

1 **4.12 BIOLOGICAL RESOURCES**

2 Redevelopment would result in benefits to biological resources, as well as less than significant  
3 and potentially significant impacts to such resources. With implementation of measures  
4 recommended in this section, all potential impacts would be mitigated to a level that is less than  
5 significant.

**4.12.1 Study Area**

6 The study area includes the redevelopment project area and adjacent waterways in the Oakland  
7 Inner, Middle, and Outer harbors.

**4.12.2 Regulatory Setting**

**International**

8 **International Maritime Organization Guidelines.** In 1997, the International Maritime  
9 Organization (IMO) adopted voluntary ballast water management guidelines to minimize transfer  
10 of harmful aquatic organisms and pathogens. The IMO is currently drafting an international  
11 agreement that would make mandatory the management of ballast water discharges (EPA  
12 2001).

**Federal**

13 **Federal Endangered Species Act.** The Federal Endangered Species Act (FESA) (16 USC  
14 § 1531 *et seq.*) defines “endangered” species as those in danger of extinction throughout all or  
15 a significant portion of their range. A “threatened” species is any species that is likely to become  
16 an “endangered” species within the foreseeable future throughout all, or a significant portion of  
17 its range. Additional special-status species include “candidate” species and “species of  
18 concern.” “Candidate” species are those which the U.S. Fish and Wildlife Service (USFWS) has  
19 on file enough information to propose listing as endangered or threatened. “Species of concern”  
20 are those for which listing is possibly appropriate but for which the USFWS lacks sufficient  
21 information to support a listing proposal. A species that has been “delisted” is one whose  
22 population has met its recovery goal target and is no longer in jeopardy of extinction.

23 Taking of a federally listed species is prohibited under Section 9 of ESA. Taking is defined by  
24 FESA (§ 3[19]) to mean “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or  
25 collect, or attempt to engage in any such conduct.” An incidental take of a listed species  
26 requires consultation with the USFWS, or National Marine Fisheries Service (NMFS), as  
27 appropriate.

28 Effects to federally listed species may be addressed for a proposed action in one of two ways:

- 29 1. a nonfederal entity may address potential adverse impacts to a listed species under Section  
30 10 of ESA, or

1           2. a federal lead agency regulates the proposed action in accordance with Section 7 of ESA.

2           Both require consultation with the USFWS and/or NMFS, the agencies that administer the Act. If  
3           consultation determines that a federally listed species would be affected by an action,  
4           consultation would result in an Incidental Take Statement through either a Habitat Conservation  
5           Plan under Section 10, or a Biological Opinion under Section 7.<sup>1</sup>

6           **Clean Water Act.** Under Section 404 of the CWA (33 USC § 1344), the U.S. Army Corps of  
7           Engineers (Corps) regulates the disposal of dredged and fill materials into “waters of the United  
8           States.” Waters of the United States include intrastate lakes, rivers, streams (including  
9           intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows,  
10          playa lakes, or natural ponds, and wetlands adjacent to any water of the United States (CFR 33  
11          Part 328). In areas subject to tidal influence, Section 404 jurisdiction extends to the high tide  
12          line. Certain waters of the United States are considered “special aquatic sites” because they are  
13          generally recognized as having particular ecological value. Such sites include sanctuaries and  
14          refuges, mudflats, wetlands, vegetated shallows, coral reefs, and riffle and pool complexes.  
15          Special aquatic sites are defined by the U.S. Environmental Protection Agency and may be  
16          afforded additional consideration in the permit process for a project. Special aquatic sites  
17          include habitats such as wetlands, mudflats, and eelgrass beds.

18          Currently, EPA’s CWA regulations at 40 CFR 122.3(a) exclude from regulation under the  
19          National Pollutant Discharge Elimination System (NPDES), “. . . any other discharge incidental  
20          to the normal operation of a vessel.” Therefore, ballast water discharges have not been and are  
21          currently not being regulated under the Clean Water Act.

22          **Rivers and Harbors Act.** The Corps also regulates navigable waters under Section 10 of the  
23          Rivers and Harbors Act. Navigable waters are defined as “. . . those waters of the United States  
24          that are subject to the ebb and flow of the tide shoreward to the mean high water mark and/or  
25          are presently used, or have been used in the past, or may be susceptible to use to transport  
26          interstate or foreign commerce” (33 CFR Part 322.2). A permit from the Corps must be obtained  
27          for any work within jurisdictional waters of the United States.

28          **Migratory Bird Treaty Act.** The Migratory Bird Treaty Act of 1918 (16 USC §§ 703-711) makes  
29          it unlawful to take, possess, buy, sell, purchase, or barter any migratory bird listed in 50 CFR  
30          Part 10, including feathers or other parts, nests, eggs, or products, except as allowed by  
31          implementing regulations (50 CFR 21). Disturbance that causes nest abandonment and/or loss  
32          of reproductive effort (e.g., killing or abandonment of eggs or young) may be considered “take”  
33          and is potentially punishable by fines and/or imprisonment.

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<sup>1</sup> Correspondence between the Army and the USFWS and the Army and the NMFS under Section 7 is included in Appendix 4.12.

1        **Marine Mammal Protection Act.** Under the Marine Mammal Protection Act of 1972 (16 USC  
2        § 1371) it is unlawful to take or import marine mammals and marine mammal products. Under  
3        Section 101(a)(5)(D) of the Act, an incidental harassment permit may be issued for activities  
4        other than commercial fishing that may impact small numbers of marine mammals. An incidental  
5        harassment permit covers activities that extend for periods of not more than 1 year and that will  
6        have a negligible impact on the impacted species.

7        **National Invasive Species Act of 1996.** The National Invasive Species Act (NISA) creates a  
8        national ballast management program for all U.S. coastal regions. The Coast Guard requires  
9        mandatory reporting and record-keeping requirements for all vessels equipped with ballast  
10       water tanks that enter into the waters of the United States after operating beyond the Exclusive  
11       Economic Zone (EEZ). There are no other mandatory federal requirements for vessels calling at  
12       ports within the San Francisco Bay.

13       **Executive Order 13112.** This order instructs Federal agencies to do the following:

- 14       • identify their actions which may affect the status of invasive species;
- 15       • use existing programs and authorities to prevent introduction of invasive species; and
- 16       • refrain from carrying out actions that promote introduction or spread of invasive species.

17       The order also established an Invasive Species Council co-chaired by secretaries of several  
18       cabinet departments. The Council finalized an Invasive Species Management Plan in 2001  
19       which included several actions for the prevention of unintentional introductions. Among these  
20       actions were federally sponsored research to develop new technologies for ballast water  
21       management and US Coast Guard issuance of standards for approval of ballast water  
22       management technologies by January 2002 (the standards remain in progress).

### **State/Regional**

23       **California Endangered Species Act.** The California Endangered Species Act (CESA) and the  
24       Native Plant Protection Act authorize the California Fish and Game Commission to designate  
25       endangered, threatened, and rare species and to regulate the taking of these species (Fish &  
26       Game Code §§ 2050-2098). CESA defines “endangered” species as those whose continued  
27       existence in California is jeopardized. State-listed “threatened” species are those not currently  
28       threatened with extinction, but that may become endangered if their environments change or  
29       deteriorate. In addition, interim protection is provided to candidate species while they are being  
30       reviewed by the Fish and Game Commission. The California Code of Regulations (Title 14,  
31       § 670.5) lists animal species considered by the state to be endangered and threatened. Section  
32       2080 of the California Fish & Game Code prohibits the taking of state-listed plant and animals.  
33       Formal consultation must be initiated with the California Department of Fish and Game (CDFG)  
34       for projects that may have an adverse effect on a state-listed species. If no state-listed species will  
35       be affected by a proposed project, environmental documentation is provided to CDFG at the  
36       discretion of the lead agency.



1 uptake or discharge in or near marine sanctuaries, coral reefs, reserves or parks and minimizing  
2 uptake of ballast water under various circumstances.

3 The Act requires a joint effort by the California State Lands Commission (SLC), the California  
4 Department of Fish and Game (CDFG), and the California Regional Water Resources Control  
5 Boards (RWQCB) to conduct monitoring and inspection of vessels entering California ports, to  
6 research baseline conditions in waters which may be affected by ballast water discharges, to  
7 evaluate alternatives to mid-ocean exchanges, and to prepare reports for the state legislature  
8 prior to the law's sunset date in 2004. The U.S. Coast Guard and the state are coordinating  
9 reporting requirements, although the state conducts independent compliance verification.

10 The California State Water Resources Control Board and the San Francisco Bay Regional  
11 Water Quality Control Board (RWQCB) have listed waters of the San Francisco Bay as impaired  
12 by the presence of exotic species under Section 303(d) of the Clean Water Act. The RWQCB  
13 has determined that the San Francisco Estuary does not have a capacity to assimilate exotic  
14 organisms. The RWQCB has committed to working with the State Board and the US EPA to  
15 promote a national program to effectively address discharges of exotic species (RWQCB,  
16 2000).

