

### 4.3 BIOLOGY

This section describes the potential impacts on biological resources within the project study area. Biological resources analyzed in this section include natural habitats, sensitive species, and other important resources with the potential of being affected. It is based, in part, on the *SR-22/West Orange County Connection NES* (December 2000) and the *NES Reduced Build Alternative Addendum* (December 2000) (under separate cover).

#### 4.3.1 Vegetation

##### A. NO BUILD ALTERNATIVE

The No Build Alternative includes no construction or other action under this proposed project and no impacts to vegetation would occur.

##### B. TSM/EXPANDED BUS SERVICE ALTERNATIVE

The TSM/Expanded Bus Service Alternative would not include any major capital improvements to SR-22. No impacts to vegetation would occur.

##### C. FULL BUILD ALTERNATIVE

No sensitive natural plant communities identified in local or regional plans, policies, or regulations or by the CDFG or USFWS are present in the project study area.

Most drainages in the study area are entirely concrete-lined and do not support riparian vegetation. The following drainages are unlined channels.

Los Alamitos Channel. Los Alamitos Channel is a semi-permanent stream that supports low-growing and emergent herbaceous wetland vegetation for most of its length. Improvements under the Full Build Alternative would be constructed within the existing state right-of-way and above the maximum flooding elevation. Impacts to riparian vegetation would be minimal. (See Section 4.4 for a discussion of potential erosion impacts to nearby wetlands.)

Santa Ana River. In the vicinity of the SR-22 crossing, the Santa Ana River has rock- or concrete-lined banks with a sand bottom supporting only ruderal and exotic vegetation. At the former Pacific Electric right-of-way crossing, the river is concrete-lined. Impacts to riparian vegetation are anticipated to be minimal under the Full Build Alternative.

Santiago Creek. The Santiago Creek is a highly disturbed intermittent streambed supporting exotic vegetation communities as well as disturbed riparian vegetation, including California sycamore, willow, and coast live oak. The creek has a gravel/sandy channel bed where SR-22 and SR-55 cross it. Impacts to riparian vegetation in the creek related to widening of the two crossings would be minimal. Due to the unlined nature of this drainage at the freeway crossings and the existing vegetation, the CDFG would require a Streambed Alteration Agreement for proposed improvements to freeways that would affect the creek.

Construction activities in and adjacent to Santiago Creek may promote the spread of invasive plant species. Equipment operating within the creek area, where invasive species are already present, would likely spread the species to other areas where construction occurs or to areas where the equipment is cleaned.

**D. REDUCED BUILD ALTERNATIVE**

No sensitive natural plant communities identified in local or regional plans, policies, or regulations or by the CDFG or USFWS are present in the project study area.

Most drainages in the study area are entirely concrete-lined and do not support riparian vegetation. The following drainages are unlined channels.

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Santa Ana River. In the vicinity of the SR-22 crossing, the Santa Ana River has rock- or concrete-lined banks with a sand bottom supporting only ruderal and exotic vegetation. Minimal impacts to riparian vegetation are anticipated under the Reduced Build Alternative.

**Thresholds of Significance for CEQA:**

- Construction activities in Santiago Creek which may result in spread of invasive plant species.

**A. NO BUILD ALTERNATIVE**

The No Build Alternative would have no impacts to waters of the United States.

**B. TSM/EXPANDED BUS SERVICE ALTERNATIVE**

The TSM/Expanded Bus Service Alternative would have no impacts to vegetation.

**C. FULL BUILD ALTERNATIVE**

No sensitive natural plant communities identified in local or regional plans, policies, or regulations or by the CDFG or USFWS are present in the project study area.

- Los Alamitos Channel is a semi-permanent stream that supports low-growing and emergent herbaceous wetland vegetation for most of its length. Improvements under the Full Build Alternative would be constructed within the existing State right-of-way and above the maximum flooding elevation. Impacts to riparian vegetation are anticipated to be less than significant.
- In the vicinity of the SR-22 crossing, the Santa Ana River has rock- or concrete-lined banks with a sand bottom supporting only ruderal and exotic vegetation. At the former Pacific Electric right-of-way crossing, the river is concrete-lined. Impacts to riparian vegetation would be less than significant under the Full Build Alternative.
- Santiago Creek. The Santiago Creek is a highly disturbed intermittent streambed supporting exotic vegetation communities as well as disturbed riparian vegetation, including California sycamore, willow, and coast live oak. Impacts to riparian vegetation in the creek related to widening of the two crossings would be less than significant. Due to the unlined nature of this drainage at the freeway crossings and the existing vegetation, the CDFG will require a Streambed Alteration Agreement for proposed improvements to freeways that would affect the creek.

