue whale and three fin whales found dead on the bows of freighters.

From January 2000 through June 2010, the number of strikes per year ranged from none (2000 and 2003) to five (2007) and averaged two to three strikes per year, but the actual number is likely to be greater because not all strikes are reported. The type of vessel involved often was not known, but of the 23 reported strikes two involved U.S. Naval vessels, three involved commercial island passenger catamarans, four involved freighters at the Port Complex, and in one incident a gray whale breached and landed on top of a small pleasure craft.

In Southern California, potential strikes to blue whales are of the most concern, in part due to low population numbers compared to historical populations. Blue whales normally pass through the Santa Barbara Channel en route from breeding grounds in Mexico to feeding grounds farther north, a migration pattern along the California coast that at times runs perpendicular to the established shipping channels in and out of California ports, increasing the opportunities for whale/vessel collisions. Blue whales were historically a target of commercial whaling activities worldwide, but are now protected from whaling. In the North Pacific, the pre-whaling population is estimated to have been approximately 4,900 individuals; the recent population estimate is approximately 1,400 blue whales (Carretta et al., 2009). Along the California coast, there is evidence that despite vessel strikes blue whale abundance has increased over the past three decades (Calambokidis et al., 1990; Barlow, 1995 and Calambokidis, 1995; Carretta et al., 2009).

According to NMFS records, the average number of blue whale mortalities in California attributed to ship strikes was 0.2 per year from 1991 to 1995 and from 1998 to 2002; the average blue whale mortality was 0.6 per year from 2002 to 2006 (Carretta et al., 2009). However, in fall 2007, four blue whales were found dead in southern California, and at least three of these were likely killed by ship strikes (Berman-Kowalewski et al., 2010). Blue whales were more abundant in the Santa Barbara Channel during 2007 than has been measured since annual surveys began in 1992 (Berman-Kowalewski et al., 2010). The deaths of four blue whales in one year exceeded the previous annual regional maximum (three blue whales in 1998 and 2002). Other potential causes of whale mortality in the region include domoic acid, mid-frequency acoustic testing, ambient noise, and infectious disease (Abramson and Petras, 2009).

Vessel speed seems to influence whale/ship collision incidences. The Jensen and Silber whale-strike database (Jensen and Silber, 2003) reports that there are 134 cases of known vessel strikes in U.S. coastal waters. Of these 134 cases, 14.9 percent (20 cases) involved container/cargo ships/freighters, and 6.0 percent (eight cases) involved tankers. The remaining incidents involved Navy vessels (17.1 percent, or 23 cases), whale-watching vessels (14.2 percent, or 19 cases), cruise ships/liners (12.7 percent, or 17 cases), ferries (11.9 percent, or 16), Coast Guard vessels (6.7 percent, or nine cases), recreational vessels (5.2 percent, or six cases), and fishing vessels (3.0 percent, or four cases). One collision (0.75 percent) was reported from each of the following: dredge boat, research vessel, pilot boat, and whaling catcher boat. Of the 134 cases, vessel speed was known for 58 cases. Of these 58 cases, most vessels were traveling in the ranges of 13 to 15 knots, followed by speed ranges of 16 to 18 knots and 22 to 24 knots.

According to a report from NOAA, which was based on information in the Jensen and Silber (2003) whale-strike database and on Laist et al. (2001), the majority of vessel collisions with whales occurred at speeds between 13 and 15 knots (NOAA, undated). Specifically, NOAA recommends:

> *Overall, most ship strikes of large whale species occurred when ships were traveling at speeds of 10 knots or greater. Only 12.3% of the ship strikes in the Jensen and Silber database occurred when vessels were traveling at speeds of 10 knots or less. While vessel speed may not be the only factor in ship/whale collisions, data indicate that collisions are more likely to occur when ships are traveling at speeds of 14 knots or greater. This strongly suggests that ships going slower than 14 knots are less likely to collide with large whales. Therefore, NOAA Fisheries recommends that speed restrictions in the range of 10-13 knots be used, where appropriate, feasible, and effective, in areas where reduced speed is likely to reduce the risk of ship strikes and facilitate whale avoidance.*

3.3.2.5.1 California Least Tern

The California least tern was federally listed as endangered 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 (USFWS, 1992). The biology of this species has been described in the biological assessment for the *Channel Improvement and Landfill Development Feasibility Study* (USACE, 1990), biological opinion for the Los Angeles Harbor Development Project (1-6-92-F-25), and *Deep Draft Navigation Improvement EIS/EIR* (USACE and LAHD, 1992), and these studies are incorporated by reference. The following is a summary of information on California least tern use of the Los Angeles Harbor.

The California least tern has been nesting during the summer on Terminal Island (including Pier 300) since at least 1974 (Keane Biological Consulting, 1999a). In 1979, the LAHD began providing nesting habitat for the species and entered into a Memorandum of Agreement (MOA) with the U.S. Fish and Wildlife Service (USFWS), USACE, and California Department of Fish and Game (CDFG) for management of a 15-acre least tern nesting site in 1984. This MOA set forth the responsibilities of the signing parties for management of the designated California least tern nesting site in the Harbor, and it is renewed every three to five years. A new MOA was approved by the Board of Harbor Commissioners in June 2006. The MOA also allows the designated

nesting site to be relocated under specific conditions, and the location of this nesting site has changed over time due to Port development activities and is now on the southern tip of Pier 400 (Keane Biological Consulting, 2003). In 1997, the only successful nesting occurred on the newly constructed Pier 400. In 1998, the Pier 300 nesting site was decommissioned (Keane Biological Consulting, 1999). Least tern nesting in the Harbor has been monitored annually since 1973. The number of nests in the Harbor varied from 0 to 134 between 1973 and 1994. The number steadily increased from 16 in 1995 to 565 in 2000, with decreases in 2001 and 2002, and an increase to 1,071 in 2004 and 1,332 in 2005 (Keane Biological Consulting, 2008). The number of nests declined from 2006 through 2010 to a total of 216 nests (Keane Biological Consulting, 2010). In 2009, nesting at Pier 400 accounted for 12.4 percent of the total fledglings in the Los Angeles and Orange county areas, and approximately 4 percent of statewide fledglings (Keane Biological Consulting, 2009). This is a marked decrease from 2005, when nesting at Pier 400 accounted for 71.4 percent of total fledglings in Los Angeles and Orange counties and 45 percent of the statewide number of fledglings.

Several foraging studies have been conducted in the Harbor. The 1982, 1984, and 1985 surveys found that California least tern foraged over shallow water (generally less than 20 ft deep) in the Outer Harbor, especially near the nesting site, but not in the Inner Harbor (Keane Biological Consulting, 1997). Surveys using radio-telemetry and observations in 1986 and 1987 showed that the California least terns foraged inside and outside the Harbor during egg incubation. More foraging occurred near the breakwater than adjacent to Terminal Island during incubation, but this reversed after the eggs hatched (Keane Biological Consulting, 1997). In the 1994-1996 surveys, least terns foraged around the east and south sides of Pier 300 with greater use of the Seaplane Anchorage in 1996 than in the other 2 years. After the south side of Pier 300 was dredged to deep water, use by the California least terns declined. The Cabrillo Beach and Cabrillo saltmarsh areas were used to varying degrees (Keane Biological Consulting, 1997). A study in 1997 and 1998 found that the California least terns used the West Basin of Long Beach Harbor as well as the Pier 300 Shallow Water Habitat, Seaplane Lagoon, and the Gap (the area between Naval Mole and Pier 400 Transportation Corridor). The foraging frequency (dives per acre) varied among locations and between years. This variation may be related to changes in availability of prey and distance from nest sites (Keane Biological Consulting, 1998). These studies have shown that Outer Harbor shallow water areas (less than 20 ft deep) provide important foraging areas for the California least tern. During the year-long avian surveys of 2007-8, California least terns were present from May through July 2008, as is typical, and observed in the waters of the Pier 300 Shallow Water Habitat in May and June 2008 (SAIC, 2010). The majority of the observations during the study were recorded near the Pier 400 nesting site, where California least terns were observed flying and foraging. In summary, the foraging studies show that the California least terns forage primarily in the Outer Harbor and not in the channels, basins, and slips of the Inner Harbor.

From 1994 through 2002, the Pier 300 Shallow Water Habitat and the channel south of Pier 300 supported the highest foraging preference by California least terns (Keane Biological Consulting, 2003b). The foraging preference scores were calculated using the ratio between observed foraging dives and foraging flights. During the eight-year study, California least tern foraging trends were stable in the Pier 300 Shallow Water Habitat, but foraging decreased in the channel south of Pier 300.

In 2003, foraging showed three peaks: early to mid-May (egg-formation period), mid-June (chick hatching period), and early to mid-July (fledging period) (Keane Biological Consulting and Aspen Environmental Group, 2004). In 2003, foraging outside the Harbor increased in relation to that of the previous 2 years. Stations with deep-water habitats accounted for 29 percent of California least tern foraging dives in the Harbor in 2003, compared with 71 percent for stations with shallow-water habitats.

3.3.2.6 Wildlife Movement Corridors

The Conservation Element of the City of Los Angeles General Plan addresses wildlife corridors. These are for movement of animals between large habitat areas. The Harbor does not provide any such corridors. However, some marine fish species move into and out of the Harbor for spawning or nursery areas.

3.3.2.7 Invasive Species

There are at least 196 non-native aquatic species in the Los Angeles and Long Beach Harbor (CDFG, 2008). The occurrence of non-native species is also discussed above under each habitat type. Without controlling pressures found in a native ecosystem, invasive species can compete with or prey upon resident species and thus alter the local ecology, which can have economic effects as well. Invasive species in the Port Complex include a Japanese brown alga (Sargass*um muticum*), New Zealand bubble snail, Japanese mussel (*Musculista senhousia*), an isopod (*Sphaeroma quoyanum*), and yellowfin goby. Another species of *Sargassum* (*S. horneri*) was discovered in Long Beach Harbor during annual subtidal surveys in Long Beach Harbor in 2003 (MBC, 2009b). The primary source of invasive organisms is likely to have been the discharge of ballast water from cargo vessels using the ports (NRC, 1996). Other potential vessel sources include hulls, anchors and chains, piping and tanks, propellers, and suction grids, while non-vessel sources include aquarists and restaurant live fish trade.

During the 2008 surveys, when comparing results to the 2000 survey, the same fish and alga taxa were collected or observed, but there were fewer non-indigenous riprap invertebrate species (12) and soft-bottom associated infauna and epifauna species (10). The number of cryptogenic species (those with unknown origin) was similar between the two periods for infauna/epifauna (35 species in 2000 and 32 in 2008), but increased for riprap invertebrates (13 species in 2000 and 31 in 2008; SAIC, 2010). The authors of the report noted that this could have resulted from increased knowledge and distinction of cryptogenic species made in the last five years. Overall, however, the percentage of introduced and cryptogenic species identified in the 2008 study was similar to that reported for the 2000 study (SAIC, 2010).

The aquarium strain of *Caulerpa* (*Caulerpa taxifolia*) is an invasive alga that has covered more than 30,000 acres in the Mediterranean Sea and is listed as a federal noxious weed under the Plant Protection Act. *Caulerpa* was found in two southern California locations in 2000. This species has never been identified in Los Angeles-Long Beach Harbor, but is of particular concern because it is a fast-growing green alga native to tropical waters where it typically grows in isolated patches. However, in areas outside its native range, *Caulerpa* can grow rapidly and quickly overtake native species. In the Mediterranean, *Caulerpa* has caused ecological devastation by overwhelming local seaweed species and altering fish distributions. Its rampant growth also has resulted in huge economic losses by harming tourism, pleasure boating, fishing, and the diving industry. Species of

Caulerpa are used in the aquarium trade and can enter coastal marine waters through disposal of the plants or aquarium water into storm drains or coastal waters. Due to its potential to create severe ecological and economic losses, a *Caulerpa* survey must be completed in accordance with the *Caulerpa* Control Protocol prior to specific underwater disturbances (such as bulkhead repair, dredging, and placement of navigational aids) (NMFS and CDFG, 2008).

3.3.2.8 Significant Ecological Areas

The County of Los Angeles has established Significant Ecological Areas (SEAs) to preserve a variety of biological communities for public education, research, and other non-disruptive outdoor uses. SEAs do not preclude limited development that is compatible with the biological community. Policies and regulations for SEAs do not apply within city boundaries. No SEAs are present on Pier 300. The closest designated SEA, and the only SEA located in the Harbor, is the Terminal Island SEA, which is located at the Pier 400 California least tern nesting site (County of Los Angeles, 1980, 2008).

3.3.2.9 Essential Fish Habitat (EFH)

In accordance with the 1996 amendments to the Magnuson-Stevens Fishery Management and Conservation Act, an assessment of EFH was prepared for the proposed Project and alternatives, which includes impacts of dredging and wharf construction along Berths 302-305 and the 41-acre fill site (Appendix F3). The proposed Project/alternative area is located in an area designated as EFH for two Fishery Management Plans (FMPs): the Coastal Pelagics and Pacific Groundfish Management Plans. Of the 95 species federally managed under these plans, 24 are known to occur in the Port Complex and could potentially be affected by the proposed Project or alternatives (Appendix F3). However, most of these 24 species have been collected only sporadically and in very low numbers, and habitat near the proposed Project site is not suitable for these species. The species with the highest potential to be affected by the proposed Project/alternatives are identified in Table 3.3-5.

Two coastal pelagic - northern anchovy and Pacific sardine - are likely to occur in the vicinity of the proposed Project. As summarized in Appendix F3, northern anchovy is among the most common and abundant fish species in the Port Complex. In 2006, larvae were present in the Port Complex during two seasonal periods: a greater peak in March-July and a lesser peak in October-December (MBC et al., 2007). Juvenile and adult anchovies have consistently been collected during fish sampling near the proposed Project site (MEC and Associates, 2002; SAIC, 2010). Northern anchovy are found from the surface to depths of 1,017 ft, though juveniles are generally more common inshore and in estuaries (Davies and Bradley, 1972).

Pacific sardine were not abundant during 2006 ichthyoplankton sampling throughout the Port Complex; two sardine larvae were collected in the Outer Harbor in April 2006 (MBC et al., 2007). This species is also less common than northern anchovy near the proposed Project site (MEC and Associates, 2002; SAIC, 2010). Pacific sardine is epipelagic, occurring in loosely aggregated schools (Wolf et al., 2001).

Jack mackerel (*Trachurus symmetricus*) and Pacific mackerel (*Scomber japonicus*) have been collected in Harbor, but in much lower frequency and numbers than northern

anchovy and Pacific sardine. While no mature market squid (*Doryteuthis opalescens*) have been reported in recent surveys, market squid paralarvae were collected in Inner and Outer Harbor areas in 2006 (MBC et al., 2007). All coastal pelagics are associated with the water column (as opposed to the seafloor like many of the groundfish); however, female squid also lay egg masses on sandy bottoms during spawning (at depths of about 16-180 ft, with most occurring between 66-115 ft) (PFMC, 1998).

None of the species covered under the Pacific Groundfish FMP are considered abundant in the area of the proposed Project. However, many are associated with hard substrate, kelp, and/or eelgrass (*Zostera marina*), which are less frequently sampled habitats than soft bottoms. Pacific sanddab (*Citharichthys sordidus*) is considered common in the vicinity of the proposed Project because it was collected by trawl in all three of the Harbor-wide biological studies, though not in great numbers (MEC 1988; MEC and Associates, 2002; SAIC, 2010). One individual was collected in 1986, 51 were collected in 2000, and 171 were collected in 2008. English sole (*Parophrys vetulus*) has also been collected during all three trawl studies, but in relatively low numbers: one individual in 1986, three individuals in 2002, and 24 individuals in 2008. Larvae of English sole were also collected in 2008. English sole prefer soft bottoms from 60 to 1,000 ft, while Pacific sanddab are found between 30 and 1,800 ft (Miller and Lea, 1972).

California skate (*Raja inornata*) and big skate (*R. binoculata*) were collected by trawl during the biological surveys of the Harbor, although only 23 California skate were collected in 2008, and no big skate were collected. Like English sole, California skate has been collected in all three Harbor-wide biological surveys, whereas big skate was only collected in 2002. Both species prefer soft-bottom habitat, although California skate occurs in much deeper waters (60 to 2,200 ft) than big skate (10 to 360 ft) (Miller and Lea, 1972). California scorpionfish (*Scorpaena guttata*) is another species collected in all three Harbor-wide surveys, with 11 individuals in 2008. Vermilion rockfish (*Sebastes miniatus*) was only collected in 2002 (four individuals) and 2008 (20 individuals). Vermilion rockfish occur between 20 and 1,440 ft, but are most common between 165 and 495 ft. Juveniles are common in shallower water (20 to 120 ft), where they hover over sand patches near algae or structures, including pier pilings (Love et al., 2002). The remaining species in the table have only been collected sporadically and in low numbers.

Table 3.3-5: Managed Fish/invertebrate Species Most Likely to Occur off Pier 300 in Los Angeles Harbor Based on Past Occurrences

Common Name	Potential Habitat Use	Larval Occurrence[1,2,4]	Juv./Adult Occurrence[2,3,4,5]
Coastal Pelagics			
northern anchovy	Open water.	Abundant	Abundant
Pacific sardine	Open water.	Uncommon	Common
Pacific (chub) mackerel	Open water, juveniles off sandy beaches and around kelp beds.	-	Uncommon
jack mackerel	Open water, young fish over shallow banks and juveniles around kelp beds.	Rare	Uncommon
market squid	Open water. Rare near bays, estuaries, and river mouths.	Rare	-
Pacific Groundfish			
English sole	Soft bottom habitats.	Rare	Uncommon
Pacific sanddab	Soft bottom habitats.	Rare	Common
butter sole	Soft bottom habitats.	Rare	-
black rockfish	Along breakwater, near deep piers and pilings. Associated with kelp, eelgrass, high relief reefs.	-	Rare
bocaccio	Multiple habitat associations, including soft and hard bottom, kelp, eelgrass, etc.	-	Rare
brown rockfish	Multiple habitat associations but prefer hard substrata and rocky interfaces.	-	Rare
calico rockfish	Multiple habitat associations but 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.	-	Uncommon
lingcod	Multiple habitat associations but prefer hard substrata and rocky interfaces.	-	Rare
cabezon	Multiple habitat associations but prefer hard substrata and rocky interfaces.	Rare	Rare
Pacific hake	Common offshore, juveniles in open water.	Rare	-
leopard shark	Multiple habitat associations, including soft bottoms, and near structure, kelp, and eelgrass.	N/A	Rare
spiny dogfish	Pelagic and on muddy bottoms.	N/A	Rare
big skate	Soft bottom habitat.	N/A	Rare
California skate	Soft bottom habitat.	N/A	Uncommon

Sources: 1 – MBC et al. (2007), 2 – MEC and Associates (2002), 3 – MBC (2009a,b), 4 – SAIC (2010), 5 – MEC (1999). N/A = Not applicable, internal fertilization. Abundant>Common>Uncommon>Rare.
Note - Most rockfish larvae not identifiable to species.

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3.3.2.10 Wetlands and Other Special Habitats

3.3.2.10.1 Wetlands

Wetlands are regulated under the Clean Water Act (CWA). 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 to 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 wetlands are at Inner Cabrillo Beach in the Outer Harbor, about 2.5 miles from the proposed Project site.

3.3.2.10.2 Eelgrass Beds

Eelgrass beds, as with wetlands, are considered "special aquatic sites" under the CWA (40 CFR Part 230). 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, and shelter for a variety of marine organisms. Most eelgrass beds in bays or estuaries are found in water less than 20 ft deep with light being the primary limiting factor. Surveys of the Harbor in 2000 and 2008 documented eelgrass along Inner Cabrillo Beach and in three beds in the Pier 300 Shallow Water Habitat/Seaplane Lagoon area (MEC and Associates, 2002; SAIC, 2010). Total coverage for the three beds in the Pier 300 Shallow Water Habitat/Seaplane Lagoon area changed little in the eight years between Harbor-wide studies: 28.5 acres in March 2000 to 30.6 acres in April 2008 (Figure 3.3-2).

In addition, recent sampling of sediments along Berth 306 (June 2010) confirmed the absence of eelgrass in the Pier 300 Channel along the proposed Berth 306 area (the only area along the berths shallow enough to support eelgrass).

Data from SAIC, 2010

Figure 3.3-2: Location of eelgrass in the adjacent to the proposed Project site, September 2008.

3.3.2.10.3 Kelp Beds

In 2000, giant kelp (*Macrocystis pyrifera*) beds were present in the Outer Harbor along the breakwaters, on the outer riprap of Pier 400, at the entrance East Channel, Main Channel, and Fish Harbor and on the containment dike for the Cabrillo shallow water habitat (MEC and Associates, 2002). Total canopy coverage was estimated at 24.8 acres in spring 2000, and 14.2 acres in fall 2000 (MEC and Associates, 2002). Canopy coverage of giant kelp at these locations in 2008, however, was estimated at 77.8 acres in spring 2008 and 50.4 acres in fall 2008 (SAIC, 2010). The nearest kelp beds to the proposed Project site are located south and west of the entrance to Fish Harbor. Because the majority of kelp distribution in the Port Complex is located at the outer breakwaters, and riprap structures in the Outer Harbors that face harbor entrances (SAIC, 2010), giant kelp is not expected to occur in areas adjacent to the proposed Project.

In separate studies, giant kelp growing along the breakwaters in the Outer Harbor of the Port Complex has been quantified annually since 2005. Canopy coverage has ranged between 29.2 acres in 2007 and 122.1 acres in 2006 (MBC, 2009c). Coverage in 2008 was 52.6 acres.

3.3.2.10.4 Mudflats

The shoreline at and near the proposed Project site is rock riprap with wharves. No mudflats, which are also considered a "special aquatic site" under the CWA (40 CFR Part 230), are present at the proposed Project site. The nearest known mud flat habitats are located at Berth 78 along the west side of Main Channel and at Salinas de San Pedro Salt Marsh, which are approximately 2.5 miles from the proposed Project site.

3.3.3 Applicable Regulations

3.3.3.1 Clean Water Act

The Clean Water Act (33 U.S.C Section 1251 *et seq*.) provides for the restoration and maintenance of the physical, chemical, and biological integrity of the waters of the United States. 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 discharges. The NPDES program was expanded in 1987 to regulate non-point source stormwater discharges (runoff) originating from municipal and industrial sources.

Under the USEPA and USACE implementing regulations (40 CFR 230 and 33 CFR 320 – 332), USACE issues Section 404 permits for discharge of dredged or fill materials into waters of the United States, including wetlands and other special aquatic sites. A Section 401 Water Quality Certification or waiver from the Regional Water Quality Control Board (RWQCB) is required for issuance of a Section 404 permit. Additional CWA water quality permitting requirements may include 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 State Water Resources Control Board (SWRCB) for projects that will disturb one or more acres. These regulations are discussed in greater detail in Section 3.14, Water Quality, Sediments, and Oceanography.

In southern California, discharge of dredged or fill material is regulated under Section 404 of the Clean Water Act. Dredging in navigable waters is defined as "work" and requires a permit under Section 10 of the Rivers and Harbors Appropriations Act. Because the proposed Project and Project alternatives are not expected to discharge dredged or fill material to Waters of the U.S., a Section 404(b)(1) evaluation is not required. The transportation of dredged materials to approved ocean disposal sites is regulated under Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972 (MPRSA; see Section 3.3.3.10, below). Disposal of dredged material at the LA-2 Ocean Dredged Material Disposal Site would be conducted only if the dredged material met the permitted volume and sediment quality requirements for these sites. Effects from disposal of dredged material at LA-2 were evaluated during the LA-2 site designation process (prior to approval) and were determined to be insignificant.

Disposal of dredge material from the proposed Project (or alternative) would occur at a CDF, with return water to the Harbor. The CDF, however, has already been permitted under Section 404.

Sediments from the proposed dredging area were tested using standard USEPA/USACE protocols according to an approved Sampling and Analysis Plan (SAP) prior to dredging to determine the suitability of the material for unconfined, aquatic disposal or other disposal alternatives. Sediments are proposed to be used for both (1) fill at the Cabrillo shallow water habitat in the Outer Harbor, and (2) for use in CDF in the Harbor, both of which already have Corps authorization under Section 404 of the CWA.

3.3.3.2 Rivers and Harbors Appropriations Act of 1899

Sections 9 and 10 of the Act (33 U.S.C. Section 401 *et seq*.) regulate work and structures in, over, and under navigable waters of the U.S., including dredging, filling, and bridges. Section 9 pertains to bridges and causeways and is administered by the U.S. Coast Guard. Under Section 10, the USACE issues permits for work and structures in, over, and under navigable waters.

3.3.3.3 Federal Endangered Species Act

The Federal Endangered Species Act (ESA) (16 U.S.C. 1531 *et seq*.) protects threatened and endangered species, and designated critical habitat, from unauthorized take. Section 9 prohibits such take, 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 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. The USFWS and NMFS 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 the USFWS and/or NMFS under Section 7. The Biological Opinion issued at the conclusion of that consultation may include a statement authorizing incidental take[3].

3.3.3.4 Magnuson-Stevens Fishery Conservation and Management Act

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

3.3.3.5 Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) (16 U.S.C. Section 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

[3] The ESA does not allow incidental take of listed plants or their critical habitat.

season. Under certain circumstances, a depredation permit can be issued to allow limited and specified take of migratory birds.

3.3.3.6 California Fish and Game Code, Section 1600

Section 1600 *et seq.* of the Fish and Game Code requires notification of the CDFG before activities that would substantially alter the bed, bank, or channel of a stream, river, or lake, including obstructing or diverting the natural flow. This applies to all perennial, intermittent, and ephemeral water bodies as well as the associated riparian vegetation that are used by fish and wildlife resources. CDFG may or may not assert jurisdiction over coastal or port areas including shipping channels. Activities that have the potential to affect jurisdictional areas can be authorized through issuance of a Lake or Streambed Alteration Agreement (LAA/SAA). The LAA/SAA specifies conditions and mitigation measures that will minimize impacts to riparian or aquatic resources from proposed actions.

3.3.3.7 California Endangered Species Act

The California Endangered Species Act (California Fish and Game Code Section 2050 *et seq*.) provides for the protection of rare, threatened, and endangered plants and animals, as recognized by the CDFG, and prohibits the taking of such species without authorization by CDFG under Section 2081 of the Fish and Game Code. State lead agencies must consult with CDFG during the 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, compliance with the federal ESA will satisfy the state Act if CDFG determines that the federal incidental take authorization is consistent with the state Fish and Game Code (Section 2080.1).

3.3.3.8 Ballast Water Management for Control of Nonindigenous Species Act

California PRC Section 71200 *et seq*. (enacted January 1, 2000), and as amended by Assembly Bill (AB) 433 in September 2003, requires ballast water management practices for all vessels, domestic and foreign, carrying ballast water into waters of the state after operating outside the Exclusive Economic Zone (EEZ), which includes waters within 200 nautical miles from shore). Specifically, the regulation prohibits ships from discharging ballast water in Harbor waters unless they have performed an exchange outside the EEZ in deep, open ocean waters. Alternatively, ships may retain water while in port, discharge to an approved reception facility, or implement other similar protective measures. Each ship must also develop a ballast water management plan to minimize the amount of ballast water discharged in the Harbor. The Act also requires an analysis of other vectors for release of non-native species from vessels. Rules for vessels originating in the Pacific Coast Region took effect in March 2006. Ships must now exchange ballast water on coastwise voyages. Regulations currently under consideration for future years (2011-2022) will require phase-in of ballast water treatment performance standards, first for newly constructed ships and then for existing ships.

3.3.3.9 Marine Mammal Protection Act

The Marine Mammal Protection Act (MMPA) (16 U.S.C. Section 1361 *et seq*.) prohibits the taking (including harassment, disturbance, capture, and death) of any marine mammals, except as set forth in the act. The NMFS and the USFWS administer this Act. Species found in the Harbor are under the jurisdiction of NMFS.

3.3.3.10 Marine Protection, Research, and Sanctuaries Act of 1972

The Marine Protection, Research, and Sanctuaries Act of 1972 (MPRSA) (33 U.S.C. Section 1401 *et seq.)* regulates the transportation and ultimate disposal of material in the ocean, prohibits ocean disposal of certain wastes without a permit, and prohibits the disposal of certain materials entirely. Prohibited materials include those that contain radiological, chemical, or biological warfare agents, high-level radiological wastes, and industrial waste. The MPRSA has jurisdiction over all U.S. ocean waters in and beyond the territorial sea (within 12 nautical miles of the nearest shoreline), vessels flying the U.S. flag, and vessels leaving U.S. ports. Section 102 of the MPRSA authorizes the USEPA to promulgate environmental criteria for evaluation of all disposal permit actions, to retain review authority over the USACE MPRSA Section 103 permits, and to designate ocean disposal sites for dredged material disposal.

3.3.4 Impacts and Mitigation Measures

3.3.4.1 Methodolog y

Impacts to biota were assessed by estimating the amount of habitat that would be gained/lost or disturbed, through analysis of water quality and sediment analyses results (see Section 3.14, Water Quality, Sediments, and Oceanography), based on biological resources that may be present or may use the undeveloped 41-acre fill area adjacent to the existing APL Terminal site (such as terns), and from preparer expertise and judgment. The assessment of impacts is based on the assumption that the proposed Project (and each alternative) will include the following:

- A Section 401 (of the CWA) Water Quality Certification from the RWQCB for construction dredging activities that contains conditions including standard Waste Discharge Requirements (WDRs).
- A Rivers and Harbors Act Section 10 permit from the USACE for dredging and wharf construction activities in waters of the U.S. An MPRSA Section 103 permit would be required for ocean transport and disposal of qualifying material at a designated ocean site (LA-2).
- No discharge of dredged or fill material to Waters of the U.S. requiring a Section 404(b)(1) evaluation is anticipated. In addition, no upland disposal in which a 404 permit would be needed for return water is anticipated.
- During dredging, an integrated multi-parameter monitoring program shall be implemented by the Port's Environmental Management Division in compliance with both USACE and RWQCB permit requirements, wherein dredging performance is measured *in situ*. The objective of the monitoring program shall be adaptive management of the dredging operation, whereby potential exceedances of water quality objectives can be measured and dredging operations subsequently modified. If potential exceedance levels are approached, the Port's Environmental Management

Division shall immediately meet with the construction manager to discuss modifications of dredging operations to reduce turbidity and to keep it at acceptable levels. This could include alteration of dredging methods, and/or implementation of additional Best Management Practices (BMPs) such as a silt curtain (which may be required by permit conditions). An individual NPDES permit for construction stormwater discharges or coverage under the General Construction Activity Storm Water Permit will be obtained for the onshore portions of the proposed Project (and alternatives).