**Local**

17 **Oakland General Plan: Open Space Conservation and Recreation Element.** The OSCAR  
18 includes policies on bay fill, converting military bases to open space, beneficial use of the  
19 estuary and bay waters, public access, waterfront park enhancement, and dredging relevant to  
20 redevelopment of the project area (City of Oakland 1996). Specific relevant policies are  
21 discussed in Section 4.1: Consistency with Plans and Policies.

22 **Oakland Municipal Code Chapter 13.16: City of Oakland Creek Protection, Storm Water**  
23 **Management and Discharge Control Ordinance.** The storm water management and  
24 discharge control ordinance was adopted in 1997 to provide stronger provisions to manage and  
25 safeguard creeks. It includes permitting guidelines for construction near creeks within the City of  
26 Oakland. According to the ordinance, a creek is defined as a watercourse that is a naturally  
27 occurring swale or depression, or engineered channel, which carries fresh or estuarine water  
28 either seasonally or year round within City boundaries. There are no creeks within the study  
29 area as defined in the ordinance.

30 **Oakland Municipal Code Title 12, Chapter 12.36: City of Oakland Tree Ordinance.** The tree  
31 ordinance requires property owners to obtain a permit before removing protected trees from their  
32 property. Protected trees are listed in Section 4.12.5.

33 **Port of Oakland Tariff No. 2-A.** Item No. 02215 of the Port's operating rules and regulations  
34 (Tariff 2A) forbids discharge of ballast water in the San Francisco Bay or the Gulf of the  
35 Farallones National Marine Sanctuary. Vessels are exempt if they arrive from ports located  
36 between the southern boundary of Baja California and the northern boundary of Alaska, and if  
37 their ballast water originated from these waters; if open ocean ballast water exchange is

1 deemed to be unsafe; or if the vessel is in compliance with the International Maritime  
2 Organization Resolution A774 (18) (Guidelines for Preventing the Introduction of Unwanted  
3 Aquatic Organisms and Pathogens from Ships' Ballast Water and Sediment Discharges).

4 While some portions of the Port of Oakland's Ballast Water Management program are currently  
5 superceded by the subsequent California Ballast Water Management Program (see above,  
6 under the description of the state and regional regulatory setting), the Port has retained that  
7 portion of its ordinance that goes beyond state regulations, by requiring vessels to report the  
8 specific source of ballast water discharged in San Francisco Bay that originated in other West  
9 Coast ports. This information will contribute to the knowledge base regarding ballast water and  
10 invasive species, and in determining if precautions for ballast water originating within the U.S.  
11 EEZ are prudent.

#### **4.12.3 Regional Setting**

12 The OARB area redevelopment project area is located on the eastern side of the San Francisco  
13 Bay. San Francisco Bay comprises 548 square miles (882 square kilometers) of water. The San  
14 Francisco estuarine complex is the second largest estuary in the nation and the largest estuary  
15 on the Pacific Coast. It provides habitat for hundreds of species of wildlife and plants.

16 Due to increasing urbanization of the region, the size of the Bay has decreased substantially.  
17 Deep and shallow bay habitats have decreased from approximately 110,000 hectares (270,000  
18 acres) to 100,000 hectares (250,000 acres) since the nineteenth century. Tidal flats have  
19 decreased from 20,000 hectares (50,000 acres) to 12,000 hectares (30,000 acres). Tidal marsh  
20 habitat is approximately 16,000 hectares (40,000 acres) today, compared to 77,000 hectares  
21 (190,000 acres) over one hundred years ago (Goals Project 1999).

22 Habitat types currently present within the historic Bay footprint include:

- 23 • Open Bay waters;
- 24 • Tidal baylands such as tidal flats, tidal marshes and lagoons;
- 25 • Diked baylands such as salt ponds and agricultural baylands; and adjacent habitats such as  
26 riparian forest, grasslands, oak woodlands, and mixed evergreen forests (Goals Project  
27 1999).

28 The Bay provides wintering habitat for a large number of waterfowl in the Pacific Flyway. It is  
29 estimated that an average of 300,000 birds of 32 species have been counted per season during  
30 annual January midwinter surveys conducted by the USFWS in the estuary (San Francisco  
31 Estuary Project [SFEP] 1997). Midwinter surveys also estimate that more than 57 percent of the  
32 total wintering diving ducks in California occur in the Bay (USFWS 1992).

33 More than 100 species of fish inhabit the San Francisco Bay system, the majority of them  
34 native. A large portion of these are residents and complete all of their life stages within the Bay;

1 a smaller portion, anadromous fish, are not year-round residents, but migrate from ocean waters  
2 through the Estuary, into a series of freshwater streams, where they spawn. As adults or young-  
3 of-the-year (YOY), these anadromous fish migrate through the Estuary to the ocean. A small  
4 portion of these remains in the Bay year-round. After spawning in freshwater streams, most  
5 anadromous species spend 4 to 8 months in the Bay before entering the ocean. Examples of  
6 fish species common to the Central Bay include northern anchovy (*Engraulis mordax*), topsmelt  
7 (*Atherinops affinis*), jacksmelt (*Atherinopsis californiensis*), striped bass (*Morone saxatilis*),  
8 white croaker (*Genyonemus lineatus*), Pacific herring (*Clupea harengus*), and English sole  
9 (*Pleuronectes vetulus*).

10 The Central, South, and North bays are ecologically linked, and planktonic organisms drift  
11 throughout the area via currents. Phytoplankton and zooplankton are the most abundant  
12 taxonomic groups found in the Bay and are important prey items for fish and  
13 macroinvertebrates.

### **Invasive Species**

14 Discharge of ballast water—one vector by which non-indigenous (exotic) marine and freshwater  
15 organisms are spread around the world today—has been identified as a source of exotic  
16 organisms into California waters. Exotic species in San Francisco Bay have successfully  
17 “invaded” the habitat of indigenous species, and the Bay has been identified as the most  
18 invaded aquatic ecosystem in North America (Cohen and Carlton 1988). Approximately one  
19 new exotic species has been introduced every 14 weeks since 1961. Non-indigenous aquatic  
20 animals and plants have had a profound impact on the ecology of the Bay in terms of modifying  
21 food webs, causing structural changes in Bay habitats, extinction or regional extirpation of  
22 native species, economic impacts from depletion of native fisheries, damage to maritime  
23 facilities from fouling organisms, and clogging of waterways.

24 Most vessels carry ballast water to ensure proper and stable operation. The stability of a vessel  
25 depends on horizontal and vertical weight distribution, and ballast — usually as water — is used  
26 to make allowances for cargo distribution. Cargo vessels must be on an even keel at the berth  
27 in order for cargo cells to be accessible to ship loading equipment. Fuel transfer can accomplish  
28 some of this weight movement accommodation, although ballasting and de-ballasting are also  
29 necessary. Ballast water is generally pumped in as needed while the vessel is berthed at port  
30 and may be transported over great distances and discharged at other ports. Many species of  
31 bacteria, plants, and animals can survive in the ballast water or sediment carried in the ballast  
32 tanks of vessels, even after journeys lasting several weeks. Subsequent discharge of ballast  
33 water containing these organisms may result in the establishment of unwanted species, which  
34 can alter the existing ecological balance at the discharge location. Sediments in ballast tanks  
35 are cleaned out every 2 to 4 years during dry docking or are cleaned out during routine  
36 maintenance while at sea. There are no dry docks for container ships in San Francisco Bay, and  
37 introduction of invasive species from sediment discharge is unlikely.

**4.12.4 Local Setting**

1 The study area is currently dominated by developed areas consisting primarily of railroad beds,  
2 roads, buildings, building foundations, and parking lots, or previously developed and currently  
3 vacant parcels, with little vegetation. Plant species are almost entirely exotic and landscaped.  
4 The only site undeveloped in recent times is the 6.7-hectare (16.7-acre) portion of the Gateway  
5 peninsula, extending westward into the San Francisco Bay in the northwest corner of the  
6 Gateway development area. The shoreline of this area is partially riprappd, and the area is  
7 unpaved except for an access road traversing the length of the parcel. The eastern portion of  
8 the area is used for parking and storage. This storage area is graded once a year in late  
9 summer to remove tire tracks. This peninsula provides some habitat for migratory birds to roost,  
10 nest, or forage, despite being surrounded by elevated highways and access ramps. The study  
11 area also contains open water extending into Oakland Inner, Middle, and Outer harbors. Habitat  
12 types in the OARB redevelopment project area are illustrated by Figure 4.12-1.

**Terrestrial Vegetation**

13 Since the OARB and Maritime sub-districts are mainly industrial with some park land in the  
14 Maritime sub-district, there is little vegetation in these areas. Existing vegetation is primarily  
15 ruderal, with some ornamental trees and shrubs. The 16<sup>th</sup>/Wood sub-district, consisting of an  
16 inoperative railroad station, a former iron works site, and light industrial uses, is primarily  
17 ruderal. Appendix 4.12 lists plants observed at the OARB.

