# 4.8 BIOLOGICAL RESOURCES

Biological resources addressed in this section include sensitive species, sensitive habitats, and wetlands. Factors considered in determining whether an alternative would have significant impacts on biological resources included the extent or degree to which its implementation would:

1. Damage wetlands or other special aquatic sites afforded protection under the CWA, Section 404 (16 U.S.C. §1344) and the § 404(b)(1) guidelines (40 C.F.R. Part 230) or other sensitive habitats;
2. Adversely affect sensitive species, including those listed or proposed for listing as endangered or threatened under the ESA (16 U.S.C. §§ 1531-1544), marine mammals afforded protection under the MMPA (16 U.S.C. §§ 1361-1421h), migratory birds afforded protection by the MBTA (16 U.S.C. §§ 703-712) and Executive Order 13186, or other species of concern; and,
3. Degrade or destroy designated critical habitat, as defined by the ESA, or Essential Fish Habitat (EFH), as defined by the MSA.

## 4.8.1 Alternative 1

Under this alternative, the planned actions most affecting biological resources would be dredging, increased boat traffic, and increased human presence. The biological resources of concern are the mudflat/eelgrass habitat, shallow water marine habitat, and salmonids (and associated critical habitat and EFH). There would be no significant impacts to ESA protected marine mammal, bird or sea turtle species.

### *Significant and Mitigable Impacts*

#### *Impacts to Sensitive Habitats*

*Impact: Mudflat habitat disturbance* (Factor 1). Significant impacts to mudflat habitat, including eelgrass beds, may occur as a result of increased pedestrian and boating activity around Clipper Cove (Figure 3-14). These impacts are not a direct consequence of the property transfer, but could result from subsequent development. The eelgrass beds are the most sensitive habitats of the designated EFH within the project area. Under Alternative 1, the proposed themed attractions would attract approximately 13,700 daily visitors, which combined with residential development on Treasure Island, would result in increased pedestrian activity in the area adjacent to Clipper Cove. This is likely to result in more people exploring the mudflats during low tide, which could disturb this sensitive habitat.

The enlarged marina under this alternative would add approximately 200 new boat slips and 100 new tie-up buoys to the existing 100 slips and would quadruple boat traffic in Clipper Cove. This would increase the potential for mudflat habitat disturbance, especially during low tides when recreational boating traffic could erode nearshore sediment, which could directly affect invertebrate prey species in shallow water.

Although the project area is not under BCDC jurisdiction as a Navy facility, conversion to a nonfederal facility would place it within the jurisdiction of this agency. Expanding the marina or constructing a yacht harbor, new docks, or other structures that would cover the surface of the water would Waters of the United States and would require permits from the BCDC and the COE.

*Mitigation.* Construction would require a permit from the COE under Section 404 of the CWA or Section 10 of the Rivers and Harbors Act, as well as a permit from the BCDC. In conjunction with the permitting process, the permittee (property recipient or developer) would be required to minimize disturbance to mudflats and eelgrass beds during construction, and, in the long term, to develop and implement a plan to minimize disturbance of these sensitive habitats from recreational activity. Subject to COE and BCDC review and approval, the permittee could be required to post signs along the shore adjacent to the mudflats and at the marina to inform pedestrians and recreational boaters that the mudflats are a protected sensitive area and that trespassing is not permitted. In addition, buoys could be placed in the bay to identify the restricted mudflat area. A 5-mph (8 kph) zone could be established in Clipper Cove to minimize shoreline and mudflat erosion from high-speed recreational boats in shallow near-shore areas. Placing buoys to mark the channel and establishing a 5-mph (8 kph) zone to regulate impacts from recreational boats would require a US Coast Guard aid to navigation permit. Posting the shoreline with information signs and establishing a 5-mph (8 kph) zone could minimize impacts from recreational boats to sensitive mudflats and eelgrass beds.

Complying with these mitigation procedures would eliminate or reduce impacts to less than significant.

*Impacts to Sensitive Bird Species*

*Impact: Pedestrian and boating impacts on migratory birds* (Factors 1 and 2). Increased pedestrian and boating activity around Clipper Cove could have a significant impact on shore- and water-birds (migratory birds protected by the MBTA and Executive Order 13186) by affecting mudflats and eelgrass beds where shorebirds forage. An increase in pedestrian activity near Clipper Cove from new residents and visitors to the themed attractions would be expected result in more people exploring the mudflats during low tide, which could disturb avian species and sensitive habitat zones. In addition, the enlarged marina would quadruple boat traffic in Clipper Cove, increasing the potential for disturbing mudflat habitat and for eroding nearshore sediments, especially during low tides, which could affect invertebrate and fish populations in shallow water. This could affect food resources for migratory birds, and could result in a decrease in foraging success and thus an increase to the birds' energy expenditure. Breeding areas of shorebirds and other resident and migratory species are not likely to be affected. The federally listed western snowy plover is not expected to occur at the project area and therefore would not be affected. Any individual plovers that may be present would be protected by the measures described below.