- Sediments suitable for unconfined aquatic disposal from the proposed dredging area would be used as fill at the Cabrillo shallow water habitat in the Outer Harbor, potentially used in the Los Angeles Harbor Berths 243-245 CDF, and potentially disposed of at the LA-2 ODMDS. Sediments unsuitable for unconfined aquatic disposal would be used for fill in the CDF. Ocean disposal at LA-2 would require Corps authorization under the MPRSA.
- The tenant would obtain and implement the stormwater discharge permits (such as the General Industrial Permit). In addition Standard Urban Stormwater Management Plan (SUSMP) requirements for the development of the 41 acres and any applicable redevelopment would be implemented. These are described in detail in Section 3.14, Water Quality, Sediments, and Oceanography.
- Spill Prevention, Control, and Countermeasure Regulations - The Oil Spill Prevention, Control, and Countermeasure (SPCC) regulations require that the Port have in place measures that help ensure oil spills do not occur, but if they do, that there are protocols in place to contain the spill and neutralize the potential harmful impacts. An SPCC plan and an Oil Spill Contingency Plan (OSCP) would be prepared that would be reviewed and approved by the Regional Water Quality Control Board (for the SPCC) or the California Department of Fish and Game Office of Spill Prevention and Response, in consultation with other responsible agencies. The SPCC and OSCP plans would detail and implement spill prevention and control measures.

3.3.4.1.1 CEQA Baseline

Section 15125 of the CEQA Guidelines requires EIRs to include a description of the physical environmental conditions in the vicinity of a project that exist at the time of the NOP. These environmental conditions normally would constitute the baseline physical conditions by which the CEQA lead agency determines if an impact is significant. For purposes of this Draft EIS/EIR, the CEQA baseline for determining the significance of potential Project impacts is the environmental set of conditions that prevailed at the time the NOP was published for the proposed Project - July 2009. The CEQA baseline takes into account the throughput for the 12-month period preceding July 2009 (July 2008 through the end of June 2009) in order to provide a representative characterization of activity levels throughout the year. The CEQA baseline conditions are described in Section 2.6.1. The CEQA baseline for this proposed Project includes approximately 1.13 million TEUs per year, 998,728 annual truck trips, and 247 annual ship calls that occurred on the 291-acre APL Terminal in the year prior to and including June 2009.

The CEQA baseline represents the setting at a fixed point in time and differs from the No Project Alternative (Alternative 1) in that the No Project Alternative addresses what is likely to happen at the proposed Project site over time, starting from the existing conditions. Therefore, the No Project Alternative allows for growth at the proposed

Project site that could be expected to occur without additional approvals, whereas the CEQA baseline does not.

3.3.4.1.2 NEPA Baseline

For purposes of this Draft EIS/EIR, the evaluation of significance under NEPA is defined by comparing the proposed Project or other alternative to the NEPA baseline. The NEPA baseline conditions are described in Section 2.6.2. Briefly, the NEPA baseline condition for determining significance of impacts includes the full range of construction and operational activities the applicant could implement and is likely to implement absent a federal action, in this case the issuance of a USACE permit. The NEPA baseline includes minor terminal improvements in the upland area (i.e., conversion of a portion of the dry container storage unit area to reefers and utility infrastructure), operation of the 291-acre container terminal, and assumes that by 2027, the terminal (Berths 302 to 305) handles up to approximately 2.15 million TEUs annually and accommodates 286 annual ships calls and 2,336 on-way rail trips, without any federal action. Because the NEPA baseline is dynamic, it includes different levels of terminal operations at each study year (2012, 2015, 2020, 2025, and 2027).

Unlike the CEQA baseline, which is defined by conditions at a point in time, the NEPA baseline is not bound by statute to a "flat" or "no-growth" scenario. Therefore, the USACE could project increases in operations over the life of a project to properly describe the NEPA baseline condition. Normally, any federal permit decision would focus on direct impacts of the proposed Project to the aquatic environment, as well as indirect and cumulative impacts in the uplands determined to be within the scope of federal control and responsibility. Significance of the proposed Project or alternative under NEPA is defined by comparing the proposed Project or alternative to the NEPA baseline (i.e., the increment).

The NEPA baseline, for purposes of this Draft EIS/EIR, is the same as the No Federal Action Alternative. Under the No Federal Action Alternative, only minor terminal improvements (utility infrastructure, and conversion of dry container storage to refrigerated container storage) would occur, but no new cranes would be added, and the terminal configuration would remain as it was configured in 2008 (291 acres, 12 A-frame cranes, and a 4,000-ft wharf). However, forecasted increases in cargo throughput and annual ship calls would still occur as container growth occurs.

3.3.4.2 Thresholds of Significance

The significance criteria have been developed using the *L.A CEQA Thresholds Guide* (City of Los Angeles, 2006). They were modified to better assess impacts of the proposed Project and alternatives. Consequently, criterion BIO-2 has been modified to delete locally designated species (because none are present) and to include state and federally designated habitats (e.g., EFH, mudflats, and wetlands), criterion BIO-3 has been modified to cover species other than sensitive species, and BIO-4 has been deleted because it is now included in BIO-2. BIO-5 is now BIO-4 and has been modified to address only disruption of local biological communities, and a new criterion, BIO-5, has been added for permanent loss of marine habitat, which is evaluated under construction impacts. Aerial deposition impacts are addressed in Section 3.14, Water Quality, Sediments, and Oceanography. Impacts of the proposed Project/alternative on biological resources are considered to be significant if the project would result in any of the following:

BIO-1 The loss of individuals, or the reduction of existing habitat, of a state or federally listed endangered, threatened, rare, protected, or candidate species, or a Species of Special Concern or the loss of federally designated critical habitat

BIO-2 A substantial reduction or alteration of a state, federally, or locally designated natural habitat, special aquatic site, or plant community, including wetlands

BIO-3 Interference with wildlife movement/migration corridors that may diminish the chances for long-term survival of a species

BIO-4 A substantial disruption of local biological communities (e.g., from construction impacts or the introduction of noise, light, or invasive species)

BIO-5 A permanent loss of marine habitat (from proposed Project/alternative construction)

The potential impacts are divided into construction and operation; hence the thresholds are labeled further (i.e., Impact BIO-1a, Impact BIO-1b, etc.). The disruption to local biological communities (BIO-4) is evaluated for both construction (BIO-4a: effects due to noise, shading, turbidity, introduction of invasive species, and so on from dredging and wharf construction) and operation (BIO-4b: effects due to increased vessel traffic, runoff, accidental spills, and so on; and BIO-4c: effects due to introduction of invasive species from operations).

3.3.4.3 Impact Determination

3.3.4.3.1 Proposed Project

3.3.4.3.1.1 Construction Impacts

Impact BIO-1a: Construction activities could cause a loss of individuals or habitat of a state- or federally listed endangered, threatened, rare, protected, or candidate species, or a Species of Special Concern or the loss of federally listed critical habitat.

Listed and other sensitive species in the Harbor that could use the water surface and shoreline and potentially be displaced or affected during construction include: two endangered bird species (California least tern and Belding's savannah sparrow); one threatened bird species (western snowy plover); and 14 other bird species with state and/or federal protection or designation (see Table 3.3-4). California sea lions are common in the Harbor and harbor seals occasionally can be seen resting on riprap or buoys in various locations throughout the Harbor. Established roosting areas for birds occur along the breakwaters, particularly the Middle Breakwater, which is isolated from human access. However, the proposed Project would not affect these locations as work is proposed well away from them (a distance of approximately 1.6 miles). Elegant terns and Caspian terns nested at the 41-acre backlands in 2008 and 2009. In April 2010, elegant terns and Caspian terns began nesting at the 41-acre area, but the nesting was abandoned a week later. No further nesting activities by Caspian or elegant terns were observed at the backlands of Berth 305 or elsewhere in the Los Angeles Harbor in 2010, aside from limited nesting on Connolly Pacific barges from April through July (Keane, pers. comm., 2011). Development of this site would result in habitat that would

be unsuitable for future elegant and Caspian tern nesting. No critical habitat for any federally listed species is present at the proposed Project/alternative sites.

Dredging and wharf construction could affect water-associated birds and marine mammals through temporary increases in noise, vibration, and turbidity, as well as the potential for displacement of individuals from the work area. However, these birds and marine mammals would be able to use other areas in the Harbor if construction activities occurred when they were present and if the disturbances caused them to avoid the work area. With the exception of potential noise impacts during pile-driving (discussed further below), other construction disturbances are considered insignificant.

Dredging activities and the resultant temporary turbidity have the potential to affect foraging by bird species in the general area, such as elegant, Caspian, and least terns. However, impacts would be temporary, limited to the construction areas, and conditions would return to normal after conclusion of dredging activities. Moreover, high levels of turbidity and total suspended solids are usually not measured during dredging operations in southern California (Anchor Environmental, 2003). In addition, implementation of required water quality monitoring during dredging according to the requirements of the RWQCB, as well as implementation of standard dredging BMPs via adaptive management of the dredging would keep these impacts to a less than significant level.

Foraging in the vicinity of the proposed Project could also continue with no adverse effects to bird species; California least terns have been observed foraging in dredge plumes in Long Beach Harbor (Moore, pers. comm., 2010). All three tern species prefer to forage in shallower waters, and the waters of the Shallow Water Habitat likely provide higher foraging value than those in the channel south of Pier 300. Because dredging and wharf construction would occur in the channel south of Pier 300, and dredging/construction impacts would be limited to that area, substantial effects to the Shallow Water Habitat are not likely. As summarized below, dredging is not likely to substantially increase turbidity and/or total suspended solids in the waters along the proposed Project site. Results from water quality monitoring during dredging would be used to evaluate the potential for resuspension of potentially contaminated sediments to affect sensitive species. If results were to indicate that contaminated sediments were being resuspended and causing turbidity to increase in the Shallow Water Habitat during foraging periods, applicable BMPs, such as modifications to dredging equipment or use of silt curtains (which may be required by permit conditions), would be implemented.

Potential biological impacts from disposal of dredged sediments would depend on the disposal method. However, for all in-water disposal options (such as confined aquatic disposal or at the LA-2 ODMDS), potential impacts include: water quality impacts from turbidity or contaminants, and smothering of resident fishes and invertebrates. Impacts from disposal at the LA-2 (as well as the LA-3) disposal site was evaluated during the site designation process (USEPA and USACE, 2005).

Sediments were screened to determine acceptability of disposal at different locations. Sediments suitable for unconfined aquatic disposal would (1) be used as fill at the Cabrillo shallow water habitat, (2) potentially provide fill for the Berths 243-245 CDF, and (3) potentially be disposed of at the LA-2 ODMDS. Unsuitable sediments would be used for fill in the Berths 243-245 CDF. Biological impacts due to construction and fill of the CDF, as well as expansion and fill of the Cabrillo shallow water habitat, were evaluated in the *Final Supplemental Evironmental Impact Statement / Final Supplemental*

Environmental Impact Report (EIS/EIR) for the Port of Los Angeles Channel Deepening Project (USACE and LAHD, 2009). This evaluation included mitigation for habitat loss at the Berths 243-245 CDF. Any temporary water quality impacts would be minimized as discussed by pre-dredge screening, water quality monitoring, and adaptive management and use of BMPs.

Approximately 515 new concrete support piles would be installed for the new wharf, which would become Berth 306. Piling installation would be accomplished with impact pile-driving methods. The size and type of pilings affect the sound volume produced during pile-driving. For instance, larger piles generally produce higher sound volume than smaller ones. In addition, the extent and intensity of noise effects would also depend on the underwater geography and water depth in the piling vicinity.

Sound transmission in the underwater environment can be affected by local bathymetry, substrates, currents, and stratification of the water column. Based on underwater studies of gray whale behavior, a disturbance threshold (Level B harassment) of 160 dBRMS has been identified for marine mammals based on previous research on cetaceans (Federal Register, 2006). Exposure to sound at this level would likely cause avoidance, but not injury, for marine mammals. The current Level A harassment (injury) threshold for non-explosive sounds is 180 dBRMS for cetaceans and 190 dBRMS for pinnipeds.

Concrete piles would be used for wharf construction. Concrete piles would be installed with impact driving to achieve final depth and to firmly set the piles. Impact driving of 24-inch concrete piles (of unspecified shape) has produced peak sound volumes of 183-193 dB_{PEAK}, and volumes of 171-175 dB_{RMS} at a distance of 33 feet (ICF and Illingworth & Rodkin, 2009). This is consistent with Illingworth and Rodkin who measured sound pressures from impact pile-driving of 24-inch concrete piles of 185-188 dB_{PEAK} and 170-176 (dB_{RMS}) within 33 ft of the source (Illingworth and Rodkin, 2007) Therefore, concrete pile-driving is anticipated to result in disturbance (Level B harassment) to marine mammals in the vicinity of construction operations.

California least tern

A nesting colony for the California least tern is located on the southeast portion of Pier 400 within the Harbor, approximately 1.1 miles from the proposed Project site. Historically, the site has been located at a variety of locations on Terminal Island in the vicinity of Pier 300. In 1997, the birds nested for the first time on the newly constructed Pier 400. Since 1998, this species has nested exclusively on Pier 400. Currently, a 15-acre nesting site on Pier 400 is maintained by LAHD under an interagency California Least Tern Nesting Site Memorandum of Agreement (City of Los Angeles et al., 2006). California least terns feed on small fish in the surface waters of the Harbor.

The shallow waters (<-20 ft mean lower low water [MLLW]) in the Outer Harbor, including the Shallow Water Habitat adjacent to Pier 300, are considered important feeding areas for the California least tern and are areas requiring protection. As discussed above, turbidity due to dredging is not likely to substantially affect the Shallow Water Habitat because dredging operations do not normally result in high turbidity or suspended solids. Dredging and wharf construction would occur in waters that are generally greater than about -48 ft MLLW (in the Pier 300 Channel), and are therefore not expected to affect California least tern foraging. However, because the Shallow Water Habitat is adjacent to the eastern end of the proposed dredge footprint (at proposed

Berth 306), there is the potential for a dredge plume to extend into the Shallow Water Habitat. Based on water quality monitoring data from other harbor dredge projects using suction and clamshell dredge equipment (Jones & Stokes 2007a, 2007b), water quality effects are expected to be transitory, lasting for less than one tide cycle following active dredging, and covering an area generally within 1,000 ft of the activity, and often less than 300 ft. Turbidity may also be temporarily increased during installation of piles (or other subtidal construction activities that take place near the seafloor). However, the extent would generally be much less than the area affected by dredging, likely affecting a radius of no more than about 100 ft from the activity.

Potential biological effects from expansion of the Cabrillo shallow water habitat were also previously evaluated (USACE and LAHD, 2009). Turbidity from disposal of suitable dredged material could affect the foraging of California least tern by obscuring visibility, decreasing the number of forage fish in the area, or both. However, both of these effects would be limited in scope and duration. The limited scope of the fill would leave a large portion of the Cabrillo shallow water habitat available for potential foraging. Other waters within the Ports Complex, including the Pier 300 Shallow Water Habitat, would also still be available for foraging. Upon completion of construction, the expanded shallow water area would provide habitat for fish and invertebrates typical of shallow waters. Shallow waters tend to support a higher biomass of benthic invertebrates than deeper waters and provide more food for fish (USACE and LAHD, 2009). The fish, in turn, would help support the California least tern.

Water quality monitoring conducted during the Los Angeles Harbor Channel Deepening Project in June 2003 indicated that reductions in light transmittance from clamshell dredging were 31 percent at the surface and 11 percent at mid-depth; there was no reduction in transmittance near bottom (LAHD and CH2M Hill, 2008). There were no reductions during suction dredging during that same survey. MBC monitored clamshell dredging at Berth 100 in Los Angeles Harbor during a five-week period in 2002. During these surveys, a dredge plume was evident in the bottom half of the water column at the station 300 ft downcurrent from dredge operations. However, suspended solids concentrations measured during dredge surveys were within the range seen during periods of no dredging (MBC, 2002). Similar results were recorded during six dredge surveys each at Berths 212-215 and Berths 261-265 in Los Angeles Harbor in 2001 (MBC, 2001a and 2001b). During those surveys, light transmittance was reduced in the lower half of the water column by about 15 percent on average at the station 300 ft downcurrent from dredge operations at Berths 212-215, and reduced by about 36 percent on average at Berths 261-265. The differences were likely due to the configuration of the dredge areas, as dredging at Berths 261-265 occurred in a semi-enclosed basin.

Implementation of required water quality monitoring during dredging according to the requirements of the RWQCB, as well as implementation of standard dredging BMPs via adaptive management of the dredging would keep these impacts to a less than significant level.

Elegant and Caspian tern

Elegant and Caspian terns nested on the 41-acre backlands, which would be developed as part of the proposed Project, in 2008, 2009, and 2010 (the 2010 nesting was abandoned a week later). The site was originally constructed in 2005 by the Port of Los Angeles in anticipation of terminal development. Caspian and elegant tern also nested on Pier 400

from 1998 through 2005, but have not returned since then (Keane Biological Consulting, 2008). In May of 2008 an estimated 3,300 elegant terns, 270 Caspian terns, and 15 royal terns were observed nesting in five separate groups on the backlands of Berth 305. Chicks began hatching in June 2008, and all terns were gone from the site by September 2008 (Keane Biological Consulting, 2008). In May of 2009, an estimated 4,200 elegant terns, 220 Caspian terns, and royal terns (not quantified) were observed nesting on the backlands of Berth 305 (Keane Biological Consulting, 2009). In April 2010, elegant terns and Caspian terns began nesting at the 41-acre area, but the nesting was abandoned a week later. No further nesting activities by Caspian or elegant terns were observed at the backlands of Berth 305 or elsewhere in the Los Angeles Harbor in 2010, aside from limited nesting on Connolly Pacific barges from April through July (Keane, pers. comm., 2011). Like California least terns, Caspian and elegant terns feed on small fish in the surface waters of the Harbor. As discussed above, dredging and wharf construction would occur in the channel south of Pier 300, and dredging/construction impacts would likely be limited to that area. However, because the Shallow Water Habitat is adjacent to the eastern end of the proposed dredge footprint (at proposed Berth 306), there is the potential for a dredge plume to extend into the Shallow Water Habitat.

This recently-created site was used opportunistically by terns since 2008 due to the interval between construction of the fill site and terminal development. However, elegant, royal, and Caspian terns would likely nest at other sites suitable for nesting (such as Bolsa Chica, Orange County).

Because development of the 41-acre area is scheduled to begin in the first quarter of 2013, which overlaps with the general tern nesting period (February 15 – September 1), if elegant and/or Caspian terns nest at the 41-acre area in 2013, there could be potential impacts to nesting. Potential impacts to elegant and Caspian nesting at the 41-acre area are considered a potentially significant impact.

Pre-construction surveys within the proposed Project site would keep potential impacts to nesting habitat to a less than significant level. Implementation of required water quality monitoring during dredging according to the requirements of the RWQCB, as well as implementation of standard dredging BMPs via adaptive management of the dredging would keep potential impacts to foraging areas to a less than significant level.

Marine mammals

No listed marine mammals are expected to occur in the proposed Project area. California sea lions have been observed in waters surrounding the proposed Project site, and harbor seals may also be present. Noise from impact pile-driving during wharf construction could cause seals and sea lions to avoid construction areas during pile-driving, but would not result in the loss of individuals or habitat.

CEQA Impact Determination

As described above, construction of the proposed Project is not likely to result in the loss of individuals or the reduction of existing federally-listed critical habitat of a state or federally listed endangered, threatened, rare, protected, candidate, or sensitive species or a species of special concern. In-water construction would cause localized activity, noise, and turbidity that could affect birds and marine mammals. However, these impacts would be temporary and limited to the waters in the vicinity of construction activities. Implementation of required water quality monitoring during dredging according to the

requirements of the RWQCB, and implementation of standard dredging BMPs via adaptive management of the dredging would keep these impacts to a less than significant level.

Sediments were screened to determine acceptability of disposal at different locations. Sediments suitable for unconfined aquatic disposal would (1) be used as fill at the Cabrillo shallow water habitat, (2) potentially provide fill for the Berths 243-245 CDF, and (3) potentially be disposed of at the LA-2 ODMDS. Unsuitable sediments would be used for fill in the Berths 243-245 CDF. Biological impacts due to construction and fill of the CDF, as well as expansion and fill of the Cabrillo shallow water habitat, were evaluated in the *Final Supplemental Evironmental Impact Statement / Final Supplemental Environmental Impact Report (EIS/EIR) for the Port of Los Angeles Channel Deepening Project* (USACE and LAHD, 2009). This evaluation included mitigation for habitat loss at the Berths 243-245 CDF. Impacts from disposal at the LA-2 disposal site were evaluated during the site designation process (USEPA and USACE, 2005). Any temporary water quality impacts would be minimized as discussed by pre-dredge screening, water quality monitoring, and adaptive management and use of BMPs.

Development of the area as backlands is scheduled to start in the first quarter 2013, which overlaps with the nesting season. If the elegant and Caspian tern utilize the 41-acre are for nesting in 2013, site development could result in a significant impact on nesting. Implementation of mitigation measure **MM BIO-1** would reduce potential impacts to elegant and Caspian tern nesting due to backlands development on the 41-acre site. Concrete pile-driving is anticipated to result in disturbance (Level B harassment) to marine mammals (particularly harbor seals and sea lions, which would be the marine mammals most likely to occur in the vicinity of Pier 300) in the vicinity of pile-driving operations. Impacts would not be significant; however, impacts on marine mammals resulting from noise associated with pile-driving would be further reduced with implementation of standard condition of approval **SC BIO-1**. This would ensure that marine mammals would be readily able to avoid pile-driving areas, and no injury to marine mammals from pile-driving sounds would be expected.

Mitigation Measures

MM BIO-1. Conduct nesting bird surveys. This measure applies only if construction on the 41-acre undeveloped area is to occur between February 15 and September 1. Prior to ground-disturbing activities, a qualified biologist shall conduct surveys for the presence of tern nests on the 41-acre backlands, and within the proposed Project site that contains potential nesting bird habitat. Surveys shall be conducted no later than 1 week prior to the clearing, removal, or grubbing of any vegetation or ground disturbance. If active nests of species protected under the MBTA and/or similar provisions of the California Fish and Game Code (i.e., native birds including but not limited to the black-crowned night heron) are located, then a barrier installed at a 50–100 foot radius from the nest(s) shall be established. The barrier will remain until a qualified biologist determines that the young have fledged or the nest is no longer active.

SC BIO-1. Avoid marine mammals. Although it is expected that marine mammals will voluntarily move away from the area at the commencement of the vibratory or “soft start” of pile-driving activities, as a precautionary

measure, pile-driving activities occurring as part of the wharf extension shall include establishment of a safety zone, and the area surrounding the operations will be monitored by a qualified marine biologist for pinnipeds. A 100-meter-radius safety zone will be established around the pile-driving site and monitored for marine mammals. As the pile-driving site will move with each new pile, the 100-meter safety zone shall move accordingly.

Prior to commencement of pile-driving, observers on shore or by boat will survey the safety zone to ensure that no marine mammals are seen within the zone before pile-driving of a pile segment begins. If a marine mammal is observed within 10 meter of pile-driving operations, pile-driving shall be delayed until the marine mammals moves out of the area. If a marine mammal in the 100-meter safety zone is observed, but more than 10 meter away, the contractor shall wait at least 15 minutes to commence pile-driving. If the marine mammal has not left the 100-meter safety zone after 15 minutes, pile-driving can commence with a "soft start". This 15-minute criterion is based on a study indicating that pinnipeds dive for a mean time of 0.50 minutes to 3.33 minutes; the 15-minute delay will allow a more than sufficient period of observation to be reasonably sure the animal has left the proposed Project vicinity.

If marine mammals enter the safety zone after pile-driving of a segment has begun, pile-driving shall continue. The biologist shall monitor and record the species and number of individuals observed, and make note of their behavior patterns. If the animal appears distressed, and if it is operationally safe to do so, pile-driving shall cease until the animal leaves the area. Prior to the initiation of each new pile-driving episode, the area shall again be thoroughly surveyed by the biologist.

Residual Impacts

Impacts would be less than significant.

NEPA Impact Determination

Construction of the proposed Project would result in limited upland construction, in-water, and over-water construction activities not included in the NEPA baseline. As described above, construction of the proposed Project is not likely to result in the loss of individuals or the reduction of existing federally-listed critical habitat of a state or federally listed endangered, threatened, rare, protected, candidate, or sensitive species or a species of special concern. In-water construction would cause localized activity, noise, and turbidity that could affect birds and marine mammals. However, these impacts would be temporary and limited to the waters in the vicinity of construction activities. Implementation of required water quality monitoring during dredging according to the requirements of the RWQCB, and implementation of standard dredging BMPs via adaptive management of the dredging would keep these impacts to a less than significant level.

Sediments were screened to determine acceptability of disposal at different locations. Sediments suitable for unconfined aquatic disposal would (1) be used as fill at the

Cabrillo shallow water habitat, (2) potentially provide fill for the Berths 243-245 CDF, and (3) potentially be disposed of at the LA-2 ODMDS. Unsuitable sediments would be used for fill in the Berths 243-245 CDF. Biological impacts due to construction and fill of the CDF, as well as expansion and fill of the Cabrillo shallow water habitat, were evaluated in the *Final Supplemental Evironmental Impact Statement / Final Supplemental Environmental Impact Report (EIS/EIR) for the Port of Los Angeles Channel Deepening Project* (USACE and LAHD, 2009). This evaluation included mitigation for habitat loss at the Berths 243-245 CDF. Impacts from disposal at the LA-2 disposal site were evaluated during the site designation process (USEPA and USACE, 2005). Any temporary water quality impacts would be minimized as discussed by pre-dredge screening, water quality monitoring, and adaptive management and use of BMPs.

Development of the area as backlands is scheduled to start in the first quarter 2013, which overlaps with the nesting season for elegant and Caspian tern. If the elegant and Caspian tern utilize the 41-acre are for nesting in 2013, site development could result in a significant impact on nesting. Implementation of mitigation measure **MM BIO-1** would mitigate potential impacts to elegant and Caspian tern nesting due to backlands development on the 41-acre site. Concrete pile-driving is anticipated to result in disturbance (Level B harassment) to marine mammals (particularly harbor seals and sea lions, which would be the marine mammals most likely to occur in the vicinity of Pier 300) in the vicinity of pile-driving operations. Impacts would not be significant; however, impacts on marine mammals resulting from noise associated with pile-driving would be further reduced with implementation of standard condition of approval **SC BIO-1**. This would ensure that marine mammals would be readily able to avoid pile-driving areas, and no injury to marine mammals from pile-driving sounds would be expected.

Mitigation Measures

Mitigation measure **MM BIO-1** and standard condition of approval **SC BIO-1** would apply to the proposed Project during construction.

Residual Impacts

Impacts would be less than significant.

Impact BIO-2a: Construction activities would not result in a substantial reduction or alteration of a state, federally, or locally designated natural habitat, special aquatic site, or plant community, including wetlands.

There are no special aquatic habitats or other sensitive natural communities identified at the proposed Project site that would be affected by proposed Project construction. There is approximately 30.6 acres of eelgrass habitat in the Pier 300 Shallow Water Habitat/Seaplane Lagoon area; however, proposed Project construction is not expected to affect subtidal eelgrass. Prior to installation of in-water structures and dredging along Berth 306, eelgrass surveys would be conducted as required under the *Southern California Eelgrass Mitigation Policy* (NMFS, 1991 as amended). Although the absence of eelgrass along Berth 306 in the Pier 300 Channel has been confirmed, if eelgrass is found in the vicinity of any of the structures, a plan would be developed to ensure that there would be no net loss of eelgrass habitat, consistent with the policy. However, because the depths at the proposed construction site (-48 ft MLLW or deeper) are

generally inadequate for eelgrass growth, the proposed Project would probably have no direct impact on eelgrass and associated biological communities. Based on water quality monitoring data summarized in Impact BIO-1a, turbidity would be limited to between a few hundred feet and 1,000 ft from dredging operations. The nearest eelgrass beds are approximately 2,900 ft from the nearest (eastern) edge of the proposed dredge and in-water construction area. Results from required water quality monitoring would also be used to document the extent of the dredge plume, and adaptive management measures (such as implementation of BMPs, or compliance with permit conditions such as use of a silt curtain) would be implemented to reduce impacts from turbidity and siltation. Therefore, effects from dredging/pile-driving on eelgrass are not expected.

The addition of a negligible amount of sediment at the Cabrillo shallow water habitat would not affect existing eelgrass beds at Cabrillo Beach by removal or burial. Turbidity caused by fill, including deposition of suspended sediment on the plant surfaces, could affect eelgrass by reducing light penetration and photosynthesis by eelgrass. The extent and duration of such effects would depend on the amount of suspended sediment and water currents at the time of the work. However, because turbidity is not expected to extend beyond 300 feet (91 m) of the disposal location it would be unlikely to adversely affect productivity of the eelgrass. Deposition of sediment on the eelgrass would be low because much of the suspended sediment would settle out before reaching the eelgrass beds. These effects would occur only during construction with rapid recovery (a few months) of any plants damaged by the sediment.

Potential biological impacts from disposal of dredged sediments would depend on the disposal method. Impacts from disposal at the LA-2 disposal site were evaluated during the site designation process (USEPA and USACE, 2005). Any temporary water quality impacts would be minimized as discussed by pre-dredge screening, water quality monitoring, and adaptive management and use of BMPs. Fill would not be allowed at special aquatic sites, including wetlands, eelgrass beds, or kelp beds.

The nearest kelp beds to the proposed Project site are located adjacent to the entrance to Fish Harbor, and kelp distribution in the Port Complex is generally located at the outer breakwaters and riprap structures in the Outer Harbors that face harbor entrances (SAIC, 2010). Giant kelp does not occur in waters directly off the APL Terminal, and the nearest beds (at the entrance to Fish Harbor) are more than 1,600 ft from the western edge of the proposed dredge area. Based on water quality monitoring data summarized in Impact BIO-1a, water quality effects are expected to be transitory, lasting for less than one tide cycle following active dredging, and covering an area generally within 1,000 ft of the activity, and often less than 300 ft. Turbidity may also be temporarily increased during installation of piles (or other subtidal construction activities that take place near the seafloor). However, the extent would generally be much less than the area affected by dredging, probably affecting a radius of no more than about 100 ft from the activity. Therefore, effects from dredging/pile-driving on giant kelp are not expected. There is no eelgrass or giant kelp in the vicinity of the Berth 306 wharf, so shading from the new wharf would not impact these resources. There are no mudflats or marshes near the proposed Project site that would be affected by proposed Project construction. Impacts to EFH during construction would be localized and temporary.

The SWPPP implemented by the tenant currently at the APL Terminal has been successful in preventing water quality exceedances and maintaining water quality sufficient for growth of eelgrass (EMS, 2010). A similar program would be implemented

as part of the proposed Project to ensure continued protection of these resources during construction. This program would include standard BMPs, such as use of sediment barriers, to minimize runoff that could affect EFH and eelgrass.