18 The unpaved portion of the Gateway peninsula is sparsely vegetated and is the only area in the  
19 study area that is not disturbed. Two small beaches approximately 30 to 40 meters (98 to 130  
20 feet) wide are located along the south shoreline of the peninsula; the remaining shoreline areas  
21 are rip-rapped. Common plant species such as pickleweed (*Salicornia virginica*), and yellow-star  
22 thistle (*Centaurea solstitialis*) are present along the margins of the peninsula. Marsh gum-plant  
23 (*Grindelia stricta* var. *angustifolia*), a California Native Plant Society (CNPS) List 4 (Rare)  
24 species, is also present on the site. The vegetation consists primarily of brass buttons (*Cotula*  
25 *coronopifolia*), red-stemmed storksbill (*Erodium cicutarium*), plantain (*Plantago* sp.) and sweet  
26 clover (*Melilotus* sp.). Plant species observed on the peninsula are listed in Appendix 4.12. The  
27 vegetation in this area is periodically mown and sprayed.

28 Monterey pines are generally not protected by the Oakland Tree Preservation Ordinance unless  
29 there are more than five present within an area. More than five large, healthy Monterey pines  
30 are present within the OARB sub-district in the Gateway development area and are therefore  
31 considered protected trees by the Oakland Tree Preservation Ordinance. A complete count of  
32 these trees should be completed prior to construction for mitigation purposes. Furthermore,  
33 American sycamore (*Platanus occidentalis*) and date palm trees (*Phoenix dactylifera*), among  
34 other species, having diameter at breast height of 9 inches or greater are present in both the  
35 OARB and Maritime sub-districts. These trees are also considered protected under the  
36 ordinance.

37

- 1        Insert
- 2        Figure 4.12-1 Habitat Types

**Wildlife**

1 Minimal wildlife habitat is present in the study area due to the high density of development.  
2 Grassy areas, shrubs trees, and telephone lines in the paved and industrialized sections of the  
3 study area provide habitat for feral cats (*Felis catus*) and dogs (*Canis familiaris*) as well as  
4 common wildlife species such as skunks (*Mephitis mephitis*), rock doves (*Columba livia*),  
5 starlings (*Sturnus vulgaris*), mourning doves (*Zenaida macroura*), American kestrels (*Falco*  
6 *sparverius*) and white-crowned sparrows (*Zonotrichia leucophrys*). Canada geese (*Branta*  
7 *canadensis*) have been observed roosting in some of the grassy areas of the OARB sub-district  
8 (Lu 2001).

9 The unpaved peninsula in the northwestern corner of the study area provides some foraging  
10 and roosting habitat for shorebirds such as dunlin (*Calidris alpina*), spotted sandpiper (*Actitis*  
11 *macularia*), willet (*Catoptrophorus semipalmatus*), and black oystercatcher (*Haematopus*  
12 *bachmani*). The California least tern (*Sterna antillarum*), a federally listed endangered species,  
13 has been observed roosting on the peninsula and feeding within 50 feet of the shoreline (OARB  
14 1999; Caltrans 1998). Killdeer (*Charadrius vociferus*) have been recorded nesting on the  
15 peninsula, and Canada geese were observed nesting there in April 1997 (Military Traffic  
16 Management Command 1999). Wildlife species observed throughout the Oakland Army Base  
17 are listed in Appendix 4.12. Species observed only on the peninsula are listed in Appendix 4.12.

18 Water birds such as California brown pelican (*Pelecanus occidentalis*), a federally listed  
19 endangered species, ruddy duck (*Oxyura jamaicensis*), double-crested cormorant  
20 (*Phalacrocorax auritus*), horned grebe (*Podiceps auritus*), and gulls (*Larus* sp.) have been  
21 recorded loafing and foraging in the open water around the Base. Appendix 4.12 lists the bird  
22 species recorded around the potential fill area during surveys in 1997.

23 The Outer, Middle, and Inner harbors also provide habitat for many fish species, including  
24 northern anchovy, topsmelt, and staghorn sculpin (*Leptocottus armatus*). Common shallow  
25 subtidal fish include English sole (*Pleuronectes vetulus*), bay goby (*Lepidogobius lepidus*),  
26 northern anchovy, speckled sanddab (*Citharichthys stigmaeus*) and plainfin midshipman  
27 (*Porichthys notatus*). Pacific herring are present in the San Francisco Bay in the winter and  
28 early spring and spawn in rocky areas and on pilings. Although the redevelopment project area  
29 is out of the migratory path of winter-run, fall/late-fall, and spring-run Chinook salmon  
30 (*Oncorhynchus tshawytscha*), and steelhead (*Oncorhynchus mykiss*), there is some potential for  
31 these species to occur. Appendix 4.12 lists the aquatic (non-mammal) species that were  
32 observed in the Outer Harbor in 1997.

33 Marine mammals such as the California sea lion (*Zalophus californicus californianus*) and  
34 harbor seal (*Phoca vitulina*) have both been recorded in the Outer Harbor and may forage there,  
35 although it is not a primary foraging area for either species (Corps and Port of Oakland 1998).

**Special Aquatic Sites**

1 **Wetlands.** Two small urban wetlands are located within the northeastern portion of the Maritime  
2 sub-district, in the Desert railyard. These wetlands are located between two railroad track  
3 berms. The northernmost wetland, 0.34 acre, is dominated by broad-leaved cattails (*Typha*  
4 *latifolia*) and Bermuda grass (*Cynodon dactylon*). Algal mats were observed on the water  
5 surface. The southernmost wetland, 0.15 acre, supports some willow trees (*Salix* spp.). Red-  
6 winged blackbirds (*Agelaius phoeniceus*) and mourning doves were observed nesting and  
7 foraging at both wetland sites. The U.S. Army Corps of Engineers has determined that these  
8 wetlands are isolated and are therefore not considered jurisdictional under the Corps according  
9 to the ruling by the Supreme Court in the Solid Waste Agency of Northern Cook County vs. U.S.  
10 Army Corps of Engineers No. 99-1178 (April 17, 2001). These wetlands remain subject to the  
11 jurisdiction and regulations of the RWQCB.

**Special-Status Species**

12 The designation of special-status species includes all federal- and state-listed species and  
13 species proposed for listing under the federal and California Endangered Species Acts, federal  
14 species of concern, state species of special concern, and plant species included on List 1 or List  
15 2 of the California Native Plant Society's (CNPS) Inventory of Rare Plants.

16 Appendix 4.12 lists all wildlife and plant species, respectively, with state or federal listing status  
17 and other special status that have potential to occur in the study vicinity. No critical habitat for  
18 any potentially occurring special-status species occurs in the redevelopment vicinity. Appendix  
19 4.12 includes a description of habitats suitable for each of the special-status species and a  
20 determination regarding the presence or absence of that habitat in the redevelopment project  
21 area.

**Wildlife: Threatened/Endangered Birds**

22 **Western Snowy Plover (*Charadrius alexandrinus nivosus*).** The western snowy plover is  
23 listed as a federally threatened species and as a state species of special concern. This small  
24 shorebird typically occupies sandy beaches and intertidal areas of marine and estuarine  
25 habitats, but is known to occur in some inland areas. Along the Pacific Coast, snowy plovers are  
26 distributed on the mainland and offshore islands from southern Washington to southern Baja  
27 California, Mexico. Nests are usually established in areas of sandy beaches and estuaries with  
28 sparse to no vegetation. Prey items consist of intertidal and supratidal invertebrates, and  
29 feeding is diurnal.

30 Western snowy plovers are known to winter in the San Francisco Bay Area. Approximately 250  
31 individuals have been recorded in the Bay during the breeding season (Corps and Port of  
32 Oakland 1998). However, no snowy plovers were observed within the proposed redevelopment  
33 project area during the bird surveys conducted by Entrix and Biological Field Services during the  
34 winter and summer of 1997 (del Nevo and Malamma 1997). This probably reflects the absence  
35 of suitable foraging and nesting habitat within the proposed redevelopment project area for this

1 species. Although snowy plovers may forage in the general vicinity, it is unlikely the  
2 redevelopment project area provides important habitat for this species.

3 **California Brown Pelican (*Pelecanus occidentalis californicus*).** The California brown  
4 pelican is a state and federally listed endangered species. This species breeds on the California  
5 Channel Islands between March and August (Zeiner *et al.* 1990) and occurs in northern  
6 California from June to November. Populations of this species have declined due to pesticide-  
7 induced eggshell thinning, oil spills, over-harvest of prey, and loss of post-breeding roosting  
8 habitat (USFWS 1992). In the Bay, pelicans forage over deep-water habitats and roost on  
9 structures such as breakwaters, pilings, and to a lesser extent, salt-pond dikes (USFWS 1992).  
10 Brown pelicans feed almost exclusively on fish in either shallow or deep waters. Brown pelicans  
11 are fairly common throughout waters of the Central Bay and San Pablo Bay.