*Mitigation.* In conjunction with permitting by the BCDC and COE, the property recipient or developer could be required to post signs along the shore adjacent to the mudflats and at the marina, informing pedestrians and boaters that the mudflats are a protected and sensitive area. Placing buoys in the bay, identifying the mudflat area as restricted, and establishing a 5-mph (8 kph) zone in Clipper Cove could reduce impacts by decreasing both numbers of people and

boats in the area. Placing buoys and establishing a 5-mph (8 kph) zone would require a US Coast Guard aid to navigation permit.

Implementing these mitigation measures would reduce the impacts on identified avian species to a less than significant level.

The acquiring entity or entities would be responsible for implementing these mitigation measures, which would reduce the impacts on migratory bird species to less than significant. It is noted that the regional office of the USFWS, in a letter to the Navy (see Appendix C) recommended that a covenant for the protection of birds protected under the Migratory Bird Treaty Act be included in the deed transferring ownership of the property. The Navy, in the absence of statutory authority, is without legal authority to impose such restrictions.

*Impacts to Mudflat and Eelgrass Habitat (EFH)*

Impact: Pedestrian and boating impacts on EFH (Factor 1). Increased boat and pedestrian activity around Clipper Cove could have an indirect significant impact on EFH by degrading eelgrass vegetated areas and shallow water and mudflat areas. These areas provide important fish spawning, rearing, and foraging habitat. Impacts to EFH from pedestrian and boating activities are the same as those described under the impact to sensitive habitats, described above.

*Mitigation.* Proposed mitigation measures are the same as those discussed under impacts to sensitive habitat above. Complying with these mitigation procedures would eliminate impacts or reduce impacts to less than significant.

***Not Significant Impacts***

Dredging and construction impacts to mudflat and eelgrass habitat (EFH) (Factor 1). Due to their function as cover and feeding habitat for a number of species, eelgrass vegetated areas on the southeastern side of Clipper Cove are considered the most sensitive aspect of EFH in the project area. Herring are known to spawn and deposit their eggs in the eelgrass beds of the surrounding shallow water. A decrease in the quantity of eelgrass around the islands could result in a decrease in egg deposits and a subsequent decrease in the local population of herring, thereby reducing available forage for harbor seals. Any reduction in eelgrass habitat also would affect shorebirds, such as dowitchers and sandpipers, by reducing foraging opportunities.

The lower limit of eelgrass growth is determined by the amount of available light, and plants at the lower limits of growth areas may not have sufficient carbon reserves to withstand periods of high turbidity (Zimmerman et al. 1991). Turbidity generated by dredging could significantly lower the amount of light available to eelgrass at the lower limits and could make such areas unsuitable as habitat for the species. If daily, monthly, and seasonal light requirements of the species are not met, a die-off and reduction in the extent of eelgrass may occur (Zimmerman et al. 1991). Dredging is not proposed in or near eelgrass beds.

Some dredging and construction is proposed on the northwestern side of Clipper Cove for expanding and maintaining the marina. This dredging would occur at a significant distance, approximately 1,200 feet, from eelgrass beds on the southeastern side of Clipper Cove (Figure 3-

14). Dredging, inserting pilings, or installing the seismic wall on the northwestern side of Clipper Cove is unlikely to affect these eelgrass beds due to the distance between construction areas and eelgrass beds.

The property recipient or developer would have to obtain required permits from the COE under section 404 of the CWA and Section 10 of the Rivers and Harbors Act. Also, the ESA and CEQA would require the property recipient or developer to consult and coordinate with the NMFS and CDFG before beginning any activities that may adversely affect sensitive habitats or species. The various permits and conditions resulting from consultations with state and federal resource agencies would address mitigation, avoidance, or minimization of potential adverse impacts. Required permits and consultations also would address impacts associated with disposal of dredge material.

*Impacts to other sensitive habitats* (Factor 1). Impacts to jurisdictional wetlands, open water habitats, and terrestrial habitats would be less than significant because most development would occur on lands previously developed or disturbed and would not affect any lands currently used or occupied by any sensitive species (Figure 3-14). Marsh gumplant, the only plant species of concern known to occur on or near the project area, occurs to the east of the main project area and would not be affected by project activities. Dredging could result in short-term localized impacts to water quality in open water habitats. These activities are unlikely to cause significant impacts to sensitive habitats because of the distance between these habitats and the dredging activities. No mitigation is proposed.

