

4.5 BIOLOGICAL RESOURCES

This section identifies the impacts to biological resources that would result from the development of each alternative described in **Section 2.0**. Impacts are assessed against the environmental baseline presented in **Section 3.5**. Indirect and cumulative impacts are identified in **Section 4.14** and **Section 4.15**, respectively. Biological resources mitigation measures are presented in **Section 5.2.4**.

SIGNIFICANCE CRITERIA

Impacts to biological resources would occur if construction of the project alternatives results in the direct destruction of valuable habitat, fill of waters of the U.S. including wetlands, or take of special-status species including migratory birds. An impact to biological resources from the implementation of any one of the project alternatives would be considered significant if it would:

- Have a substantial impact, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game (CDFG) or U.S. Fish and Wildlife Service (USFWS):
 - Have a substantial impact on species having special-status under Federal Endangered Species Act (FESA) or California Endangered Species Act (CESA).
 - Have a substantial impact on habitat necessary for the future survival of such species, including areas designated as critical habitat by the CDFG or USFWS and areas designated as essential fish habitat (EFH) by National Marine Fisheries Service (NMFS).
- Have a substantial impact on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the CDFG or USFWS, such as:
 - Have a substantial impact on riparian habitat as defined in Sections 1600-1616 of the CDFG Code.
- Have a substantial impact on federally protected wetlands as defined by Section 404 of the Clean Water Act (CWA) (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery site, such as:
 - Result in the take of any fishery resources, including the anadromous species and highly migratory species as defined by the Migratory Species Act (MSA 305.b.2).
 - Result in the take of nesting migratory bird species as defined by the Migratory Bird Treaty Act (MBTA) (16 USC Sections 703-712)
- Conflict with any local policies or ordinances protecting biological resources, such as:
 - Noncompliance with a tree preservation policy or ordinance.
 - Noncompliance with the City of Richmond General Plan.

- Noncompliance with the San Francisco Bay Conservation and Development Commission (BCDC) Bay Plan.
- Conflict with the provisions of an adopted Habitat Conservation Plan (HCP), Natural Community Conservation Plan (NCCP), or other approved local, regional, or state habitat conservation plan.

ANALYSIS METHODOLOGY

This analysis of potential impacts was based on the existing biological setting (**Section 3.5**). Analytical Environmental Services (AES) biologists determined the existing biological setting by conducting field surveys within the project site during 2005, 2007, and 2008; through informal consultations with USFWS, CDFG, and NMFS; and through review of pertinent literature and database resources including the California Natural Diversity Database (CNDDDB) and California Native Plant Society (CNPS) special-status species lists.

Biological resources impacts were analyzed based on a comprehensive examination of the existing project site and the anticipated extent of habitats, potentially jurisdictional wetlands and other waters of the U.S., and potentially occurring special-status species that would be impacted by each of the proposed alternatives. **Tables 4.5-1, 4.5-2, 4.5-3, and 4.5-4** summarize and quantify the types of habitats affected, and the acreages of habitats impacted by each of the proposed alternatives.

4.5.1 ALTERNATIVE A – MIXED-USE TRIBAL DESTINATION RESORT AND CASINO

IMPACTS OF ALTERNATIVE A

Habitats

4.5.1 Development of Alternative A has the potential to impact 0.637 acres of annual grassland habitat and 2.443 acres of coastal scrub habitat. This would be a potentially significant impact.

Significance After Mitigation

Implementation of **Mitigation Measures 4-1** through **4-9** would reduce impacts to the habitats on-site to *less-than-significant* levels.

Impact Discussion

No USFWS designated critical habitat occurs within the development footprint of Alternative A. Development of Alternative A would disturb approximately 46.589 acres of land. Of this amount, approximately 32.347 acres is already developed (i.e., ruderal/developed habitat type). Approximately 14.242 acres of habitat (46.589 – 32.347 = 14.242) would be impacted by the development of Alternative A. Of this amount, approximately 3.080 acres are considered native (i.e., habitats other than ruderal/developed, eucalyptus woodland, invasive scrub, and landscape plantings). **Table 4.5-1** provides a summary of the acreages of the habitat types impacted by

Alternative A. The build-out of Alternative A would impact approximately 3.62 percent of the total available habitat within the project site.

TABLE 4.5-1
ANTICIPATED IMPACTS TO HABITAT TYPES – ALTERNATIVE A

Habitat Type	Total Acres Within Project Site	Acreage Affected	Percentage Affected
Annual Grassland	39.461	0.637	1.61
Coastal Scrub	62.566	2.443	3.91
Mixed Riparian	3.832	0	0
Eel-grass Bed*	62.248*	0	0
Tidal Marsh	0.108	0	0
Beach Strand	6.487	0	0
Eucalyptus Woodland	45.338	8.897	19.62
Invasive Scrub	20.351	1.465	7.20
Landscape Plantings	5.120	0.800	15.63
Ruderal/Developed*	88.982	32.347*	36.35*
Seasonal Wetland	2.923	0.727	24.87
Ephemeral Drainage	1.225	0	0
Navigable Waters	74.937	0	0
Suisun Marsh Aster*	0.862*	0	0
Total	413.578	14.969	3.62%

Source: AES, 2008

* Not included in total because already developed and/or included in another capacity.

Under Alternative A, relatively high levels of disturbance would occur in the eucalyptus woodland and invasive scrub habitats on-site. Potential impacts to eucalyptus woodland habitat are considered not significant due to the relatively common and abundant nature of this habitat type within the region. Eucalyptus woodland is a non-native habitat type, though it does provide roosts, perches, and nesting sites for bats, birds, and raptors. Lizards, snakes, insects, and other small mammal species may also use the litter and limited understory within eucalyptus woodland as habitat.

Like eucalyptus woodland, invasive scrub is a non-native habitat type. As such, potential impacts to invasive scrub habitat are not significant. It is generally a poorer quality habitat than eucalyptus woodland for plant and wildlife species. The areas of invasive scrub habitat within the project site are highly disturbed. In most instances, some previous form of human disturbance resulted in the removal of all the preceding vegetation and invasive plant species (e.g., fennel and

French broom) opportunistically took over the recently disturbed/unvegetated stands. Small rodents, other small mammals, songbirds, and insects may use invasive scrub as habitat.

Likewise, impacts to the landscape plantings habitat type are considered not significant because of the non-native nature of this habitat. This area is maintained on a regular basis and provides little habitat value to plant and wildlife species because of the frequent disturbance from landscape maintenance such as mowing and tree trimming.

The annual grassland and coastal scrub habitats are considered valuable because they provide habitats for a multitude of plant and wildlife species. Recommended **Mitigation Measures 4-1** through **4-9** would reduce potential impacts to these two habitats to *less-than-significant* levels.

Alternative A would not impact the mixed riparian, eel-grass bed, beach strand, or tidal marsh habitats within the project site. Alternative A has planned development of the Shoreline Park and Bay Trail segment in the vicinity of the tidal marsh and beach strand areas on-site. These fragile habitats may be temporarily impacted by the development of Alternative A during construction activities if equipment, debris, or staging areas come in contact with them or their immediate vicinities. Auxiliary mitigation measures designed to specifically protect the beach strand and tidal marsh habitats on-site are recommended in **Section 5.2.4** because of the uniqueness, sensitivity to disturbance, and increasing rarity of these habitat types within the region. The proposed **Mitigation Measures 4-1** through **4-9** would reduce potential impacts to the beach strand and tidal marsh habitats on-site to *less than significant* levels.

While compliance with the City's General Plan is not required for trust lands, the General Plan has several goals and objectives that are intended to protect and conserve the region's native habitats and characteristic landscapes and these were evaluated for the purposes of this EIS/EIR. These goals and objectives were discussed in **Section 3.5.1**. Without mitigation, Alternative A directly impacts the annual grassland and coastal scrub habitats within the site. With implementation of **Mitigation Measures 4-1** through **4-9**, Alternative A is consistent with the components of the City's General Plan which are intended to protect and conserve local native habitats and characteristic landscapes. Specifically, Alternative A (with **Mitigation Measures 4-1** through **4-9**) would protect and enhance the natural environment, the area's natural resources, and the potential amenities of the shoreline's variety of edges and the landmark character of the regional landscape to the maximum extent feasible; preserve the natural topographic form of the San Pablo Peninsula, by protecting the character of its hills and ridges to the maximum extent feasible; minimize the removal of native vegetation and discourage filling, dredging, or development that would negatively impact the biological productivity and aesthetic characters of the area's physical features; and assure the preservation of wildlife habitats and of the project site's unique natural areas.

*Waters of the U.S.***4.5.2 Development of Alternative A has the potential to impact 0.727 acre of wetlands. This would be a potentially significant impact.***Significance After Mitigation*

Implementation of **Mitigation Measures 4-10** through **4-12** would reduce impacts to wetlands and waters of the U.S. to a *less-than-significant* level.