12 California brown pelicans are known to forage and rest in and around the Middle, Inner, and  
13 Outer harbors. However, most foraging occurs in the central and western portions of San  
14 Francisco Bay (Entrix 1997). The largest pelican roost within the Bay is located on the former  
15 Naval Air Station (NAS) Alameda breakwater, approximately 4 kilometers (2.5 miles) south of  
16 the study area.

17 **California Least Tern (*Sterna antillarum*).** The California least tern is a state and federally  
18 listed endangered species. It is migratory and breeds in California from April to August. It ranges  
19 from southern Baja California and Mexico, north to San Francisco Bay. Breeding colonies are  
20 generally located in abandoned salt ponds and along estuarine shorelines that are free of  
21 predators. California least terns are ground-nesters and nest in colonies on sandy beaches that  
22 are usually associated with river mouths or estuaries. Due to degradation of more natural  
23 nesting habitat, they have occasionally been found to nest on dredge-spoil islands, open areas  
24 adjacent to airport runways, and industrial ports.

25 A breeding colony with approximately 210 nests is present on Alameda Island, within the former  
26 NAS Alameda. There are no known breeding areas within the study area. The terns are known  
27 to forage in the open water and are purported to roost around the unpaved peninsula on the  
28 OARB sub-district, although surveys have shown that most foraging occurs south of Alameda  
29 Island (del Nevo and Malamma 1997; U.S. Navy and Port of Oakland 1997). There was an  
30 unsuccessful nesting attempt observed in 1985 (Point Reyes Bird Observatory 2002)

31 **Wildlife: Threatened/Endangered Fish**

32 **Central California Steelhead (*Oncorhynchus mykiss*).** Central California steelhead is  
33 federally listed as threatened and is a state species of concern. Steelhead historically ranged  
34 throughout the north Pacific Ocean from Baja California to the Kamchatka Peninsula. Currently,  
35 their range extends from Malibu Creek in southern California to the Kamchatka Peninsula  
36 (NMFS 1997b). Steelhead, the anadromous form of trout (*O. mykiss*) migrate from freshwater to  
37 the ocean and returning to spawn in freshwater. They can spend several years in freshwater

1 prior to smoltification and can spawn more than once before dying, unlike most other salmonids  
2 (Busby *et al.* 1996). Spawning runs occur from December through May.

3 Steelhead were not observed within the Port of Oakland harbors during the 1997 habitat  
4 evaluation surveys (Corps and Port of Oakland 1998). The study area is not within the migratory  
5 path of the fish in the San Francisco Bay. They may, however, occasionally stray into the study  
6 area.

7 **Chinook Salmon (*Oncorhynchus tshawytscha*).** Chinook salmon is the largest species of the  
8 Pacific salmon (Netboy 1958). The species historically ranged from the Ventura River in  
9 California to Point Hope, Alaska, on the eastern edge of the Pacific and in the western portion of  
10 the Pacific Ocean from Hokkaido, Japan, to the Anadyr River in Russia (Healey 1991). Chinook  
11 salmon consist of four distinct breeding populations or evolutionarily significant units (ESUs) that  
12 are endemic to the Sacramento-San Joaquin river system. Factors used in determining ESUs  
13 include spatial, temporal, and genetic isolation, maturation rates, and other life history traits.  
14 Chinook salmon have been categorized into fall/late-fall, winter, and spring ESUs. Each ESU is  
15 considered a distinct race and has been given its own management status. Winter-run Chinook  
16 salmon has been state and federally listed as endangered, the fall/late-fall run salmon has been  
17 state and federally listed as threatened and is federally proposed endangered, and spring-run  
18 salmon is federally proposed as threatened and is a state species of concern.

19 Three Chinook salmon ESUs migrate through the Bay: Sacramento River winter-run, Central  
20 Valley spring-run, and Central Valley fall/late-fall run. The winter-run, a state and federally listed  
21 endangered species, spawns in the upper Sacramento River below Keswick Dam. The fall/late-  
22 fall run, a state and federally listed threatened species and federally proposed endangered  
23 species, spawns in the Sacramento and San Joaquin river basins (Myers *et al.* 1998). Spring-  
24 run Chinook salmon, federally proposed as threatened and a state species of concern, spawn in  
25 the Sacramento River Basin. All three runs are most commonly found migrating through the  
26 northern and central portions of the Bay (CDFG 1987).

27 The Port of Oakland harbors are not within the migratory path of any of these ESUs, and these  
28 ESUs are not expected to occur in the study area, although individuals may occasionally stray  
29 into the area. Previous surveys in 1997 captured only two fall-run Chinook salmon in the area  
30 (Corps and Port of Oakland 1998).

**Wildlife: Special-Status Mammals**

31 **Gray Whale (*Eschrichtius robustus*).** Gray whales are protected by the Marine Mammal  
32 Protection Act of 1972, and were recently delisted as an endangered species. Gray whales  
33 migrate each year along the West Coast of North America, typically passing off the coast of San  
34 Francisco heading south from December through February and heading northward from mid-  
35 February through July. The population has recently reached a level thought to be near carrying  
36 capacity (approximately 26,000 animals), which may explain why more gray whales have been

1 observed feeding of the coasts of British Columbia, Washington, Oregon, and California rather  
2 than migrating the entire way to Alaska.

3 Gray whales consume benthic prey (primarily ampeliscid amphipods) in North America (e.g.,  
4 Bering, Beaufort, and Chukchi seas) during summer and migrate south along the West Coast of  
5 North American to calve and breed off the coast of Mexico. To consume benthic crustaceans,  
6 gray whales dive to the bottom of the ocean, generally to depths of less than 650 feet, where  
7 they turn on their sides and suck up a portion of the bottom that contains their prey. During the  
8 migration, gray whales occasionally enter rivers and bays (such as the San Francisco Bay)  
9 along the coast either because they are disoriented or to forage. Recently, some gray whales  
10 (presumably juveniles and post-weaning females) have begun foraging along the near-shore  
11 coastline of California, Oregon, Washington, and British Columbia during summer and  
12 remaining there instead of migrating northward as do the bulk of the population (Sumich 1985).  
13 These individuals presumably have foraged on mysids or euphausiids.

14 Gray whales have been seen irregularly in the Bay, and are probably individuals that have  
15 meandered off the migration route. There is the potential for one of these individuals to occur  
16 within the study area.

17 **Pacific Harbor Seal (*Phoca vitulina*).** The harbor seal is protected by the Marine Mammal  
18 Protection Act. It is non-migratory and can be found along shorelines and in estuaries  
19 throughout North America. Pacific harbor seals use the Bay year-round, where they engage in  
20 limited seasonal movements associated with foraging and breeding activities (Kopec and  
21 Harvey 1995). Harbor seals haul out in groups ranging in size from a few individuals to several  
22 hundred seals. Habitats used as haul-out sites include tidal rocks, mudflats, sandbars, and  
23 sandy beaches (Zeiner *et al.* 1990). Haul-out sites are relatively consistent from year to year  
24 and are important habitats for harbor seals (Kopec and Harvey 1995). In the Bay, pupping  
25 occurs from March to May, and molting in June and July (Kopec and Harvey 1995). The  
26 greatest numbers of harbor seals were counted during these months at major haul-out sites in  
27 the Bay (Kopec and Harvey 1995). Haul-out sites that support some of the largest  
28 concentrations of seals include Corte Madera Marsh and Castro Rocks in the Central Bay,  
29 Mowry Slough south of the Dumbarton Bridge, and Yerba Buena Island.

30 The total population of harbor seals in the Bay is estimated to be 700 animals (USFWS 1992).  
31 Aerial counts by CDFG (1999) indicate that the harbor seal population has remained relatively  
32 constant in the Bay from 1982 through 1995, with an average increase in the population of 60  
33 individuals over all years. However, harbor seal populations in other areas off the West Coast  
34 have been increasing by a much larger percentage since the late 1970s than that observed in  
35 the Bay (Kopec and Harvey 1995). Factors such as pollution and human disturbance at haul-out  
36 sites in the Bay may be factors contributing to this population difference.

37 Harbor seals forage in shallow, intertidal waters on a variety of fish, crustaceans, and a few  
38 cephalopods (e.g., octopus). They also consume benthic organisms as well as schooling fishes.

1 The most numerous prey items identified in harbor seal fecal samples from haul-out sites in the  
2 Bay include yellowfin goby (*Acanthogobius flavimanus*), northern anchovy, Pacific herring,  
3 staghorn sculpin, plainfin midshipman, and white croaker (Harvey and Torok 1994).

4 Harbor seals have been documented in the Outer Harbor and are known to forage in the vicinity  
5 (Corps and Port of Oakland 1998). Because it is not a regular haul-out area, nor close to a haul-  
6 out area, the study area is not considered a crucial area for this species.