CEQA Impact Determination

Construction of the proposed Project is not expected to affect subtidal eelgrass habitat in the Pier 300 Shallow Water Habitat/ Seaplane Lagoon area, or at the Cabrillo shallow water habitat, either from runoff of from turbidity during dredging. The nearest Giant kelp beds to the APL Terminal are located at the entrance to Fish Harbor more than 1,600 ft from the western edge of the proposed dredge area. Based on water quality monitoring data summarized in Impact BIO-1a, water quality effects are expected to be transitory and are not expected to significantly affect the kelp beds. There are no mudflats or marshes near the proposed Project site that would be affected by proposed Project construction. Impacts to EFH during construction would be localized and temporary and not significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

NEPA Impact Determination

Construction of the proposed Project would result in limited upland construction, in-water, and over-water construction activities not included in the NEPA baseline. Construction of the proposed Project is not expected to affect subtidal eelgrass habitat in the Pier 300 Shallow Water Habitat/Seaplane Lagoon area, or at the Cabrillo shallow water habitat, either from runoff of from turbidity during dredging. The nearest Giant kelp beds to the APL Terminal are located at the entrance to Fish Harbor more than 1,600 ft from the western edge of the proposed dredge area. Based on water quality monitoring data summarized in Impact BIO-1a, water quality effects are expected to be transitory and are not expected to significantly affect the kelp beds. There are no mudflats or marshes near the proposed Project site that would be affected by proposed Project construction. Impacts to EFH during construction would be localized and temporary and not significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact BIO-3a: Construction activities would not interfere with wildlife movement/migration corridors.

No known terrestrial wildlife migration corridors are present at the proposed Project site. The only defined migratory species in the Harbor are birds. California least tern is a migratory bird species that nests on Pier 400, while Caspian tern, elegant tern, and royal tern have nested on the 41-acre fill site; construction of the proposed Project would not

interfere with the aerial migration of these species. Movement to and from foraging areas in the Harbor also would not be affected by proposed Project construction activities. A number of other water birds that are present at least seasonally in the Harbor are migratory as well. Construction activities within the proposed Project site would not block or interfere with migration or movement of any of these species covered under the MBTA, because the work would be in a small portion of the Harbor area where the birds occur and the birds could easily fly around or over the work.

Fish species present in the Harbor would be subject to temporary acoustic and possibly water quality impacts during dredging and wharf construction. Turbidity and effects related to possible resuspension of contaminants during dredging would be temporary and localized. Implementation of required water quality monitoring during dredging according to the requirements of the RWQCB, as well as implementation of standard dredging BMPs via adaptive management of the dredging would keep these impacts to a less than significant level. Water quality conditions would quickly return to baseline once dredging is completed (Parish and Weiner, 1987; USACE and LAHD, 1992; Anchor Environmental, 2003).

The sound pressure waves from pile-driving could result in temporary avoidance of the construction areas as well as cause mortality of fish in the Coastal Pelagics FMP. With implementation of standard condition of approval **SC BIO-1**, the pile-driving would initiate with a soft start, which would minimize potential impacts to fish, as they would leave the area. Avoidance of the area would be temporary, lasting for a few days at a time. There would be no physical barriers to movement, and the baseline condition for fish and wildlife access would be essentially unchanged. Due to the limited potential impact area and with the implementation of standard condition of approval **SC BIO-1**, this is not considered a substantial disruption.

Overall, the Harbor and specifically the location of the proposed Project are subject to a high degree of ongoing commercial activity, including the movement of large vessels, and frequent maintenance dredging. Project-related construction vessel traffic to and from the Harbor (i.e., tugboats carrying dredged sediments) would not interfere with whale migrations along the coast, because these vessels would represent a small proportion of the total Port-related commercial traffic in the area, and each vessel would have a low probability of encountering migrating whales during transit through coastal waters because these animals are generally sparsely distributed offshore and rarely enter the Port Complex (LAHD and USACE, 2007).

Potential biological impacts from disposal of dredged sediments would depend on the disposal method. However, impacts from disposal at the LA-2 disposal site were evaluated during the site designation process (USEPA and USACE, 2005). Biological impacts due to construction and fill of the CDF, as well as expansion and fill of the Cabrillo shallow water habitat, were evaluated in the *Final Supplemental Evironmental Impact Statement / Final Supplemental Environmental Impact Report (EIS/EIR) for the Port of Los Angeles Channel Deepening Project* (USACE and LAHD, 2009). No interference with wildlife movement/migration corridors would occur as part of the proposed Project.

CEQA Impact Determination

Caspian tern, elegant tern, and royal tern have nested on the 41-acre fill site; however, construction activities within the proposed Project site would not block or interfere with migration or movement of any of these species covered under the MBTA. Fish species near the Project site would be subject to temporary impacts during dredging and wharf construction; however, implementation of standard dredging BMPs via adaptive management of the dredging would keep these impacts to a less than significant level. Sound pressure from pile-driving could cause mortality of fish in the Coastal Pelagics FMP; however, with implementation of standard condition of approval **SC BIO-1**, the pile-driving would initiate with a soft start, which would minimize potential impacts to fish, as they would leave the area. There would be no physical barriers to movement, and the baseline condition for fish and wildlife access would be essentially unchanged. Project-related construction vessel traffic to and from the Harbor (i.e., tugboats carrying dredged sediments) would not interfere with whale migrations along the coast. In addition, impacts from disposal at the LA-2 (as well as the LA-3) disposal site was evaluated during the site designation process (USEPA and USACE, 2005). Biological impacts due to construction and fill of the CDF, as well as expansion and fill of the Cabrillo shallow water habitat, were also previously evaluated (USACE and LAHD, 2009). Overall, Project construction would not result in significant impacts wildlife movement or migration corridors.

Mitigation Measures

No mitigation is required. Implementation of standard condition of approval **SC BIO-1** would further reduce impacts.

Residual Impacts

Impacts would be less than significant.

NEPA Impact Determination

Construction of the proposed Project would result in limited upland construction, in-water, and over-water construction activities not included in the NEPA baseline. No known terrestrial wildlife migration corridors are present at the proposed Project site. Caspian tern, elegant tern, and royal tern have nested on the 41-acre fill site; however, construction activities within the proposed Project site would not block or interfere with migration or movement of any of these species covered under the MBTA. Fish species near the Project site would be subject to temporary impacts during dredging and wharf construction; however, implementation of standard dredging BMPs via adaptive management of the dredging would keep these impacts to a less than significant level. Sound pressure from pile-driving could cause mortality of fish in the Coastal Pelagics FMP; however, with implementation of standard condition of approval **SC BIO-1**, the pile-driving would initiate with a soft start, which would minimize potential impacts to fish, as they would leave the area. There would be no physical barriers to movement, and the baseline condition for fish and wildlife access would be essentially unchanged. Project-related construction vessel traffic to and from the Harbor (i.e., tugboats carrying dredged sediments) would not interfere with whale migrations along the coast. In addition, impacts from disposal at the LA-2 (as well as the LA-3) disposal site was evaluated during the site designation process (USEPA and USACE, 2005). Biological impacts due to construction and fill of the CDF, as well as expansion and fill of the Cabrillo shallow water habitat, were also previously evaluated (USACE and LAHD,

2009). Overall, Project construction would not result in significant impacts wildlife movement or migration corridors.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact BIO-4a: Construction activities would not substantially disrupt local biological communities.

Biological communities, the collection of species inhabiting a particular habitat or ecosystem, can potentially be disrupted by changes in environmental conditions that favor a different assemblage of species, or alter the dynamics among species that make up a biological community. The significance of changes in local conditions depends on the extent and duration of those changes, as well as the species or groups of species affected. Because the terrestrial portions of the proposed Project site are largely developed, impacts on terrestrial biological communities would be limited. Plant communities on the backlands site are mostly introduced, weedy species, with Russian thistle (tumbleweed) the most abundant species. Construction-related impacts on marine biological communities are expected to be temporary, lasting through the construction period and for a short time thereafter. These include physical disturbance, underwater and overwater noise, and turbidity produced during dredging, pile-driving, and wharf construction.

Physical Disturbance

Where pilings are installed below the ordinary high water mark (OHWM) or high tide line, some physical disturbance of the underlying sediment would be inevitable and a small conversion of habitat area (from soft bottom to hard substrate) would occur where pilings are installed. Benthic habitat at the piling sites would be disturbed and individual invertebrates would be crushed. Sediment displaced during pile-driving would bury surface organisms in the immediate vicinity (i.e. within an approximately 1-foot diameter around each piling). Sediment recolonization would occur rapidly, however, so this impact would be limited in both time and space and would not constitute a substantial disturbance of biological communities.

Under the proposed Project, approximately 515 concrete pilings would be installed for the new wharf at Berth 306. New hard substrate from the pilings could marginally add to productivity in the Harbor, while pilings would also add structure in the water column that could be used by invertebrates and fishes. Prior to installation of in-water structures, eelgrass surveys would be conducted as required under the *Southern California Eelgrass Mitigation Policy* (NMFS, 1991 as amended). Although the absence of eelgrass along Berth 306 in the Pier 300 Channel has been confirmed, if eelgrass is found in the vicinity of any of the structures, a plan would be developed to ensure that there would be no net loss of eelgrass habitat, consistent with the policy. However, because the depths at the proposed construction site (-48 ft MLLW or deeper) are generally inadequate for eelgrass growth, the proposed Project would probably have no impact on eelgrass and associated biological communities. As discussed below under Invasive Species, *Caulerpa* surveys would also be conducted prior to dredging to ensure no *Caulerpa* is present in the construction area.

As discussed under Impact BIO-1a, special-status and other sensitive species in the Harbor that could use the water surface and shoreline and potentially be displaced or affected during construction include: the harbor seal and sea lion; two endangered bird species (California least tern and Belding's savannah sparrow); one threatened bird species (western snowy plover); and 14 other bird species with state and/or federal protection or designation (see Table 3.3-4). Physical disturbances as a result of proposed Project construction activities could temporarily disrupt foraging and other activities of these species; however, no substantial disruption to biological communities would result from proposed Project construction.

Direct impacts would occur to benthic organisms living within the sediments removed as part of the dredging activity, although these communities quickly re-establish. Dredging can cause temporary, adverse affects to organisms through impacts on water quality. Increased turbidity can adversely affect fish and other aquatic life by impairing vision and sense of smell, injuring gills, reducing water transparency, and covering sessile organisms. If anoxic sediments are disturbed, dissolved oxygen may also be reduced in the water column during dredging in the vicinity of the dredge operation. Water quality effects of dredging depend on the quality of sediments, currents, and type of dredge equipment used. Based on water quality monitoring data summarized in Impact BIO-1a, water quality effects are expected to be transitory, lasting for less than one tide cycle following active dredging, and covering an area generally within 1,000 ft of the activity, and often less than 300 ft.

Potential biological impacts from disposal of dredged sediments would depend on the disposal method. However, for all in-water disposal options (such as confined aquatic disposal or at the LA-2 ODMDS), potential impacts include: water quality impacts from turbidity or contaminants, and smothering of resident fishes and invertebrates. Impacts from disposal at the LA-2 (as well as the LA-3) disposal site was evaluated during the site designation process (USEPA and USACE, 2005). Biological impacts due to construction and fill of the CDF, as well as expansion and fill of the Cabrillo shallow water habitat, were evaluated in the *Final Supplemental Evironmental Impact Statement / Final Supplemental Environmental Impact Report (EIS/EIR) for the Port of Los Angeles Channel Deepening Project* (USACE and LAHD, 2009). Any temporary water quality impacts would be minimized as discussed by pre-dredge screening, water quality monitoring, and adaptive management and use of BMPs.

Noise

There may be occasions where construction could occur during the night, such as dredging or possibly paving during cooler weather or to accommodate the construction schedule. Such night construction could occur in backland areas along the wharf. Noise from night construction is not expected to result in significant impacts to biological resources because birds/wildlife are scarce in the developed upland areas of the Port and upland construction would not affect underwater noise levels.

As described under Impact BIO-2a, pile-driving creates underwater sound. Although this sound is not expected to cause injury to marine mammals, it may be of a sufficient volume and range to cause some acoustic impacts to fish. Acoustic impacts may include avoidance of the area, injury, or death. As described under Impact BIO-2a, the extent of acoustic impacts would depend on the size and type of pilings used, and the pile-driving methods used. Impact methods would be required to drive or proof the concrete pilings. Impact pile-driving may cause some fish mortality, particularly at the onset. Because

smaller fish are more susceptible to acoustic injury, the species most likely to suffer mortality would be northern anchovy, Pacific sardine, and topsmelt. These species play important roles in the cycling of energy and nutrients in the Harbor, which has been designated as EFH for both northern anchovy and Pacific sardine. A peak sound level of 180 dB_{PEAK} has been identified as an injury threshold for small fish. Impact driving of concrete piles would create sound of levels of about 183 to 193 dB_{PEAK} to a radius of up to 33 ft from each pile (Illingworth and Rodkin, 2007; ICF and Illingworth and Rodkin, 2009). However, due to the limited potential impact area, this is not considered a substantial disruption. Additionally, with implementation of standard condition of approval **SC BIO-1**, the pile-driving would initiate with a soft start, which would minimize potential impacts to fish, as they would leave the area.

Marine mammals, such as sea lions and harbor seals, in the proposed Project area at the time of construction could be temporarily disturbed by construction activities; however any individuals present would likely avoid the work area. As described under Impact BIO-1a, construction activities are not likely to interfere with marine mammal foraging because the disturbances would be temporary and limited to relatively small areas off Pier 300. These temporary behavioral effects on marine mammals would not measurably affect biological communities.

Light

Shade from construction vessels, and lights to support construction activities at night, would have temporary influences on the distribution of water column species. Certain zooplankton, fish, and squid are attracted to light. Other species may be attracted by concentrations of zooplankton and squid associated with night lighting. Conversely, daytime shading from construction vessels or localized turbidity during in-water construction may reduce algal productivity. Certain fish species are attracted to shade and cover that construction vessels provide, while vibration and activity may frighten certain species from the area. However, because construction activities and locations would be constantly changing, the effects would be similar to those that occur under normal Port operations with vessels constantly coming and going, and night lighting provided for Port operations. Following construction of the new wharf, shade upon the existing riprap may change the epifaunal community by selecting for aquatic communities that are adapted to shade. However, given the small affected marine areas adjacent to the new wharf, a substantial disruption of the marine biological communities is not anticipated. Therefore, no substantial disruption of biological communities would occur.

Invasive Species

Construction activities have the potential to introduce or redistribute invasive species if those species are present in the construction area and are disturbed by boat anchors or other equipment, or if in-water equipment or construction vessels bring those species into the area of the proposed Project. However, the potential for introduction during construction activity would be essentially the same as under normal Port operations. The invasive green alga, *Caulerpa*, has the potential to spread by fragmentation. Prior to in-water work, (including dredging), an underwater survey for the invasive alga *Caulerpa* would be conducted to ensure that no *Caulerpa* is present in the proposed Project site. In the unlikely event that *Caulerpa* is detected during pre-construction surveys, an eradication program would be implemented per the requirements of the *Caulerpa* Control Protocol (NMFS and CDFG, 2008). Construction would commence only after the area is certified to be free of this invasive species. To date, more than 36 *Caulerpa* surveys have

been conducted in the Harbor as a standard procedure conducted prior to sediment disturbing activities, and no *Caulerpa* has been found (SCCAT, 2010). Considering the *Caulerpa* survey requirement and absence of *Caulerpa* to date, and with implementation of the aforementioned *Caulerpa* protocols, the potential for proposed underwater construction activities to spread this species is unlikely.

CEQA Impact Determination

As described above, construction activities in the proposed Project site, particularly pile-driving, could cause short-term impacts on individuals (e.g. marine mammals and fishes, including those with designated EFH) in the immediate vicinity of pile-driving. However, no substantial disruption of biological communities would result from proposed Project construction, and impacts are considered insignificant. In addition, with implementation of standard condition of approval **SC BIO-1**, the pile-driving would initiate with a soft start, which would minimize impacts to fish and marine mammals near construction activities, as they would leave the area. Furthermore, night construction, if required, would not result in significant impacts to biological resources.

Potential biological impacts from disposal of dredged sediments would depend on the disposal method. Impacts from disposal at the LA-2 (as well as the LA-3) disposal site was evaluated during the site designation process (USEPA and USACE, 2005). Biological impacts due to construction and fill of the CDF, as well as expansion and fill of the Cabrillo shallow water habitat, were evaluated in the *Final Supplemental Evironmental Impact Statement / Final Supplemental Environmental Impact Report (EIS/EIR) for the Port of Los Angeles Channel Deepening Project* (USACE and LAHD, 2009). Any temporary water quality impacts would be minimized as discussed by pre-dredge screening, water quality monitoring, and adaptive management and use of BMPs.

Construction activities that have the potential to introduce or redistribute invasive species would be less than significant. All construction impacts that could substantially disrupt local biological communities resulting from the proposed Project would be less than significant under CEQA.

Mitigation Measures

No mitigation is required. Implementation of mitigation measure **MM BIO-1** and standard condition of approval **SC BIO-1** would further reduce impacts.

Residual Impacts

Impacts would be less than significant.

NEPA Impact Determination

Construction of the proposed Project would result in limited upland construction, in-water, and over-water construction activities not included in the NEPA baseline. As described above, construction activities at the proposed Project site, particularly pile-driving, could cause short-term impacts on individuals (e.g. marine mammals and fishes, including those with designated EFH) in the immediate vicinity of pile-driving. However, no substantial disruption of biological communities would result from proposed Project construction, and impacts are considered insignificant. In addition, with implementation of standard condition of approval **SC BIO-1**, the pile-driving would initiate with a soft start, which would minimize impacts to fish and marine mammals near

construction activities, as they would leave the area. Furthermore, night construction, if required, would not result in significant impacts to biological resources.

Potential biological impacts from disposal of dredged sediments would depend on the disposal method. Impacts from disposal at the LA-2 (as well as the LA-3) disposal site was evaluated during the site designation process (USEPA and USACE, 2005). Biological impacts due to construction and fill of the CDF, as well as expansion and fill of the Cabrillo shallow water habitat, were evaluated in the *Final Supplemental Evironmental Impact Statement / Final Supplemental Environmental Impact Report (EIS/EIR) for the Port of Los Angeles Channel Deepening Project* (USACE and LAHD, 2009). Any temporary water quality impacts would be minimized as discussed by pre-dredge screening, water quality monitoring, and adaptive management and use of BMPs.

Construction activities that have the potential to introduce or redistribute invasive species would be less than significant. All construction impacts that could substantially disrupt local biological communities resulting from the proposed Project would be less than significant under NEPA.

Mitigation Measures

No mitigation is required. Implementation of mitigation measure **MM BIO-1** and standard condition of approval **SC BIO-1** would further reduce impacts.

Residual Impacts

Impacts would be less than significant.

Impact BIO-5: Construction activities would not result in a permanent loss of marine habitat.

CEQA Impact Determination

No loss of marine habitat would occur because the proposed Project would not result in fill being discharged into the marine environment that could eliminate marine habitat functions. Although new piles would be added to the water column, piles provide hard substrate usable as habitat by marine organisms. Therefore, there would be no impact under CEQA.

Mitigation Measures

No mitigation is required.

Residual Impacts

There would be no impacts.

NEPA Impact Determination

Construction of the proposed Project would result in limited upland construction, in-water, and over-water construction activities not included in the NEPA baseline. No loss of marine habitat would occur because the proposed Project would not result in fill being discharged into the marine environment that could eliminate marine habitat functions. Although new piles would be added to the water column, piles provide hard substrate usable as habitat by marine organisms. Therefore, there would be no impact under NEPA.

Mitigation Measures

No mitigation is required.

Residual Impacts

There would be no impacts.

3.3.4.3.1.2 Oper ational Impacts

Operation of the new facilities would result in increased vessel traffic, runoff of pollutants from redeveloped terminal surfaces, and increased potential for accidental spills of pollutants into Harbor waters. All of these effects would occur in the waters off Pier 300. Vessel traffic effects would occur from the approach to Angels Gate, through the Outer Harbor, to Berths 302-306 at the proposed Project site.

Impact BIO-1b: Operations would not cause a loss of individuals or habitat for a state- or federally listed endangered, threatened, rare, protected, or candidate species, or a Species of Special Concern or the loss of federally listed critical habitat.

Operation, of new and upgraded terminal facilities at the proposed Project site would not adversely affect any of the special status bird species listed in Tables 3.3-3 and 3.3-4. Those species that currently use the proposed Project site (see Impact BIO-1a) for foraging or resting could continue to do so because the proposed Project would not appreciably change the industrial activities at the proposed Project site or cause a loss of habitat for those species. Operation of the backland facilities (e.g., cranes, railyard, and container transfers) would not measurably change the numbers or species of common birds in that area and, thus, would not affect foraging. The increase in vessel traffic of up to one ship call every 2 to 3 days would cause a short interval of disturbance throughout the route from Angel's Gate to Berths 302-306 but would not result in a loss of habitat or individuals for sensitive birds that use the water surface for resting or foraging.

An estimated 143 additional vessel calls per year above the CEQA baseline ship calls of 247 to the Port would result from the proposed Project by the year 2027. This increase would occur gradually over time. Underwater sound from these vessels, or tug boats used to maneuver them to the berth, would add to the existing vessel traffic noise in the Harbor. Because a doubling in the number of vessels (noise sources) in the Harbor would be necessary to increase the overall underwater sound level by 3 dBA (FHWA, 1978), the small increase in vessels relative to the total using the Harbor (2,370 per year in Los Angeles Harbor) would not result in a measurable change in overall noise. Adding up to one ship call every 2-3 days (one vessel transit to and from the terminal every 2 to 3 days) would not adversely affect marine mammals in the Outer Harbor or the approach to Berths 302-306, because the transits would be of short duration and distance, few individuals would be affected (large numbers are not present in the Harbor), Harbor seals and sea lions would be expected to avoid sound levels that could cause damage to their hearing (as described in Impact BIO-1a), and overall underwater noise levels would not be measurably increased.

Vessels approaching Angel's Gate would pass through nearshore waters, and sound from their engines and drive systems could disturb marine mammals that happen to be nearby. However, few whales and dolphins would be affected because the animals are generally sparsely distributed (i.e., have offshore densities of less than five individuals per

100 square km, and are not abundant in the Port Complex [Forney et al., 1995; SAIC, 2010]), the animals likely would move away from the sound as it increases in intensity from the approaching vessel, and exposure would be of short duration (Blackwell et al., 2004). Pinnipeds would be expected to avoid sound levels that could cause damage to their hearing (as described in Impact BIO-1a), and overall underwater noise levels would not be measurably increased. Noise levels associated with vessel traffic, including near heavily used ferry terminals, generally range between 120 and 143 dB (WSDOT, 2010; ICF and Illingworth and Rodkin, 2009), which is below the injury threshold of 180 dB_{RMS} for cetaceans and 190 dB_{RMS} for pinnipeds.

Container ships transiting the coastal waters of southern California could potentially cause harm from vessel collisions to endangered, threatened, or species of concern, such as marine mammals and sea turtles. Impacts of proposed Project-related vessel traffic on marine mammals would be considered less than significant because of the low probability of vessel strikes and proposed Project vessel strikes would not be expected to occur. The proposed Project would result in a relatively minor increase in overall vessel calls to the Port, and recent data suggests increases in ship strikes likely result from higher abundance of whales in nearshore waters. Mortality usually results from higher vessel speeds, as well. As discussed in Section 3.3.2.5, there are few reports of marine mammal mortality resulting from vessel strikes in southern California each year. Although the likelihood of such a collision is low, such collisions do occur and may cause an impact to species listed on the ESA, especially blue whales. Therefore, although considered less than significant because of the low probability of vessel strikes, any increase in vessel traffic caused by the proposed Project may incrementally increase the potential for whale strikes. No critical habitat for any of the listed species is present in the Harbor; therefore, no critical habitat would be affected by operation of the proposed Project.

CEQA Impact Determination

Terminal activity under the proposed Project would be greater than the CEQA baseline; however, operational activities would result in no loss of habitat for rare, threatened, endangered, protected, or candidate species, or species of special concern. No impacts to critical habitat would occur because no critical habitat is present. Increased vessel activity from the proposed Project would result in increased noise levels. However, impacts are not considered significant because this would not lead to the loss of individuals or habitat of sensitive species. The increase in vessel traffic would also increase the likelihood of a vessel collision with a marine mammal or sea turtle, which could result in injury or mortality. Even though it is considered less than significant under CEQA because of the low probability of vessel strikes, any increase in vessel traffic caused by the proposed Project may incrementally increase the potential for whale strikes. Even though impacts due to vessel strikes are considered less than significant, implementation of mitigation measure **MM AQ-10** would further reduce the potential for vessel collision with marine mammals.

Mitigation Measures

No mitigation is required. However, air quality mitigation measure **MM AQ-10** (in Section 3.2, Air Quality, Meterology, and Greenhouse Gases) requires that all ships calling at Berths 302-306 shall comply with the expanded Vessel Speed Reduction Program of 12 knots between 40 nm from Point Fermin and the Precautionary Area. This mitigation measure would further reduce the potential for vessel collision with marine mammals.

Residual Impacts

Impacts would be less than significant.

NEPA Impact Determination

Terminal activity under the proposed Project would be greater than the NEPA baseline; however, operational activities would result in no loss of habitat for rare, threatened, endangered, protected, or candidate species, or Species of Special Concern. No impacts to critical habitat would occur because no critical habitat is present. Increased vessel activity from the proposed Project would result in increased noise levels. However, impacts are not considered significant because this would not lead to the loss of individuals or habitat of sensitive species. The increase in vessel traffic would also increase the likelihood of a vessel collision with a marine mammal or sea turtle, which could result in injury or mortality. Even though it is considered less than significant under NEPA because of the low probability of vessel strikes, any increase in vessel traffic caused by the proposed Project may incrementally increase the potential for whale strikes. Even though impacts due to vessel strikes are considered less than significant, implementation of mitigation measure **MM AQ-10** would further reduce the potential for vessel collision with marine mammals.

Mitigation Measures

No mitigation is required. However, the potential for impacts would be further reduced with implementation of mitigation measure **MM AQ-10**.

Residual Impacts

Impacts would be less than significant.

Impact BIO-2b: Operations would not result in a substantial reduction or alteration of a state, federally, or locally designated natural habitat, special aquatic site, or plant community, including wetlands.

Essential Fish Habitat

Operation of proposed Project facilities would have minimal effects on EFH. Although the proposed Project vessels would add to the number of noise events, they would not substantially add to the overall underwater noise level. The addition of up to one vessel trip every 2 to 3 days would not adversely affect FMP species present in the Outer Harbor or in the vicinity of Pier 300 because the additional trips proposed for the Project are infrequent. Schooling fish, such as sardines and anchovy, likely would ignore the ship movements and sound, or temporarily move out of the way. Other FMP species are rare in the Harbor, and vessel noise would result in temporary effects on their distribution in the Port despite a projected additional 143 visits annually compared to the CEQA baseline. In recent history, the Port has witnessed an improvement in fish abundance including EFH for FMP species (MEC and Associates, 2002; SAIC, 2010). However, there has been increased vessel traffic in the Harbor. Therefore, it is unlikely that additional ship calls would affect FMP species, and additional ship calls would not adversely affect EFH for any species in the Harbor. Runoff from the new facilities would not substantially reduce or alter EFH in Harbor waters because water quality standards for protection of marine life would not be exceeded (see Section 3.14, Water Quality, Sediments, and Oceanography).

Natural Habitat or Plant Community

As described in Impact BIO-2a, no SEAs or natural plant communities are present that could be affected by operation of proposed Project facilities. No wetlands or mudflats are present at the proposed Project site, and those in other areas of the Harbor are not located in or near (more than 1 mile away) the channels that would be used by vessels transiting to or from the APL Terminal.

Eelgrass beds are located in the Shallow Water Habitat and Seaplane Lagoon adjacent to the proposed Project site. Vessel operations at the proposed Project site are not expected to directly affect eelgrass beds because they are located in shallower areas north of Berths 302-306 that cargo vessels would not be operating in. Runoff from the newly paved areas of proposed Project site would be routed southward, treated via BMP devices, and discharged to the Pier 300 Channel. The runoff is not expected to adversely affect eelgrass beds present in the Shallow Water Habitat or Seaplane Lagoon due to the large separation distance (over 2,900 ft).

CEQA Impact Determination

Activity at the terminal under the proposed Project would be greater than the CEQA baseline; however, operational activities on land and in the water would not substantially reduce or alter EFH for the reasons described above, and no significant impacts to EFH would occur under CEQA. No SEAs, natural plant communities, mudflats, or wetlands are present. The runoff is not expected to adversely affect eelgrass beds present in the Shallow Water Habitat or Seaplane Lagoon due to the large separation distance (over 2,900 ft). Such impacts, therefore, would be less than significant under CEQA

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

NEPA Impact Determination

Activity in the terminal under the proposed Project would be greater than the NEPA baseline; however, operational activities on land and in the water would not substantially reduce or alter EFH for the reasons described above, and no significant impacts to EFH would occur under NEPA. No SEAs, natural plant communities, mudflats, or wetlands are present. The runoff is not expected to adversely affect eelgrass beds present in the Shallow Water Habitat or Seaplane Lagoon due to the large separation distance (over 2,900 ft). Such impacts, therefore, would be less than significant under NEPA

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact BIO-3b: Operation of the proposed Project would not interfere with wildlife movement/migration corridors.

CEQA Impact Determination

No barriers to wildlife passage would result from operation of the proposed Project. The type of operational activity that would occur within the Harbor (vessel traffic) would gradually increase to an additional 143 calls per year in 2027, but would not interfere with wildlife movement or migration within the Harbor. Therefore, there would be no impact under CEQA.

Mitigation Measures

No mitigation is required.

Residual Impacts

There would be no impacts.

NEPA Impact Determination

Operation of the proposed Project would exceed that of the NEPA baseline; however, no barriers to wildlife passage would result from proposed Project operations. The type of operational activity that would occur within the Harbor (vessel traffic) would slightly increase by 52 to 104 calls per year, but would not interfere with wildlife movement or migration within the Harbor. Therefore, there would be no impact under NEPA.

Mitigation Measures

No mitigation is required.

Residual Impacts

There would be no impacts.

Impact BIO-4b: Operation of the proposed Project would not substantially disrupt local biological communities.

Vessel traffic at the proposed Project site would have minimal direct effects on marine organisms as a result of propeller wash (USACE and LAHD, 1992). This traffic increase would adversely affect organisms in the water column, such as fish and plankton, as each vessel passes. The disturbance would cause fish to move at least a short distance and could damage some individual planktonic organisms through turbulence. Turbidity from the propeller wash would form a small plume behind each vessel. However, this would dissipate rapidly as described for dredging in Impact BIO-1a. Biological communities would not be substantially disrupted, however, because the physical disturbance would occur in a small area, over a short duration (a few minutes at each location along the route from Angel's Gate to the proposed Project site), and relatively infrequently (once every 2 to 3 days). The Harbor historically has had a highly active environment with many ships, tugs, and work boats moving along the channels. Addition of vessels calls would not substantially change this environment.