Impact Discussion

As discussed in **Section 3.5.5**, a wetland delineation has been conducted within the project site (**Appendix L**). This study identified 3.055 acres of potentially jurisdictional wetlands, 1.224 acres of potentially jurisdictional other waters, and 140 acres of navigable waters within the project site (WWR, 2007a) (**Figure 3.5-2**). Components of Alternative A would fill approximately 0.727 acre of potentially jurisdictional wetlands, resulting in a significant impact. **Mitigation Measures 4-10** through **4-12** have been recommended to reduce impacts to wetlands and other waters of the U.S. to a less than significant level and to compensate for wetland acreages affected by Alternative A. Additional potential impacts to water quality within the on-site wetland features include sedimentation and/or pollutants. Impacts to water quality may result in significant impacts to biological resources because many plant and animal species depend upon aquatic environments for food and habitat during their life cycle. The recommended mitigation for Alternative A, **Mitigation Measures 4-10** through **4-12**, would reduce impacts to water quality within wetlands and waters of the U.S. to *less-than-significant* levels. In addition, best management practices (BMPs) related to water resources, presented in **Section 5.2.2**, would further reduce impacts to wetlands and waters of the U.S. associated with sedimentation and/or pollutants. Development of Alternative A would have *no impact* to the navigable waters mapped on-site because the development footprint avoids them completely.

The City's General Plan has several goals and objectives that are intended to protect and conserve the region's wetland features and aquatic resources. These goals and objectives were discussed in **Section 3.5.1**. With implementation of **Mitigation Measures 4-10** through **4-12**, Alternative A is consistent the components of the City's General Plan which are intended to protect and conserve wetland features and aquatic resources. Specifically, Alternative A (with **Mitigation Measures 4-10** through **4-12**) would protect open water, mudflats, all tidelands, and riparian woodlands to the maximum extent feasible from unnecessary Bay fill and dredging and preserves and enhances the marshes and tidelands; avoid any significant detrimental impacts of development on the biological productivity of existing open water, marsh, mudflat, or tideland; provide buffers between development and adjacent marsh and mudflat areas and preserve and enhance streambeds, watercourses and channels.

Bay Conservation and Development Commission Jurisdiction

As discussed in **Section 3.5.2**, the Bay Conservation and Development Commission (BCDC) has jurisdiction over the San Francisco Bay's (Bay) open water, marshes and mudflats, and over portions of most creeks, rivers, sloughs and other tributaries that flow into the Bay, and the first 100 feet (ft) of inland shoreline around the Bay. Therefore, development that would occur within 100 ft of the shoreline would fall within BCDC jurisdiction. Approximately 5.191 acres of BCDC jurisdictional lands occur within the footprint of Alternative A. Any development activities associated with Alternative A and within the BCDC jurisdiction would require consultation and subsequent approval from the Commission in the form of a Consistency Determination (for trust lands) and a permit for non-trust lands. Under all four development alternatives, the BCDC would retain jurisdiction over a 50 ft wide strip along the shoreline. The strip would be retained by the City as public lands and thus would not be eligible for federal trust. The existing on-site pier would also fall under BCDC jurisdiction. As such, pier reconfiguration and use associated with Alternative A requires consultation and approval from the BCDC (and the State Lands Commission). With acquisition of the required Commission Permit(s) and compliance with all the conditions therein, no additional mitigation measures are required for impacts to the Bay's open waters and BCDC jurisdictional areas.

*SPECIAL-STATUS SPECIES**Plants***4.5.3 Development of Alternative A would not impact special-status plant species. This would be a less-than-significant impact.**

Plant species identified as having potential to occur on-site are discussed in **Section 3.5.6**. No impacts to any special-status plant species are anticipated from Alternative A because no special-status plant species were observed within the habitats that would be impacted from Alternative A. This Alternative avoids the population of Suisun Marsh aster that was observed on-site.

*Fish***4.5.4 Development of Alternative A would not impact special-status fish species. This would be a less-than-significant impact.**

Alternative A would involve the reconfiguration of the on-site pier, which extends into the Bay. The Bay may be considered designated critical habitat or an EFH for several special-status fishes, as discussed in **Section 3.5.6**. Development of Alternative A would have a less-than-significant impact on fisheries because the reconfiguration of the pier would not increase the square footage of water area covered by the pier, and would not require construction activities within the water.

The Proposed Project would not significantly alter the existing quality of fish habitat on-site because the square footage of water covered by the reconfigured pier would remain equal to or less than the current amount. Furthermore, the pier reconfiguration, as discussed in **Section 2.2.2**, would not require reinstallation or replacement of pilings and would be primarily structural and cosmetic in nature. Thus significant impacts to fisheries would not occur.

Alternative A would have a *less-than-significant* impact navigable waters within the project site. As such fisheries resources would not be impacted.

Birds

4.5.5 Development of Alternative A could impact nesting birds. This would be a potentially significant impact.

Significance After Mitigation

Implementation of **Mitigation Measures 4-15** through **4-18** would reduce impacts to nesting bird species to a *less-than-significant* level.

Impact Discussion

While no nests were observed on-site, several special-status (**Table 3.5-2**) and migratory bird species have potential to nest, loaf, forage, or perch in the habitat types on-site and within the vicinity of proposed ground disturbing activities under Alternative A. Development of Alternative A (e.g., building, grading, ground disturbance, and vegetation removal involve increased human activity, operation of machinery, and elevated noise levels) could result in significant impacts to special-status and migratory birds. During the nesting season (approximately March 1 through September 30), development activities that occur within 500 ft of an active nest could cause nest abandonment or premature fledging of the young. **Mitigation Measures 4-15** through **4-18** would reduce potential impacts to nesting special-status and migratory bird species to *less-than-significant* levels.

4.5.6 Permanent lighting associated with the development of Alternative A could impact shorebirds and migratory birds. This would be a potentially significant impact.

Significance After Mitigation

Implementation of **Mitigation Measures 4-15** through **4-18** would reduce lighting-related impacts to shorebirds and migratory bird species to *less-than-significant* levels.

Impact Discussion

Several shorebirds and migratory birds that are active and/or migrate at night have potential to occur in the beach strand and tidal marsh areas and within the vicinity of proposed development on-site. Permanent lighting associated with the development of Alternative A could result in significant impacts to shorebirds and migratory birds. Certain types of artificial lighting may attract shorebirds and migratory bird species and cause them to fly directly into lighted structures. Such collisions may lead to injury and death. Artificial spotlights may cause nocturnal bird species to fly into the light and become entrapped. Light entrapped birds will remain in the light-source until exhausted and eventually collapse and fall to the ground. **Mitigation Measures 4-15 through 4-18** would reduce potential impacts associated with lighting to shorebirds and migratory bird species to *less-than-significant* levels.

Mammals

- 4.5.7 Development of Alternative A has the potential to impact special-status bats. This would be a potentially significant impact.**

Significance After Mitigation

Implementation of **Mitigation Measures 4-19 through 4-20** would reduce impacts to special-status bats to a *less-than-significant* level.

Impact Discussion

Several special-status bat species have potential to occur within the habitat types impacted by Alternative A (**Table 3.5-2**). These special-status bats may be impacted by the development of Alternative A (i.e., grading, vegetation removal, and increased noise levels from machinery). **Mitigation Measures 4-19 through 4-20** would minimize potential impacts to these bat species to *less-than-significant* levels.

Other

- 4.5.8 Development of Alternative A would not significantly impact other species that the City considers sensitive. This would be a less-than-significant impact.**

Significance After Mitigation

Implementation of **Mitigation Measures 4-1 through 4-9** would reduce impacts to habitats to *less-than-significant* levels, thus minimizing impacts to other species, which are considered species of conservation concern by the City's General Plan.

Impact Discussion

The monarch butterfly, harbor seal, and deer, though not of special-status, are mentioned as species of conservation concern to the City in the General Plan (City of Richmond, 1994). Harbor seals are not known to occur on-site. Construction activities, ground disturbance, and loss of habitat resulting from Alternative A could potentially impact the resident deer population and the monarch butterfly. **Mitigation Measures 4-1 through 4-7** recommended to reduce impacts to habitats would also enhance habitats used by the deer and monarchs. Impacts to other species that the City considers sensitive are *less-than-significant*.

While compliance with the City's General Plan is not required on trust lands, the General Plan has several goals and objectives that are intended to protect and conserve the region's native habitats and characteristic landscapes, and these were evaluated for the purposes of this EIS/EIR. These goals and objectives were discussed in **Section 3.5.1**. Without mitigation, Alternative A would disturb resident plants and animals and directly impacts communities that provide habitat for resident plants and animals, including wetlands. With implementation of **Mitigation Measures 4-1 through 4-20**, Alternative A is consistent the components of the City's General Plan which are intended to protect and conserve native plant and animal species and their habitats. Specifically, Alternative A (with **Mitigation Measures 4-1 through 4-20**) would preserve environmental conditions that if disturbed, would destroy important wildlife habitats and conserves native plant and animal communities; protect habitats shown to be necessary for the preservation of rare and endangered plants and animals and would also preserve unique plant communities and wildlife habitats; and conserve those natural wildlife habitats that support native species of plants and animals.