7 **California Sea Lion (*Zalophus californicus californianus*).** The California sea lion is  
8 protected under the Marine Mammal Protection Act. California sea lions breed in Southern  
9 California and along the Channel Islands. After the breeding season, males migrate up the  
10 Pacific Coast and enter the Bay. In the Bay, sea lions are known to haul out at Pier 39 in the  
11 Fisherman's Wharf area of the San Francisco marina. An estimated 600 animals were observed  
12 in January and February 1991 at that haul-out site (USFWS 1992). In addition, California sea  
13 lions have the potential to haul out on buoys and similar structures throughout the Bay. Other  
14 than Pier 39, no repeatedly used haul-out site for California sea lions has been observed in the  
15 Bay (Point Reyes Seashore 1999).

16 During anchovy and herring runs, approximately 400 to 500 sea lions (mostly immature males)  
17 feed almost exclusively in the North and Central bays (USFWS 1992). They have been  
18 documented in the Outer Harbor (Corps and Port of Oakland 1998; OARB 1999) and are known  
19 to forage in the vicinity, although it is not a primary area for them.

**Wildlife: Special-Status Birds**

20 **Golden Eagle (*Aquila chrysaetos*).** The golden eagle is a state species of concern, known to  
21 breed in northern California. They breed in interior grasslands and oak savannas and forage in  
22 shrublands and grasslands. They have been known to occur at former NAS Alameda and have  
23 been recorded flying over and possibly foraging in the study area (del Nevo and Malamma  
24 1997). There are no known records of nesting on the site.

25 **Northern Harrier (*Circus cyaneus*).** The northern harrier is state species of concern. It occurs  
26 throughout the state except for the Sierra Nevada and the Cascade ranges. Loss of wetland and  
27 grassland habitats has reduced the harrier population in California. Breeding usually occurs in  
28 shrubby vegetation within marshes, although nesting may also occur in grasslands or other dry  
29 habitats away from water. Harriers forage primarily on small mammals that inhabit a variety of  
30 wet and dry habitats. The northern harrier is known to occur on NAS Alameda and has been  
31 seen flying over the study area (del Nevo and Malamma 1997). It is not known to nest in the  
32 study area.

33 **American Peregrine Falcon (*Falco peregrinus anatum*).** The American peregrine falcon is  
34 federally delisted, but is still state-listed as endangered. The historic range of the American  
35 peregrine falcon extends throughout North America from the boreal forests south into Mexico  
36 (USFWS 1992). The American peregrine falcon population began to decline in the late 1940s as

1 a result of pesticide-induced eggshell thinning. Recent conservation and recovery efforts have  
2 resulted in the increase of the peregrine population to over 120 breeding pairs in California.

3 Peregrines generally nest on protected ledges of high cliffs in woodland, forest, and coastal  
4 habitats. However, pairs are also known to nest on man-made structures such as bridges and  
5 buildings. In 1992, four nesting pairs were observed in the Central Bay and in Suisun Bay,  
6 including two pairs that were nesting on the Bay Bridge. In 2001, two pairs were observed  
7 nesting on each span of the Bay Bridge, one pair on the Carquinez Bridge, one pair on the San  
8 Rafael-Richmond Bridge, and one pair near the foot of the San Mateo Bridge. A nest box was  
9 placed on the Oracle Campus in Redwood Shores in 2000, and a pair of peregrine falcons have  
10 nested there since then (Walton 2001).

11 Most wetland habitats, except for riparian areas, provide suitable foraging habitat for the  
12 species. In the Bay Area, the peregrine is an opportunistic predator, known to prey on pigeons,  
13 terns, shorebirds, blackbirds, and sparrows. The Bay Area and Delta are considered important  
14 wintering areas for the species.

15 One or two of the falcons were observed preying on California least terns from the NAS  
16 Alameda breeding colony, and they were also observed occasionally in and around the Outer  
17 Harbor (Corps and Port of Oakland 1998; U.S. Navy and Port of Oakland 1997). This species  
18 has the potential to forage and roost in the study area.

19 **Loggerhead Shrike (*Lanius ludovicianus*).** Loggerhead shrike is a federal and state species  
20 of special concern. The loggerhead shrike breeds in open fields with scattered trees. It has also  
21 been recorded in somewhat urban areas. Habitat loss and pesticide contamination are some of  
22 the main factors in its decline. Loggerhead shrikes have the potential to forage within the OARB  
23 redevelopment project area, although they are not expected to be common.

24 **Long-Billed Curlew (*Numenius americanus*).** Long-billed curlew is a federal and state  
25 species of special concern. This species breeds within the northeastern portion of the state in  
26 grassland or wet meadow habitats that are usually adjacent to lakes or marshes. Conversion of  
27 these breeding grounds to agricultural areas is believed to be the primary cause for the decline  
28 of this species in the state (Zeiner *et al.* 1990). Long-billed curlews commonly winter in the  
29 Central Valley, where they occupy seasonal wetland habitats. Smaller numbers of curlews also  
30 winter in the San Francisco Bay. Long-billed curlews have the potential to forage on the  
31 undeveloped portions of the peninsula.

32 **Double-Crested Cormorant (*Phalacrocorax auritus*).** The double-crested cormorant is a state  
33 species of special concern and is a permanent resident along the coast of California. It roosts  
34 beside water on off-shore rocks, islands, steep cliffs, trees, as well as wharves and bridges. The  
35 double-crested cormorant is common within the Outer Harbor and vicinity. It has been observed  
36 foraging in a variety of habitats and resting upon manmade structures within the Port of Oakland  
37 (Corps and Port of Oakland 1998). A large nesting colony is present on the east span of the Bay  
38 Bridge. This colony has been estimated at over 1,000 birds (Corps and Port of Oakland 1998).

1 Open water areas in the study area are likely an important foraging habitat for this species due  
2 to the close proximity of this colony.

3 **Wildlife: Special-Status Fish**

4 **Longfin Smelt (*Spirinchus thaleichtys*).** Longfin smelt is a state and federal species of  
5 concern. It ranges from Alaska to San Francisco Bay (Herbold *et al.* 1992). Historically one of  
6 the most abundant pelagic fishes of the Sacramento-San Joaquin estuary, the longfin smelt's  
7 populations have been on the decline primarily due to the reduction of freshwater outflow  
8 through the Delta (Moyle *et al.* 1995).

9 Longfin smelt spawn in freshwater river channels at the easternmost end of the Bay and are  
10 transported downstream into Suisun and San Pablo bays as larvae (Herbold *et al.* 1992). In  
11 winter, yearling smelt are more widely distributed, with some even colonizing the South Bay.  
12 Spawning occurs between November and June, with the majority occurring between February  
13 and April (Baxter, unpublished data in Moyle *et al.* 1995; Wang 1986). The adhesive eggs are  
14 laid on sandy-gravel substrates, rocks, or on aquatic plants in the freshwater sections of the  
15 Delta. Adults are present in open waters of the Estuary at a variety of salinities. Adults occur  
16 seasonally as far downstream as the South Bay, but are most abundant in Suisun Bay, San  
17 Pablo Bay, and the North Bay. Longfin smelt are rarely found outside of the Estuary. The  
18 species primarily feeds on opossum shrimp, although copepods and other crustaceans can also  
19 be important components of their diet (Moyle *et al.* 1995). This species has the potential to be  
20 present in the study area.

21 **Pacific Herring (*Clupea harengus*).** Pacific herring is not federally or state listed. However, it is  
22 a commercially, recreationally, and ecologically important fish species that enters San Francisco  
23 Bay and other bays in fall and winter to spawn, as summarized by Barnhart (1988). Because of  
24 its commercial importance, impacts to this species are often taken into consideration on  
25 projects, even though the species is not protected. In most years, spawning takes place in  
26 Richardson Bay and Raccoon Strait, in west-central San Francisco Bay. Eggs are adhesive and  
27 deposited directly onto firm substrates. A favorite spawning substrate is eelgrass, but the alga  
28 *Gracillaria* is also frequently used in the Bay. Herring apparently will not spawn on muddy  
29 bottoms, but are known to deposit eggs on pilings, riprap, and even on sandy beaches (Eldridge  
30 and Kaill 1973, cited in Wang 1986). In the 1980s and early 1990s, the main herring schools  
31 often spawned on the Oakland and San Francisco waterfronts (Tasto 1998, cited in Corps and  
32 Port of Oakland 1994). It is likely that spawning adults return to Oakland Harbor in some years.  
33 The abundant riprap and pilings throughout the Outer Harbor provide good habitat for spawning  
34 herring.

35 The abundant young herring collected in the sampling effort in Oakland Harbor and vicinity in  
36 the spring of 1997 (del Nevo and Malamma 1997) were possibly, but not necessarily, produced  
37 from local spawning. Sampling methods were not suited to capturing newly hatched larvae. The  
38 fish taken were mostly 30-millimeter (mm) to 50-mm juveniles, with some approximately 25 mm  
39 newly hatched larvae (Entrix unpublished data, cited in Corps and Port of Oakland 1994), and

1 therefore were one to several months old at the time (as judged by post-hatching sizes in  
2 Purcell *et al.* 1987). Juvenile herring are frequently abundant in widespread areas of San  
3 Francisco Bay (Barnhart 1988), and so evidently spread rapidly from spawning centers. Fish  
4 eggs typically are attached to structures such as pilings, algae, and eelgrass.

