

## **Appendix B.**

### **Draft Section 404(b)(1) Evaluation**

# PRELIMINARY DRAFT CLEAN WATER ACT SECTION 404(b)(1) EVALUATION

## APPLICANT:

### PORT OF LOS ANGELES

### CHANNEL DEEPENING PROJECT

#### I. Introduction

The following evaluation is provided in accordance with Section 404(b)(1) of the Federal Water Pollution Control Act Amendments of 1972 (Public Law 92-500) as amended by the Clean Water Act of 1977 (Public Law 95-217). The intent of this document is to state and evaluate information regarding the effects of the discharge of dredged or fill material into waters of the United States. As a result, this analysis is not meant to stand-alone and relies heavily upon information provided in the Draft Supplemental Environmental Impact Statement/ Environmental Impact Report for the Port of Los Angeles Channel Deepening Project. The Proposed Action is to complete the Channel Deepening Project to the depth of -53 feet MLLW.

#### II. Project Description

##### A. Location

The project site is located at the southern end of the City of Los Angeles and includes portions of the Los Angeles Inner and Outer Harbors, San Pedro Bay (Figure 1-1). The City of Los Angeles Harbor Department (LAHD) administers the Port of Los Angeles (Port or POLA). The Port comprises 45 kilometers of waterfront and 3,035 hectares (7,500) acres of land and water.

##### B. General Description

As a result of the continuing trend toward deep draft ships, the Channel Deepening Project was implemented at the Port of Los Angeles in 2002 to accommodate existing and future commercial container vessels (USACE and LAHD, 2000). The project consisted of dredging the Main Channel, East Basin and West Basin Channels, and turning basins to a depth of -53 ft MLLW in order to improve navigation, and dispose of dredged materials in areas designated by the POLA. Completion of the Channel Deepening Project would allow for increased efficiencies in moving containerized cargo through the POLA. The total volume of bottom material determined necessary to be dredged to complete the project was 6.6 million cubic yards (mcy) (USACE and LAHD, 2000).

Over the next five years, several changes to the project were required as a result of revised bathymetric data, the occurrence of shoaling and settlement of material, design changes, the need to dispose of surcharge, the opportunity to remove and confine contaminated dredge material, and other design and construction modifications to provide efficiencies within the Port. These project changes were analyzed and documented in three separate Supplemental Environmental Assessments (EAs) prepared by USACE in 2002, 2003, and 2004. As a result of these developments, the total volume to be disposed after the 2004 Supplemental EA (USACE, 2004) was 12.658 mcy.

The total volume of material dredged to date under the Channel Deepening Project is approximately 13.5 mcy. Approximately 12.7 mcy of that material has been placed in disposal sites as approved by the previous SEIS/SEIR and Supplemental EAs. Approximately 0.815 mcy of material remains as surcharge on the Southwest Slip (at Berth 100). To date, a total of approximately 1.025 mcy of material remains to be dredged from the East Basin Channel. Approximately 0.675 mcy of berth dredging also remains. In addition to the surcharge at the Southwest Slip and the material that remains to be dredged, volume adjustments have been made to account for two feet of over-depth allowance and bulking of the dredged material. The over-depth allowance is required because the channel must be dredged deeper than the desired final depth to account for side slope sloughing and other sources of sediment transport. The bulking factor is required to account for water in the dredged sediment. Therefore, the total amount of disposal capacity required for the remaining dredge material and surcharge is approximately 3.0 mcy.

### **C. Overall and Basic Project Purpose**

The overall project purpose of the Proposed Action is to provide approximately 3.0 mcy of disposal capacity for the dredge material from the Channel Deepening Project. The basic project purpose is navigation, which is water dependent. For the rebuttable presumptions to apply, the Proposed Action must impact special aquatic sites and be non-water-dependant. Because the Proposed Action is water dependant, the rebuttable presumptions do not apply.

### **D. General Description of Dredged or Fill Material**

Surcharge on the Southwest Slip and sediments in the Main Channel and East Basin are composed of fine and coarse grained silts, clays and sands.

### **E. Description of Proposed Discharge Site**

The locations proposed to be used as disposal sites under the Proposed Action are Berths 243-245, Northwest Slip (at Berths 136-139), the Cabrillo Shallow Water Habitat (CSWH) Expansion Area, the Eelgrass Habitat Area, the upland Anchorage Road Soil Storage Site (ARSSS), and ocean disposal site LA-2, as shown in SEIS/SEIR Figure 2-2. Alternative 1, Port Development and Environmental Enhancement, would utilize a combination of all of these disposal sites except for the ARSSS. Alternative 2, Environmental Enhancement and Ocean Disposal, would utilize a combination of the above listed disposal sites except for Berths 243-245 and the Northwest Slip. Alternative 3, the No Action alternative, would not result in dredging or disposal of any sediment and would not utilize any disposal sites.

The Berths 243-245 site is comprised of two open water slip areas that contain contaminated (unsuitable for open water disposal but not regulated hazardous materials) benthic sediments from past shipyard operations. Alternative 1 of the Proposed Action would create a Confined Disposal Facility (CDF) at this site for disposal and capping of contaminated sediments. The total capacity of the Berths 243-245 disposal site is 0.458 mcy to be placed over an area of about 8 acres. Approximately 0.15 mcy of clean surcharge from the Southwest Slip will be deposited on the completed CDF to an approximate elevation of +30 feet MLLW to promote densification of

deposited dredge material. Over time, the material would densify, however, the timeframe for densification is unknown. Therefore, the surcharge material would remain in place until post project geotechnical investigation/monitoring determines the fill has been consolidated. In the future, if the Port decides to remove the surcharge material, the Port would prepare an appropriate CEQA document to remove the remaining surcharge. This disposal site is shown on Figures 2-3, 2-4 and 2-14 of the SEIS/SEIR.

The Northwest Slip site is located at Berths 136-139. Under Alternative 1, a five-acre area of open water would be filled to create land area that would be used to allow realignment of the wharf roadway as part of the Berth 136-147 Container Terminal Project. Roadway realignment would facilitate safer and more efficient truck and equipment movement at this location. The total capacity at the Northwest Slip disposal site is 0.178 mcy, which would be filled with approximately 0.050 mcy required for foundation trenching for dike construction and 0.128 mcy of dredge material from the Channel Deepening Project. This site does not require surcharge for densification because fill material for the Northwest Slip is coarse grained sand which densifies on its own, as opposed to the finer materials that would be placed in Berths 243-245. This disposal site is depicted in Figures 2-5 and 2-15 of the SEIS/SEIR.