Under Alternative 1, the number of boat slips in the proposed marina would quadruple, increasing the risk of accidental oil or gas spills. Section 1321 of the CWA (33 U.S.C. § 1321) prohibits the discharge of oil or hazardous substances into or upon the navigable waters of the U.S. Very small quantities of oil or gasoline spilled on surface waters can adversely affect sensitive habitat, although in practice it is difficult to prevent the discharge of small quantities of oil from the many possible sources. Two types of discharges are recognized by the EPA: point discharges attributable to a single source, such as from a pipe or a vent, and nonpoint discharges, which include the many small, accidental, and difficult to account for sources of pollutants. Point discharges are prohibited except under an NPDES permit issued by the RWRQB. NPDES permitting requirements cover runoff discharged from point sources and would minimize potential impacts to sensitive habitats.

The EPA or the state implementing agencies also require that certain classes of industrial facilities and activities, including marinas, obtain permits to allow them to discharge stormwater, provided that they conduct monitoring and adopt best management practices designed to identify and reduce the potential for nonpoint pollution. Certain shoreline facilities that store oil or hazardous substances are required to prepare and implement spill prevention, control, and countermeasures (SPCC) plans, which address the training and readiness to prevent and respond to spills. Finally, accidental spills must be reported to the appropriate regulatory agencies with jurisdiction over the affected waterbody, such as the US Coast Guard and the RWQCB. The possibility of an accidental spill is unknown, as is the potential intensity, which would depend on the volume released, wind patterns, tides, and other physical features. While the potential for spills cannot be eliminated entirely, existing regulatory requirements minimize the potential for spills to occur, require timely response to accidental spills, and reduce the potential for nonpoint sources to cause significant adverse impacts on surface water

quality. The US Coast Guard would have a quick response time, given its proximity to the site; any spills would be contained and would have less than significant impacts on biological resources. Therefore, increased boat traffic, including from proposed ferry service, is not expected to result in significant impacts to sensitive species.

*Impacts to critical habitat* (Factor 3). The project area is within designated critical habitat for two fish species, the Sacramento River winter-run chinook salmon and the central California coast coho salmon. Other listed salmonids can occur in the project area. However, the actual project area is constitutes a very small portion of the specified habitat, and provides very limited food or other habitat resources for these species. Potential impacts under this alternative would be localized and would not adversely affect critical habitat in the area. No mitigation is proposed. The Navy has initiated and concluded informal consultation with NOAA Fisheries (NMFS) on this project. On August 8, 2002 NOAA Fisheries concurred that the proposed action is not likely to adversely affect listed species or their critical habitats (Appendix C).

The project area falls within designated critical habitat for the endangered Steller sea lion, but this critical habitat zone covers almost all of the west coast of the US, including Alaska. Because the project area makes up such a small portion of that critical habitat and the species is rarely seen in the bay, impacts from project activities would be less than significant. No mitigation is proposed.

*Impacts to sensitive marine mammal species* (Factor 2). Increased boating activity from ferry service or from expanding the marina would increase boat traffic and human presence in the project vicinity and in the vicinity of the harbor seal haulout areas. Most impacts would come from recreational boats because large vessels would not be found near the haulout area. The level of boat traffic is the single strongest predictor of harbor seal haulout numbers; the more boat traffic, the fewer seals at the haulout site (Lelli and Harris 2001). Wild animals must maintain a balance between intake of nutrients and expenditure of energy to stay healthy. For example, stress can be caused by too little food, or, conversely, too much energy expenditure. If the harbor seals are overly disturbed while hauled out, which is generally a time of rest and recovery, this could increase their energetic expenditure. Although this area is used as a primary haulout site for seals in the bay, they are reasonably adaptable to disturbance from noise and can tolerate some degree of continuous exposure to human-made sounds. Seals can show short-term behavioral reactions to noise (Phillips 1999), especially at low tides or when pups are present (Green 2001). An accurate prediction of the number of boaters in the vicinity of the haulout area is not available; however, the level of potentially disturbing boat activity is not expected to differ substantially from present conditions, in which there are more sailboats than power boats, and in which boats have difficulty accessing the rocky shoreline in the vicinity of the haulout. Additionally, there are signs posted presently warning boaters to keep their distance from the harbor seal haulout site. Impacts to seals at the primary haulout and the secondary haulout west of this site would not be significant.