4.5.2 ALTERNATIVE B – MIXED-USE TRIBAL DESTINATION RESORT AND CASINO WITH RESIDENTIAL COMPONENT

IMPACTS OF ALTERNATIVE B

Habitats

4.5.9 Development of Alternative B has the potential to impact 7.056 acres of annual grassland habitat, 10.406 acres of coastal scrub habitat, and 1.796 acres of mixed riparian habitat. This would be a potentially significant impact.

Significance After Mitigation

Implementation of **Mitigation Measures 4-1 through 4-9** would reduce impacts to annual grassland, coastal scrub, and mixed riparian habitats to *less-than-significant* levels.

Impact Discussion

No USFWS designated critical habitat occurs within the development footprint of Alternative B. Development of Alternative B would disturb an approximate total of 78.886 acres of land. Of this amount, approximately 44.909 acres is already developed (i.e., ruderal/developed habitat type). Approximately 33.977 acres of habitat ($78.886 - 44.909 = 33.977$) would be impacted by the development of Alternative B. Of this amount, approximately 19.258 acres are considered native (i.e., habitats other than ruderal/developed, eucalyptus woodland, invasive scrub, and landscape plantings). **Table 4.5-2** provides a summary of the acreages of the habitat types impacted by Alternative B. The build-out of Alternative B would impact approximately 10.21 percent of the total available habitat within the project site.

TABLE 4.5-2
ANTICIPATED IMPACTS TO HABITAT TYPES – ALTERNATIVE B

Habitat Type	Total Acres Within Project Site	Acreage Affected	Percentage Affected
Annual Grassland	39.461	7.056	17.88
Coastal Scrub	62.566	10.406	16.63
Mixed Riparian	3.832	1.796	46.87
Eel-grass Bed*	62.248*	0	0
Tidal Marsh	0.108	0	0
Beach Strand	6.487	0	0
Eucalyptus Woodland	45.338	8.900	19.63
Invasive Scrub	20.351	5.019	24.66
Landscape Plantings	5.120	0.800	15.63
Ruderal/Developed*	88.982	44.909*	50.47*
Seasonal Wetland	2.923	1.781	60.31
Ephemeral Drainage	1.225	0.462	37.71
Navigable Waters	74.937	0	0
Suisun Marsh Aster*	0.862*	0.862*	100*
Total	413.578	42.220	10.21%

Source: AES, 2008

* Not included in total because already developed and/or included in another capacity.

Under Alternative B, relatively high levels of disturbance would occur in the on-site eucalyptus woodland, landscape plantings, and invasive scrub habitats. Potential impacts to these three habitats are considered not significant because of their non-native nature, as discussed under Alternative A.

The annual grassland and coastal scrub are considered valuable because they provide habitats for numerous plant and wildlife species. Recommended **Mitigation Measures 4-1** through **4-9** would reduce potential impacts to these habitats to *less-than-significant* levels.

Similarly, the mixed riparian habitat is considered an extremely valuable habitat type because it provides habitat for many plant and wildlife species, including several special-status species. In addition, riparian habitats have important ecological functions including: water temperature regulation, bed and bank stabilization and erosion control, filtration of sedimentation and pollutants, nutrient cycling, and moderation of hydrologic flows during the wet season. Recommended mitigation in **Section 5.2.4** would reduce potential impacts to this important native habitat to *less-than-significant* levels by compensating for the loss of mixed riparian habitat acreages resulting from the development of Alternative B.

Alternative B would not impact the eel-grass bed, beach strand, or tidal marsh habitats. Alternative B has planned development of the Shoreline Park and Bay Trail segment in the vicinity of the tidal marsh and beach strand areas on-site. These fragile habitats may be temporarily impacted during the development of Alternative B during construction activities if equipment, debris, or staging areas come in contact with them or in their immediate vicinities. Auxiliary mitigation measures designed to specifically protect the beach strand and tidal marsh habitats on-site are recommended in **Section 5.2.4** because of the uniqueness, sensitivity to disturbance, and increasing rarity of these habitat types within the region. The proposed **Mitigation Measures 4-1** through **4-9** would reduce potential impacts to the beach strand and tidal marsh habitats on-site to *less-than-significant* levels.

While compliance with the City's General Plan is not required on trust lands, the General Plan has several goals and objectives that are intended to protect and conserve the region's native habitats and characteristic landscapes. These goals and objectives were evaluated for the purposes of this EIS/EIR and are discussed in **Section 3.5.1**. Without mitigation, Alternative B directly impacts the annual grassland, coastal scrub, and mixed riparian habitats within the site. With implementation of **Mitigation Measures 4-1** through **4-9**, Alternative B is consistent with the components of the City's General Plan, which are intended to protect and conserve local native habitats and characteristic landscapes. The specific General Plan components Alternative B adheres to are similar to those discussed in the Habitat Section of Alternative A.

Waters of the U.S.

4.5.10 Development of Alternative B has the potential to impact 1.781 acres of wetlands and 0.462 acre of waters of the U.S. This would be a potentially significant impact.

Significance After Mitigation

Implementation of **Mitigation Measures 4-10** through **4-12** would reduce impacts to wetlands and waters of the U.S. to a *less-than-significant* level.

Impact Discussion

As mentioned for Alternative A, a wetland delineation was conducted for the project site (**Appendix L**). The components of Alternative B would impact approximately 1.781 acres of potentially jurisdictional seasonal wetlands and approximately 0.462 acre (1,986.761 linear ft) of potentially jurisdictional ephemeral drainages through fill. Recommended mitigation measures identified in **Section 5.2.4** would reduce impacts to wetlands and other waters of the U.S. to *less-than-significant* levels and compensate for wetland/waters acreages impacted by Alternative B. As with all the alternatives, Alternative B has the potential to impact water quality within the on-site wetland features through sedimentation and/or pollutants. In addition, BMPs related to water resources (also presented in **Section 5.2.2**), would further reduce impacts to wetlands and waters of the U.S. associated with sedimentation and/or pollutants. Alternative B would *not impact* the navigable waters within the project site.

While compliance with the City's General Plan is not required on trust lands, the General Plan has several goals and objectives that are intended to protect and conserve the region's wetland features and aquatic resources. These goals and objectives were evaluated for purposes of this EIS/EIR and are discussed in **Section 3.5.1**. Without mitigation, Alternative B is inconsistent with these components of the General Plan because it directly impacts several seasonal wetlands and ephemeral drainages within the site. With implementation of **Mitigation Measures 4-10** through **4-12**, Alternative B is consistent the components of the City's General Plan which are intended to protect and conserve wetland features and aquatic resources. The specific General Plan components Alternative B adheres to are similar to those discussed in the Waters of the U.S. Section of Alternative A.

Bay Conservation and Development Commission Jurisdiction

As with Alternative A, the first 100-ft inland from the shoreline of the Bay would be under the BCDC jurisdiction. Approximately 5.222 acres of BCDC jurisdictional lands fall within the footprint of Alternative B. Any development activities within the BCDC jurisdictional lands would require consultation and subsequent approval from the Commission in the form of a Consistency Determination (for trust lands) and a permit for non-trust lands. As with Alternative A, the on-site pier would also be under the BCDC jurisdiction. As such, pier reconfiguration and use associated with Alternative B would require consultation and approval from the BCDC (and the SLC). With acquisition of the required Commission Permit(s) and compliance with all the conditions therein, no additional mitigation measures are required for impacts to the Bay's open waters and BCDC jurisdictional areas.

SPECIAL-STATUS SPECIES**Plants****4.5.11 Development of Alternative B would impact Suisun marsh aster. This would be a significant impact.****Significance After Mitigation**

Implementation of **Mitigation Measures 4-13** through **4-14** would reduce impacts to Suisun marsh aster to *less-than-significant* levels.

Impact Discussion

As discussed in **Section 3.5.6** and presented in **Figure 3.5-1**, a population of Suisun Marsh aster was detected within the project site during the floristic surveys. The components of Alternative B would impact approximately 0.862 acre (equivalent to 100 percent of the habitat) of the area where the Suisun Marsh aster occurs and directly impacts this species (i.e., destroys more than half of the individual plants that compose the population). This would be a significant impact and mitigation has been proposed in **Section 5.2.4**.

