FINAL

Coyote Creek Trail: Montague Expressway to Watson Park NES

Natural Environment Study

Prepared for

City of San José

Santa Clara County

4-SCL-0-SJ, HP LUL 5005(087)
EA Number

14 January 2011

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Summary

The City of San José, in cooperation with Caltrans, is proposing an extension of the existing Coyote Creek Trail from Montague Expressway to Watson Park (Figure 1). This reach of Coyote Creek Trail will add 4.1 miles (mi) towards a continuous accessible corridor through San José. Approximately 2.2 mi of the 4.1-mi reach would be constructed on existing unpaved service roads. Most of the remaining portions would be located at the top of bank or at the outside edge of a 100-foot (ft) riparian corridor setback. The majority of the proposed trail comprises a Class I trail, separate from streets and open to non-motorized uses. The majority of the Class I trail sections will be 16-ft wide, including a 12-ft wide paved trail with 2-ft wide, compacted base rock shoulders on each side. The proposed trail includes numerous undercrossings beneath existing bridges, four freespan pedestrian bridges over Coyote Creek, and one optional freespan pedestrian bridge over Upper Penitencia Creek at its confluence with Coyote Creek.

This Natural Environment Study (NES) has been prepared following the Caltrans format. H. T. Harvey & Associates' wildlife, plant, and restoration ecologists conducted reconnaissance-level surveys in February-March 2010 and October 2010 and quantified habitat impacts. Five biotic habitats were identified within the Project area: mixed riparian forest, aquatic, ruderal herbaceous field, eucalyptus forest, and developed.

The proposed Project will result in substantial impacts to riparian habitat requiring mitigation to reduce these impacts to minimal level. The project will impact approximately 86 riparian tree stems and approximately 0.05 acre (ac) at an existing riparian mitigation site. The majority of the riparian trees to be impacted are native species (6 – 17 inches dbh) and include primarily red willow (*Salix laevigata*), Fremont's cottonwood (*Populus fremontii*), box elder (*Acer negundo*), and blue elderberry (*Sambucus mexicana*). Several non-native species of limited invasiveness (i.e., peppertree (*Schinus mole*) and olive (*Olea europaea*)) and several invasive species (i.e., blue gum eucalyptus (*Eucalyptus globulus*), tree-of heaven (*Ailanthus altissima*), and weeping willow (*Salix babylonica*)) will also be impacted. Riparian impacts will be mitigated by the restoration of at least 1.46 ac of native-dominated riparian habitat along Coyote Creek within the Project reach. This surface area includes 1.3 ac of riparian tree replacement mitigation (to compensate for impacts to 86 riparian tree stems) and 0.16 ac of riparian mitigation to compensate for the

removal of a 0.05 ac riparian mitigation site (mitigated at a 3:1 ratio (mitigation surface area: impact surface area)).

The reconnaissance-level surveys included a search for habitats capable of supporting special-status plants within the Project site. Several special-status plant species are known to occur in the region of the Project site. However, no special-status plant species are expected to occur at the site due primarily to a lack of suitable habitat.

The proposed Project will have several minor effects on the wildlife resources of the Project site. Both the federally threatened Central California Coast steelhead (*Oncorhynchus mykiss*) and the Central Valley fall-run Chinook salmon (*Oncorhynchus tshawytscha*), a California species of special concern, occur within the Project reach of Coyote Creek during migration between the ocean and spawning and rearing habitat upstream. While the vast majority of Project activities will avoid work within the active channel, the optional freespan pedestrian bridge over Upper Penitencia Creek at its confluence with Coyote Creek, if built, could temporarily affect steelhead or Chinook salmon present in Coyote Creek or Upper Penitencia Creek by reducing water quality, and possibly impacting individuals. However, impact avoidance and minimization measures will limit these effects, and these effects will occur only if an existing culvert within Upper Penitencia Creek is removed and replaced with a bridge. Thus, if these effects occur at all, they will accompany an activity (culvert removal) that will have a net benefit on these anadromous fish by removing an impediment to migration. In addition, 230 linear (ln) ft of shaded riverine aquatic habitat will be removed by the Project. However, removal of this habitat is expected to have a minimal effect on aquatic species because it represents a very small proportion of habitat along this reach of Coyote Creek (~1%) and thus its loss will not have a substantial effect on functions and values that riparian habitat provides to aquatic species in Coyote Creek. Furthermore, the functions and values affected by the loss of this habitat will be replaced as canopy from adjacent trees fills the gaps created by tree removal, and loss of shading from these trees will be replaced by shading from the bridges being constructed. Impacts to salmonids may occur as the result of pile driving while installing bridge supports and retaining walls. Loud and percussive noises have been shown to cause direct mortality, sensory damage, and behavioral changes. Implementation of conservation measures to limit the strength and exposure level of Project-associated sounds will minimize these impacts.