Dredging could have an indirect impact on harbor seals by affecting herring, a preferred harbor seal prey species that is a significant portion of their diet. Dredging also could have a direct impact on harbor seals from noise associated with dredging to establish and maintain minimum depths for the proposed marina and other boating activities. Dredging noise would be comparable to the noise associated with ongoing vessel traffic in the vicinity and would not be expected to increase the level of disturbance to harbor seals. These activities would occur on the

opposite side of the island from the haulout, affect a relatively small area temporarily, and are unlikely to significantly affect the food resources or normal activities of harbor seals, and no mitigation is proposed. . The property recipient or developer would have to obtain required permits from the COE under sections 404 and 401 of the CWA and Section 10 of the Rivers and Harbors Act. Also, the ESA and CEQA would require the property recipient or developer to consult and coordinate with the NMFS and CDFG before beginning any activities that may adversely affect sensitive habitats or species. The various permits and conditions resulting from consultations with state and federal resource agencies would address mitigation, avoidance, or minimization of potential adverse impacts. Required permits and consultations also would address impacts associated with disposal of dredge material.

Impacts to all other marine mammals from dredging or increased boating and pedestrian activity also would be less than significant. Other marine mammals species in the ROI occur on an intermittent to rare basis and therefore are unlikely to be affected by dredging, increased boating or pedestrian activities. No mitigation is proposed.

*Impacts to benthic organisms* (Factor 3). Dredging in Clipper Cove would have a short-term adverse impact on benthic organisms and bottom-dwelling invertebrates found within the shallow water habitat of the cove. This impact would affect local populations and is not expected to affect the overall population of these species within the bay. Impacts to these species would lead to impacts to fish and bird species that prey on them, in that the amount of available prey in this area would be reduced temporarily. There are no sensitive aquatic species within this area, except for eelgrass, described in the previous section. Invertebrates affected by dredging are expected to reestablish themselves in the dredged zone over time. No mitigation is proposed.

*Impacts to sensitive bird species* (Factors 1 and 2). Except for the pedestrian and boating impacts on MBTA-protected shorebirds described previously, there would be no significant impacts to sensitive bird species. Habitat degradation, human presence, and expansion of the marina, including dredging, under this alternative would not have a significant impact on bird species protected under ESA.

American peregrine falcons, a federally delisted but state-listed threatened species, forage in the Central Bay and nest on the SFOBB and Golden Gate Bridge. As noted in section 3.8, two pairs nest on SFOBB—one on the support structure east of Yerba Buena Island and one on the central support structure between the island and San Francisco. This species may hunt over the water and land portions of the site and is unlikely to be adversely affected by development proposed under this alternative because the habitat of the falcon's common prey species (small birds) would remain similar to existing conditions. The peregrine falcon has adapted to an urban setting that includes SFOBB traffic noise and lights; therefore project-related noise and lighting would not be expected to adversely affect this species. No mitigation is proposed.

The California brown pelican and California least tern, federally listed endangered species, occasionally forage for fish in areas off NSTI. The California least tern generally forages in shallow waters and mudflat areas; the California brown pelican generally forages in deeper water on anchovies and sardines, both of which are abundant in the ROI and would not be affected by project activities. Increased boat traffic is likely to be dispersed throughout deep water surrounding NSTI and would not significantly affect foraging habitat or activities for the

California brown pelican. There would be no significant impacts to prey species of these birds from boating or from dredging, as described previously. No mitigation is proposed.

The Alameda song sparrow is considered unlikely to be affected due to its low numbers and the lack of preferred habitat (salt marsh with marsh gumplant) in the main project area. This species would most likely not be affected and there would be no significant impacts to their prey species from boating activity or human presence, as described above. No mitigation is proposed.

There would be no impacts to the California clapper rail because this species is not found in the project area. There also would be no impacts to the double-crested cormorant because no nesting sites are within the project area.

*Impacts to sensitive fish species* (Factors 1 and 2). The Central California coast steelhead is the only ESA species that occurs in moderate numbers in the project area. Adults of this steelhead ESU are most likely to be in the area during their migration to South Bay spawning grounds. Juveniles are likely to be found in the proximity of the Central Bay, as they move from upstream habitats to the deeper waters of the bay and eventually the Pacific Ocean. Fish are sensitive to high noise levels. Juvenile steelhead would be especially sensitive to noise and elevated turbidity from dredging and in-water construction. Operational noise levels are recommended to remain below 150 dB; noise levels above 200 dB are lethal to fish (Woodbury 2001). Dredging sounds are not expected to reach these levels, and would be comparable to noise associated with ongoing vessel traffic. Dredging and in-water construction would require permitting from the COE and consultation with the NMFS regarding potential effects on listed fishes. Conditions agreed on in these consultations would be implemented as part of project activities, ensuring that project activities would not adversely affect ESA species such as the Central California coast steelhead. Navy has initiated and concluded informal consultation with NMFS on this project, with the conclusion that the proposal disposal of NSTI would not adversely affect listed species or their critical habitats (Appendix C).