5 **Special-Status Plants**

6 **Marsh Gumplant (*Grindelia stricta* var. *angustifolia*).** Marsh gumplant is included on the  
7 CNPS List 4. This perennial herb occurs in high or upper salt marsh and northern coastal scrub.  
8 The species is widespread and has been documented in Alameda, Contra Costa, Del Norte,  
9 Humboldt, Mendocino, Monterey, Marin, Napa, San Francisco, San Luis Obispo, San Mateo,  
10 Solano, Sonoma, and Ventura counties. It has been known to occur in the study area on the  
11 Gateway peninsula.

**Invasive Species**

12 According to recent Marine Exchange and California State Lands Commission data, between  
13 August 1, 2000 and July 31, 2001, 1,810 ships called at the Port of Oakland facilities. Of these  
14 1,733 were containerships. Of these containership calls, 388 were from vessels making their  
15 first California call at Oakland, and were subject to the provisions of the California Ballast Water  
16 Management for Control of Non-Indigenous Species Act. Of these 388 vessel calls, 370 ships  
17 filed the required ballast water reporting form with the State regarding ballast water operations.  
18 Of those reporting 234 (63 percent) containerships reported discharging water at Oakland that  
19 originated from beyond the U.S. EEZ, resulting in a total of these discharges from qualifying  
20 containerships of approximately 580,000 metric tons, which equals approximately 2,475 metric  
21 tons per discharging containership.<sup>3</sup> According to the State law, these ships are required to  
22 exchange their ballast water at sea more than 200 miles offshore, before entering California  
23 waters.

**4.12.5 Impact Analysis Methodology**

24 Potential impacts to biological resources in the redevelopment project area were identified from  
25 several sources:

- 26 • Rarefind 2 (CDFG 1999) CNDDDB records from Oakland West, Richmond, San Quentin, San  
27 Francisco North, San Leandro and Hunters Point, Briones Valley, Oakland East, and San  
28 Francisco South 7.5 minute quadrangles.
- 29 • California Native Plant Society Electronic Inventory (Skinner and Pavlik 1994) records from  
30 the Oakland West, Richmond, San Quentin, San Francisco North, San Leandro and Hunters  
31 Point, Briones Valley, Oakland East and San Francisco South 7.5 minute quadrangles.
- 32 • U.S. Fish and Wildlife Service letters dated November 16 and 20, 2001 (Appendix 4.12).

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<sup>3</sup> The Port of Oakland's Ballast Water Management Program reported an additional 120,000 MT of ballast water originating within the U.S. EEZ as discharged during the same period.

1 The resulting species list gathered from these sources has been formatted into two tables  
2 showing the common and scientific names, federal and state status, and a general description  
3 of suitable habitat for each species. These tables are provided as Appendices 4.12 and 4.12 for  
4 special-status wildlife and plant species, respectively.

**Significance Criteria**

5 Redevelopment would have a significant impact on the environment if it would:

- 6 • Have a substantial adverse effect, either directly or through habitat modifications, on any  
7 species identified as a candidate, sensitive, or special-status species in local or regional  
8 plans, policies, or regulations, or by the California Department of Fish and Game or U.S.  
9 Fish and Wildlife Service;
- 10 • Have a substantial adverse effect on any riparian habitat or other sensitive natural  
11 community identified in local or regional plans, policies, regulations or by the CDFG or  
12 USFWS;
- 13 • Interfere substantially with the movement of any native resident or migratory fish or wildlife  
14 species or with established native resident or migratory wildlife corridors, or impede the use  
15 of native wildlife nursery sites;
- 16 • Fundamentally conflict with any applicable habitat conservation plan or natural community  
17 conservation plan;
- 18 • Fundamentally conflict with the City of Oakland Tree Preservation and Removal Ordinance  
19 by removal of protected trees under certain circumstances. Although there are no specific,  
20 numeric/quantitative criteria to assess the impacts for loss of protected trees under  
21 Oakland's City's Tree Preservation and Removal Ordinance, factors to be considered in  
22 determining significance include the number, type, size, location and condition of protected  
23 trees to be removed and /or impacted by construction; and the protected trees to remain,  
24 with special consideration given to native trees. Protected trees include the following:
  - 25 – *Quercus agrifolia* (California or coast live oak) measuring 4 inches in diameter at breast  
26 height (dbh) or larger, and any other tree measuring 9 inches dbh or larger except  
27 eucalyptus and *Pinus radiata* (Monterey pine); and
  - 28 – Monterey pine trees on city property and in development-related situations where more  
29 than five Monterey pine trees per acre are proposed to be removed.
- 30 • Fundamentally conflict with the City of Oakland or Oakland Creek Protection Ordinance  
31 intended to protect biological resources. Although there are no specific, numeric/quantitative  
32 criteria to assess impacts, factors to be considered in determining significance include  
33 whether there is substantial degradation of riparian and aquatic habitat through any of the  
34 following: discharging a substantial amount of pollutants into a creek; significantly modifying  
35 the natural flow of the water; depositing substantial amounts of new materials into a creek or  
36 causing substantial bank erosion or instability; or adversely impacting the riparian corridor  
37 by significantly altering vegetation or wildlife habitat;



1 avoided or substantially compensated for, and the residual impact is considered less than  
2 significant.



4 **Impact 4.12-2:** Redevelopment could result in increased raptor predation on least  
5 terns that may forage near the Gateway peninsula.

6 **Significance:** Potentially significant

7 **Mitigation 4.12-2:** Tall ornamental trees that could provide perches for raptors shall be  
8 prohibited in the design of the Gateway Park.

9 **Mitigation 4.12-3:** Raptor deterrents shall be placed on light standards and other tall  
10 elements installed within the Gateway Park.

11 **Residual Significance:** Less than significant

12 Development of the OARB would result in 15 acres of the Gateway peninsula being  
13 redeveloped as a park. This area is not heavily used by special status wildlife species, although  
14 some special-status species have been observed on it (del Nevo and Malamma 1997).  
15 California least terns, for example, have been observed foraging within 50 feet of the shoreline.  
16 Marsh gumplant, classified as rare by the CNPS, had been recorded at this site.

17 Tall ornamental trees, light standards, and other tall design elements can be used by raptors  
18 which prey on the least tern. Should this occur, the impact would be considered significant.  
19 Because occurrence of this impact depends on design details not yet finalized, the impact is  
20 considered potentially significant.

21 Implementation of Mitigation Measures 4.12-2 and 4.12-3, as well as Mitigation Measure 4.11-4  
22 (intended primarily to mitigate impacts to aesthetic resources, but which would also partially  
23 mitigate impacts to biological resources), would substantially reduce the impact, and the  
24 residual impact is considered less than significant.



26 **Impact 4.12-3:** Redevelopment would result in net loss of approximately 27 acres of  
27 open and covered water at New Berth 21; minor amounts of fill and  
28 revetment could occur along the shoreline of the Gateway Park, with a  
29 loss of near-shore habitat.

30 **Significance:** Potentially significant



1 Oakland-Alameda waterfront, although they are not known to spawn in the Outer Harbor (Corps  
2 and Port of Oakland 1994). There is slight potential that spawning could occur within the  
3 redevelopment area in the Outer Harbor. Disturbance to spawning habitat associated with  
4 construction would be a significant impact. New Berth 21 would replace the piling habitat, and  
5 there would be no permanent significant impact. Because the occurrence of herring in the area  
6 is uncertain, the impact is considered potentially significant. With implementation of Mitigation  
7 Measures 4.12-5 and 4.12-6 the impact would be minimized, and the residual impact is  
8 considered less than significant.



10 **Impact 4.12-5:** Construction activities would result in a short-term reduction in water  
11 quality in the New Berth 21 fill area and could reduce water quality  
12 along the shoreline for the proposed Gateway Park, affecting special-  
13 status species.

14 **Significance:** Less than significant

15 **Mitigation:** Mitigation is not warranted.

16 Increased turbidity and noise levels associated with in-water construction could result in  
17 decreased foraging opportunities in the immediate vicinity of construction activities. Pelagic fish  
18 tend to avoid areas with high levels of turbidity, and to return following the completion of  
19 construction. This area does not appear to be heavily used for foraging, and represents limited  
20 foraging habitat. Impacts from turbidity and noise are considered less than significant to foraging  
21 fish.

22 In-water and near-shore construction activities could disturb roosting double-crested cormorants  
23 in the immediate vicinity. Double-crested cormorants have been observed in the proposed New  
24 Berth 21 fill area, and a large nesting colony is established on the nearby Bay Bridge. Results  
25 from 1997 biological surveys indicate the fill area is not highly utilized (only 12 sightings of  
26 cormorants during two seasonal surveys) (Corps and Port of Oakland 1998). Rather, foraging is  
27 concentrated in other open-Bay waters. Evidence does not exist to indicate that the New Berth  
28 21 fill area is important foraging habitat, and the impact is considered less than significant.