Western pond turtles are present in the Project reach of Coyote Creek, but numbers are low, and it is unknown whether turtles nest in this highly urbanized reach of the

creek. There is limited potential for the Project to result in impacts to individual turtles and their nests, and overall, impacts to this species are expected to be minimal.

Several special-status bird species may occur in the vicinity as occasional visitors, migrants, and transients; these include the American peregrine falcon (*Falco peregrinus anatum*), Vaux's swift (*Chaetura vauxi*), black swift (*Cypseloides niger*), willow flycatcher (*Empidonax traillii*), yellow-breasted chat (*Icteria virens*), Bryant's savannah sparrow (*Passerculus sandwichensis alaudinus*), and tricolored blackbird (*Agelaius tricolor*). None of these species are expected to breed on the Project site, and all but the peregrine falcon and willow flycatcher are only considered special-status species during the nesting season. Any migrant willow flycatchers occurring on the site are likely from breeding populations outside the state, and thus would not be considered representatives from the state or federally listed California populations. The Project will result in minimal losses of potential foraging habitat for these species, and a slight increase in human disturbance of foraging individuals of these species. Such impacts are very limited, and are not expected to appreciably affect regional populations.

The loggerhead shrike (*Lanius ludovicianus*), San Francisco common yellowthroat (*Geothlypis trichas sinuosa*), and yellow warbler (*Dendroica petechia*), which are all state species of special concern, as well as the fully protected white-tailed kite (*Elanus leucurus*), could potentially nest on or near the Project site. The Project will have limited direct impacts on nesting habitat of these species, and will result in a slight increase in human disturbance of these species. However, these effects would be minimal in terms of regional populations of, or habitat availability for, these species.

The only special-status bat expected to occur in the Project area is the western red bat (*Lasiurus blossevillii*). Western red bats do not breed along this reach of Coyote Creek, however, this tree foliage-roosting species may overwinter along the creek and will migrate through in fall and spring months. Although individual western red bats could roost in trees within the Project alignment, they are expected to occur only in very low densities at best. As a result, the Project will not substantially affect this species.

The Project area includes 10 existing bridge crossings of Coyote Creek, and at least some of those bridges provide potential day roosting and/or night roosting habitat for a variety of non-special-status bats. Additionally, the culvert over Upper Penitencia Creek within the Project alignment, which could potentially be removed, could be used as a roosting resource by some bats, and mature trees providing cavities or

extensive areas of loose bark could support bat roosts as well. Bridges and trees could potentially shelter up to many hundreds of Mexican free-tailed bats (*Tadarida brasiliensis mexicanus*), and/or dozens of Yuma bats (*Myotis yumanensis*). If large day roosts, and particularly maternity colonies, are sufficiently disturbed to cause abandonment of the site by the roosting bats, Project activities could substantially affect populations of these species, depending on the number of individuals impacted.