Accidental spills of fuel or other vessel fluids during operation could occur as a result of a vessel collision, although the likelihood is considered remote due to the use of Port pilots to navigate the Harbor, because of the requirement that vessels travel in the Harbor

at slow speeds, and due to the use of tugs to slowly guide vessels to and from the berths. Spill Prevention, Controls, and Countermeasures (SPCC) regulations require that the Port have in place measures that help ensure oil spills do not occur, but if they do, that there are protocols in place to contain the spill and neutralize the potential harmful impacts. An SPCC plan and an OSCP would be prepared that would be reviewed and approved by the RWQCB or the CDFG Office of Spill Prevention and Response, in consultation with other responsible agencies. The SPCC and OSCP plans would detail and implement spill prevention and control measures. However, container shipping vessels hold larger amounts of fuels than construction-related vessels. If an accident occurs and fuels are spilled into Harbor or ocean waters, the fuel could harm biological resources, depending on the extent of the spill. Based on compliance with applicable regulations, and the nature and frequency of past spill events (see Section 3.8, Hazards and Hazardous Materials), impacts due to accidental spills are considered less than significant.

Accidental spills of pollutants during terminal operations on land would be small because large quantities of such substances would not be used. Also, as discussed in Section 3.14, compliance with standard laws and requirements would ensure that terminal facilities include containment and other countermeasures that would prevent upland spills from reaching navigable waters. In addition, oil spill contingency plans are required to address spill cleanup measures after a spill has occurred. Furthermore, the site drainage system would include BMP devices to process site runoff prior to discharge (to the Pier 300 Channel) in accordance with SUSMP requirements (see Section 3.14, Water Quality, Sediments, and Oceanography, for further information). Because of these measures, upland spills from terminal operations are not expected to result in significant impacts to biological resources.

Runoff of pollutants to the Harbor from the new facilities on existing land and the 41-acre landfill would have negligible effects on marine biological communities (fish, benthos, plankton) because water quality standards for protection of marine life would not be exceeded (see Section 3.14). Such runoff could occur during dry weather and from storm events. The latter are periodic, primarily during the winter rainy season, and generally of short duration.

New lights would be added to the proposed Project site. The new lights would all be low-glare lights with reduced light emissions (see Section 3.1, Aesthetics and Visual Resources). The amount of light at the proposed Project site would not substantially increase. Because the lighting would be in industrial areas, the light would not substantially affect terrestrial wildlife habitat or the species present. Most of the new lights would be located away from the edge of the water (throughout the backlands), and this would minimize effects on marine organisms, so that biological communities would not be substantially disrupted.

CEQA Impact Determination

A remote potential exists for an accidental vessel spill that could harm biological resources in the Harbor or ocean during proposed Project operation.

Based on compliance with applicable regulations, and the nature and frequency of past spill events (see Section 3.8, Hazards and Hazardous Materials), impacts due to accidental spills are considered less than significant. Upland spills from terminal operations are not expected to result in significant impacts for the reason discussed

previously. Although terminal operations would extend over a larger area and be more intensive than the CEQA baseline, proposed Project operations would not substantially disrupt biological communities through runoff of contaminants in the vicinity of the proposed Project site. Existing runoff and storm drain discharge controls, as well as conditions of all proposed Project-specific permits, would be implemented (see Section 3.14, Water Quality, Sediments, and Oceanography). The presence of new wharf structures, increased vessel traffic, or new lighting would not substantially disrupt biological communities in the Harbor, for the reasons described above. Such impacts, therefore, would be less than significant under CEQA.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

NEPA Impact Determination

Project operations would result in greater vessel calls than the NEPA baseline. A remote potential exists for an accidental vessel spill that could harm biological resources in the Harbor or ocean during proposed Project operation. Based on compliance with applicable regulations, and the nature and frequency of past spill events (see Section 3.8, Hazards and Hazardous Materials), impacts due to accidental spills are considered less than significant. Upland spills from terminal operations are not expected to result in significant impacts for the reason discussed previously. Although terminal operations would extend over a larger area and be more intensive than the NEPA baseline, proposed Project operations would not substantially disrupt biological communities through runoff of contaminants in the vicinity of the proposed Project site. Existing runoff and storm drain discharge controls, as well as conditions of all proposed Project-specific permits, would be implemented (see Section 3.14, Water Quality, Sediments, and Oceanography). The presence of new wharf structures, increased vessel traffic, or new lighting would not substantially disrupt biological communities in the Harbor, for the reasons described above. Such impacts, therefore, would be less than significant under NEPA.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact BIO-4c: Operation of the proposed Project could introduce non-native species into the Harbor that could substantially disrupt local biological communities.

The amount of ballast water discharged into the Pier 300 area, and thus, the potential for introduction of invasive exotic species could increase because more and larger container ships would use the Port as a result of the proposed Project (LAHD, 1999). These vessels would come primarily from outside the EEZ and would be subject to regulations to minimize the introduction of non-native species in ballast water as described in Section 3.3.3.8. In addition, container ships coming into the Harbor loaded would be taking on

local water while unloading and discharging when reloading. This would also diminish the opportunity for discharge of non-native species. Thus, ballast water discharges during cargo transfers in the Harbor would be unlikely to contain non-native species, but is still a possibility.

Current practices to reduce the likelihood for introduction of invasive species at and near the proposed Project site include:

- Training of seagoing staff on environmental awareness, ballast water management, and all applicable laws and regulations;
- Ballast water is exchanged mid-ocean for APL vessels en route to Los Angeles;
- APL ship crews perform routine inspections of ballast tanks and properly dispose of any accumulated sediments;
- All APL vessels comply with ballast water reporting requirements, and this is verified through routine audits;
- No ballast water is discharged into harbor waters unless in the event of a ship stability emergency; and
- APL vessel hulls are inspected and cleaned twice per year.

Non-native algal species can also be introduced via vessel hulls. The California State Lands Commission has issued a report on commercial vessel fouling in California (CSLC, 2006). The Commission recommended that the state legislature broaden the state program and adopt regulations to prevent non-indigenous species introductions by ship fouling. Of particular concern is the introduction of an alga, *Caulerpa taxifolia*. As discussed in Section 3.3.2.7, this species is most likely introduced from disposal of aquarium plants and water and is spread by fragmentation rather than from ship hulls or ballast water; therefore, risk of introduction is associated with movement of plant fragments from infected to uninfected areas by activities such as dredging and/or anchoring. The Port conducts surveys, consistent with the Caulerpa Control Protocol (NMFS and CDFG, 2008) prior to every water-related construction project to verify that Caulerpa is not present. This species has not been detected in the Harbors and has been eradicated from known localized areas of occurrence in southern California. Therefore, there is little potential for additional vessel operations from the proposed Project to introduce these species.

Undaria pinnatifida, which was discovered in the Port Complex in 2000 (MEC and Associates, 2002), and *Sargassum filicinum (or S. horneri)*, discovered in October 2003 (MBC, 2004), may be introduced and/or spread as a result of hull fouling or ballast water and, therefore, might have the potential to increase in the Harbor via vessels traveling between ports in the EEZ. Invertebrates that attach to vessel hulls could be introduced in a similar manner.

The proposed Project would result in a gradual increase to an additional 143 vessels per year in 2027 (compared to the CEQA baseline ship calls of 247 at the APL terminal), which represents an approximately six percent increase in vessel traffic compared to the total number of vessels entering the Port (an average of 2,275 vessel arrivals in 2008-9 [Port of Los Angeles, 2010]). Considering the small discharge of non-local water from container ships (see above) and the ballast water regulations currently in effect, the potential for introduction of additional exotic species via ballast water would be low from

vessels entering from outside the EEZ. The potential for introduction of exotic species via vessel hulls would be increased in proportion to the increase in number of vessels. However, vessel hulls are generally coated with antifouling paints and cleaned at intervals to reduce the frictional drag from growths of organisms on the hull (Global Security, 2007). This would reduce the potential for transport of exotic species. For these reasons, the proposed Project has a low potential to increase the introduction of non-native species into the Harbor that could substantially disrupt local biological communities, but such effects could still occur.

CEQA Impact Determination

The proposed Project would increase the annual ship calls relative to the CEQA baseline. Operation of the proposed Project facilities has the potential to result in the introduction of non-native species into the Harbor via ballast water or vessel hulls and thus could substantially disrupt local biological communities. Impacts, therefore, would be significant under CEQA.

Mitigation Measures

No feasible mitigation is currently available to totally prevent introduction of invasive species via vessel hulls or even ballast water, due to the lack of a proven technology. The Port of Los Angeles and Port of Long Beach, California State Lands Commission, and the University of Maryland are collaborating with APL to test a shipboard ballast water treatment system designed to remove non-native species from ballast water, and prevent their introduction into harbor waters. If methods become available in the future, they would be implemented as required at that time.

Residual Impacts

Impacts from potential introduction of invasive species via vessel hulls would be significant and unavoidable.

NEPA Impact Determination

The proposed Project would increase the annual ship calls relative to the NEPA baseline. Operation of the proposed Project facilities has the potential to result in the introduction of non-native species into the Harbor via ballast water or vessel hulls and thus could substantially disrupt local biological communities. Impacts, therefore, would be significant under NEPA.

Mitigation Measures

No feasible mitigation is currently available to totally prevent introduction of invasive species via vessel hulls or even ballast water, due to the lack of a proven technology. The Ports of Los Angeles and Long Beach, California State Lands Commission, and the University of Maryland are collaborating with APL to test a shipboard ballast water treatment system designed to remove non-native species from ballast water, and prevent their introduction into harbor waters. If methods become available in the future, they would be implemented as required at that time.

Residual Impacts

Impacts from potential introduction of invasive species via vessel hulls would be significant and unavoidable.

3.3.4.3.2 Alternatives

3.3.4.3.2.1 Alternativ e 1 – No Project

Under Alternative 1, no further Port action or federal action would occur. The Port would not construct and develop additional backlands, wharves, or terminal improvements. No new cranes would be added, no gate or backland improvements would occur, and no infrastructure for AMP at Berth 306 or automation in the backland area adjacent to Berth 306 would be provided. This alternative would not include any dredging, new wharf construction, or new cranes. The No Project Alternative would not include development of any additional backlands because the existing terminal is berth-constrained and additional backlands would not improve its efficiency.

Under the No Project Alternative, the existing APL Terminal would continue to operate as an approximately 291-acre container terminal. Based on the throughput projections, terminal operations are expected to grow over time as throughput demands increase. Under Alternative 1, the existing APL Terminal would handle approximately 2.15 million TEUs by 2027, which would result in 286 annual ship calls at Berths 302-305. In addition, this alternative would result in up to 7,273 peak daily one-way truck trips (1,922,497 annual), and up to 2,336 annual one-way rail trip movements. Under Alternative 1, cargo ships that currently berth and load/unload at the Berths 302-305 terminal would continue to do so.

The No Project Alternative would not preclude future improvements to the proposed Project site. However, any future changes in use or new improvements with the potential to significantly impact the environment would need to be analyzed in a separate environmental document.

Impact BIO-1a: Construction activities would not cause a loss of individuals or habitat of a state- or federally listed endangered, threatened, rare, protected, or candidate species, or a Species of Special Concern or the loss of federally listed critical habitat.

CEQA Impact Determination

Because there would be no new construction at the proposed Project site, there would be no loss of individuals or habitat of special-status species under CEQA.

Mitigation Measures

No mitigation is required.

Residual Impacts

There would be no impacts.

NEPA Impact Determination

The impacts of the No Project Alternative are not required to be analyzed under NEPA. NEPA requires the analysis of a No Federal Action Alternative (Alternative 2 in this document).

Mitigation Measures

Mitigation measures are not applicable.

Residual Impacts

An impact determination is not applicable.

Impact BIO-2a: Construction activities would not result in a substantial reduction or alteration of a state, federally, or locally designated natural habitat, special aquatic site, or plant community, including wetlands.

CEQA Impact Determination

Because there would be no new construction at the proposed Project site, there would be no loss of individuals or habitat under CEQA.

Mitigation Measures

No mitigation is required.

Residual Impacts

There would be no impacts.

NEPA Impact Determination

The impacts of the No Project Alternative are not required to be analyzed under NEPA. NEPA requires the analysis of a No Federal Action Alternative (Alternative 2 in this document).

Mitigation Measures

Mitigation measures are not applicable.

Residual Impacts

An impact determination is not applicable.

Impact BIO-3a: Construction activities would not interfere with wildlife movement/migration corridors.

CEQA Impact Determination

Because there would be no new construction at the proposed Project site, there would be no interference with wildlife movement or migration corridors under CEQA.

Mitigation Measures

No mitigation is required.

Residual Impacts

There would be no impacts.

NEPA Impact Determination

The impacts of the No Project Alternative are not required to be analyzed under NEPA. NEPA requires the analysis of a No Federal Action Alternative (Alternative 2 in this document).

Mitigation Measures

Mitigation measures are not applicable.

Residual Impacts

An impact determination is not applicable.

Impact BIO-4a: Construction activities would not substantially disrupt local biological communities.

CEQA Impact Determination

Because there would be no dredging or wharf construction, there would not be any disruption of local biological communities under CEQA.

Mitigation Measures

No mitigation is required.

Residual Impacts

There would be no impacts.

NEPA Impact Determination

The impacts of the No Project Alternative are not required to be analyzed under NEPA. NEPA requires the analysis of a No Federal Action Alternative (Alternative 2 in this document).

Mitigation Measures

Mitigation measures are not applicable.

Residual Impacts

An impact determination is not applicable.

Impact BIO-5: Construction activities would not result in a permanent loss of marine habitat.

CEQA Impact Determination

Because there would be no fill, there would not be any loss of marine habitat under CEQA.

Mitigation Measures

No mitigation is required.

Residual Impacts

There would be no impacts.

NEPA Impact Determination

The impacts of the No Project Alternative are not required to be analyzed under NEPA. NEPA requires the analysis of a No Federal Action Alternative (Alternative 2 in this document).

Mitigation Measures

Mitigation measures are not applicable.

Residual Impacts

An impact determination is not applicable.

Impact BIO-1b: Operations would not cause a loss of individuals or habitat for a state- or federally listed endangered, threatened, rare, protected, or candidate species, or a Species of Special Concern or the loss of federally listed critical habitat.

CEQA Impact Determination

Under Alternative 1, the number of ship calls at the proposed Project site would increase through 2027, slightly increasing the potential for vessel strikes with protected species (as described in Impact BIO-1b for the proposed Project). Although considered less than significant because of the low probability of vessel strikes, any increase in vessel traffic caused by the project under CEQA may incrementally increase the potential for whale strikes.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

NEPA Impact Determination

The impacts of the No Project Alternative are not required to be analyzed under NEPA. NEPA requires the analysis of a No Federal Action Alternative (Alternative 2 in this document).

Mitigation Measures

Mitigation measures are not applicable.

Residual Impacts

An impact determination is not applicable.

Impact BIO-2b: Operations would not result in a substantial reduction or alteration of a state, federally, or locally designated natural habitat, special aquatic site, or plant community, including wetlands.

CEQA Impact Determination

Operation of the APL Terminal under Alternative 1 would not result in a substantial reduction or alteration of special habitat, site, or community, including wetlands. Operations at the terminal would continue, and there would be no disruption of EFH. Eelgrass beds are located in the Shallow Water Habitat and Seaplane Lagoon adjacent to the terminal site. Vessel operations under Alternative 1 are not expected to directly affect eelgrass beds because they are located in shallower areas north of Berths 302-305 that

cargo vessels would not be operating in. Alternative 1 would not result in changes in drainage patterns and would therefore under CEQA not result in runoff increases that could affect eelgrass in the Shallow Water Habitat.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

NEPA Impact Determination

The impacts of the No Project Alternative are not required to be analyzed under NEPA. NEPA requires the analysis of a No Federal Action Alternative (Alternative 2 in this document).

Mitigation Measures

Mitigation measures are not applicable.

Residual Impacts

An impact determination is not applicable.

Impact BIO-3b: Operation of Alternative 1 would not interfere with wildlife movement/migration corridors.

CEQA Impact Determination

Because there are no true wildlife movement or migration corridors at the proposed Project site, there would be no interference with movement or migration as a result of ongoing operations at the proposed Project site. Migration by bird species that visit or pass through the area would not be affected under CEQA by any changes in terminal operations because no new structures would be present that could impede their movement.

Mitigation Measures

No mitigation is required.

Residual Impacts

There would be no impacts.

NEPA Impact Determination

The impacts of the No Project Alternative are not required to be analyzed under NEPA. NEPA requires the analysis of a No Federal Action Alternative (Alternative 2 in this document).

Mitigation Measures

Mitigation measures are not applicable.

Residual Impacts

An impact determination is not applicable.

Impact BIO-4b: Operation of Alternative 1 would not substantially disrupt local biological communities.

CEQA Impact Determination

Under Alternative 1, operations at the existing APL Terminal would continue with increasing vessel calls through 2027. There is no indication of any disruption to biological communities resulting from operations of the terminal. The potential for accidental spills would continue. However, based on compliance with applicable regulations, and the nature and frequency of past spill events (see Section 3.8, Hazards and Hazardous Materials), impacts due to accidental spills are considered less than significant under CEQA.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

NEPA Impact Determination

The impacts of the No Project Alternative are not required to be analyzed under NEPA. NEPA requires the analysis of a No Federal Action Alternative (Alternative 2 in this document).

Mitigation Measures

Mitigation measures are not applicable.

Residual Impacts

An impact determination is not applicable.

Impact BIO-4c: Operation of the Project could introduce non-native species into the Harbor that could substantially disrupt local biological communities.

CEQA Impact Determination

Under Alternative 1, there would be an additional number of vessels operating at the APL Terminal; therefore, there would still be the potential for introduction of non-native species. As described under Impact BIO-4c for the proposed Project, the potential for introduction of additional exotic species via ballast water would be low from vessels entering from or going outside the EEZ due to current ballast water regulations. The potential for introduction of exotic species via vessel hulls would be increased in proportion to the increase in number of vessels. However, vessel hulls are generally coated with antifouling paints and cleaned at intervals to reduce the frictional drag from

growths of organisms on the hull (Global Security, 2007). Thiswould reduce the potential for transport of exotic species. For these reasons, Alternative 1 has a low potential to increase the introduction of non-native species into the Harbor that could substantially disrupt local biological communities, but such effects could still occur and would be considered significant.

Mitigation Measures

As described for the proposed Project, no feasible mitigation is currently available to totally prevent introduction of invasive species via vessel hulls or even ballast water, due to the lack of a proven technology. New technologies are being explored, and, if methods become available in the future, they would be implemented as required at that time.

Residual Impacts

Impacts from potential introduction of invasive species via vessel hulls would be significant and unavoidable.

NEPA Impact Determination

The impacts of the No Project Alternative are not required to be analyzed under NEPA. NEPA requires the analysis of a No Federal Action Alternative (Alternative 2 in this document).

Mitigation Measures

Mitigation measures are not applicable.

Residual Impacts

An impact determination is not applicable.

3.3.4.3.2.2 Alternative 2 – No Federal Action

The No Federal Action Alternative would be the same as the NEPA baseline and would include only the activities and impacts likely to occur absent further USACE federal approval but could include improvements that require a local action. Under Alternative 2, no federal action would occur; however, minor terminal improvements in the upland area of the existing APL Terminal would be implemented. These minor upland improvements would include conversion of a portion of the dry container storage area to an additional 200 reefers, associated electrical lines, and installation of utility infrastructure at locations in the existing backland areas. Beyond these minor upland improvements, the Port would not construct and develop additional backlands or wharves. No gate or additional backland improvements would occur, and no in-water features such as dredging or a new berth, wharf extension, or over-water features such as new cranes would occur under the No Federal Action Alternative.

Under the No Federal Action Alternative, the existing APL Terminal would continue to operate as an approximately 291-acre container terminal, and up to approximately 2.15 million TEUs could be handled at the terminal by 2027. Based on the throughput projections, the No Federal Action Alternative would result in 286 annual ship calls at Berths 302-305. In addition, this alternative would result in up to 7,273 peak daily truck trips (1,922,497 annual), and up to 2,336 annual one-way rail trip movements. Cargo

ships that currently berth and load/unload at the Berths 302-305 terminal would continue to do so.

Impact BIO-1a: Construction activities would not cause a loss of individuals or habitat of a state- or federally listed endangered, threatened, rare, protected, or candidate species, or a Species of Special Concern or the loss of federally listed critical habitat.

CEQA Impact Determination

Because only minor new construction would occur on the existing developed Project site, there would be no loss of individuals or habitat of special-status species under CEQA.

Mitigation Measures

No mitigation is required.

Residual Impacts

There would be no impacts.

NEPA Impact Determination

The No Federal Action Alternative would have the same conditions as the NEPA baseline, as explained in Section 2.6.2 in Chapter 2; therefore, there would be no incremental difference between Alternative 2 and the NEPA baseline. As a consequence, Alternative 2 would result in no impact under NEPA.

Mitigation Measures

No mitigation is required.

Residual Impacts

There would be no impacts.

Impact BIO-2a: Construction activities would not result in a substantial reduction or alteration of a state, federally, or locally designated natural habitat, special aquatic site, or plant community, including wetlands.

CEQA Impact Determination

Because only minor new construction would occur on the existing developed Project site, there would be no loss of individuals or habitat under CEQA.

Mitigation Measures

No mitigation is required.

Residual Impacts

There would be no impacts.

NEPA Impact Determination

The No Federal Action Alternative would have the same conditions as the NEPA baseline, as explained in Section 2.6.2 in Chapter 2; therefore, there would be no incremental difference between Alternative 2 and the NEPA baseline. As a consequence, Alternative 2 would result in no impact under NEPA.

Mitigation Measures

No mitigation is required.

Residual Impacts

There would be no impacts.

Impact BIO-3a: Construction activities would not interfere with wildlife movement/migration corridors.

CEQA Impact Determination

Because only minor new construction would occur on the existing developed Project site, there would be no interference with wildlife movement or migration corridors under CEQA.

Mitigation Measures

No mitigation is required.

Residual Impacts

There would be no impacts.

NEPA Impact Determination

The No Federal Action Alternative would have the same conditions as the NEPA baseline, as explained in Section 2.6.2 in Chapter 2; therefore, there would be no incremental difference between Alternative 2 and the NEPA baseline. As a consequence, Alternative 2 would result in no impact under NEPA.

Mitigation Measures

No mitigation is required.

Residual Impacts

There would be no impacts.

Impact BIO-4a: Construction activities would not substantially disrupt local biological communities.

CEQA Impact Determination

Because there would be no dredging or wharf construction and only minor construction on the existing terminal, there would not be any disruption of local biological communities under CEQA.

Mitigation Measures

No mitigation is required.

Residual Impacts

There would be no impacts.

NEPA Impact Determination

The No Federal Action Alternative would have the same conditions as the NEPA baseline, as explained in Section 2.6.2 in Chapter 2; therefore, there would be no incremental difference between Alternative 2 and the NEPA baseline. As a consequence, Alternative 2 would result in no impact under NEPA.

Mitigation Measures

No mitigation is required.

Residual Impacts

There would be no impacts.

Impact BIO-5: Construction activities would not result in a permanent loss of marine habitat.

CEQA Impact Determination

Because there would be no fill, there would not be any loss of marine habitat under CEQA.

Mitigation Measures

No mitigation is required.

Residual Impacts

There would be no impacts.

NEPA Impact Determination

The No Federal Action Alternative would have the same conditions as the NEPA baseline, as explained in Section 2.6.2 in Chapter 2; therefore, there would be no incremental difference between Alternative 2 and the NEPA baseline. As a consequence, Alternative 2 would result in no impact under NEPA.

Mitigation Measures

No mitigation is required.

Residual Impacts

There would be no impacts.

Impact BIO-1b: Operations would not cause a loss of individuals or habitat for a state- or federally listed endangered, threatened, rare, protected, or candidate species, or a Species of Special Concern or the loss of federally listed critical habitat.

CEQA Impact Determination

Under Alternative 2, the number of ship calls at the Project site would increase through 2027, slightly increasing the potential for vessel strikes with protected species (as described in Impact BIO-1b for the proposed Project). Although considered less than significant because of the low probability of vessel strikes, any increase in vessel traffic caused by the Project under CEQA may incrementally increase the potential for whale strikes.

Mitigation Measures

No mitigation is required. However, as described under the proposed Project, the potential for impacts under Alternative 2 would be further reduced with implementation of mitigation measure **MM AQ-10**.

Residual Impacts

Impacts would be less than significant.

NEPA Impact Determination

The No Federal Action Alternative would have the same conditions as the NEPA baseline, as explained in Section 2.6.2 in Chapter 2; therefore, there would be no incremental difference between Alternative 2 and the NEPA baseline. As a consequence, Alternative 2 would result in no impact under NEPA.

Mitigation Measures

No mitigation is required.

Residual Impacts

There would be no impacts.

Impact BIO-2b: Operations would not result in a substantial reduction or alteration of a state, federally, or locally designated natural habitat, special aquatic site, or plant community, including wetlands.

CEQA Impact Determination

Operation of the APL Terminal under Alternative 2 would not result in a substantial reduction or alteration of special habitat, site, or community, including wetlands. Operations at the terminal would continue, and there would be no disruption of EFH. Eelgrass beds are located in the Shallow Water Habitat and Seaplane Lagoon adjacent to the terminal site. Vessel operations under Alternative 2 are not expected to directly affect eelgrass beds because they are located in shallower areas north of Berths 302-306 that cargo vessels would not be operating in. Under CEQA, Alternative 2 would not result in changes in drainage patterns and would therefore not result in runoff increases that could affect eelgrass in the Shallow Water Habitat.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

NEPA Impact Determination

The No Federal Action Alternative would have the same conditions as the NEPA baseline, as explained in Section 2.6.2 in Chapter 2; therefore, there would be no incremental difference between Alternative 2 and the NEPA baseline. As a consequence, Alternative 2 would result in no impact under NEPA.

Mitigation Measures

No mitigation is required.

Residual Impacts

There would be no impacts.

Impact BIO-3b: Operation of Alternative 2 would not interfere with wildlife movement/migration corridors.

CEQA Impact Determination

Because there are no true wildlife movement or migration corridors at the Project site, there would be no interference with movement or migration as a result of ongoing operations at the APL Terminal. Migration by bird species that visit or pass through the area would not be affected under CEQA by any changes in terminal operations because no new structures would be present that could impede their movement.

Mitigation Measures

No mitigation is required.

Residual Impacts

There would be no impacts.

NEPA Impact Determination

The No Federal Action Alternative would have the same conditions as the NEPA baseline, as explained in Section 2.6.2 in Chapter 2; therefore, there would be no incremental difference between Alternative 2 and the NEPA baseline. As a consequence, Alternative 2 would result in no impact under NEPA.

Mitigation Measures

No mitigation is required.

Residual Impacts

There would be no impacts.

Impact BIO-4b: Operation of Alternative 2 would not substantially disrupt local biological communities.

CEQA Impact Determination

Under Alternative 2, operations at the existing Project site would continue with increasing vessel calls through 2027. Any disruption to biological communities resulting from operations of the terminal under CEQA is expected to be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

NEPA Impact Determination

The No Federal Action Alternative would have the same conditions as the NEPA baseline, as explained in Section 2.6.2 in Chapter 2; therefore, there would be no incremental difference between Alternative 2 and the NEPA baseline. As a consequence, Alternative 2 would result in no impact under NEPA.

Mitigation Measures

No mitigation is required.

Residual Impacts

There would be no impacts.

Impact BIO-4c: Operation of the Project could introduce non-native species into the Harbor that could substantially disrupt local biological communities.

CEQA Impact Determination

Under Alternative 2, there would be an additional number of vessels operating at the APL Terminal; therefore, there would still be the potential for introduction of non-native species. As described under Impact BIO-4c for the proposed Project, the potential for introduction of additional exotic species via ballast water would be low from vessels entering from or going outside the EEZ due to current ballast water regulations. The potential for introduction of exotic species via vessel hulls would be increased in proportion to the increase in number of vessels. However, vessel hulls are generally coated with antifouling paints and cleaned at intervals to reduce the frictional drag from growths of organisms on the hull (Global Security, 2007). This would reduce the potential for transport of exotic species. For these reasons, Alternative 2 has a low potential to increase the introduction of non-native species into the Harbor that could substantially disrupt local biological communities, but such effects could still occur under CEQA.

Mitigation Measures

As described for the proposed Project, no feasible mitigation is currently available to totally prevent introduction of invasive species via vessel hulls or even ballast water,

due to the lack of a proven technology. New technologies are being explored, and, if methods become available in the future, they would be implemented as required at that time.

Residual Impacts

Impacts from potential introduction of invasive species via vessel hulls would be significant and unavoidable.

NEPA Impact Determination

The No Federal Action Alternative would have the same conditions as the NEPA baseline, as explained in Section 2.6.2 in Chapter 2; therefore, there would be no incremental difference between Alternative 2 and the NEPA baseline. As a consequence, Alternative 2 would result in no impact under NEPA.

Mitigation Measures

No mitigation is required.

Residual Impacts

There would be no impacts.

3.3.4.3.2.3 Alternative 3 – Reduced Project: Four New Cranes

Under Alternative 3, four new cranes would be added to the existing wharf along Berths 302-305 and only minor improvements to the existing APL Terminal would be made utility infrastructure and conversion of dry container storage to reefers). No other upland terminal improvements would be constructed. The existing terminal is berth-constrained, and adding the additional four cranes would improve the terminal's efficiency.

The total acreage of backlands under Alternative 3 would remain at approximately 291 acres, which would be less than the proposed Project. This alternative would not include the extension of the existing wharf, construction of a new berth, dredging, or the relocation and improvement of various gates and entrance lanes.

Based on the throughput projections, TEU throughput under Alternative 3 would be less than the proposed Project, with an expected throughput of approximately 2.58 million TEUs by 2027. This would translate into 338 annual ship calls at Berths 302-305. In addition, this alternative would result in up to 8,725 peak daily truck trips (2,306,460 annual), and up to 2,544 annual one-way rail trip movements. Configuration of all other landside terminal components would be identical to the existing terminal.

Impact BIO-1a: Construction activities would not cause a loss of individuals or habitat of a state- or federally listed endangered, threatened, rare, protected, or candidate species, or a Species of Special Concern or the loss of federally listed critical habitat.

CEQA Impact Determination

Because there would be only minor upland construction on the developed portion of the terminal and no in-water construction, there would be no loss of individuals or habitat of special-status species under CEQA.

Mitigation Measures

No mitigation is required.

Residual Impacts

There would be no impacts.

NEPA Impact Determination

Because there would be only minor upland construction on the developed portion of the terminal relative to the NEPA baseline and no in-water construction, there would be no loss of individuals or habitat of special-status species under NEPA.

Mitigation Measures

No mitigation is required.

Residual Impacts

There would be no impacts.

Impact BIO-2a: Construction activities would not result in a substantial reduction or alteration of a state, federally, or locally designated natural habitat, special aquatic site, or plant community, including wetlands.