The CSWH Expansion Area would increase the size of the existing CSWH by 50 acres. Under both Alternative 1 and Alternative 2, the expansion would consist of disposing approximately 1.7 mcy of material from the Proposed Action (and approximately 0.040 mcy of material from dike dredging) adjacent to the existing CSWH, located in the outer harbor just south of Berth 47. The material would be supported by a new submerged dike along the north side of the existing CSWH. Material would be placed to a final depth of -15 feet MLLW. Construction of this site would raise the existing sea bottom which ranges between -40 feet to -50 feet MLLW up to a new elevation of -15 feet MLLW, creating shallow water habitat. This disposal site is depicted in Figures 2-6 and 2-16 of the SEIS/SEIR.

Under both Alternative 1 and Alternative 2, approximately 0.8 mcy of dredge material would be used to construct approximately 40 acres of shallow habitat for establishment of an Eelgrass Habitat Area at the existing CSWH and the proposed CSWH Expansion area. The existing water depths at the CSWH range between -15 to -20 ft MLLW. The water depths at the Eelgrass Habitat Area would range from approximately -2 to -6 ft MLLW to allow for adequate establishment of eelgrass habitat. It is anticipated that adding the Eelgrass Habitat Area to the CSWH would provide enhanced biological value and encourage bird foraging. The proposed 40-acre Eelgrass habitat would overlap approximately 16 acres of the proposed 50-acre CSWH Expansion, as shown on Figure 2-7. Approximately 24 acres of the Eelgrass Habitat Area would be constructed on the existing CSWH Area, which is at an elevation of -15 feet MLLW. The proposed Eelgrass Habitat Area disposal site is depicted in Figures 2-7 and 2-17 of the SEIS/SEIR.

Under Alternative 2, 0.080 mcy of sediment would be placed in barges and shipped to an offloading site at Shore Road. The material would be transferred from the barge to a temporary bermed holding area and subsequently transferred to trucks for transport to the ARSSS, approximately 0.15 miles away, across Shore Road. This disposal site is an

upland area that would not involve discharge of material to waters of the United States.

Under both Alternative 1 and Alternative 2, the remaining amount of clean sediment (0.004 mcy for Alternative 1 and 0.440 mcy for Alternative 2) would be disposed at ocean disposal site LA-2. This site is located approximately 5.7 miles south-southwest of the entrance to Los Angeles Harbor on the outer continental shelf margin. The depth of this site ranges from approximately -360 feet MLLW to -1,115 feet MLLW. An annual dredge material disposal volume of 1.400 mcy is allowed at this site.

#### **F. Description of Disposal Method**

Sediments from hydraulic dredging would be pumped through a slurry pipeline to disposal sites. Pumping through long reaches of pipeline may be aided with the use of a remote booster pump. Sediments from clamshell dredging would be placed in a barge, and then transported with the assistance of a tugboat to the designated disposal area.

For Berths 243-254, construction would begin with demolition of the abandoned wharf structures within the slips. The dike trench dredging would take place and the dredged material would be placed in the CDF disposal site. The rock dike would be constructed to an interim elevation, which would provide containment of the fill while still allowing hull clearance for bottom dump scows to place the contaminated material in the deepest area of the disposal site. Sediments would be placed into the fill area hydraulically as the fill area became too shallow to allow access via barge. Contaminated sediments would not be dispersed in the open water. After disposal of contaminated material, the rock dike would be constructed to a final elevation of +11 feet MLLW. Clean surcharge will be deposited on the completed CDF to an approximate elevation of +30 feet MLLW to promote densification of deposited dredge material. Bulldozers would be used for final grading of the surcharge. A surface cover layer of sand would be placed on the site. A contaminated sediment management plan would be developed in cooperation with the CSTF and other State and Federal agencies prior to moving and disposing of the contaminated sediments.

For the Northwest Slip, construction would begin by dredging to create a foundation trench at an approximate elevation of -52 to -55 feet MLLW, for structural stability of the dike. This material would be placed within the fill footprint prior to the construction of the dike. Upon completion of the containment dike, dredge material from the Southwest Slip surcharge would be hydraulically deposited to an elevation of +11 feet MLLW.

Construction of the CSWH Expansion would begin with the construction of a dike to elevation -15 feet MLLW. Initially, sediment would be dredged to an approximate elevation of -55 feet MLLW to create a foundation to stabilize the containment dike. This material would be disposed within the CSWH fill. Approximately 550,000 tons of quarry run would be used for the construction of the dike to elevation -15 feet MLLW. Fine grained fill would then be pumped into the site by pipeline to elevation -17 feet MLLW. Once completed, coarse grain cover would be placed to the final -15 feet MLLW elevation.

The Eelgrass Habitat Area would be constructed by placing a quarry run rock foundation within the existing and proposed CSWH areas and placement of dredge

material within the rock structure. This foundation would not require a dike foundation trench. The dike along the eastern and southeastern sides would be constructed with quarry run to elevation +10 feet MLLW. The remaining dike sections would be constructed with quarry run to elevation +9 feet MLLW. The dike would be constructed this high to protect the eelgrass area from short period storm waves. A quarry run dike will be constructed across the northern opening of the Eelgrass Habitat Area to elevation -6 feet MLLW. Armor stone would be placed over the quarry run at an elevation of +14 to +12 feet MLLW. Approximately 1,200,000 tons of quarry run and approximately 170,000 tons of armor stone would be used for dike construction. Fine-grained fill would then be placed between elevation -8 feet MLLW and -4 feet MLLW. Once completed, a two-foot surface cover would be placed between -6 feet MLLW to -2 feet MLLW.

For disposal at the ARSSS site, sediments would be placed in barges and shipped to an offloading site at Shore Road. The material would be transferred from the barge to a temporary bermed holding area and subsequently transferred to trucks for transport to the ARSSS, approximately 0.15 miles away, across Shore Road. Because dredged material has a high water content when first disposed, the Port implements various best management practices to prevent the material from spilling onto the road during transport, including only partially filling the trucks, sealing the backs of trucks to prevent leakage, washing truck tires before they leave the offloading site, and sweeping the roads on a regular basis.

For disposal at the ocean disposal site LA-2, sediment would be loaded onto split-hull barges, transported to the disposal site, and dumped in open water above the disposal site.

### III. Physical/chemical characteristics and anticipated changes

- (X) **substrate:** Except for LA-2, the proposed disposal sites, including the ocean disposal sites and the upland ARSSS site, are located throughout the Port area and generally overlie recent sediments or artificial fill placed over Holocene alluvium and beach deposits. Underlying the Holocene sediments is the Miocene Monterey Formation. The POLA consists of a network of upland/artificial fill areas, and deep channels and basins that have been created by dredge operations in the gradually sloping sediments that underlie the harbor. Upland areas within the harbor are generally one to five feet above mean sea level. Outside of the harbor, the gently sloping ocean floor does not reach depths of 70 to 75 feet until more than two miles from Queens Gate (USACE, 2000). The LA-2 site is at the top edge of the continental slope in approximately 110 to 340 m (360 to 1,115 ft) of water. Centered at 33°37'06" N and 118°17'24" W, the LA-2 site is located just south of the San Pedro Valley submarine canyon approximately 11 km (5.9 nmi) from the entrance to Los Angeles Harbor.