The San Francisco dusky-footed woodrat (*Neotoma fuscipes annectens*) is known to occur in the lower reaches of Coyote Creek near the San Jose-Santa Clara Water Pollution Control Plant downstream of the BSA, indicating that they do occur along lower Coyote Creek. However, because dusky-footed woodrats are extremely sensitive to non-native predators, their distribution on the heavily urbanized Santa Clara Valley floor is limited. In general, woodrats occur on the Valley floor in very low densities, and primarily in less-developed areas that provide riparian, oak woodland, and scrub habitat. Suitable habitat occurs within the BSA, although its highly disturbed nature is likely to discourage settlement by woodrats, and thus densities of this species are expected to be low if it occurs in the Project area at all. Project activities that disturb or remove woodrat nests could result in the injury or mortality of individuals, especially if the disturbance occurs during the breeding season, when pups are not mobile and could be abandoned. The Project will also result in the loss of a very small amount of upland habitat that could potentially be used as foraging habitat by this species.

Based on current Project plans, H. T. Harvey& Associates determined that no jurisdictional wetland habitat occurs within the Project impact area, although jurisdictional wetlands do exist within the biological study area. The channels of Coyote Creek and Upper Penitencia Creek are considered jurisdictional Waters of the U.S. up to the ordinary high water mark.

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List of Abbreviated Terms

ac	acre(s)
BSA	Biological Study Area
Caltrans	California Department of Transportation
DFG	California Department of Fish and Game
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CCNDDB	California Department of Fish and Game Natural Diversity
CNPS	California Native Plant Society
dbh	Diameter at breast height (~4 ft)
EFH	Essential Fish Habitat
ESU	Evolutionarily Significant Unit
FESA	Federal Endangered Species Act
FHWA	Federal Highway Administration
ft	feet
FWS	Fish and Wildlife Service
in	inches
MBTA	Migratory Bird Treaty Act
mi	mile(s)
NEPA	National Environmental Protection Act
NES	Natural Environment Study
NOAA	National Marine Fisheries Service
NMFS	National Marine Fisheries Service
RWQCB	Regional Water Quality Control Board
SCS	Soil Conservation Service
SCVWD	Santa Clara Valley Water District
SRA	Shaded riparian aquatic habitat
UPRR	Union Pacific Railroad
USACE	U. S. Army Corps of Engineers
USFWS	United States Fish and Wildlife Service
USGS	United States Geologic Survey

Chapter 1. Introduction

H. T. Harvey& Associates reviewed relevant background information and conducted field surveys for the Coyote Creek Trail (Montague Expressway to Watson Park) Project during February-March 2010. We drafted this Natural Environment Study (NES) based upon the findings of these studies. All documents were compiled according to template guidelines prepared by the California Department of Transportation (Caltrans 2002, 2005).

1.1. Project History

The Coyote Creek Trail is an important part of the countywide trail network that will ultimately link Morgan Hill, San José, and the San Francisco Bay. Upon completion, the Coyote Creek Trail will extend approximately 30 miles (mi) in length from its north end at the Highway 237 Bikeway in north San José to its south end at the Walnut Rest Area near Anderson Lake County Park in Morgan Hill. The trail offers recreational and transportation opportunities for those who live, work, and play in San José.

Planning and construction for the Coyote Creek Trail has occurred in phases over many years as funding has become available. Over 50% of the trail has already been constructed with the majority of the completed trail located at the southern end from Tully Road to Walnut Rest Area (16.8 paved mi).

This NES is focused on the City of San José's proposed trail extension from Montague Expressway upstream to Watson Park. This trail extension is approximately 4.1 mi long and negotiates numerous existing road crossings over the creek (Figure 1).

1.2. Project Description

This reach of Coyote Creek Trail will add 4.1 mi towards a continuous accessible corridor through San José, linking the community to open space, public transportation nodes, retail and employment centers, and regional trails. Approximately 2.2 mi of the 4.1-mi reach would be constructed on existing unpaved service roads owned by the Santa Clara Valley Water District (SCVWD) or the City of San José. Most of the remaining portions would be located at the top of bank or at the outside edge of a 100-ft riparian corridor setback.