CEQA Impact Determination

Because there would be only minor upland construction on the developed portion of the terminal and no in-water construction, there would be no loss of individuals or habitat. There would also be no discernible effects to EFH under CEQA.

Mitigation Measures

No mitigation is required.

Residual Impacts

There would be no impacts.

NEPA Impact Determination

Because there would be only minor upland construction on the developed portion of the terminal, minor over-water construction (relative to the NEPA baseline), and no in-water construction, there would be no loss of individuals or habitat. There would also be no discernible effects to EFH under NEPA.

Mitigation Measures

No mitigation is required.

Residual Impacts

There would be no impacts.

Impact BIO-3a: Construction activities would not interfere with wildlife movement/migration corridors.

CEQA Impact Determination

Because there would be only minor upland construction on the developed portion of the terminal and no in-water construction, there would be no interference with wildlife movement or migration corridors under CEQA.

Mitigation Measures

No mitigation is required.

Residual Impacts

There would be no impacts.

NEPA Impact Determination

Because there would be only minor upland construction on the developed portion of the terminal, minor over-water construction (relative to the NEPA baseline), and no in-water construction, there would be interference with wildlife movement or migration corridors under NEPA.

Mitigation Measures

No mitigation is required.

Residual Impacts

There would be no impacts.

Impact BIO-4a: Construction activities would not substantially disrupt local biological communities.

CEQA Impact Determination

Because there would be no dredging or wharf construction and only minor upland construction on the existing terminal, there would not be any disruption of local biological communities under CEQA.

Mitigation Measures

No mitigation is required.

Residual Impacts

There would be no impacts.

NEPA Impact Determination

Because there would be no dredging or wharf construction and only minor improvements to the existing terminal (similar to the NEPA baseline), there would not be any disruption of local biological communities under NEPA.

Mitigation Measures

No mitigation is required.

Residual Impacts

There would be no impacts.

Impact BIO-5: Construction activities would not result in a permanent loss of marine habitat.

CEQA Impact Determination

Because there would be no fill, there would not be any loss of marine habitat under CEQA.

Mitigation Measures

No mitigation is required.

Residual Impacts

There would be no impacts.

NEPA Impact Determination

No impacts would occur because no marine habitat would be lost under NEPA.

Mitigation Measures

No mitigation is required.

Residual Impacts

There would be no impacts.

Impact BIO-1b: Operations would not cause a loss of individuals or habitat for a state- or federally listed endangered, threatened, rare, protected, or candidate species, or a Species of Special Concern or the loss of federally listed critical habitat.

CEQA Impact Determination

Under Alternative 3, the number of ship calls at the Project site would increase through 2027 to 338, increasing the potential for vessel strikes with protected species (as described in Impact BIO-1b for the proposed Project). Although considered less than significant because of the low probability of vessel strikes, any increase in vessel traffic caused by the Project may incrementally increase the potential for whale strikes under CEQA.

Mitigation Measures

No mitigation is required. However, as described under the proposed Project, the potential for impacts under Alternative 3 would be further reduced with implementation of mitigation measure **MM AQ-10**.

Residual Impacts

Impacts would be less than significant.

NEPA Impact Determination

Under Alternative 3, the number of ship calls at the APL Terminal would increase through 2027 to 338, increasing the potential for vessel collisions with protected species (relative to the NEPA baseline, and similar to Impact BIO-1b for the proposed Project). Although considered less than significant because of the low probability of vessel strikes, any increase in vessel traffic caused by the Project may incrementally increase the potential for whale strikes under NEPA.

Mitigation Measures

No mitigation is required. However, as described under the proposed Project, the potential for impacts under Alternative 3 would be further reduced with implementation of mitigation measure **MM AQ-10**.

Residual Impacts

Impacts would be less than significant.

Impact BIO-2b: Operations would not result in a substantial reduction or alteration of a state, federally, or locally designated natural habitat, special aquatic site, or plant community, including wetlands.

CEQA Impact Determination

Operation of the APL Terminal under Alternative 3 would not result in a substantial reduction or alteration of special habitat, site, or community, including wetlands. Operations at the terminal would continue, and there would be no disruption of EFH. Alternative 3 would not result in changes in drainage patterns and would therefore not result in runoff increases that could affect eelgrass in the Shallow Water Habitat under CEQA.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

NEPA Impact Determination

Operation of the APL Terminal under Alternative 3 would not result in a substantial reduction or alteration of special habitat, site, or community, including wetlands, relative to the NEPA baseline. Although operations at the terminal would continue and would exceed operations under the NEPA baseline, there would be no disruption of EFH. Runoff from the Project site is not expected to disrupt eelgrass beds present in the Shallow Water Habitat/Seaplane Lagoon, adjacent to the east side of the terminal because no change in runoff patterns relative to the NEPA baseline would occur.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact BIO-3b: Operation of Alternative 3 would not interfere with wildlife movement/migration corridors.

CEQA Impact Determination

Because there are no true wildlife movement or migration corridors at the Project site, there would be no interference with movement or migration as a result of ongoing operations at the Project site. Under Alternative 3, four additional cranes would be installed at Berths 302-305 to increase efficiency. Because there are already cranes at the terminal and throughout the Port Complex, and because birds are adept at avoiding obstructions, the addition of four more cranes is not anticipated to impede bird movements under CEQA.

Mitigation Measures

No mitigation is required.

Residual Impacts

There would be no impacts.

NEPA Impact Determination

Because there are no true wildlife movement or migration corridors at the Project site, there would be no interference with movement or migration as a result of ongoing operations at the APL Terminal. Under Alternative 3, four additional cranes would be installed at Berths 302-305 to increase efficiency, which are not included in the NEPA baseline. Since there are already cranes at the terminal, and throughout the Port Complex, and because birds are adept at avoiding obstructions, the addition of four more cranes is not anticipated to impede bird movements under NEPA.

Mitigation Measures

No mitigation is required.

Residual Impacts

There would be no impacts.

Impact BIO-4b: Operation of Alternative 3 would not substantially disrupt local biological communities.

CEQA Impact Determination

Under Alternative 3, operations at the existing APL Terminal would continue with increasing vessel calls through 2027. It is estimated there would be 338 vessel calls by 2027, compared with 247 as the CEQA baseline. There is no indication of any disruption to biological communities resulting from operations of the terminal. The potential for accidental spills would continue. Based on compliance with applicable regulations, and

the nature and frequency of past spill events (see Section 3.8, Hazards and Hazardous Materials), impacts due to accidental spills are considered less than significant under CEQA.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant

NEPA Impact Determination

Under Alternative 3, operations at the existing APL Terminal would continue with increasing vessel calls through 2027. It is estimated there would be 338 vessel calls by 2027, compared with 286 as the NEPA baseline. There is no indication of any disruption to biological communities resulting from operations of the terminal under NEPA.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact BIO-4c: Operation of the Project could introduce non-native species into the Harbor that could substantially disrupt local biological communities.

CEQA Impact Determination

Under Alternative 3, there would be an additional number of vessels operating at the APL Terminal; therefore, there would still be the potential for introduction of non-native species. As described under Impact BIO-4c for the proposed Project, the potential for introduction of additional exotic species via ballast water would be low from vessels entering from or going outside the EEZ due to current ballast water regulations. The potential for introduction of exotic species via vessel hulls would be increased in proportion to the increase in number of vessels. However, vessel hulls are generally coated with antifouling paints and cleaned at intervals to reduce the frictional drag from growths of organisms on the hull (Global Security, 2007). This would reduce the potential for transport of exotic species. For these reasons, Alternative 3 has a low potential to increase the introduction of non-native species into the Harbor that could substantially disrupt local biological communities, but such effects could still occur under CEQA.

Mitigation Measures

As described for the proposed Project, no feasible mitigation is currently available to totally prevent introduction of invasive species via vessel hulls or even ballast water, due to the lack of a proven technology. New technologies are being explored, and, if methods become available in the future, they would be implemented as required at that time.

Residual Impacts

Impacts from potential introduction of invasive species via vessel hulls would be significant and unavoidable.

NEPA Impact Determination

Under Alternative 3, there would be an additional number of vessels operating at the APL Terminal; therefore, there would still be the potential for introduction of non-native species. As described under Impact BIO-4c for the proposed Project, the potential for introduction of additional exotic species via ballast water would be low from vessels entering from or going outside the EEZ due to current ballast water regulations. The potential for introduction of exotic species via vessel hulls would be increased in proportion to the increase in number of vessels. However, vessel hulls are generally coated with antifouling paints and cleaned at intervals to reduce the frictional drag from growths of organisms on the hull (Global Security, 2007). This would reduce the potential for transport of exotic species. For these reasons, Alternative 3 has a low potential to increase the introduction of non-native species into the Harbor that could substantially disrupt local biological communities, but such effects could still occur under NEPA.

Mitigation Measures

As described for the proposed Project, no feasible mitigation is currently available to totally prevent introduction of invasive species via vessel hulls or even ballast water, due to the lack of a proven technology. New technologies are being explored, and, if methods become available in the future, they would be implemented as required at that time.

Residual Impacts

Impacts from potential introduction of invasive species via vessel hulls would be significant and unavoidable.

3.3.4.3.2.4 Alternat ive 4 – Reduced Project: No New Wharf

Under Alternative 4, six cranes would be added to the existing terminal wharf at Berths 302-305, and the 41-acre fill area adjacent to the APL Terminal would be developed as container yard backlands. EMS would relinquish the 30 acres of backlands under space assignment. EMS would not add the nine acres of land behind Berth 301 or the two acres at the main gate to its permit. Because no new wharf would be constructed at Berth 306, the 41-acre backland would be operated using traditional methods and would not be expected to transition to use of automated equipment. As the existing wharf would not be extended to create Berth 306, no dredging would occur.

Under Alternative 4, the total terminal acreage would be 302 acres, which is less than the proposed Project. Based on the throughput projections, TEU throughput would be less than the proposed Project, with an expected throughput of approximately 2.78 million TEUs by 2027. This would translate into 338 annual ship calls at Berths 302-305. In addition, Alternative 4 would result in up to 9,401 peak daily truck trips (2,485,050 annual), and up to 2,563 annual one-way rail trip movements. Configuration of all other landside terminal components (i.e., Main Gate improvements) would be identical to the proposed Project.

Impact BIO-1a: Construction activities could cause a loss of individuals or habitat of a state- or federally listed endangered, threatened, rare, protected, or candidate species, or a Species of Special Concern or the loss of federally listed critical habitat.

CEQA Impact Determination

Under Alternative 4, there would not be any dredging or wharf construction, but the 41-acre backlands would be developed as a container yard. There are no sensitive plant species on the 41-acre backlands. Development of the area as backlands is scheduled to start in the first quarter 2013, which overlaps with the nesting season (February 15 – September 1) for elegant and Caspian tern. If the elegant and Caspian tern utilize the 41-acre are for nesting in 2013, site development could result in a significant impact on nesting and likely delays in construction to avoid harming the birds and nest in compliance with the MBTA under CEQA.

Mitigation Measures

As with the proposed Project, mitigation measure **MM BIO-1** would be implemented to avoid impacts to possible elegant and Caspian tern nesting on the 41-acre area.

Residual Impacts

Impacts would be less than significant.

NEPA Impact Determination

Under Alternative 4, there would not be any dredging or wharf construction, but the 41-acre backlands would be developed as a container yard, which is not included in the NEPA baseline. There are no sensitive plant species on the 41-acre backlands. Development of the area as backlands is scheduled to start in the first quarter 2013, which overlaps with the nesting season (February 15 – September 1) of elegant and Caspian tern. If the elegant and Caspian tern utilize the 41-acre are for nesting in 2013, site development could result in a significant impact on nesting under NEPA.

Mitigation Measures

As with the proposed Project, mitigation measure **MM BIO-1** would be implemented to avoid impacts to possible elegant and Caspian tern nesting on the 41-acre area.

Residual Impacts

Impacts would be less than significant.

Impact BIO-2a: Construction activities would not result in a substantial reduction or alteration of a state, federally, or locally designated natural habitat, special aquatic site, or plant community, including wetlands.

CEQA Impact Determination

Because there would be no new construction on or in the water at the Project site (including dredging and wharf construction) under Alternative 4, there would be no degradation of, or reduction in, aquatic habitat. There are no special upland habitats or sensitive natural communities identified at the proposed site that would be affected by

development of the backlands. There are approximately 30.6 acres of eelgrass habitat in the Pier 300 Shallow Water Habitat and Seaplane Lagoon; however, backlands development is not expected to affect subtidal eelgrass beds because runoff would be controlled with BMPs and would not be discharged to the habitat area (i.e., runoff would be discharged along the Pier 300 Channel). The nearest kelp beds to the Project site are located adjacent to the entrance to Fish Harbor, and kelp distribution in the Port Complex is generally located at the outer breakwaters and riprap structures in the Outer Harbors that face harbor entrances (SAIC, 2010). Giant kelp does not occur in areas directly off the APL Terminal. There are no mudflats or marshes near the Project site that would be affected by Alternative 4 construction. There would also be no discernible effects to EFH because there would be no in-water construction. The SWPPP implemented by the tenant currently at the APL Terminal has been successful in preventing water quality exceedances and maintaining water quality sufficient for growth of eelgrass (EMS, 2010). A similar program would be implemented as part of Alternative 4 to ensure continued protection of these resources during construction. This program would include standard BMPs, such as use of sediment barriers, to minimize runoff, which could affect EFH and eelgrass under CEQA.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

NEPA Impact Determination

As with the NEPA baseline, because there would be no new construction on or in the water at the Project site (including dredging and wharf construction) under Alternative 4, there would be no degradation of, or reduction in, aquatic habitat. There are no special upland habitats or sensitive natural communities identified at the proposed Project site that would be affected by development of the backlands. There are approximately 30.6 acres of eelgrass habitat in the Pier 300 Shallow Water Habitat and Seaplane Lagoon; however, backlands development is not expected to affect subtidal eelgrass beds because runoff would be controlled with BMPs and would not be discharged to the habitat area (i.e., runoff would be discharged along the Pier 300 Channel). The nearest kelp beds to the Project site are located adjacent to the entrance to Fish Harbor, and kelp distribution in the Port Complex is generally located at the outer breakwaters and riprap structures in the Outer Harbors that face harbor entrances (SAIC, 2010). Giant kelp does not occur in areas directly off the APL Terminal. There are no mudflats or marshes near the Project site that would be affected by Alternative 4 construction. There would also be no discernible effects to EFH because there would be no in-water construction. The SWPPP implemented by the tenant currently at the APL Terminal has been successful in preventing water quality exceedances and maintaining water quality sufficient for growth of eelgrass (EMS, 2010). A similar program would be implemented as part of Alternative 4 to ensure continued protection of these resources during construction. This program would include standard BMPs, such as use of sediment barriers, to minimize runoff, which could affect EFH and eelgrass under NEPA.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact BIO-3a: Construction activities would not interfere with wildlife movement/migration corridors.

CEQA Impact Determination

No known terrestrial wildlife migration corridors are present at the proposed Project site. The only defined migratory species in the Harbor are birds. California least tern is a migratory bird species that nests on Pier 400, while Caspian tern, elegant tern, and royal tern have nested on the 41-acre fill site; development of the backlands under Alternative 4 would not interfere with the aerial migration of these species. Movement to and from foraging areas in the Harbor also would not be affected by Alternative 4 construction activities. Construction activities within the proposed Project site would not block or interfere with migration or movement of any of these species covered under the MBTA because the work would be in a small portion of the Project site where the birds occur and the birds could easily fly around or over the work. There are no anticipated effects from backlands development on fishes or aquatic invertebrates, including EFH, or on marine mammals and sea turtles under CEQA.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

NEPA Impact Determination

No known terrestrial wildlife migration corridors are present at the proposed Project site. The only defined migratory species in the Harbor are birds. California least tern is a migratory bird species that nests on Pier 400, while Caspian tern, elegant tern, and royal tern have nested on the 41-acre fill site. Although Alternative 4 includes upland and over-water development not included in the NEPA baseline, the improvements would not interfere with the aerial migration of these species. Movement to and from foraging areas in the Harbor also would not be affected by Alternative 4 construction activities. Construction activities within the proposed Project site would not block or interfere with migration or movement of any of these species covered under the MBTA because the work would be in a small portion of the Project site where the birds occur and the birds could easily fly around or over the work. There are no anticipated effects from backlands development on fishes or aquatic invertebrates, including EFH, or on marine mammals and sea turtles under NEPA.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact BIO-4a: Construction activities would not substantially disrupt local biological communities.

CEQA Impact Determination

Because there would be no dredging or wharf construction, there would not be any disruption of local biological communities. In addition, noise from night construction is not expected to result in significant impacts to biological resources because few birds/wildlife are scarce in upland areas and upland construction would not affect underwater noise levels under CEQA.

Mitigation Measures

No mitigation is required.

Residual Impacts

There would be no impacts.

NEPA Impact Determination

Because there would be no dredging or wharf construction (similar to the NEPA baseline), there would not be any disruption of local biological communities. In addition, noise from night construction is not expected to result in significant impacts to biological resources because few birds/wildlife are scarce in upland areas and upland construction would not affect underwater noise levels under NEPA.

Mitigation Measures

No mitigation is required.

Residual Impacts

There would be no impacts.

Impact BIO-5: Construction activities would not result in a permanent loss of marine habitat.

CEQA Impact Determination

No impacts would occur because no marine habitat would be lost under CEQA.

Mitigation Measures

No mitigation is required.

Residual Impacts

There would be no impacts.

NEPA Impact Determination

As with the NEPA baseline, no impacts would occur under Alterative 4 because no marine habitat would be lost under NEPA.

Mitigation Measures

No mitigation is required.

Residual Impacts

There would be no impacts.

Impact BIO-1b: Operations would not cause a loss of individuals or habitat for a state- or federally listed endangered, threatened, rare, protected, or candidate species, or a Species of Special Concern or the loss of federally listed critical habitat.

CEQA Impact Determination

Under Alternative 4, the number of ship calls at the Project site would increase through 2027 to 338, increasing the potential for vessel strikes with protected species (as described in Impact BIO-1b for the proposed Project). Although considered less than significant because of the low probability of vessel strikes, any increase in vessel traffic caused by Alternative 4 may incrementally increase the potential for whale strikes under CEQA.

Mitigation Measures

No mitigation is required. However, as described under the proposed Project, the potential for impacts under Alternative 4 would be further reduced with implementation of mitigation measure **MM AQ-10**.

Residual Impacts

Impacts would be less than significant.

NEPA Impact Determination

Under Alternative 4, the number of ship calls at the Project site would increase through 2027 to 338, increasing the potential for vessel strikes with protected species relative to the NEPA baseline (as described in Impact BIO-1b for the proposed Project). As described under the proposed Project, the potential for impacts resulting from vessel strikes under Alternative 4 is not significant under NEPA.

Mitigation Measures

No mitigation is required. However, as described under the proposed Project, the potential for impacts under Alternative 4 would be further reduced with implementation of mitigation measure **MM AQ-10**.

Residual Impacts

Impacts would be less than significant.

Impact BIO-2b: Operations would not result in a substantial reduction or alteration of a state, federally, or locally designated natural habitat, special aquatic site, or plant community, including wetlands.

CEQA Impact Determination

Operation of the APL Terminal under Alternative 4 would not result in a substantial reduction or alteration of special habitat, site, or community, including wetlands. Operations at the terminal would continue, and there would be no disruption of EFH. Runoff from the newly paved areas under Alternative 4 would be routed southward, treated via BMP devices, and discharged to the Pier 300 Channel. Under CEQA, the runoff would not be expected to adversely affect eelgrass beds present in the Shallow Water Habitat or Seaplane Lagoon due to the large separation distance (over 2,900 ft).

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

NEPA Impact Determination

Although Alternative 4 would operate at a higher level than the NEPA baseline, it would not result in a substantial reduction or alteration of special habitat, site, or community, including wetlands. Operations at the terminal would continue, and there would be no disruption of EFH. Runoff from the newly paved areas under Alternative 4 would be routed southward, treated via BMP devices, and discharged to the Pier 300 Channel. Under NEPA, the runoff would not be expected to adversely affect eelgrass beds present in the Shallow Water Habitat or Seaplane Lagoon due to the large separation distance (over 2,900 ft).

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact BIO-3b: Operation of Alternative 4 would not interfere with wildlife movement/migration corridors.

CEQA Impact Determination

Because there are no true wildlife movement or migration corridors at the proposed site, there would be no interference with movement or migration as a result of ongoing operations at the APL Terminal under CEQA.

Mitigation Measures

No mitigation is required.

Residual Impacts

There would be no impacts.

NEPA Impact Determination

Although Alternative 4 would have upland and over-water development not included in the NEPA baseline, because there are no true wildlife movement or migration corridors at the proposed site, there would be no interference with movement or migration as a result of increased terminal operations under NEPA.

Mitigation Measures

No mitigation is required.

Residual Impacts

There would be no impacts.

Impact BIO-4b: Operation of Alternative 4 would not substantially disrupt local biological communities.

CEQA Impact Determination

Under Alternative 4, operations at the existing Project site would continue with increasing vessel calls through 2027. It is estimated there would be 338 vessel calls by 2027, compared with 247 as the CEQA baseline. Similar to the proposed Project, no disruptions of biological communities resulting from operations of the terminal are expected under Alternative 4. The potential for accidental spills would continue. Based on compliance with applicable regulations, and the nature and frequency of past spill events (see Section 3.8, Hazards and Hazardous Materials), impacts due to accidental spills are considered less than significant under CEQA.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

NEPA Impact Determination

Under Alternative 4, operations at the existing Project site would continue with increasing vessel calls through 2027. It is estimated there would be 338 vessel calls by 2027, compared with 286 as the NEPA baseline. Similar to the proposed Project, no disruptions to biological communities resulting from operations of the terminal under Alternative 4 are expected under NEPA.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact BIO-4c: Operation of the Project could introduce non-native species into the Harbor that could substantially disrupt local biological communities.

CEQA Impact Determination

Under Alternative 4, there would be an additional number of vessels operating at the APL Terminal; therefore, there would still be the potential for introduction of non-native species. As described under Impact BIO-4c for the proposed Project, the potential for introduction of additional exotic species via ballast water would be low from vessels entering from or going outside the EEZ due to current ballast water regulations. The potential for introduction of exotic species via vessel hulls would be increased in proportion to the increase in number of vessels. However, vessel hulls are generally coated with antifouling paints and cleaned at intervals to reduce the frictional drag from growths of organisms on the hull (Global Security, 2007). Thiswhich would reduce the potential for transport of exotic species. For these reasons, Alternative 4 has a low potential to increase the introduction of non-native species into the Harbor that could substantially disrupt local biological communities, but such effects could still occur under CEQA.

Mitigation Measures

As described for the proposed Project, no feasible mitigation is currently available to totally prevent introduction of invasive species via vessel hulls or even ballast water, due to the lack of a proven technology. New technologies are being explored, and, if methods become available in the future, they would be implemented as required at that time.

Residual Impacts

Impacts from potential introduction of invasive species via vessel hulls would be significant and unavoidable.

NEPA Impact Determination

Under Alternative 4, there would be an additional number of vessels operating at the APL Terminal relative to the NEPA baseline; therefore, there would still be the potential for introduction of non-native species. As described under Impact BIO-4c for the proposed Project, the potential for introduction of additional exotic species via ballast water would be low from vessels entering from or going outside the EEZ due to current ballast water regulations. The potential for introduction of exotic species via vessel hulls would be increased in proportion to the increase in number of vessels. However, vessel hulls are generally coated with antifouling paints and cleaned at intervals to reduce the frictional drag from growths of organisms on the hull (Global Security, 2007). This would reduce the potential for transport of exotic species. For these reasons, Alternative 4 has a low potential to increase the introduction of non-native species into the Harbor that could

substantially disrupt local biological communities, but such effects could still occur under NEPA.

Mitigation Measures

As described for the proposed Project, no feasible mitigation is currently available to totally prevent introduction of invasive species via vessel hulls or even ballast water, due to the lack of a proven technology. New technologies are being explored, and, if methods become available in the future, they would be implemented as required at that time.

Residual Impacts

Impacts from potential introduction of invasive species via vessel hulls would be significant and unavoidable.

3.3.4.3.2.5 Alternativ e 5 – Reduced Project: No Space Assignment

Alternative 5 would improve the existing terminal, construct a new wharf (1,250 ft) creating Berth 306, add 12 new cranes to Berths 302-306, add 56 acres for backlands, wharfs, and gates improvements, construct electrification infrastructure in the backlands behind Berths 305-306, and relinquish the 30 acres currently on space assignment. This alternative would be the same as the proposed Project, except that EMS would relinquish the 30 acres of backlands under space assignment. As with the proposed Project, the 41-acre backlands and Berth 306 under Alterative 5 could utilize traditional container operations, electric automated operations, or a combination of the two over time. Dredging of the Pier 300 Channel along the new wharf at Berth 306 (approximately 20,000 cy) would occur, with the dredged material beneficially reused, and/or disposed of at an approved disposal site (such as the CDF at Berths 243-245 and/or Cabrillo shallow water habitat) or, if needed, disposed of at an ocean disposal site (i.e., LA-2).

Under Alternative 5, the total gross terminal acreage would be 317 acres, which is less than the proposed Project. TEU throughput would be the same as the proposed Project, with an expected throughput of approximately 3.2 million TEUs by 2027. This would translate into 390 annual ship calls at Berths 302-306. In addition, this alternative would result in up to 11,361 peak daily truck trips (3,003,157 annual) including drayage, and up to 2,953 annual one-way rail trip movements. Configuration of all other landside terminal components would be identical to the existing terminal.

Impact BIO-1a: Construction activities could cause a loss of individuals or habitat of a state- or federally listed endangered, threatened, rare, protected, or candidate species, or a Species of Special Concern or the loss of federally listed critical habitat.

Construction impacts for Alternative 5 would be essentially the same as those described for the proposed Project (Impact BIO-1a). The impacts due to dredging and piling installation would be the same as those for the proposed Project.

CEQA Impact Determination

Construction activities of Alternative 5 are not likely to result in the loss of individuals or the reduction of existing habitat, of a state or federally listed endangered, threatened, rare, protected, candidate, or sensitive species or a species of special concern. In-water construction would cause localized activity, noise, and turbidity that could affect birds

and marine mammals. However, these impacts would be temporary and limited to the waters in the vicinity of construction activities. Implementation of required water quality monitoring during dredging according to the requirements of the RWQCB, as well as implementation of standard dredging BMPs via adaptive management of the dredging would minimize potential impacts to sensitive species. Impacts related to dredging would be less than significant under CEQA.

Potential biological impacts from disposal of dredged sediments would depend on the disposal method. However, for all in-water disposal options (such as confined aquatic disposal or at the LA-2 ODMDS), potential impacts include: water quality impacts from turbidity or contaminants and smothering of resident fishes and invertebrates. Impacts from disposal at the LA-2 (as well as the LA-3) disposal site was evaluated during the site designation process (USEPA and USACE, 2005). Sediments were screened to determine acceptability of disposal at different locations. Sediments suitable for unconfined aquatic disposal would (1) be used as fill at the Cabrillo shallow water habitat, (2) potentially provide fill for the Berths 243-245 CDF, and (3) potentially disposed of at the LA-2 ODMDS. Unsuitable sediments would be used for fill in the Berths 243-245 CDF. Biological impacts due to construction and fill of the CDF, as well as expansion and fill of the CSWH, were evaluated in the *Final Supplemental Evironmental Impact Statement / Final Supplemental Environmental Impact Report (EIS/EIR) for the Port of Los Angeles Channel Deepening Project* (USACE and LAHD, 2009). This evaluation included mitigation for habitat loss at the Berths 243-245 CDF. Any temporary water quality impacts would be minimized as discussed by pre-dredge screening, water quality monitoring, and adaptive management and use of BMPs.

If the elegant and Caspian tern utilize the 41-acre are for nesting in 2013, site development could result in a significant impact on nesting because development of the area as backlands is scheduled to start in the first quarter 2013, which overlaps with the nesting season (February 15 – September 1) for elegant and Caspian tern. Implementation of mitigation measure **MM BIO-1** would avoid potentially significant impacts during the breeding period for terns. Concrete pile-driving is anticipated to result in disturbance (Level B harassment) to marine mammals (particularly harbor seals and sea lions, which would be the marine mammals most likely to occur in the vicinity of Pier 300) in the vicinity of pile-driving operations. Impacts would not be significant; however, impacts on marine mammals resulting from noise associated with pile-driving would be further reduced with implementation of standard condition of approval **SC BIO-1**. This would ensure that marine mammals would be readily able to avoid pile-driving areas, and no injury to marine mammals from pile-driving sounds would be expected.

Mitigation Measures

As described under the proposed Project, the potential for impacts could be minimized with implementation of mitigation measure **MM BIO-1** and standard condition of approval **SC BIO-1**.

Residual Impacts

Impacts would be less than significant.

NEPA Impact Determination

Construction impacts for Alternative 5 would be greater than the NEPA baseline, and essentially the same as those described for the proposed Project (Impact BIO-1a). The impacts due to dredging and piling installation would be the same as those for the proposed Project. Development of the area as backlands is scheduled to start in the first quarter 2013, which overlaps with the nesting season (February 15 – September 1) of elegant and Caspian tern. If the elegant and Caspian tern utilize the 41-acre are for nesting in 2013, site development could result in a significant impact on nesting.

Construction activities of Alternative 5 are not likely to result in the loss of individuals or the reduction of existing habitat, of a state or federally listed endangered, threatened, rare, protected, candidate, or sensitive species or a species of special concern. In-water construction would cause localized activity, noise, and turbidity that could affect birds and marine mammals. However, these impacts would be temporary and limited to the waters in the vicinity of construction activities. Implementation of required water quality monitoring during dredging according to the requirements of the RWQCB and implementation of standard dredging BMPs via adaptive management of the dredging would minimize potential impacts to sensitive species. Impacts related to dredging would be less than significant under NEPA.

Potential biological impacts from disposal of dredged sediments would depend on the disposal method. However, for all in-water disposal options (such as confined aquatic disposal or at the LA-2 ODMDS), potential impacts include: water quality impacts from turbidity or contaminants and smothering of resident fishes and invertebrates. Impacts from disposal at the LA-2 (as well as the LA-3) disposal site was evaluated during the site designation process (USEPA and USACE, 2005). Sediments were screened to determine acceptability of disposal at different locations. Sediments suitable for unconfined aquatic disposal would (1) be used as fill at the Cabrillo shallow water habitat, (2) potentially provide fill for the Berths 243-245 CDF, and (3) potentially disposed of at the LA-2 ODMDS. Unsuitable sediments would be used for fill in the Berths 243-245 CDF. Biological impacts due to construction and fill of the CDF, as well as expansion and fill of the Cabrillo shallow water habitat, were evaluated in the *Final Supplemental Evironmental Impact Statement / Final Supplemental Environmental Impact Report (EIS/EIR) for the Port of Los Angeles Channel Deepening Project* (USACE and LAHD, 2009). This evaluation included mitigation for habitat loss at the Berths 243-245 CDF. Any temporary water quality impacts would be minimized as discussed by pre-dredge screening, water quality monitoring, and adaptive management and use of BMPs.