29 Although the American peregrine falcon was not documented in the New Berth 21 area during  
30 1997 bird surveys, it is known to occasionally use Port structures for perches (del Nevo and  
31 Malamma 1997). Therefore, it may be impacted by localized short-term disturbances associated  
32 with construction activities. Construction activities may also contribute to localized, short-term  
33 reduced foraging success in the proposed fill area as a result of disturbances to prey species.  
34 However, the peregrine falcon is known to forage over a large area and is not limited to  
35 perching or roosting on adjacent structures, and since it was not documented in the proposed fill  
36 area during recent surveys, it is not likely to frequent this area for any of the above-mentioned  
37 activities. The impact is considered less than significant.

1 Winter-run Chinook salmon and central California steelhead trout migrate seasonally through  
2 the San Francisco Bay, but current migration corridors are north of the proposed fill area.  
3 Although these fish occasionally stray from their migration corridors and are known to occur in  
4 waters adjacent to the fill area, they are not expected to normally occur there or be affected by  
5 construction activities. Impacts to winter-run Chinook salmon and central California steelhead  
6 trout are not expected to occur.



8 **Impact 4.12-6:** Redevelopment may result in loss of protected trees measuring 4  
9 inches dbh (or larger) or trees with a dbh of greater than 9 inches.

10 **Significance:** Potentially significant

11 **Mitigation 4.12-7:** Application for a tree preservation/tree removal permit from the City of  
12 Oakland for all protected trees shall comply with the Tree Ordinance,  
13 which includes replacement of native trees at a minimum of a 1:1  
14 ratio. The Port will replace native trees on the OARB at a minimum  
15 ratio of 1:1.

16 **Residual Significance:** Less than significant

17 Development of portions of the project area may result in the removal of protected trees, or  
18 otherwise affect trees in a manner not consistent with the Oakland Tree Preservation  
19 Ordinance. The Ordinance prohibits:

- 20 • Removal of a healthy protected tree whose removal could otherwise be avoided by  
21 reasonable design of the site plan prior to construction, or by trimming, thinning, tree  
22 surgery, or other reasonable treatment;
- 23 • Substantial alteration of windscreen resulting from tree removal;
- 24 • Removal of a tree that is a member of a group of trees in which each tree is dependent upon  
25 the others for survival; and
- 26 • Removal of a tree whose value removed is greater than the cost of its preservation to the  
27 property owner, as determined by the City Tree Reviewer. This requirement applies only to  
28 development-related permit applications.

29 More than five Monterey pines are present within the OARB sub-district. Furthermore, trees with  
30 a dbh of 9 inches or greater are present in both the OARB sub-district and the Maritime sub-  
31 district. All of these trees are considered protected trees under the City of Oakland Tree  
32 Preservation Ordinance. Because removal of protected trees depends on details of specific  
33 redevelopment activities not yet developed, the impact is considered potentially significant. With

1 implementation of Mitigation Measure 4.12-7, the impact would be substantially compensated  
2 for, and the residual impact is considered less than significant.



4 **Impact 4.12-7:** Redevelopment may result in the loss of breeding bird nesting habitat  
5 with the removal of certain trees.

6 **Significance:** Potentially significant

7 **Mitigation 4.12-8:** Trees shall be removed between September 1 and January 31 to  
8 avoid the nesting season (February 1 to August 31). Alternatively,  
9 field surveys shall be conducted no earlier than 45 days and no later  
10 than 20 days prior to the removal of any trees during the  
11 nesting/breeding season of bird species potentially nesting on the site  
12 to determine whether birds are present.

13 **Mitigation 4.12-9:** Construction shall not occur within 150 feet of an active nest until the  
14 nest is vacated or the juveniles have fledged.

15 **Residual Significance:** Less than significant

16 Redevelopment, particularly of the OARB sub-district, could result in removal of ornamental  
17 trees such as sycamore (*Platanus occidentalis*) and date palm (*Phoenix dactylifera*), among  
18 others. Some of these trees may be used by breeding birds as nesting habitat. Breeding birds,  
19 with few exceptions such as rock dove (*Columba livia*) and European starlings (*Sturnus*  
20 *vulgaris*) are protected by the Migratory Bird Treaty Act. Because removal of trees important as  
21 nesting habitat depends on details of specific redevelopment activities not yet defined, the  
22 impact is considered potentially significant. With implementation of Mitigation Measure 4.12-8  
23 and 4.12-9, the impact would be avoided or minimized, and the residual impact is considered  
24 less than significant.



26 **Impact 4.12-8:** Redevelopment could result in a substantial increase in the risk of  
27 establishment of invasive species in the San Francisco Bay.

28 **Significance:** Potentially significant

29 **Mitigation 4.12-10:** The Port shall continue to enforce its tariff requirements regarding  
30 ballast water and if the State law sunsets, shall implement the  
31 remainder of its ballast water ordinance, as it may be amended from  
32 time to time.



1 tons). Assuming the 1,568 metric ton discharge average also applied in 2020, the  
2 Redevelopment Plan would result in 2020 ballast water discharge totaling 3,849,440 metric tons  
3 (2,455 ships × 1,568 metric tons) a 1,132,096 metric ton increase over the baseline year.<sup>5</sup>

4 All ballast water discharges into San Francisco Bay are now required to consist of West Coast  
5 EEZ water or ocean water (unless ocean exchange cannot be conducted due to safety  
6 concerns, which is a rare occurrence for container ships). It is unclear, in light of this recent  
7 development, whether the volume of ballast water discharged is a good predictor of NIS  
8 introduction.

9 It is uncertain whether the increase in vessel calls and potential increase in ballast water  
10 discharge volume attributed to the Port's 2020 expansion will increase the risk of new NIS  
11 becoming established in San Francisco Bay. Because of the damage that can be caused by one  
12 new NIS, however, this impact is treated as potentially significant. Because it is unknown  
13 whether the international community or the United States will impose NIS management  
14 measures by 2020 that are more protective than those currently required, and because it is  
15 unknown to what extent vessel operators can reduce the volume of ballast water they discharge  
16 by using ships with internal ballast water transfer systems or by other means, this potentially  
17 significant impact may not be mitigated to a level that is less than significant.

18 Because the probability of such a discharge resulting in the establishment of an invasive  
19 species, or the exacerbation of the establishment of such a species cannot be calculated with  
20 accuracy, the impact is considered potentially significant. With implementation of Mitigation  
21 Measures 4.12-10, 4.12-11, and 4.12-12, the impact would be substantially rectified, but the  
22 residual impact is considered significant and unavoidable.



24 **Impact 4.12-9:** Loss of up to approximately 0.5 acre of isolated, urban wetlands

25 **Significance:** Potentially significant

26 **Mitigation 4.12-13:** Contractors and developers shall comply with all conditions imposed  
27 by the RWQCB for fill of wetlands.

28 **Residual Significance:** Less than significant

29 As described in the setting section, an area of isolated urban wetlands has been delineated by  
30 the Corps in the Maritime sub-district between tracks of the UP desert railyard. The Corps has

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<sup>5</sup> It is unclear whether ships would in fact continue to discharge ballast water at their current rates. Carriers report that they have less need to discharge ballast water when Port of Oakland channels and berths are dredged to approximate industry-standard depths; the project to deepen Port of Oakland channels and berths from -42 feet MLLW to -50 feet MLLW is in progress. In addition, new containerships are available with internal ballast water transfer systems that allow ballast water to be shifted from tank to tank within the ship, thus eliminating the need for almost all "In-berth" ballast water discharges.

1 determined these wetlands are not within its jurisdiction to regulate. They are, however, within  
2 the jurisdiction of the RWQCB to regulate. Depending on final needs and design of subsequent  
3 redevelopment activities, it is possible these wetlands of a portion may be filled as a result of  
4 redevelopment. Because occurrence of this impact depends on details of design not yet  
5 developed, the impact is considered potentially significant. With implementation of Mitigation  
6 Measure 4.12-14, the impact would be substantially rectified or compensated for, and the  
7 residual impact is considered less than significant.



**4.12.7 Mitigation**

9 Implementation of the following mitigation measures will avoid, minimize, reduce, rectify, or  
10 compensate for significant impacts of redevelopment.

11 **Mitigation 4.12-1:** EBRPD shall maintain and enhance beach habitat where feasible between  
12 the shoreline and the park in order that water birds have space to forage and roost on the  
13 peninsula, and comply with all applicable resource agency requirements.

14 This measure applies to Impact 4.12-1 and Cumulative Impact 5.12-1.

15 The EBRPD should include in design of its Gateway Park sufficient habitat to minimize human  
16 disturbance of bird populations.



18 **Mitigation 4.12-2:** Tall ornamental trees that could provide perches for raptors shall be  
19 prohibited in the design of the Gateway Park.