The majority of the proposed trail comprises a Class I trail, separate from streets and open to non-motorized uses. The Class I trail sections will be 16 ft wide, including a 12-ft wide paved trail with 2-ft wide, compacted base rock shoulders on each side. Physically constrained portions (such as a portion along Notting Hill Drive) will be narrowed to a 10-ft wide paved trail with 2-ft wide shoulders. Portions of the trail that would be below the 10-year flood water elevation (primarily at road undercrossings) will not have base rock shoulders. Access to the trail would be from existing public parks, trails and streets. All components of the trail would be constructed in accordance with the Americans with Disabilities Act.

The proposed Project does not include the lighting of the trail except at 10 undercrossings, where lighting would enhance the safety of trail users. Lighting will be designed to avoid light spillover and glare impact to surrounding land uses and wildlife.

The proposed trail includes the following features:

- at-grade access points at several surface streets
- 10 undercrossings beneath streets, freeways, and a railroad trestle
- connections to existing and planned portions of Coyote Creek Trail at either end of the Project
- connection to a planned portion of Penitencia Creek Trail
- 4, 14-ft wide freespan pedestrian bridges crossing Coyote Creek
- an access ramp leading from the south side of Berryessa Road on the north bank of Upper Penitencia Creek down to the proposed creek trail.
- an optional 14-ft wide freespan pedestrian bridge over Upper Penitencia Creek

1.2.1. Pedestrian Bridge Installation and Vegetation Maintenance Methods

The proposed freespan bridges will be assembled adjacent to the installation site and installed with two cranes; one crane situated at the top of creek bank on each side of the creek. The existing service roads provide adequate access and therefore, heavy equipment will not access the creek bed and banks during bridge installation. Pile driving will be used to install the bridge supports at the span ends of each overcrossing. It is also possible that piles will be driven to support the proposed retaining walls leading up to the bridges, particularly on the levee adjacent to the mobile home park.

Riparian vegetation will be removed at the bridge crossings to facilitate installation. Riparian vegetation including tree canopy will subsequently be allowed to grow back