In addition to geotechnical studies conducted for the Deep Draft Navigation Improvements Project (Kinnetics 1991), sediment sampling was conducted to identify appropriate disposal site options for the Channel Deepening project (Fugro West, Inc. 1997). Thirty-seven locations were sampled within areas of predominantly coarse-grained sediments (locations denoted by CG in Figure 3.5-

1 of the SEIS/SEIR), and 45 locations were sampled within areas of predominantly fine-grained and formation sediments (locations denoted by FG and FM in Figure 3.5-1 of the SEIS/SEIR). The coarse-grained sediments consisted primarily of sand, with minor proportions of silt and clay, whereas the fine-grained and formation sediments consisted primarily of silt and clay, with lesser proportions of sand. Sediments in the LA-2 site and surrounding areas are composed primarily of silt and sand, lesser amounts of clay, and relatively small gravel fractions. As indicated in Section 3.5.2 of the SEIS/SEIR, there are no substantial topographic features on the Proposed Action sites, and water bodies within the Port consist primarily of dredged channels. Therefore, neither Alternative 1 nor Alternative 2 under the Proposed Action would have the potential to result in significant landform alteration impacts. Alternative 3, the No Action alternative, would have no landform alteration impacts because no sediment would be deposited.

- (X) **currents, circulation or drainage patterns:** Circulation patterns in the harbor are determined by a combination of tide, wind, thermal structure and local topography. A large clockwise gyre is found in the surface waters of the outer Los Angeles and Long Beach Harbors during both rising and falling tides. The net tidal exchange is inward through Angel's Gate, and outward through Queen's Gate and the gap between the eastern end of Long Beach Breakwater and Alamitos Bay. Therefore, there is a net eastward flow within the harbor. Mixing is less in the Inner Harbor than in the Outer Harbor. Tidal-induced water exchange in the Inner Harbor is 22 percent of the total harbor water volume per day. Neglecting discharges, flushing efficiency of the harbor has been determined using the tidal prism method. Overall tidal exchange rates fluctuate between eight 8 and 25 percent, with the flushing rate estimated at 90 tidal cycles. Potential long-term effects on water circulation within the Port that have the potential to result from land configuration changes at the proposed and alternative sediment disposal sites were evaluated in a report prepared by the Army Corps of Engineers (2007). The report provides the results of hydrodynamic (water current characteristics) computer modeling of existing conditions within the Port, and hydrodynamic conditions that would exist after the implementation of the Proposed Action. The evaluation of water circulation impacts resulting from the development of sediment disposal sites under the Proposed Action determined that the Berths 243-245 disposal site and Northwest Slip projects would have effects that are very small and localized. With regard to the CSWH Expansion Area and Eelgrass Habitat Area, the report concluded that water velocities would be lowered inside the Eelgrass Habitat Area, and increased velocities and the formation of an eddy would occur immediately to the west of the Eelgrass Habitat Area. Increases in bottom residual velocity to the west of the Eelgrass Habitat Area would be on the order of approximately 10 cm/sec, which may have the potential to result in increased erosion depending on the character of the bottom material and the values of instantaneous currents. However, none of the predicted changes in water movement were considered to be significant. Therefore, these project components would not result in significant water circulation impacts. The Anchorage Road Soil Storage Site

(included in Alternative 2 of the Proposed Action) is an upland facility and does not have the potential to result in adverse impacts to water circulation in the Port. Ocean Disposal Site LA-2 is a deep water disposal site located in the open ocean more than 5 miles offshore. Disposal of dredge material at LA-2 would not affect water circulation at this offshore site. Under Alternative 3, the No Action Alternative, no sediment would be deposited, and none of the disposal sites included in Alternatives 1 and 2 would be constructed. Because no changes in the topography of the Port would occur under Alternative 3, no impacts to water circulation would occur.

- (X) **suspended particulates; turbidity:** As a result of proposed dredge and disposal activities, short-term increases in turbidity would occur in the vicinity of the project sites. The length of time it takes for the suspended material to settle, combined with current velocity, determines the size and duration of the turbidity plume. Settling rates are largely determined by the grain size of the suspended material, but are also affected by the chemistry of the particle and the receiving water. The plume durations are expected to be generally short with the concentration of solids returning to background levels within one to 24 hours after dredging stops (USACE, 2000).

Dredging to construct the Berths 243-245 sediment containment dike foundation trench, the construction of the sediment containment berm, and proposed sediment disposal operations would result in the resuspension of sediments and other associated water quality impacts, similar to the water quality effects described above. These effects would be short in duration, would only affect the area adjacent to the project site, and would terminate after the completion of proposed dredge and sediment disposal operations. The majority of the contaminated sediment discharged into the Berths 243-245 disposal site would settle to the bottom rapidly, therefore, it is not anticipated that the sediment would have a significant short-term effect on water quality. The design and construction of the disposal site as a Confined Disposal Facility in accordance with U.S. EPA standards would reduce the potential for long-term water quality impacts resulting from the disposal of contaminated sediments to a less than significant level.

Dredging to construct the Northwest Slip sediment containment dike foundation trench and proposed sediment disposal operations would result in the resuspension of sediments and other associated water quality impacts. Potential impacts would be similar to the water quality effects described above. These effects would be short in duration, would only affect the area adjacent to the project site, and would terminate after the completion of proposed dredge and sediment disposal operations. Therefore, proposed dredge and sediment disposal operations would not result in significant short-term pollution- or nuisance-related water quality impacts. The Northwest Slip would not be used for the disposal of contaminated sediments.

Proposed dredging and sediment disposal operations would result in the resuspension of sediments and other associated water quality impacts at the

CSWH Expansion Area. Potential impacts would be similar to the water quality effects described above. These effects would be short in duration, would only affect the area adjacent to the project site, and would terminate after the completion of proposed dredge and sediment disposal operations. Therefore, proposed sediment disposal operations would not result in significant short-term pollution- or nuisance-related water quality impacts. The CSWH Expansion Area would not be used for disposal of contaminated sediments.

Proposed dredging and sediment disposal operations would result in the resuspension of sediments and other associated water quality impacts at the Eelgrass Habitat Area. Potential impacts would be similar to the water quality effects described above for the Berths 243-245 disposal site and the Northwest Slip. These effects would be relatively short in duration, would only affect the area adjacent to the project site, and would terminate after the completion of proposed dredge and sediment disposal operations. Therefore, proposed sediment disposal operations would not result in significant short-term pollution- or nuisance-related water quality impacts. The Eelgrass Habitat Area would not be used for disposal of contaminated sediments.