Fish**4.5.12 Development of Alternative B would not impact special-status fish species. This would be considered a less-than-significant impact.**

As with Alternative A, Alternative B would involve the reconfiguration of the existing pier on-site, which extends into the Bay. The pier may be designated critical habitat and/or an EFH for several special-status fishes as discussed in **Section 3.5.6**. Development of Alternative B would have a less-than-significant impact on fisheries because the reconfiguration of the pier would not increase the square footage of water area covered by the pier, and would not require construction activities within the water. The proposed project would not significantly alter the existing quality of fish habitat on-site because the square footage of water covered by the reconfigured pier would remain equal to or less than the current amount and the pier reconfiguration, as discussed in **Section 2.2.2**, would not require reinstallation or replacement of pilings and would be primarily structural and cosmetic in nature. Thus significant impacts to fisheries would not occur.

Alternative B would have a *less-than-significant* impact to the navigable waters within the project site. As such fisheries resources would not be impacted.

Birds

4.5.13 Development of Alternative B could impact nesting birds. This would be a significant impact.

Significance After Mitigation

Implementation of **Mitigation Measures 4-15** through **4-18** would reduce impacts to nesting bird species to a *less-than-significant* level.

Impact Discussion

Although nests have not been observed on-site, several special-status and migratory bird species have potential to nest, loaf, forage, or perch in the habitat types on-site and within the vicinity of proposed ground disturbing activities under Alternative B (**Table 3.5-2**). Development of Alternative B (e.g., building, grading, ground disturbance, and vegetation removal involve increased human activity, operation of machinery, and elevated noise levels) could result in significant impacts to special-status and migratory birds. During the nesting season (approximately March 1 through September 30), development activities that occur within 500 ft of an active nest could cause nest abandonment or premature fledging of the young. **Mitigation Measures 4-15** through **4-18** would reduce potential impacts to nesting special-status and migratory bird species to *less-than-significant* levels.

4.5.14 Permanent lighting associated with the development of Alternative B could impact shorebirds and migratory birds. This would be a potentially significant impact.

Significance After Mitigation

Implementation of **Mitigation Measures 4-15** through **4-18** would reduce lighting-related impacts to shore and migratory bird species to *less-than-significant* levels.

Impact Discussion

Several shorebirds and migratory birds that are active and/or migrate at night have potential to occur in the beach strand and tidal marsh areas and within the vicinity of proposed development on-site. Permanent lighting associated with the development of Alternative B could result in significant impacts to shorebirds and migratory birds. Certain types of artificial lighting may attract shorebirds and migratory bird species and cause them to fly directly into lighted structures. Such collisions may lead to injury and death. Artificial spotlights may cause nocturnal bird species to fly into the light and become entrapped. Light entrapped birds will remain in the light-source until exhausted and eventually collapse and fall to the ground. **Mitigation Measures 4-15** through **4-18** would reduce potential impacts associated with lighting to shorebirds and migratory bird species to *less-than-significant* levels.

Mammals

4.5.15 Development of Alternative B has the potential to impact special-status bats. This would be a potentially significant impact.

Significance After Mitigation

Implementation of **Mitigation Measures 4-19** through **4-20** would reduce impacts to special-status bats to a *less-than-significant* level.

Impact Discussion

Three special-status bat species have potential to occur in the habitat types impacted by Alternative B (**Table 3.5-2**). These special-status bat species may be impacted by the development of Alternative B (i.e., grading, vegetation removal, and increased noise levels from machinery). **Mitigation Measures 4-19** through **4-20** would minimize potential impacts to these species to *less-than-significant* levels.

Other

4.5.16 Development of Alternative B would not impact other species that the City considers sensitive. This would be a less-than-significant impact.

Significance After Mitigation

Implementation of **Mitigation Measures 4-1** through **4-9** would reduce impacts to habitats to *less-than-significant* levels, thus minimizing impacts to other species, which are considered species of conservation concern by the City's General Plan.

Impact Discussion

As with Alternative A, the monarch butterfly, harbor seal, and deer, though not of special-status, are mentioned as species of conservation concern to the City in the General Plan (City of Richmond, 1994). Harbor seals are not known to occur on-site. Construction activities, ground disturbance, and loss of habitat resulting from Alternative B could potentially impact the resident deer population and the monarch butterfly. **Mitigation Measures 4-1** through **4-7** recommended to reduce impacts to habitats would also enhance habitats used by the deer and monarchs. Impacts to other species that the City considers sensitive are *less-than-significant*.

While compliance with the City's General Plan is not required on trust lands, the General Plan has several goals and objectives that are intended to protect and conserve the region's native habitats and characteristic landscapes. These goals and objectives were evaluated for the purposes of this EIS/EIR and are discussed in **Section 3.5.1**. Without mitigation, Alternative B would disturb

resident plants and animals and directly impacts communities that provide habitat for resident plants and animals, including wetlands and the Suisun Marsh aster population on-site. With implementation of **Mitigation Measures 4-1** through **4-20**, Alternative B is consistent the components of the City's General Plan which are intended to protect and conserve native plant and animal species and their habitats. The specific General Plan components Alternative B adheres to are similar to those discussed in the Other Section of Alternative A.

4.5.3 ALTERNATIVE C – REDUCED INTENSITY MIXED-USE TRIBAL DESTINATION RESORT AND CASINO

IMPACTS OF ALTERNATIVE C

Habitats

4.5.17 Development of Alternative C has the potential to impact 0.485 acre of annual grassland habitat and 1.022 acres of coastal scrub habitat. This would be a potentially significant impact.

Significance After Mitigation

Implementation of **Mitigation Measures 4-1** through **4-9** would reduce impacts to annual grassland and coastal scrub habitats to *less-than-significant* levels.

Impact Discussion

No USFWS designated critical habitat occurs within the development footprint of Alternative C. Development of Alternative C would disturb an approximate total of 36.778 acres of land. Of this amount, approximately 27.343 acres is already developed (i.e., ruderal/developed habitat type). Approximately 9.435 acres of habitat ($36.778 - 27.343 = 9.435$) would be impacted by the development of Alternative C. Of this amount, approximately 1.507 acres are considered native (i.e., habitats other than ruderal/developed, eucalyptus woodland, invasive scrub, and landscape plantings). **Table 4.5-3** provides a summary of the acreages of the habitat types affected by Alternative C. As demonstrated in the table, the build-out of Alternative C would impact approximately 2.57 percent of the total available habitat within the project site.

Alternative C would not impact the mixed riparian, eel-grass bed, beach strand, or tidal marsh habitats within the project site. Though, Alternative C has planned development of the Shoreline Park and Bay Trail in the vicinity of the beach strand and tidal marsh areas on-site. These fragile habitats may be temporarily impacted by the development of Alternative C during construction activities if equipment, debris, or staging areas come in contact with them or their vicinities.

TABLE 4.5-3
ANTICIPATED IMPACTS TO HABITAT TYPES – ALTERNATIVE C

Habitat Type	Total Acres Within Project Site	Acreage Affected	Percentage Affected
Annual Grassland	39.461	0.485	1.23
Coastal Scrub	62.566	1.022	1.63
Mixed Riparian	3.832	0	0
Eel-grass Bed*	62.248*	0	0
Tidal Marsh	0.108	0	0
Beach Strand	6.487	0	0
Eucalyptus Woodland	45.338	5.884	12.98
Invasive Scrub	20.351	1.244	6.11
Landscape Plantings	5.120	0.800	15.63
Ruderal/Developed*	88.982*	27.343*	30.73*
Seasonal Wetland	2.923	0.727	24.87
Ephemeral Drainage	1.225	0.460	37.55
Navigable Waters	74.937	0	0
Suisun Marsh Aster*	0.862*	0	0
Total	413.578	10.622	2.57%

Source: AES, 2008

* Not included in total because already developed and/or included in another capacity.

Auxiliary mitigation measures designed to specifically protect the beach strand and tidal marsh habitats on-site are recommended in **Section 5.2.4** because of the uniqueness, sensitivity to disturbance, and increasing rarity of these habitat types within the region. The proposed **Mitigation Measures 4-1** through **4-9** would reduce potential impacts to the beach strand and tidal marsh habitats on-site to *less than significant* levels.

While compliance with the City's General Plan is not required on trust lands, the General Plan has several goals and objectives that are intended to protect and conserve the region's native habitats and characteristic landscapes. These goals and objectives were evaluated for the purposes of this EIS/EIR and are discussed in **Section 3.5.1**. Without mitigation, Alternative C directly impacts the annual grassland and coastal scrub habitats within the site. With implementation of **Mitigation Measures 4-1** through **4-9**, Alternative C is consistent with the components of the City's General Plan, which are intended to protect and conserve local native habitats and characteristic landscapes. The specific General Plan components Alternative C adheres to are similar to those discussed in the Habitat Section of Alternative A.

*Waters of the U.S.***4.5.18 Development of Alternative C has the potential to impact 0.727 acre of wetlands. This would be a potentially significant impact.***Significance After Mitigation*

Implementation of **Mitigation Measures 4-10** through **4-12** would reduce impacts to wetlands and waters of the U.S. to a *less-than-significant* level.