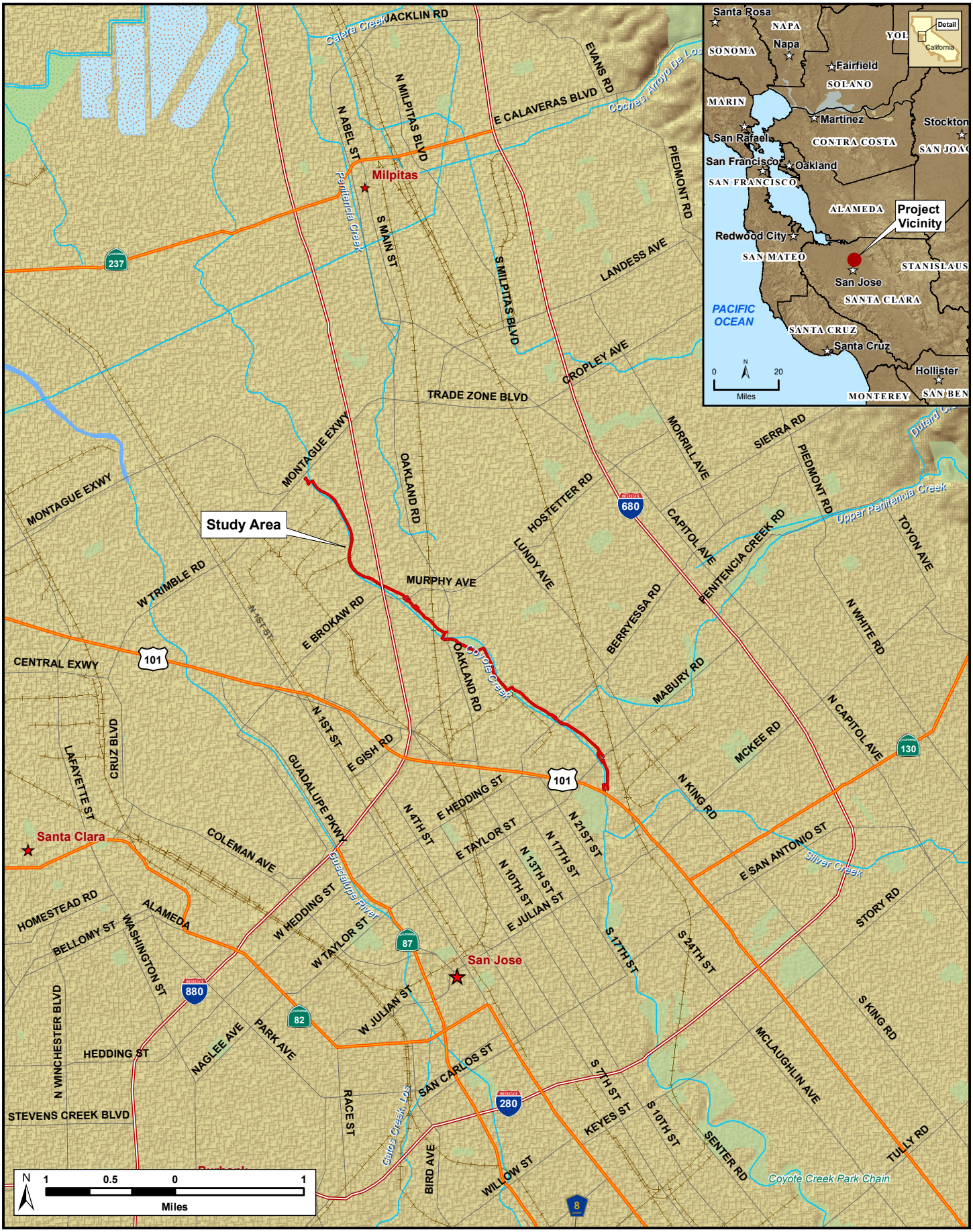

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Figure 1: Vicinity Map
Coyote Creek Trail - Montague Expressway to Watson Park NES (2806-02)
January 2011

to within 5 ft of the edge of the bridges. Tree canopy will be pruned in the long-term to maintain adequate clearance around the bridges for access (~ 5 horizontal ft from bridge and ~ 10 vertical ft over bridge).

1.2.2. Upper Penitencia Creek Crossing Options

The proposed trail would cross Upper Penitencia Creek approximately 75 ft upstream of its confluence with Coyote Creek. There is an existing ~30 ft wide paved, culverted crossing at this location. The proposed trail may utilize the existing crossing. However, the Project includes an option to replace the existing ~30 ft wide crossing and culvert with a 14-ft wide, freespan pedestrian bridge. This option would include restoring a stable, earthen creek channel and revegetating the creek banks with native riparian trees and shrubs.

Chapter 2. Study Methods

2.1 Regulatory Requirements

Biological resources that may occur within the Biological Study Area (BSA) are regulated by the following**:**

2.1.1 Federal Endangered Species Act. The federal Endangered Species Act (FESA) protects listed fish and wildlife species from harm or "take" which is broadly defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in any such conduct. Take can also include habitat modification or degradation that directly results in death or injury to a listed wildlife species. An activity can be defined as "take" even if it is unintentional or accidental. Listed plant species are provided less protection than listed wildlife species. Listed plant species are legally protected from take under FESA if they occur on federal lands or if the project requires a federal action, such as a Section 404 fill permit.

The U.S. Fish and Wildlife Service (FWS) has jurisdiction over federally listed threatened and endangered wildlife species under the FESA, while the National Marine Fisheries Service (NMFS) has jurisdiction over federally listed, threatened and endangered, marine and anadromous fish. These agencies also maintain lists of species proposed for listing. Species on these lists are not legally protected under the FESA, but may become listed in the near future and are often included in their review of a project.

2.1.2. California Endangered Species Act. The California Endangered Species Act (CESA, Fish and Game Code of California, Chapter 1.5, Sections 2050-2116) prohibits the take of any plant or animal listed or proposed for listing as rare (plants only), threatened, or endangered. In accordance with the CESA, the California Department of Fish and Game (CDFG) has jurisdiction over state-listed species (California Fish and Game Code 2070). CDFG regulates activities that may result in "take" of individuals (i.e., "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill"). Habitat degradation or modification is not expressly included in the definition of "take" under the California Fish and Game Code. The CDFG, however, has interpreted "take" to include the "killing of a member of a species which is the proximate result of habitat modification ..."