In addition, four salmon ESUs, including the Sacramento River winter-run, fall/late fall-run, and spring-run chinook salmon and the Central Valley steelhead, may occur in the Central Bay in low numbers (Woodbury 2001). The project area is not along main migration routes used by these ESUs, therefore these species are not likely to be affected by project activities. These species have been observed in the Central Bay (Woodbury 2001; Hieb 2001) but are likely to occur in the area in low numbers due to the distance between the project area and their known migratory route. Of the low numbers of individuals that occur in the project area, the majority are likely to be juveniles (Woodbury 2001).

Delta smelt are found in the South Bay, although in much smaller numbers in comparison to North Bay populations (Ganssle 1966; Messersmith 1969). Movement of delta smelt and the contiguous nature of these sections of the San Francisco Bay make it likely that individual smelt would be found in the Central Bay. The delta smelt does not spawn in the area and is not expected to be affected by proposed project activities.

Longfin smelt migrate from the ocean to the delta to spawn but are known to enter the Central Bay. Longfin smelt are found in their largest numbers in San Francisco Bay during the spring

and summer, when they are juveniles (Messersmith 1969; Aplin 1967). The longfin smelt does not spawn in the area and would not be expected to be affected by proposed project activities.

Green sturgeon are anadromous and may be found in low numbers in the Central Bay before or after spawning in the Delta. The green sturgeon does not spawn in the area and would not be expected to be affected by proposed project activities.

Fish that are managed under the West Coast Groundfish FMP and the Coastal Pelagics FMP could inhabit the Central Bay. While groundfish, such as the Pacific sand dab, and coastal pelagics, such as the northern anchovy, are found in the project area, they are mobile and can move into other portions of the bay; therefore, their populations would not be expected to be affected by proposed project activities.

*Impacts to EFH* (Factor 3). Dredging, constructing a seismic wall, expanding the marina, and implementing other in-water activities proposed under Alternative 1 would result in not significant impacts to EFH. All of the bay waters surrounding NSTI are designated as EFH for fish managed under the three FMPs—the Pacific Groundfish FMP, the Coastal Pelagics FMP, and the Pacific Coast Salmon FMP (NMFS 2000). The most delicate component of the Central Bay EFH is the eelgrass vegetated areas. These areas are sensitive to high turbidity and are an important resource to fish, which use eelgrass for depositing eggs, for foraging, and for seeking shelter. The closest eelgrass vegetated area to potential dredging and in-water activities is on the southeastern side of Clipper Cover. It is approximately 1,200 feet away from the proposed dredging area in Clipper Cove (Figure 3-14). This distance is great enough to prevent dredging from disturbing eelgrass.

The property recipient or developer would have to obtain permits from the COE under Sections 404 and 401 of the CWA and Section 10 of the Rivers and Harbors Act, and from BCDC. Also, the ESA and CEQA require the property recipient or developer to consult and coordinate with the NMFS and CDFG before beginning any activities that may adversely affect sensitive habitats or species. The various permits and conditions resulting from consultations with state and federal resource agencies would address mitigation, avoidance, or minimization of potential adverse impacts. Required permits and consultations also would address impacts associated with disposing of dredge material and would incorporate measures consistent with the LTMS.

### 4.8.2 Alternative 2

Under this alternative, the proposed actions most affecting biological resources would be dredging, expanding the marina, and increasing boat traffic.

***Significant and Mitigable Impacts***

*Impacts to Sensitive Habitat*

*Impact: Mudflat habitat disturbance* (Factor 1). There could be significant impacts to mudflat habitat, including eelgrass beds, because of increased pedestrian and boating activity around Clipper Cove. Eelgrass beds are the most sensitive habitats of the designated EFH in the project area. Treasure Island development under Alternative 2 would attract an estimated 5,000 daily

visitors, or approximately half the increase in pedestrian activity anticipated under Alternative 1. As a result, the impacts in the area of the themed attraction adjacent to Clipper Cove would be less than half of that under Alternative 1. Unlike Alternative 1, Alternative 2 does not include extensive residential development.

Expanding the marina to between approximately 500 and 675 slips and buoys would result in at least a 500 percent increase in boat traffic in Clipper Cove over existing conditions and a 20 percent increase over that proposed under Alternative 1. This increases the potential for recreational boating traffic to disturb the sensitive mudflat habitat, including eelgrass beds. Most impacts would come from recreational boats because large vessels other than ferries would not be found in the project area.

*Mitigation.* Mitigation measures related to disturbance of mudflat/eelgrass habitats would be the same as those described for Alternative 1. Implementing these mitigation measures would reduce the impact to a less than significant level.