Impact Discussion

As mentioned under Alternative A, a wetland delineation has been conducted for the project site. The components of Alternative C would impact approximately 0.727 acre of potentially jurisdictional seasonal wetlands, resulting in a significant impact. Recommended **Mitigation Measures 4-10** through **4-12** would reduce impacts to wetlands and other waters of the U.S. to *less-than-significant* levels and compensate for wetland acreages affected by Alternative C. As with all the alternatives, Alternative C has the potential to impact water quality within the on-site wetland features through sedimentation and/or pollutants. Mitigation measures that reduce impacts to water quality within wetlands are presented in **Section 5.2.2**. In addition, BMPs related to water resources (also presented in **Section 5.2.2**), would further reduce impacts to wetlands and waters of the U.S. associated with sedimentation and/or pollutants. Alternative C would *not impact* the ephemeral drainages or the navigable waters within the project site.

While compliance with the City's General Plan is not required on trust lands, the General Plan has several goals and objectives that are intended to protect and conserve the region's wetland features and aquatic resources. These goals and objectives were evaluated for the purposes of this EIS/EIR and are discussed in **Section 3.5.1**. With implementation of **Mitigation Measures 4-10** through **4-12**, Alternative C is consistent the components of the City's General Plan which are intended to protect and conserve wetland features and aquatic resources. The specific General Plan components Alternative C adheres to are similar to those discussed in the Waters of the U.S. Section of Alternative A.

Bay Conservation and Development Commission Jurisdiction

As with Alternative A, the first 100 ft inland from the shoreline of the Bay would be within the jurisdiction of the BCDC. Approximately 5.213 acres of BCDC jurisdictional lands fall within the footprint of Alternative C. Any development activities within the BCDC jurisdiction would require consultation and subsequent approval from the Commission in the form of a Consistency Determination (for trust lands) and a permit for non-trust lands. As with Alternative A, the on-site pier would also be under the BCDC jurisdiction. As such, pier reconfiguration and use associated with Alternative C would require consultation and approval from the BCDC (and the

SLC). With acquisition of the required Commission Permit(s) and compliance with all the conditions therein, no additional mitigation measures are required for impacts to the Bay's open waters and BCDC jurisdictional areas.

SPECIAL-STATUS SPECIES

Plants

4.5.19 Development of Alternative C would not impact special-status plant species. This would be a less-than-significant impact.

Plant species identified as having potential to occur on-site are discussed in **Section 3.5.6**. No impacts to any special-status plant species are anticipated from Alternative C because no special-status plant species were observed within the habitats that would be impacted from Alternative C. This Alternative avoids the population of Suisun Marsh aster that was observed on-site.

Fish

4.5.20 Development of Alternative C would not impact special-status fish species. This would be a less-than-significant impact.

As with Alternatives A and B, Alternative C would involve the reconfiguration of the existing pier on-site, which extends into the Bay. The pier may be designated critical habitat and/or an EFH for several special-status fishes as discussed in **Section 3.5.6**. Development of Alternative C would have a less-than-significant impact on fisheries because the reconfiguration of the pier would not increase the square footage of water area covered by the pier, and would not require construction activities within the water. Essentially, the proposed project would not significantly alter the existing quality of fish habitat on-site because the square footage of water covered by the reconfigured pier would remain equal to or less than the current amount and the pier reconfiguration, as discussed in **Section 2.2.2**, would not require reinstallation or replacement of pilings and would be primarily structural and cosmetic in nature. Thus significant impacts to fisheries would not occur.

Development of Alternative C would result in *less-than-significant* impacts to the navigable waters within the project site. As such fisheries resources would not be significantly impacted.

Birds

4.5.21 Development of Alternative C could impact nesting birds. This would be a potentially significant impact.

Significance After Mitigation

Implementation of **Mitigation Measures 4-15** through **4-18** would reduce impacts to nesting bird species to a *less-than-significant* level.

Impact Discussion

Several special-status (**Table 3.5-2**) and migratory bird species have potential to nest, loaf, forage, or perch in the habitat types on-site and within the vicinity of proposed ground disturbing activities under Alternative C. Development of Alternative C (e.g., building, grading, ground disturbance, and vegetation removal involve increased human activity, operation of machinery, and elevated noise levels) could result in significant impacts to special-status and migratory birds. During the nesting season (approximately March 1 through September 30), development activities that occur within 500 ft of an active nest could cause nest abandonment or premature fledging of the young. **Mitigation Measures 4-15** through **4-18** would reduce potential impacts to nesting special-status and migratory bird species to *less-than-significant* levels.

4.5.22 Permanent lighting associated with the development of Alternative C could impact shorebirds and migratory birds. This would be a potentially significant impact.

Significance After Mitigation

Implementation of **Mitigation Measures 4-15** through **4-18** would reduce lighting-related impacts to shore and migratory bird species to *less-than-significant* levels.

Impact Discussion

Several shorebirds and migratory birds that are active and/or migrate at night have potential to occur in the beach strand and tidal marsh areas and within the vicinity of proposed development on-site. Permanent lighting associated with the development of Alternative C could result in significant impacts to shorebirds and migratory birds. Certain types of artificial lighting may attract shorebirds and migratory bird species and cause them to fly directly into lighted structures. Such collisions may lead to injury and death. Artificial spotlights may cause nocturnal bird species to fly into the light and become entrapped. Light entrapped birds will remain in the light-source until exhausted and eventually collapse and fall to the ground. **Mitigation Measures 4-15** through **4-18** would reduce potential impacts associated with lighting to shorebirds and migratory bird species to *less-than-significant* levels.

Mammals

4.5.23 Development of Alternative C has the potential to impact special-status bats. This would be a potentially significant impact.

Significance After Mitigation

Implementation of **Mitigation Measures 4-19** through **4-20** would reduce impacts to special-status bats to a *less-than-significant* level.

Impact Discussion

Three special-status bat species have potential to occur in the habitat types impacted by Alternative C (**Table 3.5-2**). These special-status bat species may be impacted by the development of Alternative C (i.e., grading, vegetation removal, and increased noise levels from machinery). **Mitigation Measures 4-19** through **4-20** would minimize potential impacts to these species to *less-than-significant* levels.

Other**4.5.24 Development of Alternative C would not impact other species that the City considers sensitive. This would be a less-than-significant impact.*****Significance After Mitigation***

Implementation of **Mitigation Measures 4-1** through **4-9** would reduce impacts to habitats to *less-than-significant* levels, thus minimizing impacts to other species, which are considered species of conservation concern by the City's General Plan.

Impact Discussion

As with Alternative A, the monarch butterfly, harbor seal, and deer, though not of special-status, are mentioned as species of conservation concern to the City in the General Plan (City of Richmond, 1994). Harbor seals are not known to occur on-site. Construction activities, ground disturbance, and loss of habitat resulting from Alternative C could potentially impact the resident deer population and the monarch butterfly. **Mitigation Measures 4-1** through **4-9** recommended to reduce impacts to habitats would also enhance habitats used by the deer and monarchs. Impacts to other species that the City considers sensitive are *less-than-significant*.

While compliance with the City's General Plan is not required on trust lands, the General Plan has several goals and objectives that are intended to protect and conserve the region's native habitats and characteristic landscapes. These goals and objectives were evaluated for the purposes of this EIS/EIR and are discussed in **Section 3.5.1**. Without mitigation, Alternative C would disturb resident plants and animals and directly impacts communities that provide habitat for resident plants and animals, including wetlands. With implementation of **Mitigation Measures 4-1** through **4-20**, Alternative C is consistent the components of the City's General Plan which are intended to protect and conserve native plant and animal species and their habitats. The specific General Plan components Alternative C adheres to are similar to those discussed in the Other Section of Alternative A.

4.5.4 ALTERNATIVE D – NON-TRUST ACQUISITION WITH NON-GAMING MIXED USE DEVELOPMENT

IMPACTS OF ALTERNATIVE D

Habitats

4.5.25 Development of Alternative D has potential to impact 7.849 acres of annual grassland, 13.001 acres of coastal scrub, and 1.899 acres of mixed riparian habitat. This would be a potentially significant impact.

Significance After Mitigation

Implementation of **Mitigation Measures 4-1** through **4-9** would reduce impacts to annual grassland, coastal scrub, and mixed riparian habitats to *less-than-significant* levels.

Impact Discussion

No USFWS designated critical habitat occurs within the development footprint of Alternative D. Development of Alternative D would disturb an approximate total of 80.868 acres of land. Of this amount, approximately 44.107 acres is already developed (i.e., ruderal/developed habitat type). Approximately 36.761 acres of habitat ($80.868 - 44.107 = 36.761$) would be impacted by the development of Alternative D. Of this amount, approximately 22.749 acres are considered native (i.e., habitats other than ruderal/developed, eucalyptus woodland, invasive scrub, and landscape plantings). **Table 4.5-4** provides a summary of the acreages of the habitat types affected by Alternative D. The build-out of Alternative D would impact approximately 9.38 percent of the total available habitat within the project site.