Sediment disposal at LA-2 would result in a temporary increase in turbidity as the sediment settles to the ocean floor. This temporary increase in turbidity is expected and the rate and pathway of sedimentation at LA-2 has been monitored and calculated to ensure that sediment disposed at LA-2 does not migrate outside of the site boundaries (USACE, 2004b).

The Eelgrass Habitat Area and CSWH Expansion Area would not place soil or sediment above water level and would not become a source of erosion. The containment dike of the Eelgrass Habitat Area would extend above the surface of the water but would be constructed of quarry run and armor stone and would not become a source of erosion. After the proposed CDF at the Berths 243-245 disposal site and the five-acre landfill at the Northwest Slip areas achieve elevations above water level, the exposed sediments could be affected by erosion and sedimentation processes, which would have the potential to result in increased turbidity and other related water quality impacts. Similarly, the soil stockpile located at the ARSSS could be subject to erosion and would have the potential to result in increased turbidity if the sediment was re-introduced into the harbor. Potential short-term construction-related erosion and sedimentation impacts from sediment disposal at the Berths 243-245 disposal site, the Northwest Slip landfill, and the ARSSS would be minimized by adhering to existing regulatory requirements, including preparation and implementation of a SWPPP (storm water pollution prevention plan) and implementation of applicable erosion/sedimentation control BMPs (best management practices). Implementation of these requirements at the proposed disposal locations would reduce potential water quality impacts to a less than significant level.

Under Alternative 3, the No Action alternative, no sediment would be deposited, and therefore no increase in turbidity or suspended particulates would result. Although the surcharge that currently exists on the Southwest Slip would remain

and would continue to be subject to erosion, which could lead to increased turbidity in the harbor, the potential for turbidity would not be increased over baseline conditions.

- (X) **water quality (temperature, salinity patterns and other parameters):** Seasonal and spatial variation in water temperature in the harbor reflects the influence of the ocean, local climate, the physical configuration of the harbor, and circulation patterns. General trends in water temperature consist of uniform, cooler temperatures throughout the water column in the winter and spring and of stratified warmer temperatures with cooler waters at the bottom in the summer and fall. The stratified summer and fall conditions may be attributed to warmer ocean currents, local warming of surface waters through insolation, and reduced runoff into near shore waters.

Variations in the salinity of the water in the Los Angeles Harbor occur due to the effect of storm water runoff, waste discharges, rainfall and evaporation. Typical seawater has a salinity of 33 parts per thousand (ppt). Harbor waters usually range from 30.0 to 34.2 ppt, but salinities ranging from less than 10.0 ppt to greater than 39.0 ppt have been reported. Salinity in the Outer Harbor is generally higher in the summer than winter, and deeper Outer Harbor sampling stations are typically more saline than shallower stations

The water quality of the Los Angeles Harbor would be temporarily impacted during dredging and disposal operations, including short-term increases in turbidity, decreases in dissolved oxygen and pH, increases in nutrients, and increases in contaminants in areas where contaminated sediments occur. Placement of sediment at the ARSSS would not affect the water quality of the harbor unless that sediment was allowed to leave the ARSSS through erosion and re-enter the harbor. The dredging and movement of sediment destined for the ARSSS would produce the same water quality impacts as described above for the dredging and transportation of sediment destined for disposal at other sites. Extensive water quality monitoring was conducted during dredging and placement of dredge materials at the POLA Pier 400 project area. This monitoring was required by the LARWQCB and included weekly, monthly and quarterly activities. Monitoring stations were located 100 feet upcurrent, and 100 and 300 feet downcurrent of each dredge and disposal operation, as well as at fixed stations in the outer harbor. Dissolved oxygen, light transmittance, temperature, pH and contaminants were monitored. This monitoring failed to detect any impacts to water quality in the outer harbor as a result of dredging or disposal activities (USACE, 2000). Similarly, the Proposed Action is not expected to result in any significant water quality impacts at disposal sites within the Port.

Sediment disposal at LA-2 would result in localized and temporary impacts to water quality, such as a temporary increase in turbidity as the sediment settles to the ocean floor. Use of the LA-2 site for sediment disposal would not result in a change in temperature or salinity at the site.

Under Alternative 3, the No Action Alternative, no sediment would be deposited, and therefore no changes to temperature, salinity, or other water

quality parameters (such as turbidity or dissolved oxygen) would result. Although the surcharge that currently exists on the Southwest Slip would remain and would continue to be subject to erosion, which could lead to changes in water quality in the harbor, the potential for turbidity would not be increased over baseline conditions.

- ( ) **flood control functions:** Not Applicable
- (X) **storm, wave and erosion buffers:** Due to the presence of the Long Beach and San Pedro breakwaters, the POLA does not experience significant wave action. Implementation of Alternative 1 of the Proposed Action would result in two new upland areas and new shallow habitat areas within the port. Two disposal sites, the Berths 243-245 disposal site and the Northwest Slip, would involve the creation of new land areas (five acres and eight acres, respectively). However, both sites are located in relatively isolated areas of the Port and would not lead to increased erosion at the Port (Section 3.5 of the SEIS/SEIR). Alternative 2 of the Proposed Action would not involve creation of new land at the Berths 243-245 and Northwest Slip disposal sites, and therefore would not lead to increased erosion at those sites. Both Alternative 1 and Alternative 2 would increase the amount of shallow water habitat at the existing CSWH and the proposed Eelgrass Habitat Area. The new Eelgrass Habitat Area would serve to dissipate storm and wave energy, and would be an increased buffer against erosion. Under Alternative 3, the No Action alternative, no sediment would be deposited, and therefore no changes to storm, wave and erosion buffers would result.
- (X) **erosion and accretion patterns:** No change in the current erosion or accretion patterns near the Proposed Action would result from the proposed dredging, demolition, landfilling and construction of the project (Section 3.5 of the SEIS/SEIR).  
  
Under Alternative 3, the No Action alternative, no sediment would be deposited, and therefore no changes to erosion and accretion patterns would result. Although the surcharge that currently exists on the Southwest Slip would remain and would continue to be subject to erosion, the potential for erosion would not be increased over baseline conditions.
- ( ) **aquifer recharge:** Not Applicable
- ( ) **baseflow:** Not Applicable

For projects involving the discharge of dredged material;

- (X) **mixing zone, in light of the depth of water at the disposal site; current velocity, direction and variability at the disposal site; degree of turbulence; water column stratification; discharge vessel speed and direction; rate of discharge; dredged material characteristics; number of discharges per unit of time; and any other relevant factors affecting rates and patterns of mixing:**

The mixing zone at the disposal sites within the Port is very small due to the shallow depths in these areas. Mixing will also be confined to the smallest

practicable zone through the use of rock diking. Further containment of discharged materials will be accomplished by assuring that the return water flow of dredge water conforms to LARWQCB waste discharge requirements.