*Impacts to Sensitive Bird Species*

*Impact: Pedestrian and boating impacts on wading shorebirds* (Factors 1 and 2). As described for Alternative 1, increased pedestrian and boating activity around Clipper Cove could have a significant impact on shorebirds by affecting mudflats and eelgrass beds where shorebirds forage. Habitat degradation, human presence, and an enlarged marina under Alternative 2 could result in significant impacts to sensitive bird habitat and species. Although none of the bird species are listed as endangered or threatened under the ESA, they are all protected under the MBTA.

Development at Treasure Island under Alternative 2 would attract approximately half the number of daily visitors proposed under Alternative 1. As a result, the impacts in the area of the themed attraction adjacent to Clipper Cove also would be approximately half of those described under Alternative 1. Expanding the marina to between 500 and 675 slips and buoys would result in an approximately 500 percent increase in boat traffic in Clipper Cove over existing conditions and a 20 percent increase over that proposed under Alternative 1. This increases the potential for increased recreational boating to disturb the sensitive mudflat habitat, including eelgrass beds.

*Mitigation.* Mitigation measures for disturbing mudflat habitat would be the same as those described for Alternative 1. Implementing these mitigation measures would reduce the impact to a less than significant level.

*Impacts to Mudflat and Eelgrass Habitat (EFH)*

*Impact: Pedestrian and boating impacts on EFH* (Factor 1). Increased pedestrian and boating activity around Clipper Cove and along the perimeter of the islands could have a significant impact on EFH in shallow water and mudflat areas, as described for sensitive habitats under Alternative 1.

*Mitigation.* Mitigation measures for disturbing EFH would be the same as those described for sensitive habitats under Alternative 1. Implementing these mitigation measures would reduce the impact to a less than significant level.

*Not Significant Impacts*

*Dredging Impacts to mudflat and eelgrass habitat* (Factor 1). Eelgrass vegetated areas on the southeastern side of Clipper Cove are considered the most sensitive aspect of EFH in the project area, due to their function as cover and feeding habitat for a number of species. As for Alternative 1, impacts to eelgrass and mudflat habitat resulting from dredging would be not significant. Dredging and other activities for maintaining Pier 1 for ferry service are not likely to adversely affect any protected bird species. Dredging and disposal activities would require permitting and related agency coordination in compliance with Section 404 of the Clean Water Act, as described in Alternative 1.

*Impacts to other sensitive habitats* (Factor 1). Impacts to jurisdictional wetlands, open water habitats, and terrestrial habitats would be less than significant. Most development would occur on lands previously developed or disturbed and would not affect any lands currently used or occupied by any sensitive species. Marsh gumplant, the only plant species of concern known to occur on or near the project area, occurs to the east of the main project area and would not be affected by project activities.

Any dredging would require a Section 404 permit. Placing pilings or expanding docks in aquatic habitat would require a Section 10 permit from the COE. Impacts from these activities would be addressed during the permitting process.

Short-term impacts to water quality in open water habitats near dredging areas could occur as a result of dredging but are unlikely to cause significant impacts to sensitive habitats.

As described in Alternative 1, it is unlikely that increased boat traffic would affect sensitive habitats, with the exception of eelgrass, discussed above. No mitigation is proposed.

Impacts to eelgrass beds from accidental oil releases from boats could have short-term impacts on these habitats. Impacts of and prevention measures for accidental oil releases are discussed under Impacts to Other Sensitive Habitats, Alternative 1.

Similar to Alternative 1, any shore-based spills that reach the bay via the stormwater system would be regulated and monitored through the application of best management practices and an SPCC Plan. These measures would reduce this impact to less than significant. Impacts related to dredging to establish and maintain minimum depths for the proposed marina and other boating activities would be the same as those described for Alternative 1 and would be similarly less than significant.

*Impacts to critical habitat* (Factor 3). As for Alternative 1, the project area overlaps a small area of designated critical habitat for the Sacramento River winter-run chinook salmon and central California coast coho salmon, but the affected area is unlikely to provide important food or habitat resources for these species. As such, there would be no significant impacts to critical habitat.

The project area falls within designated critical habitat for the endangered Steller sea lion, but this critical habitat zone covers almost all of the west coast of the US, including Alaska. Because the project area makes up such a small portion of that critical habitat and the species is rarely seen in the bay, impacts from project activities would be less than significant. No mitigation is proposed.

*Impacts to sensitive marine mammal species* (Factor 2). Similar to Alternative 1, Alternative 2 would have less than significant impacts on the harbor seals at the basking and haulout area. While expanding the marina to between approximately 500 and 675 slips and buoys would substantially increase in boat traffic in Clipper Cove and would mean a 20 percent increase over that proposed under Alternative 1, this increase would not be expected to affect conditions at the seal haulout sites or the sensitive mudflat habitat (including eelgrass beds), which support harbor seal prey. Dredging and other activities for maintaining Pier 1 for ferry service would also have impacts on seals similar to those discussed for Alternative 1, which would be less than significant and addressed through permit conditions and requirements identified by state and federal resource agencies.