Under Alternative D, relatively high levels of disturbance would occur in the on-site eucalyptus woodland, invasive scrub, and landscape plantings habitats. Potential impacts to these three habitats are considered not significant because of their non-native nature, as discussed under Alternative A.

The annual grassland and coastal scrub habitats are considered valuable as they provide habitats for a numerous plant and wildlife species. **Mitigation Measures 4-1** through **4-9** have been recommended to reduce potential impacts to these native habitats to *less-than-significant* levels.

As with Alternative B, the mixed riparian habitat is considered as a valuable habitat type because it is native, it provides habitat for many plant and wildlife species (including several special-status species), and serves important ecological functions. Recommended **Mitigation Measures 4-1** through **4-9** would also reduce potential impacts to this important habitat to *less-than-*

significant levels by compensating for the loss of mixed riparian habitat acreages resulting from the development of Alternative D.

TABLE 4.5-4
ANTICIPATED IMPACTS TO HABITAT TYPES – ALTERNATIVE D

Habitat Type	Total Acres Within Project Site	Acreage Affected	Percentage Affected
Annual Grassland	39.461	7.849	19.89
Coastal Scrub	62.566	13.001	20.78
Mixed Riparian	3.832	1.899	49.56
Eel-grass Bed*	62.248*	0	0
Tidal Marsh	0.108	0	0
Beach Strand	6.487	0	0
Eucalyptus Woodland	45.338	8.770	19.34
Invasive Scrub	20.351	4.755	23.36
Landscape Plantings	5.120	0.487	19.53
Ruderal/Developed*	88.982*	44.107*	49.57*
Seasonal Wetland	2.923	1.587	54.29
Ephemeral Drainage	1.225	0.460	37.55
Navigable Waters	74.937	0	0
Suisun Marsh Aster*	0.862*	0.862*	100*
Total	413.578	38.808	9.38%

Source: AES, 2008

*Not included in total because already developed and/or included in another capacity.

Alternative D would not impact the eel-grass bed, beach strand, or tidal marsh habitats. Though, Alternative D has planned development of the Shoreline Park and Bay Trail segment in the vicinity of the tidal marsh and beach strand areas on-site. These fragile habitats may be temporarily impacted during the development of Alternative D during construction activities if equipment, debris, or staging areas come in contact with it or in its immediate vicinity. Auxiliary mitigation measures designed to specifically protect the beach strand and tidal marsh habitats on-site are recommended in **Section 5.2.4** because of the uniqueness, sensitivity to disturbance, and increasing rarity of these habitat types within the region. The proposed **Mitigation Measures 4-1** through **4-9** would reduce potential impacts to the beach strand and tidal marsh habitats on-site to *less-than-significant* levels.

The City's General Plan has several goals and objectives that are intended to protect and conserve the region's native habitats and characteristic landscapes. These goals and objectives were discussed in **Section 3.5.1**. Without mitigation, Alternative D directly impacts the annual grassland, coastal scrub, and mixed riparian habitats within the site. With implementation of **Mitigation Measures 4-1** through **4-9**, Alternative D is consistent with the components of the

City's General Plan, which are intended to protect and conserve local native habitats and characteristic landscapes. The specific General Plan components Alternative D adheres to are similar to those discussed in the Habitat Section of Alternative A.

Waters of the U.S.

4.5.26 Development of Alternative D has the potential to impact 1.587 acres of wetlands and 0.460 acre of other waters of the U.S. This would be a potentially significant impact.

Significance After Mitigation

Implementation of **Mitigation Measures 4-10** through **4-12** would reduce impacts to wetlands and waters of the U.S. to a *less-than-significant* level.

Impact Discussion

As mentioned under Alternative A, a wetland delineation has been conducted for the project site. The components of Alternative D would impact approximately 1.587 acres of potentially jurisdictional seasonal wetlands and approximately 0.460 acre (1,979.942 linear feet) of potentially jurisdictional ephemeral drainages. **Mitigation Measures 4-10** through **4-12** have been recommended to reduce impacts to wetlands and other waters of the U.S. to *less-than-significant* levels and to compensate for wetland acreages impacted by Alternative D. As with all the alternatives, Alternative D has the potential to impact water quality within the wetland features on-site through sedimentation and/or pollutants. Mitigation measures that reduce impacts to water quality are presented in **Section 5.2**. In addition, BMPs related to water resources (also presented in **Section 5.2**), would further reduce impacts to wetlands and waters of the U.S. associated with sedimentation and/or pollutants. Alternative D would *not impact* the navigable waters within the project site.

The City's General Plan has several goals and objectives that are intended to protect and conserve the region's wetland features and aquatic resources. These goals and objectives were discussed in **Section 3.5.1**. Without mitigation, Alternative D directly impacts several seasonal wetlands and ephemeral drainages within the site. With implementation of **Mitigation Measures 4-10** through **4-12**, Alternative D is consistent the components of the City's General Plan which are intended to protect and conserve wetland features and aquatic resources. The specific General Plan components Alternative D adheres to are similar to those discussed in the Waters of the U.S. Section of Alternative A.

Bay Conservation and Development Commission Jurisdiction

As with Alternative A, the first 100 feet inland from the shoreline of the Bay would be within the jurisdiction of the BCDC. Approximately 3.669 acres of BCDC jurisdictional lands fall within

the footprint of Alternative D. Any development activities within the BCDC jurisdiction would require consultation and subsequent approval from the Commission in the form of a Consistency Determination (for trust lands) and a permit for non-trust lands. As with Alternative A, the on-site pier would also be under the BCDC jurisdiction. As such, pier reconfiguration and use associated with Alternative D would require consultation and approval from the BCDC (and the SLC). With acquisition of the required Commission Permit(s) and compliance with all the conditions therein, no additional mitigation measures are required for impacts to the Bay's open waters and BCDC jurisdictional areas.

SPECIAL-STATUS SPECIES

Plants

4.5.27 Development of Alternative D would impact Suisun marsh aster. This would be a significant impact.

Significance After Mitigation

Implementation of **Mitigation Measures 4-13** through **4-14** would reduce impacts to Suisun marsh aster to *less-than-significant* levels.

Impact Discussion

As discussed in **Section 3.5.6** and presented in **Figure 3.5-1**, a population of Suisun Marsh aster was detected within the project site during the floristic surveys. The components of Alternative D would impact approximately 0.862 acre (equivalent to 100 percent of the habitat) of the area where the Suisun Marsh aster occurs and directly impacts this species (i.e., destroys more than half of the individual plants that compose the population). This would be a significant impact and mitigation has been proposed in **Section 5.2.4**.

Fish

4.5.28 Development of Alternative D would not impact special-status fish species. This would be a less-than-significant impact.

As with Alternatives A, B, and C, Alternative D would involve the reconfiguration of the existing pier on-site, which extends into the Bay. The pier may be designated critical habitat and/or an EFH for several special-status fishes as discussed in **Section 3.5.6**. Development of Alternative D would have a less-than-significant impact on fisheries because the reconfiguration of the pier would not increase the square footage of water area covered by the pier, and would not require construction activities within the water. Essentially, the proposed project would not significantly alter the existing quality of fish habitat on-site because the square footage of water covered by the reconfigured pier would remain equal to or less than the current amount and the pier

reconfiguration, as discussed in **Section 2.2.2**, would not require reinstallation or replacement of pilings and would be primarily structural and cosmetic in nature. Thus significant impacts to fisheries would not occur.

Development of Alternative D would result in *less-than-significant* impacts to the navigable waters within the project site, as such; fisheries resources would not be impacted.

Birds

4.5.29 Development of Alternative D could impact nesting birds. This would be a potentially significant impact.

Significance After Mitigation

Implementation of **Mitigation Measures 4-15** through **4-18** would reduce impacts to nesting bird species to a *less-than-significant* level.

Impact Discussion

Although nests have not been observed on-site, several special-status (**Table 3.5-2**) and migratory bird species have potential to nest, loaf, forage, or perch in the habitat types on-site and within the vicinity of proposed ground disturbing activities under Alternative D. Development of Alternative D (e.g., building, grading, ground disturbance, and vegetation removal involve increased human activity, operation of machinery, and elevated noise levels) could result in significant impacts to special-status and migratory birds. During the nesting season (approximately March 1 through September 30), development activities that occur within 500 ft of an active nest could cause nest abandonment or premature fledging of the young. **Mitigation Measures 4-15** through **4-18** would reduce potential impacts to nesting special-status and migratory bird species to *less-than-significant* levels.

4.5.30 Permanent lighting associated with the development of Alternative D could impact shorebirds and migratory birds. This would be a potentially significant impact.

Significance After Mitigation

Implementation of **Mitigation Measures 4-15** through **4-18** would reduce lighting-related impacts to shore and migratory bird species to *less-than-significant* levels.