The mixing zone at LA-2 is much larger because sediment is disposed of at the surface, above the LA-2 site, and then settles to the ocean floor, up to 1,115 below. The LA-2 site is permanently designated as a sediment disposal site. Disposal of material at LA-2 would be consistent with the USEPA regulations for managing ocean dumping in accordance with the Marine Protection, Research, and Sanctuaries Act.

#### IV. Biological Characteristics

- (X) **special aquatic sites (wetlands, mudflats, coral reefs, pool and riffle areas, vegetated shallows, sanctuaries and refuges, as defined in 40 CFR 230.40-45):** The Proposed Action would not impact wetlands, mudflats, coral reefs, pool and riffle areas; however, vegetated shallows, including eelgrass and kelp beds do occur within the project area.

**Eelgrass Beds.** Eelgrass has become established in shallow waters off Cabrillo Beach and north to the Cabrillo Marina as well as in the Pier 300 Shallow Water Habitat and Seaplane Lagoon. A survey in 1996 (Southern California Marine Institute, 1996) found the Cabrillo Beach bed to be approximately 25 acres (10 ha). Over half (16 acres [6.5 ha]) of the bed had sparse (less than 10 percent) cover while the remaining area had greater than 90 percent cover. A 1999 survey (Southern California Marine Institute, 1999) indicates that this eelgrass bed had expanded to approximately 54.4 acres (22 ha). The dense cover (greater than 90 percent) area had increased to 39.4 acres (16 ha) and extended to a depth of -8 feet mean lower low water (MLLW).

Surveys in March and August 2000 (MEC 2002) found the eelgrass beds at Cabrillo Beach to cover 21.7 acres (8.8 ha) in March and 42.3 acres (17.1 ha) in August (Figure 3.3-1). The beds extended to depths of -10 feet MLLW. Eelgrass is also present in the Pier 300 Shallow Water Habitat and in the Sea Plane Lagoon. No other eelgrass beds were found in the harbor, although individual plants or very small beds may be present.

Demolition and dredging for the containment dikes at the Northwest Slip and Berths 243-245 disposal sites would cause no loss of eelgrass and have no impacts on this plant community. Disposal of dredged material at the ARSSS and ocean disposal site LA-2 would result in no loss of eelgrass and have no impacts. Construction of the CSWH Expansion and Eelgrass Habitat Area would temporarily affect existing eelgrass beds but would not result in any reduction or loss of eelgrass, and would therefore result in a less than significant impact.

Eelgrass beds could be affected by turbidity due to construction related activities at the CSWH Expansion and the Eelgrass Habitat Area sites. Suspended sediments on the plant surfaces could result in consequential changes in photosynthesis rates due to a reduction in light penetration. The extent and duration of such effects would depend on water currents at the time of work.

While effects of turbidity on eelgrass beds could potentially occur, it is unlikely due to their distance from the CSWH Expansion and Eelgrass Habitat Area sites (over 800 feet and 2800 feet, respectively). It is likely that most of the suspended sediment would settle out before reaching the eelgrass beds. These effects would only occur during construction activities with rapid recovery (a few months) of any plants damaged by sediment.

**Kelp Beds.** Small amounts of kelp were present along the northwestern edge of the CSWH in 2000 (MEC, 2002). Some of this kelp could be removed during construction of the CSWH Expansion Area. Turbidity during fill placement in this area also could affect the remaining kelp plants by reducing light penetration in the water column and settling of fine particulates on the kelp blades. However such turbidity and settling effects would be of short duration as the filling activity moved away from the remaining existing kelp. The new containment dike for the fill would provide habitat for colonization by the kelp. The amount of kelp affected would be small, and these plants do not form dense beds that provide important habitat for other marine organisms. Colonization of the new dike would replace the plants lost. Construction of the Eelgrass Habitat Area in the existing CSWH would not remove any kelp, but would temporarily increase turbidity in this area. Although kelp beds in the harbor would be temporarily affected by construction of the Eelgrass Habitat Area, the impacts would be short term, indirect, and minor and these small beds would recover.

**(X) habitat for fish and other aquatic organisms:**

**Essential Fish Habitat.** In accordance with the 1996 amendments to the Magnuson-Stevens Fishery Management and Conservation Act, an assessment of Essential Fish Habitat (EFH) has been prepared. The Proposed Action dredging and filling would be located within areas designated as EFH for two Fishery Management Plans (FMPs): Coastal Pelagics Plan and Pacific Coast Groundfish Management Plan. Of the 94 species federally managed under these plans, 19 are known to occur in the Los Angeles-Long Beach Harbor.

Construction activities would result in the permanent loss of 7.6, 4.8, and 1.7 acres of EFH at the Berths 243-245 disposal site, Northwest Slip, and Eelgrass Habitat areas, respectively, which would be considered a significant impact. The implementation of MM BIO-4 (Apply Mitigation Credits), as discussed in the SEIS/SEIR, would offset the loss of marine habitat through the use of mitigation credits in existing mitigation banks or those associated with the CSWH Expansion Area. Disposal of sediments at Ocean Disposal Site LA-2 would have minimal effects on EFH due to the deep water depth and the temporary and periodic disturbance in a small amount of water column as the material is dropped from barges at this site.

**Marine Habitat.** Marine habitats in the areas to be dredged or filled in the Proposed Action area are primarily deep soft bottom, although some shallow soft bottom would be altered for construction of the eelgrass habitat. Rock riprap, pilings, and concrete or sheetpile walls seen along the landfills for Harbor facilities provide hard substrate habitats.

Construction activities at the Berths 243-245 disposal site to create an 8 acre (3.2 ha) CDF would result in a permanent loss of approximately 7.6 acres (3.1 ha) of water surface over 6.6 acres (2.7 ha) of soft bottom and 1.6 acres (0.6 ha) of rocky dike habitat. Another 1.0 acre (0.4 ha) of rocky dike habitat would be covered by the fill but replaced by the new containment dike along the Main Channel. The permanent habitat loss would remove 2.3 metric tons of infaunal invertebrates and 21 metric tons of riprap invertebrates. (Data from the Main Channel infauna and East Basin riprap 2000 samples were used for these calculations since no data are available from the Berths 243-245 site.) The piling habitat in the water at Berths 243-245 would also be removed. Constructing 5 acres (2 ha) of landfill at the Northwest Slip would permanently remove 4.8 acres (1.9 ha) of water surface, water column, and soft bottom habitat. Approximately 1.8 acres (0.7 ha) of rocky dike habitat would be removed and replaced during the construction activities. The amount of infaunal invertebrates lost would be approximately 0.4 metric ton, while about 19 metric tons of hard substrate organisms would be temporarily lost.

Construction of the CSWH Expansion Area would result in a modification of the shallow water habitat area, but no permanent loss of marine habitat.

The containment dike around the Eelgrass Habitat Area would extend above the water, thereby eliminating approximately 1.7 acres (0.7 ha) of water surface. Water column habitat would also be reduced due to the eelgrass habitat construction.