*Impacts to benthic organisms* (Factor 2). Dredging in Clipper Cove to accommodate a yacht harbor would have a short-term adverse impact on benthic organisms and bottom-dwelling invertebrates found within the shallow water habitat of the cove. This impact would be to local populations and is not expected to affect the overall population of these species within the bay. There are no sensitive species within this habitat type except for eelgrass, described in the previous section, and invertebrates affected by dredging are expected to reestablish themselves in the dredged zone over time. No mitigation is proposed.

*Impacts to sensitive bird species* (Factors 1 and 2). Impacts to the American peregrine falcon, California brown pelican, California least tern, and Alameda song sparrow are expected to be similar to, but proportionally less than, those described under Alternative 1. These not significant impacts include those to special status species and prey and avian foraging habitat and would be from dredging, in-water or near-shore construction, and increased vessel traffic. No mitigation is proposed.

*Impacts to sensitive fish species* (Factor 2). Dredging, constructing a seismic wall, expanding the marina, and engaging in other in-water activities proposed under Alternative 2 would result in not significant impacts to sensitive fish species, similar to that described under Alternative 1. No mitigation is proposed.

*Impacts to EFH* (Factor 3). Dredging, constructing a seismic wall, expanding the marina, and engaging in other in-water activities proposed under Alternative 2 would result in not significant impacts to EFH, similar to that described under Alternative 1. No mitigation is proposed.

### 4.8.3 Alternative 3

Under Alternative 3, many buildings and facilities at NSTI would be reused. Building upgrades for seismic safety would be limited to minor rehabilitation to meet life safety requirements recommended by FEMA-178 evaluations. Most new development would be on sites already occupied by buildings or parking lots, or on mostly landscaped areas, and therefore would not

significantly affect natural habitat areas. Dredging would be required to maintain the marina and for constructing a new ferry terminal. The planned actions that would affect biological resources would be increasing boat traffic, constructing a ferry terminal at Pier 12 and a yacht harbor, and humans using sensitive mudflat habitat.

***Significant and Mitigable Impacts***

*Impacts to Sensitive Habitat*

*Impact: Mudflat habitat disturbance* (Factor 1). Significant impacts to mudflat habitat, including eelgrass beds, may occur as a result of increased pedestrian and boating activity around Clipper Cove. Due to their function as cover and feeding habitat for a number of species, the eelgrass vegetated areas on the southeastern side of Clipper Cove are considered the most sensitive aspect of EFH. Development at Treasure Island under Alternative 3 would attract an estimated 2,740 daily visitors. Although this represents an 80 percent reduction in pedestrian activity compared to Alternative 1, it is still significantly higher than under current conditions. There would be a small increase in boat traffic from visitors to the island. This slightly increases the potential for disturbing the sensitive mudflat habitat, including eelgrass beds, from increased recreational boating.

*Mitigation.* Mitigation measures for disturbing mudflat habitat would be the same as those described for Alternatives 1 and 2. Implementing these mitigation measures would reduce the impacts to a less than significant level.

*Impacts to Sensitive Bird Species*

*Impact: Pedestrian and boating impacts on shorebirds* (Factors 1 and 2). Alternative 3 would result in impacts to protected bird species from human disturbance similar to those under Alternative 2, though at a reduced level. Although none of the bird species are listed as endangered or threatened under the ESA, they are all protected under the MBTA. Development at Treasure Island under Alternative 3 would attract an estimated 2,740 daily visitors. Although this represents an 80 percent reduction compared to Alternative 1, it is still significantly higher than under current conditions. There would be a small increase in boat traffic from visitors to the island. This slightly increases the potential for disturbing the sensitive mudflat habitat, including eelgrass beds, which may have an indirect effect on protected birds.

*Mitigation.* Mitigation measures for disturbing shorebirds would be the same as those described for Alternatives 1 and 2. Implementing these mitigation measures would reduce the impact to a less than significant level.

*Impacts to Mudflat and Eelgrass Habitat (EFH)*

*Impact: Pedestrian and boating impacts on EFH* (Factor 1). Increased pedestrian and boat activity around Clipper Cove and along the perimeter of the islands would affect EFH in shallow water and mudflat areas, as described for sensitive habitats under Alternative 1.

*Mitigation.* Mitigation measures for disturbing EFH would be the same as those described for sensitive habitats under Alternatives 1 and 2. Implementing these mitigation measures would reduce the impact to a less than significant level.

*Not Significant Impacts*

*Dredging impacts to mudflat and eelgrass habitat* (Factor 1). Impacts to eelgrass and mudflat habitat resulting from dredging would be less than significant. Potential adverse effects would be the same as those listed under Alternative 1.