If the elegant and Caspian tern utilize the 41-acre are for nesting in 2013, site development could result in a significant impact on nesting because development of the area as backlands is scheduled to start in the first quarter 2013, which overlaps with the nesting season (February 15 – September 1) for elegant and Caspian tern. Implementation of mitigation measure **MM BIO-1** would avoid potentially significant impacts during the breeding period for terns. Concrete pile-driving is anticipated to result in disturbance (Level B harassment) to marine mammals (particularly harbor seals and sea lions, which would be the marine mammals most likely to occur in the vicinity of Pier 300) in the vicinity of pile-driving operations. Impacts would not be significant; however, impacts on marine mammals resulting from noise associated with pile-driving would be further reduced with implementation of standard condition of approval **SC BIO-1**. This would ensure that marine mammals would be readily able to avoid

pile-driving areas, and no injury to marine mammals from pile-driving sounds would be expected.

Mitigation Measures

As described under the proposed Project, the potential for impacts could be minimized with implementation of mitigation measure **MM BIO-1** and standard condition of approval **SC BIO-1**.

Residual Impacts

Impacts would be less than significant.

Impact BIO-2a: Construction activities would not result in a substantial reduction or alteration of a state, federally, or locally designated natural habitat, special aquatic site, or plant community, including wetlands.

Construction impacts for Alternative 5 would be essentially the same as those described for the proposed Project (Impact BIO-2a). There are no special aquatic habitats and sensitive natural communities identified at the proposed Project site that would be affected by construction of Alternative 5. There are approximately 30.6 acres of eelgrass habitat in the Pier 300 Shallow Water Habitat/Seaplane Lagoon area; however, Alternative 5 construction is not expected to affect subtidal eelgrass beds. Prior to installation of in-water structures, eelgrass surveys would be conducted as required under the *Southern California Eelgrass Mitigation Policy* (NMFS, 1991 as amended). Although the absence of eelgrass along Berth 306 in the Pier 300 Channel has been confirmed, if eelgrass is found in the vicinity of any of the structures, a plan would be developed to ensure that there would be no net loss of eelgrass habitat, consistent with the policy. However, because the depths at the proposed construction site (-48 ft MLLW or deeper) are generally inadequate for eelgrass growth, Alternative 5 would probably have no direct impact on eelgrass and associated biological communities.

Based on water quality monitoring data summarized in Impact BIO-1a for the proposed Project, turbidity would be limited to between a few hundred feet and 1,000 ft from dredging operations. The nearest eelgrass beds are approximately 2,900 ft from the nearest (eastern) edge of the proposed dredge and in-water construction area. Results from required water quality monitoring would also be used to document the extent of the dredge plume, and adaptive management measures (such as implementation of BMPs, or compliance with permit conditions such as use of a silt curtain) would be implemented to reduce impacts from turbidity and siltation. Therefore, effects from dredging/pile-driving on eelgrass are not expected. There is no eelgrass or giant kelp in the vicinity of the Berth 306 wharf, so shading from the new wharf would not impact these resources.

The addition of a negligible amount of sediment at the Cabrillo shallow water habitat would not affect existing eelgrass beds at Cabrillo Beach by removal or burial. Turbidity caused by fill, including deposition of suspended sediment on the plant surfaces, could affect eelgrass by reducing light penetration and photosynthesis by eelgrass. The extent and duration of such effects would depend on the amount of suspended sediment and water currents at the time of the work. However, because turbidity is not expected to extend beyond 300 feet (91 m) of the disposal location it would be unlikely to adversely affect productivity of the eelgrass. Deposition of sediment on the eelgrass would be low because much of the suspended sediment would settle out before reaching the eelgrass

beds. These effects would occur only during construction with rapid recovery (a few months) of any plants damaged by the sediment.

Potential biological impacts from disposal of dredged sediments would depend on the disposal method. Impacts from disposal at the LA-2 disposal site were evaluated during the site designation process (USEPA and USACE, 2005). Any temporary water quality impacts would be minimized as discussed by pre-dredge screening, water quality monitoring, and adaptive management and use of BMPs. Fill would not be allowed at special aquatic sites, including wetlands, eelgrass beds, or kelp beds.

The nearest kelp beds to the Project site are located adjacent to the entrance to Fish Harbor, and kelp distribution in the Port Complex is generally located at the outer breakwaters and riprap structures in the Outer Harbors that face harbor entrances (SAIC, 2010). Giant kelp does not occur in waters directly off the APL Terminal, and the nearest beds (at the entrance to Fish Harbor) are more than 1,600 ft from the western edge of the proposed dredge area. Based on water quality monitoring data summarized in Impact BIO-1a for the proposed Project, water quality effects associated with Alternative 5 are expected to be transitory, lasting for less than one tide cycle following active dredging, and covering an area generally within 1,000 ft of the activity, and often less than 300 ft. Turbidity may also be temporarily increased during installation of piles (or other subtidal construction activities that take place near the seafloor). However, the extent would generally be much less than the area affected by dredging, probably affecting a radius of no more than about 100 ft from the activity. Therefore, effects from dredging/pile-driving on giant kelp are not expected. There are no mudflats or marshes near the Project site that would be affected by construction of Alternative 5. Impacts to EFH during construction would be localized and temporary.

The SWPPP implemented by the tenant currently at the APL Terminal has been successful in preventing water quality exceedances and maintaining water quality sufficient for growth of eelgrass (EMS, 2010). A similar program would be implemented as part of Alternative 5 to ensure continued protection of these resources during construction. This program would include standard BMPs, such as use of sediment barriers, to minimize runoff that could affect EFH and eelgrass.

CEQA Impact Determination

Construction of Alternative 5 is not expected to affect subtidal eelgrass habitat in the Pier 300 Shallow Water Habitat/Seaplane Lagoon area or at the Cabrillo shallow water habitat, either from runoff of from turbidity during dredging. The nearest Giant kelp beds to the APL Terminal are located at the entrance to Fish Harbor more than 1,600 ft from the western edge of the proposed dredge area. Based on water quality monitoring data summarized in Impact BIO-1a, water quality effects are expected to be transitory and are not expected to significantly affect the kelp beds. There are no mudflats or marshes near the terminal site that would be affected by Alternative 5 construction. Impacts to EFH during construction would be localized and temporary and not significant under CEQA.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

NEPA Impact Determination

Construction of Alternative 5 would result in limited upland construction, in-water, and over-water construction activities not included in the NEPA baseline. Construction of Alternative 5 is not expected to affect subtidal eelgrass habitat in the Pier 300 Shallow Water Habitat/Seaplane Lagoon area or at the Cabrillo shallow water habitat, either from runoff of from turbidity during dredging. The nearest Giant kelp beds to the APL Terminal are located at the entrance to Fish Harbor more than 1,600 ft from the western edge of the proposed dredge area. Based on water quality monitoring data summarized in Impact BIO-1a, water quality effects are expected to be transitory and are not expected to significantly affect the kelp beds. There are no mudflats or marshes near the terminal site that would be affected by Alternative 5 construction. Impacts to EFH during construction would be localized and temporary and not significant under NEPA.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact BIO-3a: Construction activities would not interfere with wildlife movement/migration corridors.

Construction impacts for Alternative 5 would be essentially the same as those described for the proposed Project.

CEQA Impact Determination

No known terrestrial wildlife migration corridors are present at the proposed Project site. Construction activities within the proposed Project site would not block or interfere with migration or movement of any bird species because the work would be in a small portion of the Harbor area where the birds occur and the birds could easily fly around or over the work.

Fish species present in the Harbor would be subject to temporary acoustic and possibly water quality impacts during dredging and wharf construction. Potential impacts from dredging (turbidity and potential resuspension of contaminated sediments) under Alternative 5 would be the same as for the proposed Project for dredging, and are considered localized and temporary. The sound pressure waves from pile-driving could cause mortality of a few fish in the Coastal Pelagics FMP, but these species are abundant in the Harbor and loss of a few individuals would not cause a substantial reduction of their populations. These impacts could result in temporary avoidance of the construction areas. However, these effects would be temporary, lasting for a few days at a time. There would be no physical barriers to movement, and the baseline condition for fish and wildlife access would be essentially unchanged under CEQA.

Potential biological impacts from disposal of dredged sediments would depend on the disposal method. However, impacts from disposal at the LA-2 (as well as the LA-3) disposal site was evaluated during the site designation process (USEPA and USACE, 2005). Biological impacts due to construction and fill of the CDF, as well as expansion and fill of the Cabrillo shallow water habitat, were evaluated in the *Final Supplemental Evironmental Impact Statement / Final Supplemental Environmental Impact Report*

(EIS/EIR) for the Port of Los Angeles Channel Deepening Project (USACE and LAHD, 2009). No interference with wildlife movement/migration corridors would occur as part of Alternative 5 under CEQA.

Overall, the Harbor and specifically the location of the Project is subject to a high degree of ongoing commercial activity, including the movement of large vessels, and frequent maintenance dredging. Alternative 5-related construction vessel traffic to and from the Harbor (i.e., tugboats carrying dredged sediments) would not interfere with whale migrations along the coast, because these vessels would represent a small proportion of the total Port-related commercial traffic in the area, and each vessel would have a low probability of encountering migrating whales during transit through coastal waters because these animals are generally sparsely distributed offshore and rarely enter the Port Complex (LAHD and USACE, 2007).

Mitigation Measures

No mitigation is required. Implementation of standard condition of approval **SC BIO-1** would further reduce impacts.

Residual Impacts

Impacts would be less than significant.

NEPA Impact Determination

Alternative 5 would include upland, over-water, and in-water development not included in the NEPA baseline. No known terrestrial wildlife migration corridors are present at the proposed Project site. Construction activities within the proposed Project site would not block or interfere with migration or movement of any bird species because the work would be in a small portion of the Harbor area where the birds occur and the birds could easily fly around or over the work.

Fish species present in the Harbor would be subject to temporary acoustic and possibly water quality impacts during dredging and wharf construction. Potential impacts from dredging (turbidity and potential resuspension of contaminated sediments) under Alternative 5 would be the same as for the proposed Project for dredging, and are considered localized and temporary. The sound pressure waves from pile-driving could cause mortality of a few fish in the Coastal Pelagics FMP, but these species are abundant in the Harbor and loss of a few individuals would not cause a substantial reduction of their populations. These impacts could result in temporary avoidance of the construction areas. However, these effects would be temporary, lasting for a few days at a time. There would be no physical barriers to movement, and the baseline condition for fish and wildlife access would be essentially unchanged under NEPA.

Potential biological impacts from disposal of dredged sediments would depend on the disposal method. However, impacts from disposal at the LA-2 (as well as the LA-3) disposal site was evaluated during the site designation process (USEPA and USACE, 2005). Biological impacts due to construction and fill of the CDF, as well as expansion and fill of the Cabrillo shallow water habitat, were evaluated in the *Final Supplemental Evironmental Impact Statement / Final Supplemental Environmental Impact Report (EIS/EIR) for the Port of Los Angeles Channel Deepening Project* (USACE and LAHD, 2009). No interference with wildlife movement/migration corridors would occur as part of Alternative 5 under NEPA.

Overall, the Harbor, and specifically the location of the Project, is subject to a high degree of ongoing commercial activity, including the movement of large vessels, and frequent maintenance dredging. Alternative 5-related construction vessel traffic to and from the Harbor (i.e., tugboats carrying dredged sediments) would not interfere with whale migrations along the coast, because these vessels would represent a small proportion of the total Port-related commercial traffic in the area, and each vessel would have a low probability of encountering migrating whales during transit through coastal waters because these animals are generally sparsely distributed offshore and rarely enter the Port Complex (LAHD and USACE, 2007).

Mitigation Measures

No mitigation is required. Implementation of standard condition of approval **SC BIO-1** would further reduce impacts.

Residual Impacts

Impacts would be less than significant.

Impact BIO-4a: Construction activities would not substantially disrupt local biological communities.

CEQA Impact Determination

Because the terrestrial portions of the Project site are largely developed, impacts on terrestrial biological communities would be limited. Plant communities on the backlands site are mostly introduced, weedy species, with Russian thistle (tumbleweed) the most abundant species. In addition, noise from night construction is not expected to result in significant impacts to biological resources because few birds/wildlife are scarce in upland areas and upland construction would not affect underwater noise levels

Construction impacts for Alternative 5 would be essentially the same as those described for the proposed Project (Impact BIO-4a). Construction activities at the proposed Project site, particularly pile-driving, could cause short-term impacts on individuals (e.g. marine mammals and fishes, including those with designated EFH) in the immediate vicinity of pile-driving. However, no substantial disruption of biological communities would result from Alternative 5 construction, and impacts are considered insignificant under CEQA.

Potential biological impacts from disposal of dredged sediments would depend on the disposal method. However, for all in-water disposal options (such as confined aquatic disposal or at the LA-2 ODMDS), potential impacts include: water quality impacts from turbidity or contaminants and smothering of resident fishes and invertebrates. Impacts from disposal at the LA-2 (as well as the LA-3) disposal site was evaluated during the site designation process (USEPA and USACE, 2005). Biological impacts due to construction and fill of the CDF, as well as expansion and fill of the Cabrillo shallow water habitat, were evaluated in the *Final Supplemental Evironmental Impact Statement / Final Supplemental Environmental Impact Report (EIS/EIR) for the Port of Los Angeles Channel Deepening Project* (USACE and LAHD, 2009). Any temporary water quality impacts would be minimized as discussed by pre-dredge screening, water quality monitoring, and adaptive management and use of BMPs.

Construction activities that have the potential to introduce or redistribute invasive species would be less than significant. All construction impacts that could substantially disrupt

local biological communities resulting from Alternative 5 would be less than significant under CEQA.

Mitigation Measures

No mitigation is required. As described under the proposed Project, the potential for impacts could be further reduced with implementation of mitigation measure **MM BIO-1** and standard condition of approval **SC BIO-1**.

Residual Impacts

Impacts would be less than significant.

NEPA Impact Determination

Alternative 5 would include upland, over-water, and in-water development not included in the NEPA baseline. However, because the terrestrial portions of the Project site are largely developed, impacts on terrestrial biological communities would be limited. Plant communities on the backlands site are mostly introduced, weedy species, with Russian thistle (tumbleweed) the most abundant species. In addition, noise from night construction is not expected to result in significant impacts to biological resources because few birds/wildlife are scarce in upland areas and upland construction would not affect underwater noise levels.

Construction activities at the terminal site, particularly pile-driving, could cause short-term impacts on individuals (e.g. marine mammals and fishes, including those with designated EFH) in the immediate vicinity of pile-driving. However, no substantial disruption of biological communities would result from Alternative 5 construction, and impacts are considered insignificant under NEPA.

Potential biological impacts from disposal of dredged sediments would depend on the disposal method. However, for all in-water disposal options (such as confined aquatic disposal or at the LA-2 ODMDS), potential impacts include: water quality impacts from turbidity or contaminants and smothering of resident fishes and invertebrates. Impacts from disposal at the LA-2 (as well as the LA-3) disposal site was evaluated during the site designation process (USEPA and USACE, 2005). Biological impacts due to construction and fill of the CDF, as well as expansion and fill of the Cabrillo shallow water habitat, were evaluated in the *Final Supplemental Evironmental Impact Statement / Final Supplemental Environmental Impact Report (EIS/EIR) for the Port of Los Angeles Channel Deepening Project* (USACE and LAHD, 2009). Any temporary water quality impacts would be minimized as discussed by pre-dredge screening, water quality monitoring, and adaptive management and use of BMPs.

Construction activities that have the potential to introduce or redistribute invasive species would be less than significant. All construction impacts that could substantially disrupt local biological communities resulting Alternative 5 would be less than significant under NEPA.

Mitigation Measures

No mitigation is required. As described under the proposed Project, the potential for impacts could be further reduced with implementation of mitigation measure **MM BIO-1** and standard condition of approval **SC BIO-1**.

Residual Impacts

Impacts would be less than significant.

Impact BIO-5: Construction activities would not result in a permanent loss of marine habitat.

CEQA Impact Determination

As with the proposed Project, no impacts would occur under Alternative 5 because no marine habitat would be lost. Although new piles would be added to the water column, piles provide hard substrate usable as habitat by marine organisms under CEQA.

Mitigation Measures

No mitigation is required.

Residual Impacts

There would be no impacts.

NEPA Impact Determination

Alternative 5 would include upland, over-water, and in-water development not included in the NEPA baseline. As with the proposed Project, no impacts would occur under Alternative 5 because no marine habitat would be lost. Although new piles would be added to the water column, piles provide hard substrate usable as habitat by marine organisms under NEPA.

Mitigation Measures

No mitigation is required.

Residual Impacts

There would be no impacts.

Impact BIO-1b: Operations would not cause a loss of individuals or habitat for a state- or federally listed endangered, threatened, rare, protected, or candidate species, or a Species of Special Concern or the loss of federally listed critical habitat.

Operation of new and upgraded terminal facilities at the terminal site under Alternative 5 would be similar to the proposed Project and would not adversely affect any of the state or federally listed, or special concern bird species listed in Tables 3.3-3 and 3.3-4. Operation of the backland facilities (e.g., cranes, railyard, and container transfers) would not measurably change the numbers or species of common birds in that area and, thus, would not affect foraging. The increase in vessel traffic of up to approximately one ship call every 2 to 3 days at the APL Terminal would cause a short interval of disturbance throughout the route from Angel's Gate to Berths 302-306 but would not result in a loss of habitat or individuals for sensitive birds that use the water surface for resting or foraging.

An estimated 143 additional vessel calls per year above the CEQA baseline ship calls of 247 to the Port and 104 vessels over the NEPA baseline of 286 vessels annually would result from Alternative 5 by the year 2027. This increase would occur gradually over

time. Acoustic impacts from the increased vessel activity would be the same as those identified for the proposed Project. Potential impacts due to vessel strikes resulting from the increased shipping traffic would also be the same as those identified for the proposed Project and are considered insignificant.

CEQA Impact Determination

Terminal activity under Alternative 5 would be greater than the CEQA baseline; however, operational activities would result in no loss of habitat for rare, threatened, endangered, protected, or candidate species, or Species of Special Concern. No impacts to critical habitat would occur because no critical habitat is present. However, increased ship calls may affect some species. Underwater sound from Alternative 5-related vessels would affect few, if any, marine mammals; impacts, therefore, would be less than significant under CEQA. Impacts of Alternative 5-related vessel traffic on marine mammals would be considered less than significant because of the low probability of vessel strikes and Alternative 5 vessel strikes would not be expected to occur. Although the likelihood of such a collision is low, such collisions occur and may cause an impact to species listed on the ESA, especially blue whales. Therefore, although considered less than significant because of the low probability of vessel strikes, any increase in vessel traffic caused by Alternative 5 may incrementally increase the potential for whale strikes under CEQA.

Mitigation Measures

No mitigation is required. However, as described under the proposed Project, the potential for vessel collisions with marine mammals under Alternative 5 would be further reduced with implementation of mitigation measure **MM AQ-10**.

Residual Impacts

Impacts would be less than significant.

NEPA Impact Determination

Alternative 5 would result in greater operational throughput than the NEPA baseline (104 additional vessel calls per year above the NEPA baseline ship calls of 286 vessel calls annually by the year 20270. Operational impacts under Alternative 5 would be similar to those of the proposed Project.

Terminal activity under Alternative 5 would be greater than the NEPA baseline; however, operational activities would result in no loss of habitat for rare, threatened, endangered, protected, or candidate species, or Species of Special Concern. No impacts to critical habitat would occur because no critical habitat is present. However, increased ship calls may affect some species. Underwater sound from Alternative 5-related vessels would affect few, if any, marine mammals; impacts, therefore, would be less than significant under NEPA. Impacts of Project-related vessel traffic on marine mammals would be considered less than significant because of the low probability of vessel strikes and Project vessel strikes would not be expected to occur. Although the likelihood of such a collision is low, such collisions occur and may cause an impact to species listed on the ESA, especially blue whales. Therefore, although considered less than significant because of the low probability of vessel strikes, any increase in vessel traffic caused by Alternative 5 may incrementally increase the potential for whale strikes under NEPA.

Mitigation Measures

No mitigation is required. However, as described under the proposed Project, the potential for impacts resulting from vessel collisions with marine mammals under Alternative 5 would be further reduced with implementation of mitigation measure **MM AQ-10**.

Residual Impacts

Impacts would be less than significant.

Impact BIO-2b: Operations would not result in a substantial reduction or alteration of a state, federally, or locally designated natural habitat, special aquatic site, or plant community, including wetlands.

Operation of terminal facilities under Alternative 5 would have minimal effects on EFH. Although the estimated number of vessels would add to the number of noise events, they would not substantially add to the overall underwater noise level. The addition of up to one ship call every 2 to 3 days would not adversely affect FMP species present in the Outer Harbor or in the vicinity of Pier 300 because the additional trips proposed for Alternative 5 are infrequent. Schooling fish, such as sardines and anchovy, likely would ignore the ship movements and sound, or temporarily move out of the way. Runoff from the new facilities would not substantially reduce or alter EFH in Harbor waters because water quality standards for protection of marine life would not be exceeded (see Section 3.14, Water Quality, Sediments, and Oceanography).

As described in Impact BIO-2a, no SEAs or natural plant communities are present that could be affected by operation of terminal facilities under Alternative 5. No wetlands or mudflats are present at the proposed Project site, and those in other areas of the Harbor are not located in or near (more than 1 mile away) the channels that would be used by vessels transiting to or from the APL Terminal.

Eelgrass beds are located in the Shallow Water Habitat and Seaplane Lagoon adjacent to the Project site. Vessel operations at the APL Terminal are not expected to directly affect eelgrass beds because they are located in shallower areas north of the Berths 302-306 that cargo vessels would not be operating in. In addition, runoff from the newly paved areas under Alternative 5 would be routed southward, treated via BMP devices, and discharged to the Pier 300 Channel. The runoff is not expected to adversely affect eelgrass beds present in the Shallow Water Habitat or Seaplane Lagoon due to the large separation distance (over 2,900 ft).

CEQA Impact Determination

Activity at the terminal under the Alternative 5 would be greater than the CEQA baseline; however, operational activities on land and in the water would not substantially reduce or alter EFH for the reasons described above, and no significant impacts to EFH would occur under CEQA. No SEAs, natural plant communities, mudflats, or wetlands are present. Potential impacts to eelgrass resulting from runoff are not expected under CEQA.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

NEPA Impact Determination

Activity in the terminal under Alternative 5 would be greater than the NEPA baseline; however, operational activities on land and in the water would not substantially reduce or alter EFH for the reasons described above, and no significant impacts to EFH would occur under NEPA. No SEAs, natural plant communities, mudflats, or wetlands are present. Potential impacts to eelgrass resulting from runoff are not expected under NEPA.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact BIO-3b: Operation of Alternative 5 would not interfere with wildlife movement/migration corridors.

CEQA Impact Determination

No barriers to wildlife passage would result from operation of Alternative 5. The type of operational activity that would occur within the Harbor (vessel traffic) would gradually increase to an additional 143 calls per year in 2027, and would have no effect on wildlife movement or migration within the Harbor under CEQA.

Mitigation Measures

No mitigation is required.

Residual Impacts

There would be no impacts.

NEPA Impact Determination

Although Alternative 5 would include upland, over-water, and in-water development not included in the NEPA baseline, no barriers to wildlife passage would result from operation of Alternative 5. The type of operational activity that would occur within the Harbor (vessel traffic) would slightly increase by up to 104 vessel calls per year, and would have no effect on wildlife movement or migration within the Harbor under NEPA.

Mitigation Measures

No mitigation is required.

Residual Impacts

There would be no impacts.

Impact BIO-4b: Operation of Alternative 5 would not substantially disrupt local biological communities.

CEQA Impact Determination

Operational impacts potentially resulting from Alternative 5 include effects from: the new wharf at Berth 306, runoff, noise/light from new terminal operations, and effects from increased vessel traffic. A remote potential exists for an accidental vessel spill that could harm biological resources in the Harbor or ocean to occur during Alternative 5 operation. Based on compliance with applicable regulations, and the nature and frequency of past spill events (see Section 3.8, Hazards and Hazardous Materials), impacts due to accidental spills are considered less than significant. Upland spills from terminal operations are not expected to result in significant impacts for the reason discussed under the proposed Project. Although terminal operations would extend over a larger area and be more intensive than the CEQA baseline, terminal operations under Alternative 5 would not substantially disrupt biological communities through runoff of contaminants in the vicinity of the Project site. Existing runoff and storm drain discharge controls, as well as conditions of all Alternative 5-specific permits, would be implemented (see Section 3.14, Water Quality, Sediments, and Oceanography). New lights added to the Project site would all be low-glare lights with reduced light emissions. Most of the new lights would also be located away from the edge of the water, minimizing potential impacts to marine resources. As described in detail for the proposed Project, the presence of new wharf structures, increased vessel traffic, or new lighting would not substantially disrupt biological communities in the Harbor under CEQA.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

NEPA Impact Determination

Operational impacts potentially resulting from Alternative 5 include effects from: the new wharf at Berth 306, runoff, noise/light from new terminal operations, and effects from increased vessel traffic. A remote potential exists for an accidental vessel spill that could harm biological resources in the Harbor or ocean to occur during Alternative 5 operation. Based on compliance with applicable regulations, and the nature and frequency of past spill events (see Section 3.8, Hazards and Hazardous Materials), impacts due to accidental spills are considered less than significant. Upland spills from terminal operations are not expected to result in significant impacts for the reason discussed under the proposed Project. Although terminal operations would extend over a larger area and be more intensive than the NEPA baseline, terminal operations under Alternative 5 would not substantially disrupt biological communities through runoff of contaminants in the vicinity of the Project site. Existing runoff and storm drain discharge controls, as well as conditions of all Alternative 5-specific permits, would be implemented (see Section 3.14, Water Quality, Sediments, and Oceanography). New lights added to the Project site would all be low-glare lights with reduced light emissions. Most of the new lights would also be located away from the edge of the water, minimizing potential impacts to marine resources. As described in detail for the

proposed Project, the presence of new wharf structures, increased vessel traffic, or new lighting would not substantially disrupt biological communities in the Harbor under NEPA.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact BIO-4c: Operation of the Alternative 5 could introduce non-native species into the Harbor that could substantially disrupt local biological communities.

CEQA Impact Determination

Under Alternative 5, there would be an additional number of vessels operating at the APL Terminal; therefore, there would still be the potential for introduction of non-native species. As described under Impact BIO-4c for the proposed Project, the potential for introduction of additional exotic species via ballast water would be low from vessels entering from or going outside the EEZ due to current ballast water regulations, as well as practices and procedures of APL and seagoing vessel crews. The potential for introduction of exotic species via vessel hulls would be increased in proportion to the increase in number of vessels. However, vessel hulls are generally coated with antifouling paints and cleaned at intervals to reduce the frictional drag from growths of organisms on the hull (Global Security, 2007). Thiswould reduce the potential for transport of exotic species. For these reasons, Alternative 5 has a low potential to increase the introduction of non-native species into the Harbor that could substantially disrupt local biological communities, but such effects could still occur and are considered significant under CEQA.

Mitigation Measures

As described for the proposed Project, no feasible mitigation is currently available to totally prevent introduction of invasive species via vessel hulls or even ballast water, due to the lack of a proven technology. New technologies are being explored, and, if methods become available in the future, they would be implemented as required at that time.

Residual Impacts

Impacts from potential introduction of invasive species via vessel hulls would be significant and unavoidable.

NEPA Impact Determination

Under Alternative 5, there would be an additional number of vessels operating at the APL Terminal relative to the NEPA baseline; therefore, there would still be the potential for introduction of non-native species. As described under Impact BIO-4c for the proposed Project, the potential for introduction of additional exotic species via ballast water would be low from vessels entering from or going outside the EEZ due to current ballast water regulations, as well as practices and procedures of APL and seagoing vessel crews. The potential for introduction of exotic species via vessel hulls would be increased in

proportion to the increase in number of vessels. However, vessel hulls are generally coated with antifouling paints and cleaned at intervals to reduce the frictional drag from growths of organisms on the hull (Global Security, 2007). Thiswould reduce the potential for transport of exotic species. For these reasons, Alternative 5 has a low potential to increase the introduction of non-native species into the Harbor that could substantially disrupt local biological communities, but such effects could still occur and are considered significant under NEPA.

Mitigation Measures

As described for the proposed Project, no feasible mitigation is currently available to totally prevent introduction of invasive species via vessel hulls or even ballast water, due to the lack of a proven technology. New technologies are being explored, and, if methods become available in the future, they would be implemented as required at that time.

Residual Impacts

Impacts from potential introduction of invasive species via vessel hulls would be significant and unavoidable.

3.3.4.3.2.6 Alternative 6 – Proposed Project with Expanded On-Dock Railyard

Alternative 6 would be the same as the proposed Project; however, the existing on-dock railyard on the terminal would be redeveloped and expanded. Under this alternative, approximately 10 acres of backlands would be removed from container storage for the railyard expansion. Alternative 6 would improve the existing terminal, develop the existing 41-acre fill area as backlands, add 1,250 ft of new wharf creating Berth 306, and dredge the Pier 300 Channel along Berth 306. Under this alternative, 12 new cranes would be added to the wharves along Berths 302-306, for a total of 24 cranes. As with the proposed Project, the 41-acre backlands and Berth 306 under Alterative 6 could utilize traditional container operations, electric automated operations, or a combination of the two over time. Dredging of the Pier 300 Channel along Berth 306 would occur (removal of approximately 20,000 cy of material), with the dredged material beneficially reused and/or disposed of at an approved disposal site (such as the CDF at Berths 243-245 and/or Cabrillo shallow water habitat) or, if needed, disposed of at an ocean disposal site (i.e., LA-2). Total terminal acreage (347) would be the same as the proposed Project.

Based on the throughput projections, TEU throughput would be the same as the proposed Project, with an expected throughput of approximately 3.2 million TEUs by 2027. This would translate into 390 annual ship calls at Berths 302-306. In addition, Alternative 6 would result in up to 10,830 peak daily truck trips (2,862,760 annual), and up to 2,953 annual rail trip movements. Configuration of all other landside terminal components would be identical to the existing terminal.

Impact BIO-1a: Construction activities could cause a loss of individuals or habitat of a state- or federally listed endangered, threatened, rare, protected, or candidate species, or a Species of Special Concern or the loss of federally listed critical habitat.

Construction impacts for Alternative 6 would be the same as those described for the proposed Project and Alternative 5. The impacts due to dredging and associated

beneficial reuse and/or disposal of the material and piling installation would be the same as those for the proposed Project.