Construction activities in and adjacent to Santiago Creek may promote the spread of invasive plant species. Equipment operating within the creek area, where invasive species are already

present, would likely spread the species to other areas where construction occurs or to areas where the equipment is cleaned.

#### D. REDUCED BUILD ALTERNATIVE

No sensitive natural plant communities identified in local or regional plans, policies, or regulations or by the CDFG or USFWS are present in the project study area.

- Improvements under the Reduced Build Alternative would be constructed within the existing State right-of-way and above the maximum flooding elevation. Impacts to riparian vegetation would be less than significant.
- In the vicinity of the SR-22 crossing, the Santa Ana River has rock- or concrete-lined banks with a sand bottom supporting only ruderal and exotic vegetation. Impacts to riparian vegetation are anticipated to be less than significant under the Reduced Build Alternative.

### 4.3.2 Wildlife and Wildlife Dispersion

#### A. NO BUILD ALTERNATIVE

The No Build Alternative would not include construction other than that which is addressed in other environmental documents; therefore, no additional impacts to wildlife and wildlife dispersion would occur.

#### B. TSM/EXPANDED BUS SERVICE ALTERNATIVE

The TSM/Expanded Bus Service Alternative would not include any major capital improvements to SR-22. No impacts to wildlife and wildlife dispersion would occur.

#### C. FULL BUILD ALTERNATIVE

The wildlife species within the path of the Full Build Alternative are well adapted to an urban environment. Generally, habitat removed would be limited to introduced landscaping. Impacts to wildlife resulting from the removal of this habitat would be minimal.

Maternity colonies of big brown bats and Mexican free-tailed bats are reported to occur at the SR-55 bridges crossing over Santiago Creek. The bridges are concrete box structures, with four to five spans, and internal cavities of variable lengths. At least one structure indicates the presence of a restrained hinge and closure pours between adjacent structures. The hinges, closure crevices, internal cavities, and rock slope protection are the most probable location for bat species to occur on this type of structure. If project construction occurs between March 1 and August 31, it would result in disturbances and possible destruction of the bridge nooks used by the bats. This would be a substantial impact because maternity colonies of bats are rare. In addition, the bridge provides nesting habitat for migratory birds, such as cliff swallows, rough-winged swallows, and white-throated swifts, which would be affected by construction during this season.

Wildlife Dispersion. The Full Build Alternative is in an existing transportation corridor. Improvements to freeways within this corridor would not include structures that would act as barriers to wildlife movement, even at the adjacent Los Alamitos Channel. Waterways within the project study area currently function only minimally as wildlife corridors due to their mostly channelized condition and the lack of adjacent open space. The minimal movement of wildlife within these drainages includes mostly local common species. However, it should be noted that migratory birds may use existing landscaping and native trees for nest sites, as well as bridge structures. Removal of landscaping and trees should be accomplished before or after the nesting season. If removal must take place during the nesting season, the plants will be surveyed for occupied nests.

**D. REDUCED BUILD ALTERNATIVE**

The wildlife species within the path of the Reduced Build Alternative are well adapted to an urban environment. Habitat generally removed would be limited to introduced landscaping. Impacts to wildlife resulting from the removal of this habitat would be minimal. (The Reduced Build Alternative would not include alteration of bridges over Santiago Creek, so nesting birds and bats using the bridges would be affected minimally.)

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**Thresholds of Significance for CEQA:**

- Impacts to nesting swifts, swallows, bat maternity sites, and other migratory birds

**A. NO BUILD ALTERNATIVE**

The No Build Alternative would have no impacts to wildlife and wildlife dispersion.

**B. TSM/EXPANDED BUS SERVICE ALTERNATIVE**

The TSM/Expanded Bus Service Alternative would have no impacts to wildlife and wildlife dispersion.

**C. FULL BUILD ALTERNATIVE**

The wildlife species within the path of the Full Build Alternative are well adapted to an urban environment. Generally, habitat removed would be limited to introduced landscaping. Impacts to wildlife resulting from the removal of this habitat would be less than significant.

Maternity colonies of big brown bats and Mexican free-tailed bats are reported to occur at the SR-55 bridges crossing over Santiago Creek. The hinges, closure crevices, internal cavities, and rock slope protection are the most probable location for bat species to occur on this type of structure. If project construction occurs between March 1 and August 31, it would result in disturbances and possible destruction of the bridge nooks used by the bats. This would be a less than significant impact since maternity colonies of bats are rare. In addition, the bridge provides nesting habitat for migratory birds, such as cliff swallows, rough-winged swallows, and white-throated swifts, which would be affected by construction during this season.