*Impacts to other sensitive habitats* (Factor 1). Impacts to jurisdictional wetlands and waters of the US would occur as a result of constructing a yacht harbor in Clipper Cove. Impacts related to dredging to establish and maintain minimum depths for the proposed marina and other boating activities would be the same as those described for Alternative 1. Dredging could result in short-term localized impacts to water quality in open water habitats. These activities are unlikely to cause significant impacts to sensitive habitats because of the distance between these habitats and the dredging activities. Any dredging or construction in these waters would require a Section 404 permit. Placing pilings in aquatic habitat would require a Section 10 permit from the COE. Impacts would be less than significant because these activities would be conducted under Section 404 and coordinated with CDFG and NMFS, as described in Alternative 1. Construction in Clipper Cove by a nonfederal agency would constitute fill, according to BCDC, and would be regulated by that agency.

As described in Alternative 1, it is unlikely that increased boat traffic would cause an impact to sensitive habitats, with the exception of eelgrass, discussed above. No mitigation is proposed.

Impacts to eelgrass beds from accidental oil releases from boats could have short-term impacts on these habitats. Impacts of and prevention measures for oil releases are discussed under Impacts to Other Sensitive Habitats, Alternative 1. Similar to Alternative 1, any shore-based spills that reach the bay via the stormwater system would be regulated and monitored through the application of best management practices and an SPCC Plan. These measures would reduce this impact to not significant.

*Impacts to critical habitat* (Factor 3). The project area overlaps critical habitat for two fish species, but critical habitat would not be significantly affected. The project area constitutes a very small portion of fish species critical habitat. Potential impacts under this alternative would be localized and would pose no threat to the viability of critical habitat in the area.

The project area falls within designated critical habitat for the endangered Steller sea lion; however, this critical habitat zone covers almost all of the west coast of the US, including Alaska. Because the project area makes up such a small portion of that critical habitat and because the species is rarely seen in the bay, impacts from project activities would be less than significant. No mitigation is proposed.

*Impacts to sensitive marine mammals* (Factor 2). Impacts to MMPA-protected species from habitat degradation and human presence under this alternative would be similar to, but less than, impacts from Alternative 1. There would be a small increase in boat traffic from visitors to the island. This slightly increases the potential for disturbing the sensitive seal habitat, including haulout and basking sites, from recreational boating. Impacts would be less than significant, and no mitigation is proposed. Dredging and other activities for building and maintaining a ferry terminal at Pier 1 would also have impacts on seals similar to those discussed for

Alternative 1, which would be addressed through adherence to permit conditions and requirements identified by state and federal resource agencies.

*Impacts to benthic organisms* (Factor 2). Dredging in Clipper Cove to accommodate a yacht harbor would have a short-term, adverse impact on benthic organisms and bottom-dwelling invertebrates found within the shallow water habitat of the cove. This impact would be to local populations and is not expected to affect the overall population of these species within the bay. There are no sensitive species within this habitat type except for eelgrass, described in the previous section, and invertebrates affected by dredging are expected to reestablish themselves in the dredged zone over time. No mitigation is proposed.

*Impacts to sensitive bird species* (Factors 1 and 2). Impacts to the American peregrine falcon, California brown pelican, California least tern, and Alameda song sparrow are expected to be similar to, but proportionally less than, those described under Alternative 1. These less than significant impacts include impacts to special status species and prey and avian foraging habitat, impacts from dredging and in-water and near-shore construction, and impacts from increased vessel traffic. No mitigation is proposed.

*Impacts to sensitive fish species* (Factor 2). Dredging, constructing a seismic wall, expanding the marina, and other in-water activities proposed under Alternative 3 would result in not significant impacts to sensitive fish species similar to, but less than, that described for Alternative 1. No mitigation is proposed.

*Impacts to EFH* (Factor 3). Dredging, constructing a seismic wall, expanding the marina, and other in-water activities proposed under Alternative 3 would result in not significant impacts to EFH similar to, but less than, that described for Alternative 1. No mitigation is proposed.

### 4.8.4 No Action Alternative

Under the No Action Alternative, property available for disposal at NSTI would continue under federal ownership in an inactive caretaker status, and existing interim leases would be allowed to expire. There would be minimal use of NSTI property and facilities under this alternative. Ongoing activities would include maintenance to minimize deterioration and essential security operations.

Maintaining NSTI in caretaker status would result in no impacts to biological resources. Because no reuse would occur, there would be no impacts to sensitive species, sensitive habitat, marine mammal species, or essential fish habitat. No impacts to the mudflat habitat would occur because no new docks or facilities for recreational boats would be constructed.