Loss of marine habitat due to construction of the CDF at Berths 243-245, new land area at the Northwest Slip, and the containment dike for the Eelgrass Habitat Area would be a significant impact. The implementation of MM BIO-4 (Apply Mitigation Credits), as discussed in the SEIS/SEIR, would offset the loss of marine habitat through the use of mitigation credits in existing mitigation banks or those associated with the CSWH Expansion Area. Expansion of the CSWH by up to 50 acres (20.2 ha) and placement of fill in the CSWH to create the 40 acre Eelgrass Habitat Area would result in disturbances and turbidity for approximately 250 and 90 work days, respectively over an approximate one year period. EFH in the Outer Harbor would be changed from deep water to shallow water less than -20 feet MLLW. Although some water column habitat would be lost, long-term impacts would be less than significant because the new shallow water would support more FMP species than the existing deep water. Alteration of marine habitat as a result of constructing the Eelgrass Habitat Area and CSWH Expansion would be less than significant because no habitat would be lost.

Effects of turbidity, noise and vibration, and equipment presence during landfill construction at the Berths 243-245 disposal site and Northwest Slip would temporarily affect plankton, fish, and marine birds that use adjacent areas but not to a level that would adversely affect their populations.

Turbidity, noise and vibration, and equipment disturbances would affect the CSWH Expansion fill area as well as adjacent areas during construction activities. This would affect plankton, fish, and birds that use the area. Deep water column

habitat (below -20 feet MLLW) would be permanently lost and deep soft bottom would be replaced with shallow soft bottom as a result of this fill, but surface water area would remain the same. These changes would reduce habitat for fish species that prefer deep water while increasing habitat for those that prefer shallow water. Fill placed to create shallow water from deep water would reduce the depth of the water column habitat and result in a temporary loss of soft bottom invertebrates (11.7 metric tons) over an area of 50 acres (20.2 ha). The subtidal rocky dike along the northern edge of the existing shallow water habitat would be covered with fill as the shallow water habitat is extended, and the rocky habitat lost would be replaced by the new containment dike for the habitat expansion. Approximately 7 acres (2.8 ha) of hard substrate habitat would be affected with a temporary loss of approximately 104 metric tons of invertebrates (using subtidal invertebrate biomass from Berth 48). No permanent loss of habitat would occur. A benthic community similar to that currently present in adjacent areas of the existing CSWH would be expected to develop within 5 years based on surveys in 1987 of areas dredged in 1982 (MEC, 1988). Kelp and invertebrates would also colonize the containment dike for this habitat expansion.

Placement of fill would result in turbidity, noise and vibration, and equipment disturbances that would affect the Eelgrass Habitat Area fill area as well as adjacent areas during construction activities. This would affect plankton, fish, and birds that use the area. Effects of these disturbances would be of short duration. Placing fill to create eelgrass habitat over 24 acres (9.7 ha) of existing CSWH and 16 acres (6.5 ha) of the CSWH Expansion Area would reduce the depth of the water column habitat over the 40-acre (16-ha) site. In addition, approximately 6 acres (2.4 ha) of soft bottom would be converted to 5 acres (2.0 ha) of hard substrate habitat along the containment dike face. Invertebrate infauna would be temporarily lost as a result of the fill, but organisms would colonize the new soft and rocky bottom. At a biomass of 127.7 g/m<sup>2</sup> in the existing CSWH, the temporary invertebrate loss in the 24 acres (9.7 ha) of that habitat covered by fill would be 12.4 metric tons. The remaining 16 acres (6.5 ha) of the new eelgrass habitat would be constructed over the new shallow water habitat that is part of the Proposed Action. No habitat would be permanently lost and the long-term change would be beneficial. A benthic invertebrate community similar to that currently present in the eelgrass beds at Cabrillo Beach would be expected to develop as eelgrass is planted and expands in this area. Areas that are not planted in eelgrass immediately following construction of the area would be colonized by benthic invertebrates typical of such shallow areas in the Harbor. The development of an eelgrass bed over the fill would enhance the habitat value of this area for a number of fish species.

Disposal of sediments in Ocean Disposal Site LA-2 would alter the bottom by changing sediment characteristics; however this is an approved dredge material disposal site with an allowed annual disposal volume of 1.4 mcy of material. Impacts would be less than significant.

Disposal of sediments at the ARSSS site would occur on existing dry land adjacent to the Port and therefore no change to marine habitat would occur.

Although construction of the CSWH Expansion and Eelgrass Habitat Area sites would result in temporary disturbances and short-term as well as permanent habitat changes, impacts of these activities would be less than significant because they would not interfere with habitat such that species behaviors would be disturbed to a degree that may diminish the long-term survival of a sensitive species or ecological function. In the long term, the habitat change at the CSWH and Eelgrass Habitat Area would be beneficial because it would provide foraging habitat for special status birds and other species.

- (X) **wildlife habitat (breeding, cover, food, travel, general):** Upland areas where surcharge material would be removed are recently filled areas that provide limited terrestrial habitat for wildlife. Terrestrial habitats in the Los Angeles Harbor are primarily developed terminal areas and associated backlands. Most of these areas are paved. Unpaved areas are either barren or have a low density of predominantly non-native weedy species. Some small areas adjacent to buildings are landscaped with a variety of horticultural species that range from grasses to palm trees. Wildlife associated with these industrial areas is limited to species that are adapted to human disturbance. Common birds include gulls (*Larus spp.*), Brewer's blackbird (*Euphagus cyanocephalus*), American crow (*Corvus brachyrhynchos*), house finch (*Carpodacus mexicanus*), house sparrow (*Passer domesticus*), European starling (*Sturnus vulgaris*), northern mockingbird (*Mimus polyglottos*), and rock dove (*Columba livia*). Mammals are generally limited to mice, rats, and feral cats.
- (X) **endangered or threatened species:** Several state and federally listed threatened or endangered species are known to be present, at least seasonally, in the Harbor. State designated Species of Special Concern are also present, and several marine mammals have been observed in the Harbor. Individuals of some of these species could be present near Project dredge and fill activity sites.

Constructing an 8-acre (3.2 ha) CDF at the Berths 243-245 disposal site would not remove any important foraging areas for special status species, and none breed in this area. Constructing 5 acres (2 ha) of new landfill in the Northwest Slip site would also not affect special status species. The Northwest Slip is not an important foraging area for any of the species, no breeding occurs there, and few if any individuals of these species would be present. Any species present during construction would avoid the disturbance area.