CEQA Impact Determination

Construction activities of Alternative 6 are not likely to result in the loss of individuals or the reduction of existing habitat, of a state- or federally listed endangered, threatened, rare, protected, candidate, or sensitive species or a species of special concern. In-water construction would cause localized activity, noise, and turbidity that could affect birds and marine mammals. However, these impacts would be temporary and limited to the waters in the vicinity of construction activities. Implementation of required water quality monitoring during dredging according to the requirements of the RWQCB, as well as implementation of standard dredging BMPs via adaptive management of the dredging would minimize potential impacts to sensitive species. Impacts related to dredging would be less than significant under CEQA.

Potential biological impacts from disposal of dredged sediments would depend on the disposal method. However, for all in-water disposal options (such as confined aquatic disposal or at the LA-2 ODMDS), potential impacts include: water quality impacts from turbidity or contaminants and smothering of resident fishes and invertebrates. Impacts from disposal at the LA-2 (as well as the LA-3) disposal site was evaluated during the site designation process (USEPA and USACE, 2005). Sediments were screened to determine acceptability of disposal at different locations. Sediments suitable for unconfined aquatic disposal would (1) be used as fill at the Cabrillo shallow water habitat, (2) potentially provide fill for the Berths 243-245 CDF, and (3) potentially be disposed of at the LA-2 ODMDS. Unsuitable sediments would be used for fill in the Berths 243-245 CDF. Biological impacts due to construction and fill of the CDF, as well as expansion and fill of the Cabrillo shallow water habitat, were evaluated in the *Final Supplemental Evironmental Impact Statement / Final Supplemental Environmental Impact Report (EIS/EIR) for the Port of Los Angeles Channel Deepening Project* (USACE and LAHD, 2009). This evaluation included mitigation for habitat loss at the Berths 243-245 CDF. Any temporary water quality impacts would be minimized as discussed by pre-dredge screening, water quality monitoring, and adaptive management and use of BMPs.

Development of the area as backlands is scheduled to start in the first quarter 2013, which overlaps with the nesting season (February 15 – September 1) for elegant and Caspian tern. If the elegant and Caspian tern utilize the 41-acre are for nesting in 2013, site development could result in a significant impact on nesting. Implementation of mitigation measure **MM BIO-1** would avoid potentially significant impacts during the breeding period for terns. Concrete pile-driving is anticipated to result in disturbance (Level B harassment) to marine mammals (particularly harbor seals and sea lions, which would be the marine mammals most likely to occur in the vicinity of Pier 300) in the vicinity of pile-driving operations. Impacts would not be significant; however, impacts on marine mammals resulting from noise associated with pile-driving would be further reduced with implementation of standard condition of approval **SC BIO-1**. This would ensure that marine mammals would be readily able to avoid pile-driving areas, and no injury to marine mammals from pile-driving sounds would be expected under CEQA.

Mitigation Measures

As described under the proposed Project, the potential for impacts could be minimized with implementation of mitigation measure **MM BIO-1** and standard condition of approval **SC BIO-1**.

Residual Impacts

Impacts would be less than significant.

NEPA Impact Determination

Alternative 6 would include upland, over-water, and in-water development not included in the NEPA baseline. Construction impacts for Alternative 6 would be the same as those described for the proposed Project and Alternative 5. The impacts due to dredging and associated beneficial reuse and/or disposal of the material, and piling installation would be the same as those for the proposed Project.

Potential biological impacts from disposal of dredged sediments would depend on the disposal method. However, for all in-water disposal options (such as confined aquatic disposal or at the LA-2 ODMDS), potential impacts include: water quality impacts from turbidity or contaminants and smothering of resident fishes and invertebrates. Impacts from disposal at the LA-2 (as well as the LA-3) disposal site was evaluated during the site designation process (USEPA and USACE, 2005). Sediments were screened to determine acceptability of disposal at different locations. Sediments suitable for unconfined aquatic disposal would (1) be used as fill at the Cabrillo shallow water habitat, (2) potentially provide fill for the Berths 243-245 CDF, and (3) potentially be disposed of at the LA-2 ODMDS. Unsuitable sediments would be used for fill in the Berths 243-245 CDF. Biological impacts due to construction and fill of the CDF, as well as expansion and fill of the Cabrillo shallow water habitat, were evaluated in the *Final Supplemental Evironmental Impact Statement / Final Supplemental Environmental Impact Report (EIS/EIR) for the Port of Los Angeles Channel Deepening Project* (USACE and LAHD, 2009). This evaluation included mitigation for habitat loss at the Berths 243-245 CDF. Any temporary water quality impacts would be minimized as discussed by pre-dredge screening, water quality monitoring, and adaptive management and use of BMPs.

Development of the area as backlands is scheduled to start in the first quarter 2013, which overlaps with the nesting season (February 15 – September 1) of elegant and Caspian tern. If the elegant and Caspian tern utilize the 41-acre are for nesting in 2013, site development could result in a significant impact on nesting. Implementation of mitigation measure **MM BIO-1** would avoid potentially significant impacts during the breeding period for terns. Concrete pile-driving is anticipated to result in disturbance (Level B harassment) to marine mammals (particularly harbor seals and sea lions, which would be the marine mammals most likely to occur in the vicinity of Pier 300) in the vicinity of pile-driving operations. Impacts would not be significant; however, impacts on marine mammals resulting from noise associated with pile-driving would be further reduced with implementation of standard condition of approval **SC BIO-1**. This would ensure that marine mammals would be readily able to avoid pile-driving areas, and no injury to marine mammals from pile-driving sounds would be expected under NEPA.

Mitigation Measures

As described under the proposed Project, the potential for impacts could be minimized with implementation of mitigation measure **MM BIO-1** and standard condition of approval **SC BIO-1**.

Residual Impacts

Impacts would be less than significant.

Impact BIO-2a: Construction activities would not result in a substantial reduction or alteration of a state, federally, or locally designated natural habitat, special aquatic site, or plant community, including wetlands.

Construction impacts for Alternative 6 would be the same as those described for the proposed Project and Alternative 5 (Impact BIO-2a).

CEQA Impact Determination

There are no special aquatic habitats and sensitive natural communities identified in the area of the Project that would be affected by Alternative 6 construction. As with the proposed Project, effects from dredging /pile-driving on kelp/eelgrass are not expected. There is no eelgrass or giant kelp in the vicinity of the proposed Berth 306 wharf, so shading from the new wharf would not impact these resources. There are no mudflats or marshes near the Project site that would be affected by Alternative 6 construction under CEQA.

The addition of a negligible amount of sediment at the Cabrillo shallow water habitat would not affect existing eelgrass beds at Cabrillo Beach by removal or burial. Turbidity caused by fill, including deposition of suspended sediment on the plant surfaces, could affect eelgrass by reducing light penetration and photosynthesis by eelgrass. The extent and duration of such effects would depend on the amount of suspended sediment and water currents at the time of the work. However, because turbidity is not expected to extend beyond 300 feet (91 m) of the disposal location it would be unlikely to adversely affect productivity of the eelgrass. Deposition of sediment on the eelgrass would be low because much of the suspended sediment would settle out before reaching the eelgrass beds. These effects would occur only during construction with rapid recovery (a few months) of any plants damaged by the sediment.

Potential biological impacts from disposal of dredged sediments would depend on the disposal method. Impacts from disposal at the LA-2 (as well as the LA-3) disposal site was evaluated during the site designation process (USEPA and USACE, 2005). Any temporary water quality impacts would be minimized as discussed by pre-dredge screening, water quality monitoring, and adaptive management and use of BMPs.

Impacts to EFH during construction would be localized and temporary. The SWPPP implemented by the tenant currently at the APL Terminal has been successful in preventing water quality exceedances and maintaining water quality sufficient for growth of eelgrass (EMS, 2010). A similar program would be implemented as part of Alternative 6 to ensure continued protection of these resources during construction. This program would include standard BMPs, such as use of sediment barriers, to minimize

runoff, which could affect EFH and eelgrass. Impacts due to Alternative 6 construction would be less than significant under CEQA.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

NEPA Impact Determination

Alternative 6 would include upland, over-water, and in-water development not included in the NEPA baseline. Construction impacts for Alternative 6 would be the same as those described for the proposed Project and Alternative 5 (Impact BIO-2a). There are no special aquatic habitats and sensitive natural communities identified in the area of the Project that would be affected by Alternative 6 construction. As with the proposed Project, effects from dredging /pile-driving on kelp/eelgrass are not expected. There is no eelgrass or giant kelp in the vicinity of the proposed Berth 306 wharf, so shading from the new wharf would not impact these resources. There are no mudflats or marshes near the Project site that would be affected by Alternative 6 construction under NEPA.

The addition of a negligible amount of sediment at the Cabrillo shallow water habitat would not affect existing eelgrass beds at Cabrillo Beach by removal or burial. Turbidity caused by fill, including deposition of suspended sediment on the plant surfaces, could affect eelgrass by reducing light penetration and photosynthesis by eelgrass. The extent and duration of such effects would depend on the amount of suspended sediment and water currents at the time of the work. However, because turbidity is not expected to extend beyond 300 feet (91 m) of the disposal location it would be unlikely to adversely affect productivity of the eelgrass. Deposition of sediment on the eelgrass would be low because much of the suspended sediment would settle out before reaching the eelgrass beds. These effects would occur only during construction with rapid recovery (a few months) of any plants damaged by the sediment.

Potential biological impacts from disposal of dredged sediments would depend on the disposal method. Impacts from disposal at the LA-2 (as well as the LA-3) disposal site was evaluated during the site designation process (USEPA and USACE, 2005). Any temporary water quality impacts would be minimized as discussed by pre-dredge screening, water quality monitoring, and adaptive management and use of BMPs. Impacts to EFH during construction would be localized and temporary. The SWPPP implemented by the tenant currently at the APL Terminal has been successful in preventing water quality exceedances and maintaining water quality sufficient for growth of eelgrass (EMS, 2010). A similar program would be implemented as part of Alternative 6 to ensure continued protection of these resources during construction. This program would include standard BMPs, such as use of sediment barriers, to minimize runoff, which could affect EFH and eelgrass. Impacts due to Alternative 6 construction would be less than significant under NEPA.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact BIO-3a: Construction activities would not interfere with wildlife movement/migration corridors.

Construction impacts for Alternative 6 would be the same as those described for the proposed Project.

CEQA Impact Determination

No known terrestrial wildlife migration corridors are present at the proposed Project site. Construction activities within the proposed Project site would not block or interfere with migration or movement of any bird species because the work would be in a small portion of the Harbor area where the birds occur and the birds could easily fly around or over the work.

Fish species present in the Harbor would be subject to temporary acoustic and possibly water quality impacts during dredging and wharf construction. Potential impacts from dredging (turbidity and potential resuspension of contaminated sediments) under Alternative 6 would be the same as for the proposed Project for dredging, and are considered localized and temporary. The sound pressure waves from pile-driving could cause mortality of a few fish in the Coastal Pelagics FMP, but these species are abundant in the Harbor and loss of a few individuals would not cause a substantial reduction of their populations. These impacts could result in temporary avoidance of the construction areas. However, these effects would be temporary, lasting for a few days at a time. There would be no physical barriers to movement, and the baseline condition for fish and wildlife access would be essentially unchanged under CEQA.

Potential biological impacts from disposal of dredged sediments would depend on the disposal method. However, impacts from disposal at the LA-2 (as well as the LA-3) disposal site was evaluated during the site designation process (USEPA and USACE, 2005). Biological impacts due to construction and fill of the CDF, as well as expansion and fill of the Cabrillo shallow water habitat, were evaluated in the *Final Supplemental Evironmental Impact Statement / Final Supplemental Environmental Impact Report (EIS/EIR) for the Port of Los Angeles Channel Deepening Project* (USACE and LAHD, 2009). No interference with wildlife movement/migration corridors would occur as part of Alternative 6. Potential impacts from dredged material disposal on wildlife, fish, or marine mammal migration would be evaluated and minimized/mitigated separately as part of the fill project under CEQA.

Overall, the Harbor and specifically the location of the Project is subject to a high degree of ongoing commercial activity, including the movement of large vessels, and frequent maintenance dredging. Alternative 6-related construction vessel traffic to and from the Harbor (i.e., tugboats carrying dredged sediments) would not interfere with whale migrations along the coast ,because these vessels would represent a small proportion of the total Port-related commercial traffic in the area, and each vessel would have a low probability of encountering migrating whales during transit through coastal waters

because these animals are generally sparsely distributed offshore and rarely enter the Port Complex (LAHD and USACE, 2007).

Mitigation Measures

No mitigation is required. Implementation of standard condition of approval **SC BIO-1** would further reduce impacts.

Residual Impacts

Impacts would be less than significant.

NEPA Impact Determination

Alternative 6 would include upland, over-water, and in-water development not included in the NEPA baseline. Construction impacts for Alternative 6 would be the same as those described for the proposed Project. No known terrestrial wildlife migration corridors are present at the proposed Project site. Construction activities within the proposed Project site would not block or interfere with migration or movement of any bird species because the work would be in a small portion of the Harbor area where the birds occur and the birds could easily fly around or over the work.

Fish species present in the Harbor would be subject to temporary acoustic and possibly water quality impacts during dredging and wharf construction. Potential impacts from dredging (turbidity and potential resuspension of contaminated sediments) under Alternative 6 would be the same as for the proposed Project for dredging, and are considered localized and temporary. The sound pressure waves from pile-driving could cause mortality of a few fish in the Coastal Pelagics FMP, but these species are abundant in the Harbor and loss of a few individuals would not cause a substantial reduction of their populations. These impacts could result in temporary avoidance of the construction areas. However, these effects would be temporary, lasting for a few days at a time. There would be no physical barriers to movement, and the baseline condition for fish and wildlife access would be essentially unchanged under NEPA.

Potential biological impacts from disposal of dredged sediments would depend on the disposal method. However, impacts from disposal at the LA-2 (as well as the LA-3) disposal site was evaluated during the site designation process (USEPA and USACE, 2005). Biological impacts due to construction and fill of the CDF, as well as expansion and fill of the Cabrillo shallow water habitat, were evaluated in the *Final Supplemental Evironmental Impact Statement / Final Supplemental Environmental Impact Report (EIS/EIR) for the Port of Los Angeles Channel Deepening Project* (USACE and LAHD, 2009). No interference with wildlife movement/migration corridors would occur as part of Alternative 6 under NEPA.

Overall, the Harbor and specifically the location of the Project is subject to a high degree of ongoing commercial activity, including the movement of large vessels, and frequent maintenance dredging. Alternative 6-related construction vessel traffic to and from the Harbor (i.e., tugboats carrying dredged sediments) would not interfere with whale migrations along the coast, because these vessels would represent a small proportion of the total Port-related commercial traffic in the area, and each vessel would have a low probability of encountering migrating whales during transit through coastal waters because these animals are generally sparsely distributed offshore and rarely enter the Port Complex (LAHD and USACE, 2007).

Mitigation Measures

No mitigation is required. Implementation of standard condition of approval **SC BIO-1** would further reduce impacts.

Residual Impacts

Impacts would be less than significant.

Impact BIO-4a: Construction activities would not substantially disrupt local biological communities.

CEQA Impact Determination

Because the terrestrial portions of the proposed Project site are largely developed, impacts on terrestrial biological communities resulting from Alternative 6 would be limited. Plant communities on the backlands site are mostly introduced, weedy species, with Russian thistle (tumbleweed) the most abundant species. In addition, noise from night construction is not expected to result in significant impacts to biological resources because few birds/wildlife are scarce in upland areas and upland construction would not affect underwater noise levels. Construction impacts for Alternative 6 would be essentially the same as those described for the proposed Project (Impact BIO-4a). Construction activities at the proposed Project site, particularly pile-driving, could cause short-term impacts on individuals (e.g. marine mammals and fishes, including those with designated EFH) in the immediate vicinity of pile-driving. However, no substantial disruption of biological communities would result from Alternative 6 construction, and impacts are considered insignificant. In addition, with implementation of standard condition of approval **SC BIO-1**, the pile-driving would initiate with a soft start, which would minimize impacts to fish and marine mammals near construction activities, as they would leave the area.

Potential biological impacts from disposal of dredged sediments would depend on the disposal method. However, for all in-water disposal options (such as confined aquatic disposal or at the LA-2 ODMDS), potential impacts include: water quality impacts from turbidity or contaminants and smothering of resident fishes and invertebrates. Impacts from disposal at the LA-2 (as well as the LA-3) disposal site was evaluated during the site designation process (USEPA and USACE, 2005). Biological impacts due to construction and fill of the CDF, as well as expansion and fill of the Cabrillo shallow water habitat, were evaluated in the *Final Supplemental Evironmental Impact Statement / Final Supplemental Environmental Impact Report (EIS/EIR) for the Port of Los Angeles Channel Deepening Project* (USACE and LAHD, 2009). Any temporary water quality impacts would be minimized as discussed by pre-dredge screening, water quality monitoring, and adaptive management and use of BMPs.

Construction activities that have the potential to introduce or redistribute invasive species would be less than significant. All construction impacts that could substantially disrupt local biological communities resulting from Alternative 6 would be less than significant under CEQA.

Mitigation Measures

No mitigation is required. As described under the proposed Project, the potential for impacts could be further reduced with implementation of mitigation measure **MM BIO-1** and standard condition of approval **SC BIO-1**.

Residual Impacts

Impacts would be less than significant.

NEPA Impact Determination

Alternative 6 would include upland, overwater, and in-water development not included in the NEPA baseline. Construction impacts for Alternative 6 would be essentially the same as those described for the proposed Project (Impact BIO-4a). Because the terrestrial portions of the Project site are largely developed, impacts on terrestrial biological communities resulting from Alternative 6 would be limited. Plant communities on the backlands site are mostly introduced, weedy species, with Russian thistle (tumbleweed) the most abundant species. In addition, noise from night construction is not expected to result in significant impacts to biological resources because few birds/wildlife are scarce in upland areas and upland construction would not affect underwater noise levels.

Construction activities at the proposed Project site, particularly pile-driving, could cause short-term impacts on individuals (e.g. marine mammals and fishes, including those with designated EFH) in the immediate vicinity of pile-driving. However, no substantial disruption of biological communities would result from Alternative 6 construction, and impacts are considered insignificant. In addition, with implementation of standard condition of approval **SC BIO-1**, the pile-driving would initiate with a soft start, which would minimize impacts to fish and marine mammals near construction activities, as they would leave the area.

Potential biological impacts from disposal of dredged sediments would depend on the disposal method. However, for all in-water disposal options (such as confined aquatic disposal or at the LA-2 ODMDS), potential impacts include: water quality impacts from turbidity or contaminants and smothering of resident fishes and invertebrates. Impacts from disposal at the LA-2 (as well as the LA-3) disposal site was evaluated during the site designation process (USEPA and USACE, 2005). Biological impacts due to construction and fill of the CDF, as well as expansion and fill of the Cabrillo shallow water habitat, were evaluated in the *Final Supplemental Evironmental Impact Statement / Final Supplemental Environmental Impact Report (EIS/EIR) for the Port of Los Angeles Channel Deepening Project* (USACE and LAHD, 2009). Construction activities that have the potential to introduce or redistribute invasive species would be less than significant. All construction impacts that could substantially disrupt local biological communities resulting from Alternative 6 would be less than significant under NEPA.

Mitigation Measures

No mitigation is required. However, as with the proposed Project, the potential for impacts under Alternative 6 could be further reduced with implementation of mitigation measure **MM BIO-1** and standard condition of approval **SC BIO-1**.

Residual Impacts

Impacts would be less than significant.

Impact BIO-5: Construction activities would not result in a permanent loss of marine habitat.

CEQA Impact Determination

No impacts would occur because no marine habitat would be lost. Although new piles would be added to the water column, piles provide hard substrate usable as habitat by marine organisms under CEQA.

Mitigation Measures

No mitigation is required.

Residual Impacts

There would be no impacts.

NEPA Impact Determination

Alternative 6 would include upland, over-water, and in-water development not included in the NEPA baseline. No impacts would occur because no habitat would be lost. Although new piles would be added to the water column, piles provide hard substrate usable as habitat by marine organisms under NEPA.

Mitigation Measures

No mitigation is required.

Residual Impacts

There would be no impacts.

Impact BIO-1b: Operations would not cause a loss of individuals or habitat for a state- or federally listed endangered, threatened, rare, protected, or candidate species, or a Species of Special Concern or the loss of federally listed critical habitat.

Operation of new and upgraded terminal facilities at the Project site under Alternative 6 would not adversely affect any of the state or federally listed, or special concern bird species listed in Tables 3.3-3 and 3.3-4. Operation of the backland facilities (e.g., cranes, railyard, and container transfers) would not measurably change the numbers or species of common birds in that area and, thus, would not affect foraging. The increase in vessel traffic of up to approximately one ship call every 2 to 3 days at the APL Terminal would cause a short interval of disturbance throughout the route from Angel's Gate to Berths 302-306 but would not result in a loss of habitat or individuals for sensitive birds that use the water surface for resting or foraging.

An estimated 143 additional vessel calls per year above the CEQA baseline ship calls of 247 to the Port and 104 vessels over the NEPA baseline of 286 vessels annually would result from Alternative 6 by the year 2027. This increase would occur gradually over time. Acoustic impacts from the increased vessel activity would be the same as those identified for the proposed Project. Potential impacts due to vessel strikes resulting from the increased shipping traffic under Alternative 6 would also be the same as those identified for the proposed Project and are considered insignificant.

CEQA Impact Determination

Terminal activity under Alternative 6 would be greater than the CEQA baseline; however, operational activities would result in no loss of habitat for rare, threatened, endangered, protected, or candidate species, or Species of Special Concern. No impacts to critical habitat would occur because no critical habitat is present. However, increased ship calls may affect some species. Underwater sound from Alternative 6-related vessels would affect few, if any, marine mammals; impacts, therefore, would be less than significant under CEQA. Impacts of Alternative 6-related vessel traffic on marine mammals would be considered less than significant because of the low probability of vessel strikes and Alternative 6 vessel strikes would not be expected to occur. Although the likelihood of such a collision is low, such collisions occur and may cause an impact to species listed on the ESA, especially blue whales. Therefore, although considered less than significant because of the low probability of vessel strikes, any increase in vessel traffic caused by Alternative 6 may incrementally increase the potential for whale strikes under CEQA.

Mitigation Measures

No mitigation is required. However, as described under the proposed Project, the potential for impacts under Alternative 6 would be further reduced with implementation of mitigation measure **MM AQ-10**.

Residual Impacts

Impacts would be less than significant.

NEPA Impact Determination

Alternative 6 would include upland, over-water, and in-water development not included in the NEPA baseline. Operation of new and upgraded terminal facilities at the APL Terminal would not adversely affect any of the state- or federally listed, or special concern bird species listed in Tables 3.3-3 and 3.3-4. Operation of the backland facilities (e.g., cranes, railyard, and container transfers) would not measurably change the numbers or species of common birds in that area and, thus, would not affect foraging. The increase in vessel traffic of up to one ship call every 2 to 3 days would cause a short interval of disturbance throughout the route from Angels Gate to Berths 302-306 but would not result in a loss of habitat or individuals for sensitive birds that use the water surface for resting or foraging.

An estimated 104 additional vessel calls per year above the NEPA baseline ship calls of 286 vessel calls annually to the Port would result from Alternative 6 by the year 2027. This increase would occur gradually over time. Acoustic impacts from the increased vessel activity would be the same as those identified for the proposed Project. Potential impacts due to vessel strikes resulting from the increased shipping traffic under Alternative 6 would also be the same as those identified for the proposed Project and are considered insignificant under NEPA.

Terminal activity under Alternative 6 would be greater than the NEPA baseline; however, operational activities would result in no loss of habitat for rare, threatened, endangered, protected, or candidate species, or Species of Special Concern. No impacts to critical habitat would occur because no critical habitat is present. However, increased ship calls may affect some species. Underwater sound from Alternative 6-related vessels would

affect few, if any, marine mammals; impacts, therefore, would be less than significant under NEPA. Impacts of Alternative 6-related vessel traffic on marine mammals would be considered less than significant because of the low probability of vessel strikes and Alternative 6 vessel strikes would not be expected to occur. Although the likelihood of such a collision is low, such collisions occur and may cause an impact to species listed on the ESA, especially blue whales. Therefore, although considered less than significant because of the low probability of vessel strikes, any increase in vessel traffic caused by Alternative 6 may incrementally increase the potential for whale strikes under NEPA.

Mitigation Measures

No mitigation is required. However, as described under the proposed Project, the potential for impacts under Alternative 6 would be further reduced with implementation of mitigation measure **MM AQ-10**.

Residual Impacts

Impacts would be less than significant.

Impact BIO-2b: Operations would not result in a substantial reduction or alteration of a state, federally, or locally designated natural habitat, special aquatic site, or plant community, including wetlands.

Operation of terminal facilities under Alternative 6 would have minimal effects on EFH. Although, the estimated number of vessels would add to the number of noise events, they would not substantially add to the overall underwater noise level. The addition of up to one ship call every 2 to 3 days would not adversely affect FMP species present in the Outer Harbor or in the vicinity of Pier 300 because the additional trips proposed for Alternative 6 are infrequent. Schooling fish, such as sardines and anchovy, likely would ignore the ship movements and sound, or temporarily move out of the way. Runoff from the new facilities would not substantially reduce or alter EFH in Harbor waters, because water quality standards for protection of marine life would not be exceeded (see Section 3.14, Water Quality, Sediments, and Oceanography).

As described in Impact BIO-2a, no SEAs or natural plant communities are present that could be affected by operation of terminal facilities under Alternative 6. No wetlands or mudflats are present at the proposed Project site, and those in other areas of the Harbor are not located in or near (more than 1 mile away) the channels that would be by vessels transiting to or from the APL Terminal.

Eelgrass beds are located in the Shallow Water Habitat and Seaplane Lagoon adjacent to the Project site. Vessel operations at the APL Terminal under Alternative 6 are not expected to directly affect eelgrass beds because they are located in shallower areas north of the Berths 302-306 that cargo vessels would not be operating in. Runoff from the newly paved areas under Alternative 6 would be routed southward, treated via BMP devices, and discharged to the Pier 300 Channel. The runoff is not expected to adversely affect eelgrass beds present in the Shallow Water Habitat or Seaplane Lagoon due to the large separation distance (over 2,900 ft).

CEQA Impact Determination

Activity at the terminal under the Alternative 6 would be greater than the CEQA baseline; however, operational activities on land and in the water would not substantially reduce or alter EFH for the reasons described above, and no significant impacts to EFH would occur under CEQA. No SEAs, natural plant communities, mudflats, or wetlands are present. Potential impacts to eelgrass resulting from runoff are not expected under CEQA.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

NEPA Impact Determination

Alternative 6 would include greater operational throughput than the NEPA baseline; however, operational activities on land and in the water would not substantially reduce or alter EFH for the reasons described above, and no significant impacts to EFH would occur under CEQA. No SEAs, natural plant communities, mudflats, or wetlands are present. Potential impacts to eelgrass resulting from runoff are not expected under NEPA.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact BIO-3b: Operation of Alternative 6 would not interfere with wildlife movement/migration corridors.

CEQA Impact Determination

No barriers to wildlife passage would result from operation of Alternative 6. The type of operational activity that would occur within the Harbor (vessel traffic) would gradually increase to an additional 143 calls per year in 2027, and would have no effect on wildlife movement or migration within the Harbor under CEQA.

Mitigation Measures

No mitigation is required.

Residual Impacts

There would be no impacts.

NEPA Impact Determination

Alternative 6 would include upland, over-water, and in-water development not included in the NEPA baseline. No barriers to wildlife passage would result from operation of Alternative 6. The type of operational activity that would occur within the Harbor (vessel

traffic) would slightly increase by 52 to 104 vessel calls per year, and would have no effect on wildlife movement or migration within the Harbor under NEPA.

Mitigation Measures

No mitigation is required.

Residual Impacts

There would be no impacts.

Impact BIO-4b: Operation of Alternative 6 would not substantially disrupt local biological communities.

CEQA Impact Determination

Operational impacts potentially resulting from Alternative 6 include effects from: the new wharf at Berth 306, runoff, noise and light from new terminal operations, and effects from increased vessel traffic. A remote potential exists for an accidental vessel spill that could harm biological resources in the Harbor or ocean to occur during Alternative 6 operation. Based on compliance with applicable regulations, and the nature and frequency of past spill events (see Section 3.8, Hazards and Hazardous Materials), impacts due to accidental spills are considered less than significant. Upland spills from terminal operations under Alternative 6 are not expected to result in significant impacts for the reason discussed under the proposed Project. Although terminal operations would extend over a larger area and be more intensive than the CEQA baseline, terminal operations under Alternative 6 would not substantially disrupt biological communities through runoff of contaminants in the vicinity of the Project site. Existing runoff and storm drain discharge controls, as well as conditions of all Alternative 6-specific permits, would be implemented (see Section 3.14, Water Quality, Sediments, and Oceanography). New lights added to the Project site would all be low-glare lights with reduced light emissions. Most of the new lights would also be located away from the edge of the water, minimizing potential impacts to marine resources. For the reasons described for the proposed Project, the presence of new wharf structures, increased vessel traffic, or new lighting under Alternative 6 would not substantially disrupt biological communities in the Harbor under CEQA.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

NEPA Impact Determination

Operational impacts potentially resulting from Alternative 6 include effects from: the new wharf at Berth 306, runoff, noise and light from new terminal operations, and effects from increased vessel traffic that are not included in the NEPA baseline. A remote potential exists for an accidental vessel spill that could harm biological resources in the Harbor or ocean to occur during Alternative 6 operation. Based on compliance with applicable regulations, and the nature and frequency of past spill events (see Section 3.8, Hazards and Hazardous Materials), impacts due to accidental spills are considered less than significant. Upland spills from terminal operations under Alternative 6 are not

expected to result in significant impacts for the reason discussed under the proposed Project. Although terminal operations would extend over a larger area and be more intensive than the NEPA baseline, terminal operations under Alternative 6 would not substantially disrupt biological communities through runoff of contaminants in the vicinity of the Project site. Existing runoff and storm drain discharge controls, as well as conditions of all Alternative 6-specific permits, would be implemented (see Section 3.14, Water Quality, Sediments, and Oceanography). New lights added to the Project site would all be low-glare lights with reduced light emissions. Most of the new lights would also be located away from the edge of the water, minimizing potential impacts to marine resources. For the reasons described for the proposed Project, the presence of new wharf structures, increased vessel traffic, or new lighting under Alternative 6 would not substantially disrupt biological communities in the Harbor under NEPA.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact BIO-4c: Operation of the Project could introduce non-native species into the Harbor that could substantially disrupt local biological communities.

CEQA Impact Determination

Under Alternative 6, there would be an additional number of vessels operating at the APL Terminal; therefore, there would still be the potential for introduction of non-native species. As described under Impact BIO-4c for the proposed Project, the potential for introduction of additional exotic species via ballast water would be low from vessels entering from or going outside the EEZ due to current ballast water regulations, as well as practices and procedures of APL and seagoing vessel crews. The potential for introduction of exotic species via vessel hulls under Alternative 6 would be increased in proportion to the increase in number of vessels. However, vessel hulls are generally coated with antifouling paints and cleaned at intervals to reduce the frictional drag from growths of organisms on the hull (Global Security, 2007). This would reduce the potential for transport of exotic species. For these reasons, Alternative 6 has a low potential to increase the introduction of non-native species into the Harbor that could substantially disrupt local biological communities, but such effects could still occur and are considered significant under CEQA.