Impact Discussion

Several shorebirds and migratory birds that are active and/or migrate at night have potential to occur in the beach strand and tidal marsh areas and within the vicinity of proposed development on-site. Permanent lighting associated with the development of Alternative D could result in

significant impacts to shorebirds and migratory birds. Certain types of artificial lighting may attract shorebirds and migratory bird species and cause them to fly directly into lighted structures. Such collisions may lead to injury and death. Artificial spotlights may cause nocturnal bird species to fly into the light and become entrapped. Light entrapped birds will remain in the light-source until exhausted and eventually collapse and fall to the ground. **Mitigation Measures 4-15** through **4-18** would reduce potential impacts associated with lighting to shorebirds and migratory bird species to *less-than-significant* levels.

Mammals

4.5.31 Development of Alternative D has the potential to impact special-status bats. This would be a potentially significant impact.

Significance After Mitigation

Implementation of **Mitigation Measures 4-19** and **4-20** would reduce impacts to special-status bats to a *less-than-significant* level.

Impact Discussion

Three special-status bat species have potential to occur in the habitat types impacted by Alternative D (**Table 3.5-2**). These special-status bat species may be impacted by the development of Alternative D (i.e., grading, vegetation removal, and increased noise levels from machinery). **Mitigation Measures 4-19** and **4-20** would minimize potential impacts to these species to *less-than-significant* levels.

Other

4.5.32 Development of Alternative D would not impact other species that the City considers sensitive. This would be a less-than-significant impact.

Significance After Mitigation

Implementation of **Mitigation Measures 4-1** through **4-9** would reduce impacts to habitats to *less-than-significant* levels, thus minimizing impacts to other species, which are considered species of conservation concern by the City's General Plan.

Impact Discussion

As with Alternative A, the monarch butterfly, harbor seal, and deer, though not of special-status, are mentioned as species of conservation concern to the City in the General Plan (City of Richmond, 1994). Harbor seals are not known to occur on-site. Construction activities, ground disturbance, and loss of habitat resulting from Alternative D could potentially impact the resident deer population and the monarch butterfly. **Mitigation Measures 4-1** through **4-9** recommended

to reduce impacts to habitats would also enhance habitats used by the deer and monarchs. Impacts to other species that the City considers sensitive are *less-than-significant*.

The City's General Plan has several goals and objectives that are intended to protect and conserve the region's native plants and animals and the habitats they require. These goals and objectives were discussed in **Section 3.5.1**. Without mitigation, Alternative D would disturb resident plants and animals and directly impacts communities that provide habitat for resident plants and animals, including wetlands. With implementation of **Mitigation Measures 4-1** through **4-20**, Alternative D is consistent the components of the City's General Plan which are intended to protect and conserve native plant and animal species and their habitats. The specific General Plan components Alternative D adheres to are similar to those discussed in the Other Section of Alternative A.

4.5.5 ALTERNATIVE E – TOTAL PARKLAND

IMPACTS OF ALTERNATIVE E

Habitats

4.5.33 Development of Alternative E has potential to impact 0.042 acre of annual grassland and 0.111 acre of coastal scrub. This would be a potentially significant impact.

Significance After Mitigation

Implementation of **Mitigation Measures 4-1** through **4-9** would reduce impacts to native habitats to a *less-than-significant* level.

Impact Discussion

No USFWS designated critical habitat occurs within the development footprint of Alternative E. Development of Alternative E would disturb an approximate total of 4.825 acres of land. Of this amount, approximately 4.013 acres is already developed (i.e., ruderal/developed habitat type). Approximately 0.812 acres of habitat ($4.825 - 4.013 = 0.812$) would be impacted by the development of Alternative E. Of this amount, approximately 0.153 acres are considered native (i.e., habitats other than ruderal/developed, eucalyptus woodland, invasive scrub, and landscape plantings). **Table 4.5-5** provides a summary of the acreages of the habitat types affected by Alternative E. The build-out of Alternative E would impact approximately 0.21 percent of the total available habitat within the project site.

Under Alternative E, relatively high levels of disturbance would occur in the on-site eucalyptus woodland, invasive scrub, and landscape plantings habitats. Potential impacts to these three habitats are considered not significant because of their non-native nature, as discussed under Alternative A.

TABLE 4.5-5
ANTICIPATED IMPACTS TO HABITAT TYPES – ALTERNATIVE E

Habitat Type	Total Acres Within Project Site	Acreage Affected	Percentage Affected
Annual Grassland	39.461	0.042	0.11
Coastal Scrub	62.566	0.111	0.18
Mixed Riparian	3.832	0	0
Eel-grass Bed*	62.248*	0	0
Tidal Marsh	0.108	0	0
Beach Strand	6.487	0	0
Eucalyptus Woodland	45.338	0.124	0.27
Invasive Scrub	20.351	0.066	0.32
Landscape Plantings	5.120	0.469	9.16
Ruderal/Developed*	88.982*	4.013*	4.51*
Seasonal Wetland	2.923	0.044	15.05
Ephemeral Drainage	1.225	0	0
Navigable Waters	74.937	0	0
Suisun Marsh Aster*	0.862*	0	0
Total	413.578	0.856	0.21%

Source: AES, 2008

* Not included in total because already developed and/or included in another capacity.

The annual grassland and coastal scrub habitats are considered valuable as they provide habitats for a numerous plant and wildlife species. **Mitigation Measures 4-1** through **4-9** have been recommended to reduce potential impacts to these native habitats to *less-than-significant* levels.

Alternative E would not impact the eel-grass bed, beach strand, mixed riparian or tidal marsh habitats. Though, Alternative E has planned development of the Shoreline Park and Bay Trail segment in the vicinity of the tidal marsh and beach strand areas on-site. These fragile habitats may be temporarily impacted during the development of Alternative E during construction activities if equipment, debris, or staging areas come in contact with it or in its immediate vicinity. Auxiliary mitigation measures designed to specifically protect the beach strand and tidal marsh habitats on-site are recommended in **Section 5.2.4** because of the uniqueness, sensitivity to disturbance, and increasing rarity of these habitat types within the region. The proposed **Mitigation Measures 4-1** through **4-9** would reduce potential impacts to the beach strand and tidal marsh habitats on-site to *less-than-significant* levels.

The City's General Plan has several goals and objectives that are intended to protect and conserve the region's native habitats and characteristic landscapes. These goals and objectives were discussed in **Section 3.5.1**. Without mitigation, Alternative E directly impacts the annual grassland, coastal scrub, and mixed riparian habitats within the site. With implementation of **Mitigation Measures 4-1** through **4-9**, Alternative E is consistent with the components of the City's General Plan, which are intended to protect and conserve local native habitats and characteristic landscapes. The specific General Plan components Alternative D adheres to are similar to those discussed in the Habitat Section of Alternative A.

Waters of the U.S.

4.5.34 Development of Alternative E has the potential to impact 0.044 acre of wetlands. This would be a significant impact.

Significance After Mitigation

Implementation of **Mitigation Measures 4-10** through **4-12** would reduce impacts to wetlands and waters of the U.S. to a *less-than-significant* level.

Impact Discussion

As mentioned under Alternative A, a wetland delineation has been conducted for the project site. The components of Alternative E would impact approximately 0.044 acre of potentially jurisdictional seasonal wetlands. **Mitigation Measures 4-10** through **4-12** have been recommended to reduce impacts to wetlands and other waters of the U.S. to *less-than-significant* levels and to compensate for wetland acreages impacted by Alternative E. As with all the alternatives, Alternative E has the potential to impact water quality within the wetland features on-site through sedimentation and/or pollutants. Mitigation measures that reduce impacts to water quality are presented in **Section 5.2**. In addition, BMPs related to water resources (also presented in **Section 5.2**), would further reduce impacts to wetlands and waters of the U.S. associated with sedimentation and/or pollutants. Alternative E would *not impact* the navigable waters within the project site.

The City's General Plan has several goals and objectives that are intended to protect and conserve the region's wetland features and aquatic resources. These goals and objectives were discussed in **Section 3.5.1**. Without mitigation, Alternative E directly impacts several seasonal wetlands and ephemeral drainages within the site. With implementation of **Mitigation Measures 4-10** through **4-12**, Alternative E is consistent the components of the City's General Plan which are intended to protect and conserve wetland features and aquatic resources. The specific General Plan components Alternative E adheres to are similar to those discussed in the Waters of the U.S. Section of Alternative A.

Bay Conservation and Development Commission Jurisdiction

As with Alternative A, the first 100 feet inland from the shoreline of the Bay would be within the jurisdiction of the BCDC. Approximately 3.409 acres of BCDC jurisdictional lands fall within the footprint of Alternative E. Any development activities within the BCDC jurisdiction would require consultation and subsequent approval from the Commission in the form of a Consistency Determination (for trust lands) and a permit for non-trust lands. As with Alternative A, the on-site pier would also be under the BCDC jurisdiction. As such, pier reconfiguration and use associated with Alternative E would require consultation and approval from the BCDC (and the SLC). With acquisition of the required Commission Permit(s) and compliance with all the conditions therein, no additional mitigation measures are required for impacts to the Bay's open waters and BCDC jurisdictional areas.