2.1.3. Magnuson-Stevens Fishery Conservation and Management Act. The Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA) governs

all fishery management activities that occur in federal waters within the United States 200 nautical mile limit. The Act establishes eight Regional Fishery Management Councils responsible for the preparation of fishery management plans to achieve the optimum yield from U.S. fisheries in their regions. These councils, with assistance from NOAA Fisheries, establish Essential Fish Habitat (EFH) in fishery management plans for all managed species. Federal agencies that fund, permit, or implement activities that may adversely affect EFH are required to consult with NOAA Fisheries regarding potential adverse effects of their actions on EFH, and respond in writing the NOAA Fisheries' recommendations.

2.1.4. California Environmental Quality Act. Section 15380(b) of the California Environmental Quality Act (CEQA) Guidelines provides that a species not listed on the federal or state lists of protected species may be considered rare if the species can be shown to meet certain specified criteria. These criteria have been modeled after the definitions in FESA and CESA and the section of the California Fish and Game Code dealing with rare or endangered plants or animals. This section was included in the guidelines primarily to deal with situations in which a public agency is reviewing a project that may have a significant effect on a species that has not yet been listed by either the USFWS or CDFG or species that are locally or regionally rare.

The CDFG has produced three lists (amphibians and reptiles, birds, and mammals) of "species of special concern" that serve as "watch lists." Species on these lists either are of limited distribution or the extent of their habitats has been reduced substantially, such that threat to their populations may be imminent. Thus, their populations should be monitored. They may receive special attention during environmental review as potential rare species, but do not have specific statutory protection.

The California Native Plant Society (CNPS), a non-governmental conservation organization, has developed lists of plant species of concern in California. Vascular plants included on these lists are defined as follows:

List 1A	Plants considered extinct.
List 1B	Plants rare, threatened, or endangered in California and elsewhere.
List 2	Plants rare, threatened, or endangered in California but more common elsewhere.
List 3	Plants about which more information is needed - review list.
List 4	Plants of limited distribution-watch list.

These CNPS listings are further described by the following threat code extensions:

.1—seriously endangered in California;

.2—fairly endangered in California;

.3—not very endangered in California.

Although the CNPS is not a regulatory agency and plants on these lists have no formal regulatory protection, plants appearing on List 1B or List 2 are, in general, considered to meet CEQA's Section 15380 criteria and adverse effects to these species may be considered significant.

2.1.5. Federal Migratory Bird Treaty Act (16 U.S.C. Sec. 703) . The federal Migratory Bird Treaty Act (MBTA; 16 U.S.C., §703, Supp. I, 1989) prohibits killing, possessing, or trading in migratory birds except in accordance with regulations prescribed by the Secretary of the Interior. The trustee agency that addresses issues related to the MBTA is the USFWS. Migratory birds protected under this law include almost all native birds, with the exception of the Wrentit (*Chamaea fasciata*), which is the sole member of its family in the new world (probably inadvertently skipped), and certain game birds (e.g., turkeys and pheasants; Federal Register 70(2):372-377). This act encompasses whole birds, parts of birds, and bird nests and eggs.

Construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings, or otherwise lead to nest abandonment, a violation of the MBTA. The MBTA protects active nests from destruction and all nests of species protected by the MBTA, whether active or not, cannot be possessed. An active nest under the MBTA as described by the Department of the Interior in their Migratory Bird Permit Memorandum dated 15 April 2003 is one having eggs or young. Nest starts, prior to egg laying, are not protected from destruction.

2.1.6. California State Fish and Game Code. Habitats potentially under the regulatory jurisdiction of DFG are described under Division 2, Chapter 6, Section 1600-1607 of the Fish and Game Code of California. The DFG potentially extends the definition of stream to include "intermittent and ephemeral streams, rivers, creeks, dry washes, sloughs, blue-line streams, and watercourses with subsurface flows. Canals, aqueducts, irrigation ditches, and other means of water conveyance can also be considered streams if they support aquatic life, riparian vegetation, or stream-dependent terrestrial wildlife" (Environmental Services 1994).