Mitigation Measures

As described for the proposed Project, no feasible mitigation is currently available to totally prevent introduction of invasive species via vessel hulls or even ballast water, due to the lack of a proven technology. New technologies are being explored, and, if methods become available in the future, they would be implemented as required at that time.

Residual Impacts

Impacts from potential introduction of invasive species via vessel hulls would be significant and unavoidable.

NEPA Impact Determination

Under Alternative 6, there would be an additional number of vessels operating at the APL Terminal relative to the NEPA baseline; therefore, there would still be the potential for introduction of non-native species. As described under Impact BIO-4c for the proposed Project, the potential for introduction of additional exotic species via ballast water would be low from vessels entering from or going outside the EEZ due to current ballast water regulations, as well as practices and procedures of APL and seagoing vessel crews. The potential for introduction of exotic species via vessel hulls under Alternative 6 would be increased in proportion to the increase in number of vessels. However, vessel hulls are generally coated with antifouling paints and cleaned at intervals to reduce the frictional drag from growths of organisms on the hull (Global Security, 2007). This would reduce the potential for transport of exotic species. For these reasons, Alternative 6 has a low potential to increase the introduction of non-native species into the Harbor that could substantially disrupt local biological communities, but such effects could still occur and are considered significant under NEPA.

Mitigation Measures

As described for the proposed Project, no feasible mitigation is currently available to totally prevent introduction of invasive species via vessel hulls or even ballast water, due to the lack of a proven technology. New technologies are being explored, and, if methods become available in the future, they would be implemented as required at that time.

Residual Impacts

Impacts from potential introduction of invasive species via vessel hulls would be significant and unavoidable.

3.3.4.4 Summary of Impact Determinations

Table 3.3-6 summarizes the CEQA and NEPA impact determinations of the proposed Project and its alternatives related to Biological Resources, as described in the detailed discussions above. This table is meant to allow easy comparison among the potential impacts of the proposed Project and its alternatives with respect to this resource. Identified potential impacts may be based on federal, state, and City of Los Angeles significance criteria, Port criteria, and the scientific judgment of the report preparers.

For each impact threshold, the table describes the impact, notes the CEQA and NEPA impact determinations, 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. Note that impact descriptions for each of the alternatives are the same as for the proposed Project, unless otherwise noted.

Table 3.3-6: Summary Matrix of Potential Impacts and Mitigation Measures for Biological Resources Associated with the Proposed Project and Alternatives

Alternative	Environmental Impacts	Impact Determination	Mitigation Measures	Impacts after Mitigation
Proposed Project	**BIO-1a:** Construction activities could cause a loss of individuals or habitat of a state- or federally listed endangered, threatened, rare, protected, or candidate species, or a Species of Special Concern or the loss of federally listed critical habitat.	CEQA: Potentially significant impact (if elegant or Caspian terns use the 41-acre area for nesting); impacts to other sensitive species or habitat would be less than significant.	**MM BIO-1: Conduct nesting bird surveys and avoid impacts to nesting birds at the Project site**. **SC BIO-1: Avoid marine mammals.**	CEQA: Less than significant
		NEPA: Potentially significant impact (if elegant or Caspian terns use the 41-acre area for nesting); impacts to other sensitive species or habitat would be less than significant.		NEPA: Less than significant
	BIO-2a: Construction activities would not result in a substantial reduction or alteration of a state, federally, or locally designated natural habitat, special aquatic site, or plant community, including wetlands.	CEQA: Less than significant	Mitigation not required	CEQA: Less than significant
		NEPA: Less than significant		NEPA: Less than significant
	BIO-3a: Construction activities would not interfere with wildlife movement/migration corridors.	CEQA: Less than significant	Mitigation not required; however, **SC BIO-1** would further reduce any potential impact.	CEQA: Less than significant
		NEPA: Less than significant		NEPA: Less than significant
	BIO-4a: Construction activities would not substantially disrupt local biological communities.	CEQA: Less than significant	Mitigation not required; however, **MM BIO-1 and SC BIO-1** would further reduce any potential for impact.	CEQA: Less than significant
		NEPA: Less than significant		NEPA: Less than significant
	BIO-5: Construction activities would not result in a permanent loss of marine habitat.	CEQA: No impact	Mitigation not required	CEQA: No impact
		NEPA: No impact		NEPA: No impact
	BIO-1b: Operations would not cause a loss of individuals or habitat for a state- or federally listed	CEQA: Less than significant	Mitigation not required; however, mitigation	CEQA: Less than significant

Table 3.3-6: Summary Matrix of Potential Impacts and Mitigation Measures for Biological Resources Associated with the Proposed Project and Alternatives

Alternative	Environmental Impacts	Impact Determination	Mitigation Measures	Impacts after Mitigation
	endangered, threatened, rare, protected, or candidate species, or a Species of Special Concern or the loss of federally listed critical habitat.	NEPA: Less than significant	measure **MM AQ-10** would further reduce any potential for impact.	NEPA: Less than significant
	BIO-2b: Operations would not result in a substantial reduction or alteration of a state, federally, or locally designated natural habitat, special aquatic site, or plant community, including wetlands.	CEQA: Less than significant for EFH and eelgrass beds; no impact to other natural habitats, special aquatic sites, or plant communities	Mitigation not required	CEQA: Less than significant for EFH and eelgrass beds; no impact for other natural habitats, special aquatic sites, or plant communities
		NEPA: Less than significant for EFH and eelgrass; no impacts to other natural habitats, special aquatic sites, or plant communities		NEPA: Less than significant for EFH and eelgrass; no impact for other natural habitats, special aquatic sites, or plant communities
	BIO-3b: Operation of the proposed Project would not interfere with wildlife movement/migration corridors.	CEQA: No impact	Mitigation not required	CEQA: No impact
		NEPA: No impact		NEPA: No impact
	BIO-4b: Operation of the proposed Project would not substantially disrupt local biological communities.	CEQA: Less than significant	Mitigation not required	CEQA: Less than significant
		NEPA: Less than significant		NEPA: Less than significant
	BIO-4c: Operation of the proposed Project could introduce non-native species into the Harbor that could substantially disrupt local biological communities.	CEQA: Significant	No feasible mitigation is currently available	CEQA: Significant and unavoidable
		NEPA: Significant		NEPA: Significant and unavoidable
Alternative 1 – No Project	**BIO-1a:** Construction activities would not cause a loss of individuals or habitat of a state- or federally listed endangered, threatened, rare, protected, or candidate species, or a Species of Special Concern or the loss of federally listed critical habitat.	CEQA: No impact	Mitigation not required	CEQA: No impact
		NEPA: Not applicable	Mitigation not applicable	NEPA: Not applicable
	BIO-2a: Construction activities would not result in a substantial reduction or alteration of a state, federally, or locally designated natural habitat, special aquatic site, or plant community, including wetlands.	CEQA: No impact	Mitigation not required	CEQA: No impact
		NEPA: Not applicable	Mitigation not applicable	NEPA: Not applicable
	BIO-3a: Construction activities would not interfere with wildlife movement/migration corridors.	CEQA: No impact	Mitigation not required	CEQA: No impact
		NEPA: Not applicable	Mitigation not applicable	NEPA: Not applicable

Table 3.3-6: Summary Matrix of Potential Impacts and Mitigation Measures for Biological Resources Associated with the Proposed Project and Alternatives

Alternative	Environmental Impacts	Impact Determination	Mitigation Measures	Impacts after Mitigation
	BIO-4a: Construction activities would not substantially disrupt local biological communities.	CEQA: No impact	Mitigation not required	CEQA: No impact
		NEPA: Not applicable	Mitigation not applicable	NEPA: Not applicable
	BIO-5: Construction activities would not result in a permanent loss of marine habitat.	CEQA: No impact	Mitigation not required	CEQA: No impact
		NEPA: Not applicable	Mitigation not applicable	NEPA: Not applicable
	BIO-1b: Operations would not cause a loss of individuals or habitat for a state- or federally listed endangered, threatened, rare, protected, or candidate species, or a Species of Special Concern or the loss of federally listed critical habitat.	CEQA: Less than significant	Mitigation not required	CEQA: Less than significant
		NEPA: Not applicable	Mitigation not applicable	NEPA: Not applicable
	BIO-2b: Operations would not result in a substantial reduction or alteration of a state, federally, or locally designated natural habitat, special aquatic site, or plant community, including wetlands.	CEQA: Less than significant to EFH and eelgrass; no impact to other natural habitats or plant communities	Mitigation not required	CEQA: Less than significant to EFH and eelgrass; no impact to natural habitats or plant communities
		NEPA: Not applicable	Mitigation not applicable	NEPA: Not applicable
	BIO-3b: Operation of Alternative 1 would not interfere with wildlife movement/migration corridors.	CEQA: No impact	Mitigation not required	CEQA: No impact
		NEPA: Not applicable	Mitigation not applicable	NEPA: Not applicable
	BIO-4b: Operation of Alternative 1 would not substantially disrupt local biological communities.	CEQA: Less than significant	Mitigation not required	CEQA: Less than significant
		NEPA: Not applicable	Mitigation not applicable	NEPA: Not applicable
	BIO-4c: Operation of Alternative 1 could introduce non-native species into the Harbor that could substantially disrupt local biological communities.	CEQA: Significant	No feasible mitigation is currently available	CEQA: Significant and unavoidable
		NEPA: Not applicable	Mitigation not applicable	NEPA: Not applicable
Alternative 2 – No Federal Action	**BIO-1a:** Construction activities would not cause a loss of individuals or habitat of a state- or federally listed endangered, threatened, rare, protected, or candidate species, or a Species of Special Concern or the loss of federally listed critical habitat.	CEQA: No impact	Mitigation not required	CEQA: No impact
		NEPA: No impact		NEPA: No impact
	BIO-2a: Construction activities would not result in a substantial reduction or alteration of a state,	CEQA: No impact	Mitigation not required	CEQA: No impact

Table 3.3-6: Summary Matrix of Potential Impacts and Mitigation Measures for Biological Resources Associated with the Proposed Project and Alternatives

Alternative	Environmental Impacts	Impact Determination	Mitigation Measures	Impacts after Mitigation
	federally, or locally designated natural habitat, special aquatic site, or plant community, including wetlands.	NEPA: No impact		NEPA: No impact
	BIO-3a: Construction activities would not interfere with wildlife movement/migration corridors.	CEQA: No impact	Mitigation not required	CEQA: No impact
		NEPA: No impact		NEPA: No impact
	BIO-4a: Construction activities would not substantially disrupt local biological communities.	CEQA: No impact	Mitigation not required	CEQA: No impact
		NEPA: No impact		NEPA: No impact.
	BIO-5: Construction activities would not result in a permanent loss of marine habitat.	CEQA: No impact	Mitigation not required	CEQA: No impact
		NEPA: No impact		NEPA: No impact
	BIO-1b: Operations would not cause a loss of individuals or habitat for a state- or federally listed endangered, threatened, rare, protected, or candidate species, or a Species of Special Concern or the loss of federally listed critical habitat.	CEQA: Less than significant	Mitigation not required; however, mitigation measure **MM AQ-10** would further reduce any potential for impact.	CEQA: Less than significant
		NEPA: No impact	Mitigation not required	NEPA: No impact
	BIO-2b: Operations would not result in a substantial reduction or alteration of a state, federally, or locally designated natural habitat, special aquatic site, or plant community, including wetlands.	CEQA: Less than significant to EFH and eelgrass; no impacts to other natural habitats, special aquatic sites, or plant communities	Mitigation not required	CEQA: Less than significant to EFH and eelgrass; no impacts to other natural habitats, special aquatic sites, or plant communities
		NEPA: No impact		NEPA: No impact
	BIO-3b: Operation of Alternative 2 would not interfere with wildlife movement/migration corridors.	CEQA: No impact	Mitigation not required	CEQA: No impact
		NEPA: No impact		NEPA: No impact
	BIO-4b: Operation of Alternative 2 would not substantially disrupt local biological communities.	CEQA: Less than significant	Mitigation not required	CEQA: Less than significant
		NEPA: No impact		NEPA: No impact
	BIO-4c: Operation of Alternative 2 could introduce non-native species into the Harbor that could substantially disrupt local biological communities.	CEQA: Significant	No feasible mitigation is currently available	CEQA: Significant and unavoidable
		NEPA: No impact	Mitigation not required	NEPA: No impact

Table 3.3-6: Summary Matrix of Potential Impacts and Mitigation Measures for Biological Resources Associated with the Proposed Project and Alternatives

Alternative	Environmental Impacts	Impact Determination	Mitigation Measures	Impacts after Mitigation
Alternative 3 – Reduced Project: Four New Cranes	**BIO-1a:** Construction activities would not cause a loss of individuals or habitat of a state- or federally listed endangered, threatened, rare, protected, or candidate species, or a Species of Special Concern or the loss of federally listed critical habitat.	CEQA: No impact	Mitigation not required	CEQA: No impact
		NEPA: No Impact		NEPA: No impact
	BIO-2a: Construction activities would not result in a substantial reduction or alteration of a state, federally, or locally designated natural habitat, special aquatic site, or plant community, including wetlands.	CEQA: No impact	Mitigation not required	CEQA: No impact
		NEPA: No impact		NEPA: No impact
	BIO-3a: Construction activities would not interfere with wildlife movement/migration corridors.	CEQA: No impact	Mitigation not required	CEQA: No impact
		NEPA: No impact		NEPA: No impact
	BIO-4a: Construction activities would not substantially disrupt local biological communities.	CEQA: No impact	Mitigation not required	CEQA: No impact
		NEPA: No impact		NEPA: No impact
	BIO-5: Construction activities would not result in a permanent loss of marine habitat.	CEQA: No impact	Mitigation not required	CEQA: No impact
		NEPA: No impact		NEPA: No impact
	BIO-1b: Operations would not cause a loss of individuals or habitat for a state- or federally listed endangered, threatened, rare, protected, or candidate species, or a Species of Special Concern or the loss of federally listed critical habitat.	CEQA: Less than significant	Mitigation not required; however, mitigation measure **MM AQ-10** would further reduce any potential for impact.	CEQA: Less than significant
		NEPA: Less than significant		NEPA: Less than significant
	BIO-2b: Operations would not result in a substantial reduction or alteration of a state, federally, or locally designated natural habitat, special aquatic site, or plant community, including wetlands.	CEQA: Less than significant to EFH and eelgrass; no impacts to other natural habitats, special aquatic sites, or plant communities	Mitigation not required	CEQA: Less than significant to EFH and eelgrass; no impacts to other natural habitats, special aquatic sites, or plant communities
		NEPA: Less than significant to EFH and eelgrass; no impacts to other natural habitats, special aquatic sites, or plant communities		NEPA: Less than significant to EFH and eelgrass; no impacts to other natural habitats, special aquatic sites, or plant communities
	BIO-3b: Operation of Alternative 3 would not	CEQA: No impact	Mitigation not required	CEQA: No impact

Table 3.3-6: Summary Matrix of Potential Impacts and Mitigation Measures for Biological Resources Associated with the Proposed Project and Alternatives

Alternative	Environmental Impacts	Impact Determination	Mitigation Measures	Impacts after Mitigation
	interfere with wildlife movement/migration corridors.	NEPA: No impact		NEPA: No impact
	BIO-4b: Operation of Alternative 3 would not substantially disrupt local biological communities.	CEQA: Less than significant	Mitigation not required	CEQA: Less than significant
		NEPA: Less than significant		NEPA: Less than significant
	BIO-4c: Operation of Alternative 3 could introduce non-native species into the Harbor that could substantially disrupt local biological communities.	CEQA: Significant	No feasible mitigation is currently available	CEQA: Significant and unavoidable
		NEPA: Significant		NEPA: Significant and unavoidable
Alternative 4 – Reduced Project: No New Wharf	**BIO-1a:** Construction activities could cause a loss of individuals or habitat of a state- or federally listed endangered, threatened, rare, protected, or candidate species, or a Species of Special Concern or the loss of federally listed critical habitat.	CEQA: Potentially significant impact (if elegant or Caspian terns use the 41-acre area for nesting); impacts to other sensitive species or habitat would be less than significant	**MM BIO-1**	CEQA: Less than significant
		NEPA: Potentially significant impact (if elegant or Caspian terns use the 41-acre area for nesting); impacts to other sensitive species or habitat would be less than significant		NEPA: Less than significant
	BIO-2a: Construction activities would not result in a substantial reduction or alteration of a state, federally, or locally designated natural habitat, special aquatic site, or plant community, including wetlands.	CEQA: Less than significant	Mitigation not required	CEQA: Less than significant
		NEPA: Less than significant		NEPA: Less than significant
	BIO-3a: Construction activities would not interfere with wildlife movement/migration corridors.	CEQA: Less than significant	Mitigation not required	CEQA: Less than significant
		NEPA: Less than significant		NEPA: Less than significant
	BIO-4a: Construction activities would not substantially disrupt local biological communities.	CEQA: No impact	Mitigation not required	CEQA: No impact
		NEPA: No impact		NEPA: No impact
	BIO-5: Construction activities would not result in a permanent loss of marine habitat	CEQA: No impact	Mitigation not required	CEQA: No impact
		NEPA: No impact		NEPA: No impact

Table 3.3-6: Summary Matrix of Potential Impacts and Mitigation Measures for Biological Resources Associated with the Proposed Project and Alternatives

Alternative	Environmental Impacts	Impact Determination	Mitigation Measures	Impacts after Mitigation
	BIO-1b: Operations would not cause a loss of individuals or habitat for a state- or federally listed endangered, threatened, rare, protected, or candidate species, or a Species of Special Concern or the loss of federally listed critical habitat.	CEQA: Less than significant	Mitigation not required; however, mitigation measure **MM AQ-10** would further reduce any potential for impact.	CEQA: Less than significant
		NEPA: Less than significant		NEPA: Less than significant
	BIO-2b: Operations would not result in a substantial reduction or alteration of a state, federally, or locally designated natural habitat, special aquatic site, or plant community, including wetlands.	CEQA: Less than significant to EFH and eelgrass; no impacts to other natural habitats, special aquatic sites, or plant communities	Mitigation not required	CEQA: Less than significant to EFH and eelgrass; no impacts to other natural habitats, special aquatic sites, or plant communities
		NEPA: Less than significant to EFH and eelgrass; no impacts to other natural habitats, special aquatic sites, or plant communities		NEPA: Less than significant to EFH and eelgrass; no impacts to other natural habitats, special aquatic sites, or plant communities
	BIO-3b: Operation of Alternative 4 would not interfere with wildlife movement/migration corridors	CEQA: No impact	Mitigation not required	CEQA: No impact
		NEPA: No impact		NEPA: No impact
	BIO-4b: Operation of Alternative 4 would not substantially disrupt local biological communities.	CEQA: Less than significant	Mitigation not required	CEQA: Less than significant
		NEPA: Less than significant		NEPA: Less than significant
	BIO-4c: Operation of Alternative 4 could introduce non-native species into the Harbor that could substantially disrupt local biological communities.	CEQA: Significant	No feasible mitigation is currently available	CEQA: Significant and unavoidable
		NEPA: Significant		NEPA: Significant and unavoidable
Alternative 5 – Reduced Project: No Space Assignment	**BIO-1a:** Construction activities could cause a loss of individuals or habitat of a state- or federally listed endangered, threatened, rare, protected, or candidate species, or a Species of Special Concern or the loss of federally listed critical habitat.	CEQA: Potentially significant impact (if elegant or Caspian terns use the 41-acre area for nesting); impacts to other sensitive species or habitat would be less than significant	**MM BIO-1** **SC BIO-1**	CEQA: Less than significant
		NEPA: Potentially significant impact (if elegant or Caspian		NEPA: Less than significant

Table 3.3-6: Summary Matrix of Potential Impacts and Mitigation Measures for Biological Resources Associated with the Proposed Project and Alternatives

Alternative	Environmental Impacts	Impact Determination	Mitigation Measures	Impacts after Mitigation
		terns use the 41-acre area for nesting); impacts to other sensitive species or habitat would be less than significant		
	BIO-2a: Construction activities would not result in a substantial reduction or alteration of a state, federally, or locally designated natural habitat, special aquatic site, or plant community, including wetlands.	CEQA: Less than significant	Mitigation not required	CEQA: Less than significant
		NEPA: Less than significant		NEPA: Less than significant
	BIO-3a: Construction activities would not interfere with wildlife movement/migration corridors.	CEQA: Less than significant	Mitigation not required; however, **SC BIO-1** would further reduce any potential impact.	CEQA: Less than significant
		NEPA: Less than significant		NEPA: Less than significant
	BIO-4a: Construction activities would not substantially disrupt local biological communities.	CEQA: Less than significant	Mitigation not required; however, **MM BIO-1 and SC BIO-1** would further reduce any potential for impact.	CEQA: Less than significant
		NEPA: Less than significant		NEPA: Less than significant
	BIO-5: Construction activities would not result in a permanent loss of marine habitat.	CEQA: No impact	Mitigation not required	CEQA: No impact
		NEPA: No impact		NEPA: No impact
	BIO-1b: Operations would not cause a loss of individuals or habitat for a state- or federally listed endangered, threatened, rare, protected, or candidate species, or a Species of Special Concern or the loss of federally listed critical habitat.	CEQA: Less than significant	Mitigation not required; however, mitigation measure **MM AQ-10** would further reduce any potential for impact.	CEQA: Less than significant
		NEPA: Less than significant		NEPA: Less than significant
	BIO-2b: Operations would not result in a substantial reduction or alteration of a state, federally, or locally designated natural habitat, special aquatic site, or plant community, including wetlands.	CEQA: Less than significant for EFH and eelgrass; no impacts for other natural habitats, special aquatic sites, or plant communities	Mitigation not required	CEQA: Less than significant for EFH and eelgrass; no impacts for other natural habitats, special aquatic sites, or plant communities
		NEPA: Less than significant impact for EFH and eelgrass; no impacts for other natural habitats, special aquatic sites,		NEPA: Less than significant for EFH and eelgrass; no impacts for other natural habitats, special aquatic sites, or plant

Table 3.3-6: Summary Matrix of Potential Impacts and Mitigation Measures for Biological Resources Associated with the Proposed Project and Alternatives

Alternative	Environmental Impacts	Impact Determination	Mitigation Measures	Impacts after Mitigation
		or plant communities		communities
	BIO-3b: Operation of Alternative 5 would not interfere with wildlife movement/migration corridors	CEQA: No impact	Mitigation not required	CEQA: No impact
		NEPA: No impact		NEPA: No impact
	BIO-4b: Operation of Alternative 5 would not substantially disrupt local biological communities.	CEQA: Less than significant	Mitigation not required	CEQA: Less than significant
		NEPA: Less than significant		NEPA: Less than significant
	BIO-4c: Operation of Alternative 5 could introduce non-native species into the Harbor that could substantially disrupt local biological communities.	CEQA: Significant	No feasible mitigation is currently available	CEQA: Significant and unavoidable
		NEPA: Significant		NEPA: Significant and unavoidable
Alternative 6 – Proposed Project with Expanded On-Dock Railyard	**BIO-1a:** Construction activities could cause a loss of individuals or habitat of a state- or federally listed endangered, threatened, rare, protected, or candidate species, or a Species of Special Concern or the loss of federally listed critical habitat.	CEQA: Potentially significant impact (if elegant or Caspian terns use the 41-acre area for nesting); impacts to other sensitive species or habitat would be less than significant	**MM BIO-1** **SC BIO-1**	CEQA: Less than significant
		NEPA: Potentially significant impact (if elegant or Caspian terns use the 41-acre area for nesting); impacts to other sensitive species or habitat would be less than significant		NEPA: Less than significant
	BIO-2a: Construction activities would not result in a substantial reduction or alteration of a state, federally, or locally designated natural habitat, special aquatic site, or plant community, including wetlands.	CEQA: Less than significant	Mitigation not required	CEQA: Less than significant
		NEPA: Less than significant		NEPA: Less than significant
	BIO-3a: Construction activities would not interfere with wildlife movement/migration corridors.	CEQA: Less than significant	Mitigation not required; however, **SC BIO-1** would further reduce any potential impact.	CEQA: Less than significant
		NEPA: Less than significant		NEPA: Less than significant
	BIO-4a: Construction activities would not substantially disrupt local biological communities.	CEQA: Less than significant	Mitigation not required; however, **MM BIO-1 and**	CEQA: Less than significant

Table 3.3-6: Summary Matrix of Potential Impacts and Mitigation Measures for Biological Resources Associated with the Proposed Project and Alternatives

Alternative	Environmental Impacts	Impact Determination	Mitigation Measures	Impacts after Mitigation
		NEPA: Less than significant	**SC BIO-1** would further reduce any potential for impact.	NEPA: Less than significant
	BIO-5: Construction activities would not result in a permanent loss of marine habitat.	CEQA: No impact	Mitigation not required	CEQA: No impact
		NEPA: No impact		NEPA: No impact
	BIO-1b: Operations would not cause a loss of individuals or habitat for a state- or federally listed endangered, threatened, rare, protected, or candidate species, or a Species of Special Concern or the loss of federally listed critical habitat.	CEQA: Less than significant	Mitigation not required; however, mitigation measure **MM AQ-10** would further reduce any potential for impact.	CEQA: Less than significant
		NEPA: Less than significant		NEPA: Less than significant
	BIO-2b: Operations would not result in a substantial reduction or alteration of a state, federally, or locally designated natural habitat, special aquatic site, or plant community, including wetlands.	CEQA: Less than significant for EFH and eelgrass; no impacts for other natural habitats, special aquatic sites, or plant communities	Mitigation not required	CEQA: Less than significant for EFH and eelgrass; no impacts for other natural habitats, special aquatic sites, or plant communities
		NEPA: Less than significant for EFH and eelgrass; no impacts for other natural habitats, special aquatic sites, or plant communities		NEPA: Less than significant for EFH and eelgrass; no impacts for other natural habitats, special aquatic sites, or plant communities
	BIO-3b: Operation of Alternative 6 would not interfere with wildlife movement/migration corridors.	CEQA: No impact	Mitigation not required	CEQA: No impact
		NEPA: No impact		NEPA: No impact
	BIO-4b: Operation of Alternative 6 would not substantially disrupt local biological communities.	CEQA: Less than significant	Mitigation not required	CEQA: Less than significant
		NEPA: Less than significant		NEPA: Less than significant
	BIO-4c: Operation of Alternative 6 could introduce non-native species into the Harbor that could substantially disrupt local biological communities.	CEQA: Significant	No feasible mitigation is currently available	CEQA: Significant and unavoidable
		NEPA: Significant		NEPA: Significant and unavoidable

3.3.4.5 Mitigation Monitoring

Mitigation measures for biological resources (**MM BIO-1**) and air quality (**MM AQ-10**), as well as a standard condition of approval (**SC BIO-1**) are applicable to the proposed Project and Alternatives 5 and 6. Due to disturbance of the 41-acre backlands, mitigation measure **MM BIO-1** also applies to Alternative 4. Following is the monitoring program for mitigation measure **MM BIO-1**:

Impact BIO-2a: Construction activities would cause a loss of individuals or habitat of a state- or federally listed endangered, threatened, rare, protected, or candidate species, or a Species of Special Concern or the loss of federally listed critical habitat. While the potential for such losses is considered insignificant, the following measure would further reduce potential impacts:	
Mitigation Measure	**MM BIO-1: Conduct nesting bird surveys and avoid impacts to nesting birds at the Project site.** This measure applies only if construction on the 41-acre undeveloped area is to occur between February 15 and September 1. Prior to ground-disturbing activities, a qualified biologist shall conduct surveys for the presence of tern nests on the 41-acre backlands, and within the proposed Project site that contains potential nesting bird habitat. Surveys shall be conducted no later than 1 week prior to the clearing, removal, or grubbing of any vegetation or ground disturbance. If active nests of species protected under the MBTA and/or similar provisions of the California Fish and Game Code (i.e., native birds including but not limited to the black-crowned night heron) are located, then a barrier installed at a 50–100 foot radius from the nest(s) shall be established. The barrier will remain until a qualified biologist determines that the young have fledged or the nest is no longer active.
Timing	If construction occurs between Feb. 15 and Sept. 1, surveys will be conducted within 2 weeks of ground clearing activities.
Methodology	Biologists survey site for active bird nests. If present, a barrier installed at a 50–100 foot radius from the nest(s) shall be established and construction will avoid those sites. The barrier will remain until a qualified biologist determines that the young have fledged or the nest is no longer active.
Responsible Parties	LAHD/USACE
Residual Impacts	Not significant after mitigation.

Following is the standard condition of approval applicable to the proposed Project and Alternatives 5 and 6:

SC BIO-1. Avoid marine mammals. Although it is expected that marine mammals will voluntarily move away from the area at the commencement of the vibratory or "soft start" of pile-driving activities, as a precautionary measure, pile-driving activities occurring as part of the wharf extension shall include establishment of a safety zone, and the area surrounding the operations will be monitored by a qualified marine biologist for pinnipeds. A 100-meter-radius safety zone will be established around the pile-driving site and monitored for marine mammals. As the pile-driving site will move with each new pile, the 100-meter safety zone shall move accordingly.

Prior to commencement of pile-driving, observers on shore or by boat will survey the safety zone to ensure that no marine mammals are seen within the zone before pile-driving of a pile segment begins. If a marine mammal is observed within 10 meter of pile-driving operations, pile-driving shall be delayed until the marine mammals moves out of the area. If a marine mammal in the 100-meter safety zone is observed, but more than 10 meter away, the contractor shall wait at least 15 minutes to commence pile-

driving. If the marine mammal has not left the 100-meter safety zone after 15 minutes, pile-driving can commence with a "soft start". This 15-minute criterion is based on a study indicating that pinnipeds dive for a mean time of 0.50 minutes to 3.33 minutes; the 15-minute delay will allow a more than sufficient period of observation to be reasonably sure the animal has left the proposed Project vicinity.

If marine mammals enter the safety zone after pile-driving of a segment has begun, pile-driving shall continue. The biologist shall monitor and record the species and number of individuals observed, and make note of their behavior patterns. If the animal appears distressed, and if it is operationally safe to do so, pile-driving shall cease until the animal leaves the area. Prior to the initiation of each new pile-driving episode, the area shall again be thoroughly surveyed by the biologist.

The monitoring program for mitigation measure **MM AQ-10** can be found in Section 3.2.4.6 (in Section 3.2, Air Quality, Meterology, and Greenhouse Gases).

3.3.5 Significant Unavoidable Impacts

For the proposed Project and Alternatives 1 through 6, Impact BIO-4c, introduction of non-native species that substantially disrupt local biological communities, potential impacts would remain significant and unavoidable because no feasible mitigation is currently available.

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