*SPECIAL-STATUS SPECIES**Plants***4.5.35 Development of Alternative E would not impact special-status plant species. This would be a less-than-significant impact.**

Plant species identified as having potential to occur on-site are discussed in **Section 3.5.6**. No impacts to any special-status plant species are anticipated from Alternative E because no special-status plant species were observed within the habitats that would be impacted from Alternative E. This Alternative avoids the population of Suisun Marsh aster that was observed on-site.

*Fish***4.5.36 Development of Alternative E would not impact special-status fish species. This would be a less-than-significant impact.**

As with all of the Alternatives, Alternative E would involve the reconfiguration of the existing pier on-site, which extends into the Bay. The pier may be designated critical habitat and/or an EFH for several special-status fishes as discussed in **Section 3.5.6**. Development of Alternative E would have a less-than-significant impact on fisheries because the reconfiguration of the pier would not increase the square footage of water area covered by the pier, and would not require construction activities within the water. Essentially, the proposed project would not significantly alter the existing quality of fish habitat on-site because the square footage of water covered by the reconfigured pier would remain equal to or less than the current amount and the pier reconfiguration, as discussed in **Section 2.2.2**, would not require reinstallation or replacement of pilings and would be primarily structural and cosmetic in nature. Thus significant impacts to fisheries would not occur.

Development of Alternative E would result in *less-than-significant* impacts to the navigable waters within the project site; as such fisheries resources would not be impacted.

Birds

4.5.37 Development of Alternative E could impact nesting birds. This would be a significant potentially impact.

Significance After Mitigation

Implementation of **Mitigation Measures 4-15** through **4-19** would reduce impacts to nesting bird species to a *less-than-significant* level.

Impact Discussion

Although nests have not been observed on-site several special-status (**Table 3.5-2**) and migratory bird species have potential to nest, loaf, forage, or perch in the habitat types on-site and within the vicinity of proposed ground disturbing activities under Alternative E. Development of Alternative D (e.g., building, grading, ground disturbance, and vegetation removal involve increased human activity, operation of machinery, and elevated noise levels) could result in significant impacts to special-status and migratory birds. During the nesting season (approximately March 1 through September 30), development activities that occur within 500 feet of an active nest could cause nest abandonment or premature fledging of the young. **Mitigation Measures 4-15** through **4-19** would reduce potential impacts to nesting special-status and migratory bird species to *less-than-significant* levels.

4.5.38 Permanent lighting associated with the development of Alternative E could impact shorebirds and migratory birds. This would be a potentially significant impact.

Significance After Mitigation

Implementation of **Mitigation Measures 4-15** through **4-19** would reduce lighting-related impacts to shore and migratory bird species to *less-than-significant* levels.

Impact Discussion

Several shorebirds and migratory birds that are active and/or migrate at night have potential to occur in the beach strand and tidal marsh areas and within the vicinity of proposed development on-site. Permanent lighting associated with the development of Alternative E could result in significant impacts to shorebirds and migratory birds. Certain types of artificial lighting may attract shorebirds and migratory bird species and cause them to fly directly into lighted structures. Such collisions may lead to injury and death. Artificial spotlights may cause nocturnal bird species to fly into the light and become entrapped. Light entrapped birds will remain in the light-

source until exhausted and eventually collapse and fall to the ground. **Mitigation Measures 4-15** through **4-19** would reduce potential impacts associated with lighting to shorebirds and migratory bird species to *less-than-significant* levels.

Mammals

4.5.39 Development of Alternative E has the potential to impact special-status bats. This would be a potentially significant impact.

Significance After Mitigation

Implementation of **Mitigation Measures 4-19** and **4-20** would reduce impacts to special-status bats to a *less-than-significant* level.

Impact Discussion

Three special-status bat species have potential to occur in the habitat types impacted by Alternative E (**Table 3.5-2**). These special-status bat species may be impacted by the development of Alternative E (i.e., grading, vegetation removal, and increased noise levels from machinery). **Mitigation Measures 4-19** and **4-20** would minimize potential impacts to these species to *less-than-significant* levels.

Other

4.5.40 Development of Alternative E would not impact other species that the City considers sensitive. This would be a less-than-significant impact.

Significance After Mitigation

Implementation of **Mitigation Measures 4-1** through **4-9** would reduce impacts to habitats to *less-than-significant* levels, thus minimizing impacts to other species, which are considered species of conservation concern by the City's General Plan.

Impact Discussion

As with Alternative A, the monarch butterfly, harbor seal, and deer, though not of special-status, are mentioned as species of conservation concern to the City in the General Plan (City of Richmond, 1994). Harbor seals are not known to occur on-site. Construction activities, ground disturbance, and loss of habitat resulting from Alternative E could potentially impact the resident deer population and the monarch butterfly. **Mitigation Measures 4-1** through **4-9** recommended to reduce impacts to habitats would also enhance habitats used by the deer and monarchs. Impacts to other species that the City considers sensitive are *less-than-significant*.

The City's General Plan has several goals and objectives that are intended to protect and conserve the region's native plants and animals and the habitats they require. These goals and objectives were discussed in **Section 3.5.1**. Without mitigation, Alternative E would disturb resident plants and animals and directly impacts communities that provide habitat for resident plants and animals, including wetlands. With implementation of **Mitigation Measures 4-1** through **4-20**, Alternative E is consistent the components of the City's General Plan which are intended to protect and conserve native plant and animal species and their habitats. The specific General Plan components Alternative E adheres to are similar to those discussed in the Other Section of Alternative A.

4.5.6 ALTERNATIVE F – NO ACTION

IMPACTS OF ALTERNATIVE F

Habitats

4.5.41 Alternative F may potentially impact the on-site native habitat types due to the presence of invasive scrub habitats that are currently established within the project site and would be likely to expand their distributions. This would be a potentially significant impact.

As discussed in **Section 3.5.3**, invasive scrub habitats are established throughout the project site. In some instances, these habitat types may be composed of several exotic and highly invasive species. Frequently in other areas, large size stands (i.e., monocultures) of a single species occur. These regions of the site are predominantly composed of French broom or fennels stands and pose the most significant threats to the other native habitat types within the project site.

The California Invasive Plant Council (CAL-IPC) maintains a list of invasive non-native plants that threaten wildlands and subsequently categorizes listed plant species according to the level of threat they pose. CAL-IPC has identified both the French broom and fennel as noxious weeds with a high inventory rating. Species with high ratings are those that pose the most severe ecological impacts on physical processes, plant and animal communities, and vegetative structure. Species that are rated as highly invasive in the inventory have reproductive biologies and other attributes that enable them to have rapid rates of dispersal and establishment and are those species with the widest ecological distributions. French broom is known to invade coastal scrub, oak woodland, and annual grassland habitats. Fennel is known to invade annual grassland and scrub habitats (CAL-IPC, 2006).

In the absence of an invasive weed management plan and/or habitat restoration within the project site, it is likely that the currently established invasive scrub habitats would proliferate and have a *significant impact* on the remaining native habitat types on-site. The native habitats that would be most likely impacted by Alternative F are annual grassland and coastal scrub.

*Waters of the U.S.***4.5.42 Alternative F would not impact wetlands and other waters of the U.S. No impact would occur.**

Under Alternative F, the site would remain under the current land uses and no new development would occur; and therefore, would *not impact* any of the wetland/other waters features within the project site. Furthermore, consultation with the BCDC would not be required.

*SPECIAL-STATUS SPECIES**Plants***4.5.43 Alternative F would impact the Suisun Marsh aster. This is a significant impact.**

As stated previously in **Section 3.5.6**, invasive stands are established within the project site. Without the execution of a vegetative management plan, it is likely that the population of Suisun Marsh aster on-site would be overcome by non-native/invasive plant species. The seasonal wetland area that the population occurs in is being invaded by pampas grass (*Cortaderia jubata*). This plant is considered highly invasive by the CAL-IPC.

*Fish***4.5.44 Alternative F would not impact special-status fish species. No impact would occur.**

No development would occur under Alternative F. Therefore, *no impacts* would occur to special-status fish species and no mitigation has been proposed.

*Birds***4.5.45 Alternative F would not impact nesting bird species. No impact would occur.**

No development would occur under Alternative F; therefore, there would be *no impact* to nesting bird species. Therefore, no mitigation has been proposed.

*Mammals***4.5.46 Alternative F would not impact special-status mammal species. No impact would occur.**

No development would occur under Alternative F; therefore, *no impact* to special-status mammals would occur. Therefore, no mitigation has been proposed.

Other

4.5.47 Alternative F would not impact other sensitive species considered by the City's General Plan. No impact would occur.

No development would occur under Alternative F; therefore, there would be no impact to other sensitive species considered by the City's General Plan.