20 This measure applies to Impact 4.12-2 and Cumulative Impact 5.12-1.

21 In order to minimize use of the Gateway Park by roosting raptors, which prey on shore birds,  
22 including endangered least tern, the use of tall trees as landscaping elements shall be  
23 prohibited.



25 **Mitigation 4.12-3:** Raptor deterrents shall be placed on light standards and other tall elements  
26 installed within the Gateway Park.

27 This measure applies to Impact 4.12-2 and Cumulative Impact 5.12-1.

28 Deterrents may include sharp stakes, wires, or other means to discourage perching on elevated  
29 features.



1       **Mitigation 4.12-4:** Contractors, developers, the Port, and EBRPD shall comply with all permit  
2       conditions from the Corps, RWQCB, USFWS/NMFS and CDFG for fill.

3       This impact applies to Impact 4.12-3 and Cumulative Impact 5.12-2.

4       Contractors and developers shall comply with all conditions of approval imposed by regulatory  
5       agencies. This measure shall be enforced on Contractors by contract specifications.

6       Regarding Port mitigation for fill of New Berth 21, regulatory agencies (Corps, BCDC, RWQCB)  
7       usually require mitigation for placement of fill in San Francisco Bay to compensate for the loss  
8       of aquatic resources. Ideally, mitigation should replace those resources that will be lost or  
9       diminished by the placement of the fill, and should not create additional negative impacts. In this  
10      case, the resources that will be lost by placement of fill are approximately 27 net acres of deep  
11      subtidal (-42 ft. MLLW) open water, soft bottom estuarine, and pile supported wharf habitats.  
12      Because excavation of sediments elsewhere in the Bay may result in additional adverse aquatic  
13      impacts, replacement of these habitats in-kind and near the site of impact may be difficult.  
14      Moreover, excavation of existing land along the Bay shoreline may be problematic, because  
15      shoreline areas are either highly developed, already support valuable habitat that pursuant to  
16      existing policies should not be disturbed or destroyed, or are proposed for wetland restoration.  
17      For these reasons, agencies may wish to consider other types of habitat mitigation, including  
18      “out-of-kind” and “off-site”. A similar approach has been adopted by BCDC for subtidal impacts  
19      from the replacement of the eastern span of the San Francisco-Oakland Bay Bridge<sup>6</sup>. Agency-  
20      required mitigation may consist of, and would not be limited to, a combination of the following  
21      activities:

- 22      • removal of creosote piles from the Bay;
- 23      • establishment of new eelgrass in the Bay (this may require placement of fill and/or other  
24      physical modifications);
- 25      • creation of new hard-bottom reef substrate in the Bay;
- 26      • placement of new hard substrate in the Bay suitable for herring spawning;
- 27      • seasonal and/or tidal wetland restoration around Bay margins, or contribution of funding to  
28      another agency exclusively for that purpose; and/or
- 29      • other aquatic habitat enhancement measures, or contribution of funding to another  
30      exclusively for that purpose.

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<sup>6</sup> BCDC Staff recommendations for permit application 8-01, October 30, 2001.

1 The exact type, magnitude, and location of mitigation shall be determined when site-specific  
2 design is developed. In general, the following guidelines shall be used to determine suitability of  
3 the mitigation proposal. The mitigation should:

- 4 • replace as closely as possible the habitat resources lost;
- 5 • be as close to the impact site as possible; and
- 6 • be similar in size to the impact area.

7 If the mitigation is completed coincident with or subsequent to the habitat impacts, the mitigation  
8 area should be larger than if the mitigation is completed prior to the habitat impacts to  
9 compensate for temporal habitat losses.



11 **Mitigation 4.12-5:** A qualified observer shall be present on site during all in-water construction  
12 activities near potential herring spawning areas between December 1 and March 1.

13 This measure applies to Impact 4.12-4.

14 This measure shall be enforced via contract specifications. The observer shall have the  
15 authority to redirect, but not to stop work.



17 **Mitigation 4.12-6:** If spawning is observed, in-water construction activities shall be redirected  
18 for 200 meters around the spawning area for two weeks.

19 This measure applies to Impact 4.12-4.

20 Work may resume in the spawning area after two weeks, providing additional spawning does  
21 not occur. This measure shall be enforced via contract specifications.



23 **Mitigation 4.12-7:** Application for a tree preservation/tree removal permit from the City of  
24 Oakland for all protected trees shall comply with the Tree Ordinance, which includes  
25 replacement of native trees at a minimum of a 1:1 ratio. The Port will replace native trees on the  
26 OARB at a minimum ratio of 1:1.

27 This measure applies to Impact 4.12-6.

28 A City tree permit requires a map of the affected trees and submission of development plans.  
29 Any coast live oaks or redwoods removed in the project require at least a 1:1 mitigation with a  
30 24-inch boxed tree in a suitable location to be decided upon in conjunction with the Tree

1 Division of the Office of Parks and Recreation. In addition to the ordinance requirements,  
2 development of the area shall result in landscaping of the area, and shall create a beneficial  
3 aesthetic effect.



5 **Mitigation 4.12-8:** Trees shall be removed between September 1 and January 31 to avoid the  
6 nesting season (February 1 to August 31). Alternatively, field surveys shall be conducted no  
7 earlier than 45 days and no later than 20 days prior to the removal of any trees during the  
8 nesting/breeding season of bird species potentially nesting on the site to determine whether  
9 birds are present.

10 This measure applies to Impact 4.12-7.



12 **Mitigation 4.12-9:** Construction shall not occur within 150 feet of an active nest until the nest is  
13 vacated or the juveniles have fledged.

14 This measure applies to Impact 4.12-7.

15 In the event that an active nest is discovered in the areas to be disturbed or in other habitats  
16 within 150 feet of construction boundaries, clearing and construction within 150 feet shall be  
17 postponed until the nest is vacated and juveniles have fledged (approximately 3 to 4 weeks for  
18 small passerines), as determined by the biologist, and there is no evidence of second nesting  
19 attempts. Nests located near existing haul roads shall not require a 150-foot buffer zone.

20 This mitigation will prevent the take of any special-status birds or nests during construction  
21 within the redevelopment area. Special-status birds include those birds protected by the  
22 Migratory Bird Species Act.



24 **Mitigation 4.12-10:** The Port shall continue to enforce its tariff requirements regarding ballast  
25 water and if the state law sunsets, shall implement the remainder of its ballast water ordinance,  
26 as it may be amended from time to time.

27 This measure applies to impact 4.12-8 and Cumulative Impact 5.12-3.

28 Item No. 02215 of the Port's tariff (its operating rules and regulations) defines the Port's Ballast  
29 Water Management Program. Among other things, the Port's program compiles information  
30 regarding the ballasting behavior of carriers calling at the Port of Oakland. This information is  
31 expected to be valuable in crafting durable solutions to the problems ballast water-borne  
32 invasive species pose to the ecology of the Bay, and to invasive species issues elsewhere. This  
33 mitigation measure would continue the Port's program through the build-out year of this project,

1 or 2020, or until required by regulatory permit conditions, whichever is later. Should portions of  
2 the Port's program be redundant to federal, state, or regional programs, or be pre-empted by  
3 such programs, the Port will continue to operate those non-pre-empted portions of its program  
4 that provide information not obtained through other programs.



6 **Mitigation 4.12-11:** The Port shall continue to develop and implement a carrier ballast water  
7 education program.

8 This measure applies to Impact 4.12-8 and Cumulative Impact 5.12-3.

9 Either by itself or by participating in programs by others, e.g., Sea Grant, the Port shall create a  
10 program to educate ocean carriers regarding the potential harm of ballasting activities. The  
11 program shall at a minimum, include the following elements:

- 12 • Educate carriers to all applicable regulations and guidelines.
- 13 • Inform carriers of the benefits of ships constructed with internal ballast water transfer  
14 systems. These systems allow ballast water to be shifted internally from tank to tank,  
15 minimizing or eliminating the need for discharge of ballast water when ships are at berth
- 16 • Encourage carriers to purchase internally-ballasting vessels when they place orders for new  
17 ships.
- 18 • Educate carriers regarding potential benefits of reducing ballast water discharges, even if  
19 ballast water has already been exchanged in the open ocean.



21 **Mitigation 4.12-12:** The Port shall support international and United States efforts to adopt  
22 uniform international or national standards to avoid introduction of exotic species through  
23 shipping activities.

24 This measure applies to Impact 4.12-8 and Cumulative Impact 5.12-3.

25 The Port shall provide in-kind (personnel) support to assist international and U.S. entities to  
26 develop and adopt a uniform set of standards to reduce the risk of invasive species. In order to  
27 achieve optimal environmental success and to maintain a competitive market between ports, it  
28 is important that such standards be effective and uniformly applied.



30 **Mitigation 4.12-13:** Contractors and developers shall comply with all conditions imposed by  
31 the RWQCB for fill of wetlands.

32 This measure applies to Impact 4.12-9 and Cumulative Impact 5.12-2.