Wildlife Dispersion. The Full Build Alternative is in an existing transportation corridor. The minimal movement of wildlife within these drainages includes mostly local common species, resulting in a less than significant impacts. However, it should be noted that migratory birds may use existing landscaping and native trees for nest sites, as well as bridge structures. Removal of landscaping and trees should be accomplished before or after the nesting season. If removal must take place during the nesting season, the plants will be surveyed for occupied nests.

**D. REDUCED BUILD ALTERNATIVE**

The wildlife species within the path of the Reduced Build Alternative are well adapted to an urban environment. Habitat generally removed would be limited to introduced landscaping. Impacts to wildlife resulting from the removal of this habitat would be less than significant. (The Reduced Build Alternative would not include alteration of bridges over Santiago Creek, so birds and bats using the bridges would be affected minimally.)

Wildlife Dispersion. The Reduced Build Alternative is in an existing transportation corridor. The minimal movement of wildlife within these drainages includes mostly local common species, resulting in less than significant impacts. However, it should be noted that migratory birds may use existing landscaping and natives trees for nest sites, as well as bridge structures. Removal of landscaping and trees should be accomplished before or after the nesting season. If removal must take place during the nesting season, the plants will be surveyed for occupied nests.

**4.3.3 Species of Concern****A. NO BUILD ALTERNATIVE**

The No Build Alternative would not include construction other than that which is addressed in other environmental documents; therefore, no additional impacts to species of concern would occur.

**B. TSM/EXPANDED BUS SERVICE ALTERNATIVE**

The TSM/Expanded Bus Service Alternative would not include any major capital improvements to SR-22. No substantial impacts to species of concern would occur. No sensitive plant or animal species are expected to occur within the study area.

**C. FULL BUILD ALTERNATIVE**

Since the Full Build Alternative study area support isolated native plant species, and because of the high level of human disturbance, no sensitive plant or animal species are expected to be affected by this alternative. Some sensitive species may occasionally occur within the vicinity of the alternative, but only as visitors.

**D. REDUCED BUILD ALTERNATIVE**

Since the Reduced Build Alternative study area support isolated native plant species, and because of the high level of human disturbance, no sensitive plant or animal species are expected to be affected by this alternative. Some sensitive species may occasionally occur within the vicinity of the alternative, but only as visitors.

**Thresholds of Significance for CEQA:**

- Impacts to species of concern

**A. NO BUILD ALTERNATIVE**

The No Build Alternative would have no impacts to species of concern.

**B. TSM/EXPANDED BUS SERVICE ALTERNATIVE**

The TSM/Expanded Bus Service Alternative would have no impacts to species of concern. No sensitive plant or animal species are expected to occur within the study area.

C. FULL BUILD ALTERNATIVE

Since the Full Build Alternative study area support isolated native plant species, and the area has been subjected to a high level of human disturbance, sensitive plant or animal species are not expected to be impacted by this alternative.

D. REDUCED BUILD ALTERNATIVE

Since the Reduced Build Alternative study area support isolated native plant species, and the area has been subjected to a high level of human disturbance, sensitive plant or animal species are not expected to be impacted by this alternative.

#### 4.3.4 Other Biology-Related Regulations

A. NO BUILD ALTERNATIVE

The No Build Alternative would not include construction other than that which is addressed in other environmental documents; therefore, no additional impacts related to other biology-related regulations would occur.

B. TSM/EXPANDED BUS SERVICE ALTERNATIVE

The TSM/Expanded Bus Service Alternative would not include any major capital improvements to SR-22. No impacts related to other biology-related regulations would occur.

C. FULL BUILD ALTERNATIVE

Migratory Bird Treaty Act (MBTA). Migratory birds, their nest, and their eggs are protected under the federal MBTA. The Full Build Alternative would remove or alter structures that may be used by migratory birds as nesting areas. All actions related to the Full Build Alternative are required to be conducted in accordance with the MBTA. Special permits from the USFWS would be required for the proposed actions in order to comply with the Act.

California Fish and Game Code Sections 4150-4154. These sections of California law protect nongame mammals, including the bats, which potentially nest under the Santiago Creek bridges. If construction occurred between March 1 and August 31, as discussed above, violations of this law could occur.

California Code of Regulations, Title 14, Natural Resources. This section of California law forbids the harassment of any game or nongame bird or animal. If construction disturbed nesting birds or bats, violations of this law could occur.