Expanding the existing CSWH by up to 50 acres (20.2 ha) would cause temporary disturbances along the north side of the existing CSWH due to equipment and turbidity for nearly one year. The existing 326-acre CSWH provides foraging habitat for the California least tern (Keane Biological Consulting and Aspen Environmental Group 2004), and construction activities would overlap with their entire nesting season (April through August) in one year or parts of the nesting season in two years. These disturbances have the potential to adversely affect least tern foraging by causing a decline in availability of forage fish in and

adjacent to the active work area or ability of the least terns to find forage fish during the nesting season. However, some of the fish in and adjacent to the active work area would move away from the disturbance area and into nearby areas, thus, remaining available for consumption by the California least tern. Furthermore, the equipment disturbance and change in fish distribution would affect a small proportion of the total foraging area available in the harbor. For example, based on past disposal operations, the extent of the turbidity plume to be expected during construction of the shallow disposal sites would be no greater than several hundred feet. Assuming a circular area of disturbance with a diameter of 600 feet, the turbidity plume would be expected to affect a maximum of 6.5 acres of the existing 326-acre CSWH. Therefore approximately 319 acres of the existing adjacent 326-acre CSWH would provide foraging areas away from construction activities. Additionally, the approximately 193-acre Pier 300 Shallow Water Habitat that is used by the least tern would not be affected by construction of the Proposed Action. Therefore, approximately 512 acres of the existing 519 acres of shallow water foraging habitat, or 99.2 percent, of existing shallow water least tern foraging area within the harbor would remain available for least tern foraging during construction. Deep water areas inside and outside the harbor that are used by the least terns for foraging would also remain available during 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. The fish, in turn, would help support special status fish-eating birds as well as marine mammals.

Construction of the Eelgrass Habitat Area would involve installation of a containment dike and placement of the fill material to form a 40-acre (16-ha) shallow area for eelgrass. This area would be located within an approximately 24-acre (9.7 ha) portion of the existing CSWH and within an approximately 16-acre (6.5 ha) portion of the proposed CSWH Expansion described above. The CSWH is a foraging area for the least tern (Keane Biological Consulting and Aspen Environmental Group 2004), and this species is present April through August. The elegant tern and black skimmer also breed during the summer and forage near their nesting areas (on Pier 400 from 1998 to 2005). Construction activities would result in equipment, human activity, and turbidity in the fill area as the containment dike is installed and the fill material is placed. This activity would take approximately 10 months and would overlap part to all of the breeding season for the least tern, elegant tern, and black skimmer. Construction activities could interfere with foraging by fish-eating special status birds in the existing CSWH due to noise, equipment presence, turbidity (reduce visibility of fish), or movement of forage fish away from the work area. If the birds fly to other foraging areas that are farther from their nesting site, they would expend additional energy. The availability of fish at other foraging sites could be greater than, less than, or the same as at the CSWH site, which could affect their ability to obtain enough food. Proposed Action construction activities would have a low

potential to affect the birds because adequate foraging could remain near the work or at other locations in the Harbor. For example, least terns were observed foraging near the existing Pier 300 Expansion site while it was being constructed, indicating that the birds will likely adapt to the disturbance and that forage fish will remain available in the area (Keane Biological Consulting and Aspen Environmental Group, 2004).

California brown pelicans are present all year and forage over both shallow and deep water, and could use other areas inside or outside the Harbor for the duration of the work. The other special status birds and marine mammals would not be affected by this activity because few if any would be present in this area and those individuals present could avoid the disturbance area.

Once the eelgrass beds have become established on the submerged fill, the area could provide nursery habitat for fish that are used by fish-eating special status birds. The portion of the containment dike above water would provide an area for at least some special status birds and marine mammals to use for loafing or resting. This would be a benefit to these species.

Disposal of material at the offshore Ocean Disposal Site LA-2 would not adversely affect special status species because few if any individuals would be present at this location.

Placement of fill at all disposal sites but the CSWH Expansion area and Eelgrass Habitat Area also would have less than significant impacts for the same reason. Placement of fill for construction of the CSWH Expansion and Eelgrass Habitat Area would have less than significant impacts on the California least tern because even during concurrent construction activities at both sites, only a very small proportion of available least tern foraging habitat within the harbor (less than 3%) would be disturbed. Furthermore, Mitigation Measures BIO-1 through BIO-3, as discussed in the SEIS/SEIR, (monitoring and limiting turbidity and monitoring least tern presence) would further reduce the likelihood of impacts to California least tern.

Additionally, MM BIO-4 (offset marine habitat loss with mitigation credits) would be implemented to offset the loss of marine habitat from construction of the Berths 243-245 disposal site, the Northwest Slip, and the Eelgrass Habitat Area dike. The 50-acre expansion of the CSWH would provide 25 shallow Outer Harbor credits, which is more than the credits needed for the CDF at Berths 243-245, the new land area at the Northwest Slip, and the dike for the Eelgrass Habitat.

Disposal of sediments at the ARSSS would occur on existing dry land adjacent to the Port that is currently being used as a sediment disposal site. Placement of additional sediment at the site would not change the habitat characteristics of the site, and would not impact endangered or threatened species.

- (X) **biological availability of possible contaminants in dredged or fill material, considering hydrography in relation to known or anticipated sources of contaminants; results of previous testing of material from the vicinity of the**

**project; known significant sources of persistent pesticides from land runoff or percolation; spill records for petroleum products or designated (Section 311 of the CWA) hazardous substances; other public records of significant introduction of contaminants from industries, municipalities or other sources:** Dredge material would come from the Channel Deepening Project and from on-site trenching required for dike foundation construction. Ocean disposal would take place at five sites. Under both Alternative 1 and Alternative 2, ocean disposal would occur at the CSWH Expansion Area, the Eelgrass Habitat Area, and LA-2. Ocean disposal would occur at Berths 243-245 and the Northwest Slip only under Alternative 1. Additionally, under Alternative 2, dry land disposal would take place at the ARSSS site. No ocean disposal or dry land disposal of sediments would occur under Alternative 3, the No Action Alternative. The Port would test dredged sediments in accordance with state and federal regulations.

Chemical analyses of sediment samples taken from locations throughout the harbor have indicated that coarse-grained sediments showed some heavy metals to be present in the top samples, with most concentrations being below the Effect Range Low (ERL) criteria values, meaning that the contaminant concentrations would result in minimal toxic effects. Concentrations of DDT pesticides and/or PCBs generally exceeded the ERL values in all of the top samples and half of the bottom samples. Metal concentrations in elutriate tests were below detection limits or, when detected, were well below Instantaneous Maximum Water Quality Objectives.

Fine-grained sediments generally had concentrations of DDT pesticides and Aroclor 1254 (a PCB) above ERL values but below Effect Range Medium (ERM), meaning that the contaminant concentrations would have a toxic effect 10 to 50 percent of the time. A few heavy metal concentrations were above ERL values. The metal concentrations were highest within the formation mudstone located in the southern portion of the Main Channel.