D. REDUCED BUILD ALTERNATIVE

Migratory Bird Treaty Act (MBTA). The Reduced Build Alternative would have no impacts under this act because it does not include removal or alteration of structures that may be used by migratory birds as nesting areas.

California Fish and Game Code Sections 4150-4154. The Reduced Build Alternative would have no impacts under this law because it does not include construction at the Santiago Creek bridges.

California Code of Regulations, Title 14, Natural Resources. The Reduced Build Alternative would have no impacts under this law because it does not include construction at the Santiago Creek bridges.

**Thresholds of Significance for CEQA:**

- Impacts to streambeds and associated habitats and existing native trees

**A. NO BUILD ALTERNATIVE**

The No Build Alternative would have no impacts related to streambeds and associated habitats and existing native trees.

**B. TSM/EXPANDED BUS SERVICE ALTERNATIVE**

The TSM/Expanded Bus Service Alternative would have no impacts related to streambeds and associated habitats and existing native trees.

**C. FULL BUILD ALTERNATIVE**

Migratory Bird Treaty Act (MBTA). Migratory birds, their nest, and their eggs are protected under the federal MBTA. The Full Build Alternative would remove or alter structures that may be used by migratory birds as nesting areas. Special permits from the USFWS would be required for the proposed actions in order to comply with the Act. The residual impacts are anticipated to be less than significant with compliance to the MBTA.

California Fish and Game Code Sections 4150-4154. These sections of California law protect nongame mammals, including the bats, which potentially nest under the Santiago Creek bridges. If construction occurred between March 1 and August 31, as discussed above, violations of this law could occur.

California Code of Regulations, Title 14, Natural Resources. The project will comply with the provisions of Section 1600 of the California Fish and Game Code with respect to project impacts on streambeds and associated habitats. Prior to construction, a determination of the extent of disturbance to drainages/streambeds in the study area will be made and a Streambed Alteration Agreement will be obtained, if necessary. This will result in less than significant impacts with compliance of Fish and Game Code and proper permit.

**D. REDUCED BUILD ALTERNATIVE**

Migratory Bird Treaty Act (MBTA). The Reduced Build Alternative would have no impacts under this act because it does not include removal or alteration of structures that may be used by migratory birds as nesting areas. However, the potential for removal of native existing trees within the project study will be review by a Caltrans biologist prior to construction and the proper MBTA permits will be obtained, if necessary.

California Fish and Game Code Sections 4150-4154. The Reduced Build Alternative would have no impacts under this law because it does not include construction at the Santiago Creek bridges.

California Code of Regulations, Title 14, Natural Resources. The Reduced Build Alternative would have no impacts under this law because it does not include construction at the Santiago Creek bridges.

**4.3.5 Mitigation****A. NO BUILD ALTERNATIVE**

None proposed.

**B. TSM/EXPANDED BUS SERVICE ALTERNATIVE**

None proposed.

C. FULL BUILD ALTERNATIVE

BIO-FB-1. Prior to project construction in Santiago Creek, invasive weeds will be removed from the project area under the supervision of a botanist qualified in the identification of invasive species. Invasive weed removal will be conducted prior to seed set (as determined by monthly spring surveys by a qualified botanist) to minimize the spread of invasive weed seeds in the project area. If it is not possible to remove weeds prior to seed set, measures to minimize the release of invasive weed seeds during weed removal (e.g., manual weed removal while placing weeds in plastic bags) will be used. In addition, early in the spring following termination of a construction activities in and adjacent to Santiago Creek and prior to seed set by invasive weed species (as determined by the monthly surveys), removal of invasive weeds will be conducted in and within 60 meters (200 feet) downstream of the construction zone to minimize the contribution of project construction to the spread of invasive weed species in Santiago Creek. If necessary for erosion-control, only weed-free haybales will be used.

BIO-FB-2. The project will comply with the provisions of Section 1600 of the California Fish and Game Code with respect to project impacts on streambeds and associated habitats. After design of the Full Build Alternative and prior to project construction, a determination of the extent of disturbance to drainages/streambeds in the study area will be made and a Streambed Alteration Agreement will be obtained.

BIO-FB-3. Large native existing trees will be avoided to the maximum extent feasible where sufficient area is available, replacement trees of similar species will be replanted as near as possible to the tree that was removed. See Section 4.13 for mitigation related to the replacement of landscaping.

BIO-FB-4. In order to prevent impacts to nesting swifts, swallows and other migratory birds as protected under the MBTA, all work on the Santiago Creek bridges and removal of landscaping will be scheduled outside of the months of mid-February to mid-August. If this is not feasible, all unoccupied birds' nests that would be removed by the Full Build Alternative will be removed after August 31 and prior to February 1 of that year, before the swallow colony or other migratory birds return to the nesting site. However, it should be noted that migratory birds may use existing landscaping and natives trees for nest sites, as well as bridge structures. Removal of landscaping and trees should be accomplished before or after the nesting season. If removal must take place during the nesting season, the vegetation will be surveyed for occupied nests. Removal of empty or unfinished nests will be repeated as frequently as necessary to prevent nest completion or until a nest exclusion device is installed, such as netting or similar mechanism that keeps birds from building nests and that is approved by the Caltrans District biologist. Such exclusion efforts will be continued to keep the structure swallow-free until September or completion of construction. Before demolition, the structures to be demolished will be inspected for occupied nests. If occupied nests are found, demolition activities will be rescheduled until nesting activities cease. Occupied nests can only be removed with a special permit from USFWS.

BIO-FB-5. Each structure and surrounding area that may be affected by the project shall be surveyed by a qualified bat biologist using an appropriate combination of structure inspection, sampling, exit counts, and acoustic surveys. If bats are found, the bat biologist will identify the species and evaluate the colony to:



- a) Verify that the following potential impacts would not occur:
  - Verify there would be minimal adverse effect, 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 CDFG or USFWS.
  - Verify there is would be minimal adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service where such effects may be caused by alteration of a colony.
  - Verify there is would be minimal interference with the movement of any native, resident, or migratory bat species, with any corridor used by resident or migratory bat species, or with the ability of any bat species to use nursery sites.
  - Verify the project does not have the potential to degrade the quality of the environment, substantially reduce the habitat of a bat species, cause a bat population to drop below self-sustaining levels, threaten to eliminate a bat community, or reduce the number or restrict the range of a rare or endangered bat.
- b) Develop appropriate and feasible species-specific mitigation measures to offset impacts.
- c) Design effective and humane exclusion techniques that reflect seasonal and structural constraints.
- d) Identify scientific value of the site for research and management.

If individuals or colonies may be present during project activities and these activities can reasonably be expected to result in harm, then the animals will be excluded during the appropriate time of year using humane methods that minimize the potential to adversely affect populations through increased morbidity and mortality or reduced fecundity. Methods and techniques shall be prepared under the review of the bat biologist using information from above.

If there is potential for adverse effects on bat habitat, then cost-effective measures developed under the direction of a bat biologist will be implemented to reduce the effect on the colony and ecosystem to a negligible level. Measures may include:

- a) Minor structural modifications within engineering parameters for cost, safety, and function
- b) Minor superficial attachments within engineering parameters for cost, safety, and function
- c) Measures to improve off-site colony roosts sufficient to offset impacts from colony loss
- d) Measures to improve species management sufficient to offset impacts from colony loss

If exclusion and/or mitigation measures are implemented, then an appropriate monitoring protocol will be implemented in cooperation with the CDFG to ensure exclusion and mitigation measures are effective and modified as necessary. Scientific information shall also be recovered by identification of associated roosts and habitat use.

If through this mitigation, it is found that substantial impacts to bats or bat colonies would occur, supplemental CEQA and/or NEPA documentation, including public review, will be necessary before project construction.

#### D. REDUCED BUILD ALTERNATIVE

**BIO-RB-1.** The project will comply with the provisions of Section 1600 of the California Fish and Game Code with respect to project impacts on streambeds and associated habitats. After design of the Reduced Build Alternative and prior to project construction, a determination of the extent of disturbance to drainages/streambeds in the study area will be made and a Streambed Alteration Agreement will be obtained.

**BIO-RB-2.** Large native existing trees will be avoided to the maximum extent feasible where sufficient area is available, replacement of these native trees will be replanted in-kind or as near as possible to the tree that was removed. See Section 4.13 for mitigation related to the replacement of landscaping.

**4.3.6 Residual Impacts After Mitigation**

A. NO BUILD ALTERNATIVE

None.

B. TSM/EXPANDED BUS SERVICE ALTERNATIVE

None.

C. FULL BUILD ALTERNATIVE

Impacts to biology can be reduced to minimal in most cases. For potential bat maternity sites, through mitigation proposed, most notably mitigation to exclude roosting, substantial impacts can be avoided. This determination, however, must be made at the time of construction because use of bat maternity sites varies from year-to-year. Mitigation includes approved monitoring and coordination with CDFG. If, through this coordination, it is determined that a potential substantial impact would occur, further coordination with the resources agencies would be required.

D. REDUCED BUILD ALTERNATIVE

Less than substantial impact.