A contaminated sediment management plan would be developed in cooperation with State and Federal agencies prior to moving and disposing of contaminated sediments. Material unsuitable for ocean disposal would be disposed of at a new 8-acre CDF at Berths 243-245. Development of this site would include sealing all the sides of the disposal facility with clean sediment and providing a five foot cap and sand berm to contain the contaminated sediment. The majority of the contaminated sediment disposed of at this site is expected to settle to the bottom rapidly, therefore, it is not anticipated that the sediment would have a significant short-term effect on water quality. The design and construction of the disposal site as a CDF in accordance with U.S. EPA standards would reduce the potential for long-term water quality impacts resulting from the disposal of contaminated sediments to a less than significant level. Further material may be disposed of at the Anchorage Road Soil Storage Site (approximately 0.080 mcy).

Construction activities would be conducted using BMPs in accordance with City guidelines, as detailed in the Development Best Management Practices Handbook (City of Los Angeles, 2004). Applicable BMPs include, but are not

limited to: vehicle and equipment fueling and maintenance; material delivery, storage, and use; spill prevention and control; solid and hazardous waste management; and contaminated soil management.

Construction-related impacts from development activities would be minimized through compliance with the Construction General Permit and the development and implementation of a SWPPP. Implementation and enforcement of existing regulations would be adequate to reduce potential construction-related impacts to a less than significant level. No mitigation measures are required.

The City of Los Angeles and the POLA have developed programs to implement requirements of the General Construction Activities Storm Water Permit, including the development and implementation of a SWPPP that describes applicable BMPs to be implemented at the project sites. Existing implementation and enforcement programs adopted by the City of Los Angeles and the POLA would be adequate to reduce potential water quality impacts of the Proposed Action to a less than significant level. No additional mitigation measures are required.

**Summary of indirect and cumulative effects:** The region of influence for cumulative impacts to biological resources is the Los Angeles/Long Beach Harbor (inner and outer harbor areas) for both marine biota and terrestrial biota. The latter, however, are limited to the land portions of the Harbor. Cumulative projects that involve dredging, filling, wharf construction/reconstruction, new marinas, artificial reefs, or channel modifications (as described in Table 6-1) would directly affect marine biological resources through construction and operation activities. All of these projects would have the potential to indirectly affect biological resources through runoff of sediments and pollutants during construction activities on land. Wharf construction/reconstruction would also result in underwater sound pressure waves from pile driving that could affect marine mammals and fish. The cumulative loss of marine habitat and EFH for all these projects, including the Proposed Action, is over 540 acres (219 ha) due to landfill, and nearly 90 percent of that fill has been or is in the process of being completed, including the approved Channel Deepening Project.

The Proposed Action would involve dredge, fill, wharf demolition, and dike construction activities that could contribute to cumulative impacts with other projects. For fill projects, the Proposed Action would contribute approximately 14 acres (5.7 ha), or less than three percent of the total fill proposed or completed for the Harbor. The permanent marine habitat loss from the Proposed Action would also include EFH. Loss of marine habitat through landfilling is a significant cumulative impact, and the significant Proposed Action impact would contribute to that impact. However, previous landfilling impacts have been mitigated, and proposed landfilling impacts are being offset by mitigation bank credits from marine habitat restoration on and off site through agreements with regulatory agencies. Thus, due to implementation of MM BIO-4, the Proposed Action would not make a cumulatively considerable contribution to the significant impacts of habitat loss. Furthermore, the Proposed Action would

result in a net gain in habitat credits due to construction of the CSWH Expansion. Other related projects that could also result in loss of marine habitats would also likely use available mitigation bank credits to compensate for loss of fish and wildlife habitats. As a result, cumulative impacts would be less than significant.

Other Proposed Action construction activities in harbor waters include dredging, shallow habitat construction, and wharf demolition. Dredging would remove surface layers of soft bottom habitats while wharf demolition would remove hard substrate habitat (e.g., piles). Shallow water habitat construction would result in a temporary loss of soft bottom and rocky dike invertebrate communities. Similar construction activities would occur in several of the cumulative projects. The effects of such activities are generally of short duration, affect small localized areas, and do not occur simultaneously for all projects. Because recolonization of dredged areas, new riprap, new piles, and new shallow soft bottom begins immediately and provides a food source for other species such as fish within a short time, multiple projects spread over time would not be expected to result in a reduction in forage base that could affect predatory species. Temporary construction disturbances in the water resulting from the cumulative projects, which can cause fish and marine mammals to avoid the work area, are also not expected to substantially alter the distribution and abundance of these organisms or to adversely affect species behaviors or degrade ecological function. Consequently, cumulative impacts of such disturbances would be less than significant because the effects are dispersed in time and space and are not permanent. The less than significant impacts of the Proposed Action would not result in a cumulatively substantial contribution.

Runoff from temporary disturbances on land during construction activities for the cumulative projects would not occur simultaneously, but rather would be spread over time so that total runoff to harbor waters would be dispersed, both in frequency and location. In addition, runoff controls that are required by Port regulations and permit conditions, such as Storm Water Pollution Prevention Plans (SWPPPs), would prevent significant impacts to water quality that could adversely affect marine biota. Thus, cumulative impacts of development activities on landfills would be less than significant. Creation of the 9-acre CDF at Berths 243-245 area and the 5-acre landfill at the Northwest Slip would not add a cumulatively substantial contribution to cumulative impacts.

The construction of the 40-acre (16-ha) landfill on the east side of Pier 400 as part of the approved Channel Deepening project resulted in a loss of foraging habitat for the California least tern, a federally listed endangered species, that was mitigated by expanding the CSWH. The Pacific Energy project on Pier 400 has the potential to adversely affect the least terns at their nesting site. These are the only cumulative impacts to this species. The Proposed Action would not adversely affect the California least tern at their nesting site on Pier 400. However, the Proposed Action would temporarily disturb foraging habitat for the least tern and other special status species in the CSWH while creating more shallow water habitat and eelgrass habitat. These impacts would be less than significant but further mitigated by Mitigation Measures BIO-1 through BIO-3.

Consequently, the Proposed Action would not result in a cumulatively substantial contribution to cumulative impacts on this and other special status species.

None of the cumulative projects, including the Proposed Action, are expected to have any significant impacts on terrestrial biota because the projects would be in previously disturbed areas that provide little or no habitat for terrestrial biota.

The Proposed Action would not increase vessel traffic within the harbor area. Therefore, the Proposed Action would not contribute to cumulative biological impacts from vessel traffic.

**NOTE:** This is a draft analysis of alternatives and preliminary determinations will be provided in the Final SEIS/SEIR.

## V. References

- City of Los Angeles, Department of Public Works. 2004. Development Best Management Practices Handbook – Part A Construction Activities, Third Edition. September 2004. [http://www.lacity.org/SAN/wp/Siteorg/download/pdfs/tech\\_docs/Part\\_A\\_3rd\\_Edition/Main.pdf](http://www.lacity.org/SAN/wp/Siteorg/download/pdfs/tech_docs/Part_A_3rd_Edition/Main.pdf).
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