Migratory birds are also protected in and by the state of California. The State Fish and Game Code §3513 specifically emulates the MBTA and other sections and

subsections of §3500-3516 provide additional protections for birds. Specifically, §3503 protects birds' nests and eggs from all forms of needless take. All native birds are protected (including the Wrentit), although game birds may be taken with a hunting license. Disturbance that causes nest abandonment and/or loss of reproductive effort is considered "take" by the CDFG. In addition, § 3511 lists species that are "fully protected" and cannot be taken or possessed at any time.

In addition, raptors (eagles, hawks, and owls) and their nests are specifically protected in California under Fish and Game Code Section 3503.5. Section 3503.5 states that it is "unlawful to take, possess, or destroy any birds in the order Falconiformes or Strigiformes (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto." For all of these regulations, resource agencies typically consider "nests" to be active nests (nests with eggs or chicks). Destruction of inactive nests is generally not considered "take."

Additionally, the California Fish and Game Code contains lists of vertebrate species designated as "fully protected" (Code § 3511 [birds], §4700 [mammals], §5050 [reptiles and amphibians], §5515 [fish]). Such species may not be taken or possessed.

2.1.7. Clean Water Act. Under Section 404 of the Clean Water Act, the U.S. Army Corps of Engineers (USACE) is responsible for regulating the discharge of fill material into waters of the United States. Waters of the U.S. and their lateral limits are defined in 33 CFR Part 328.3 (a) and include streams that are tributary to navigable waters and their adjacent wetlands. Wetlands that are not adjacent to waters of the U.S. are termed "isolated wetlands" and, depending on the circumstances, may also be subject to USACE jurisdiction.

2.1.8. California Water Quality and Waterbody Regulatory Programs. Under the Porter-Cologne Water Quality Control Act (Porter-Cologne), the State Water Resources Control Board (State Board) has the ultimate authority over State water rights and water quality policy. However, Porter-Cologne also establishes nine Regional Water Quality Control Boards (Regional Boards) to oversee water quality on a day-to-day basis at the local/regional level.

Pursuant to Section 401 of the federal Clean Water Act, projects that are regulated by the USACE must obtain water quality certification from the California Regional Water Quality Control Board (RWQCB). This certification ensures that the Project will uphold state water quality standards. The RWQCB may impose mitigation requirements even if the Corps does not.

2.1.9. City of San José Tree Ordinance. The City of San Jose has a tree removal ordinance, which provides a discretionary permit process for the removal of trees over 56 inches in circumference (18 inches in diameter) at a height of two feet from the ground (City of San Jose Civil Code 13.32.020).

2.1.10. National Invasive Species Council. On 3 February 1999, Executive Order 13112 was signed establishing the National Invasive Species Council. The Executive Order requires that a Council of Departments dealing with invasive species be created. It states:

"By the authority vested in me as President by the Constitution and the laws of the United States of America, including the National Environmental Policy Act of 1969, as amended (42 U.S.C. 4321 et seq.), Nonindigenous Aquatic Nuisance Prevention and Control Act of 1990, as amended (16 U.S.C. 4701 et seq.), Lacey Act, as amended (18 U.S.C. 42), Federal Plant Pest Act (7 U.S.C. 150aa et seq.), Federal Noxious Weed Act of 1974, as amended (7 U.S.C. 2801 et seq.), Endangered Species Act of 1973, as amended (16 U.S.C. 1531 et seq.), and other pertinent statutes, to prevent the introduction of invasive species and provide for their control and to minimize the economic, ecological, and human health impacts that invasive species cause."

2.2 Studies Conducted

H. T. Harvey & Associates' plant and wildlife ecologists characterized the existing biotic conditions within the Biological Study Area (BSA) including the presence and distribution of biotic habitats, regulated habitats, and special-status species. This assessment involved a review of relevant background information combined with reconnaissance-level surveys conducted in February –March 2010. H. T. Harvey & Associates' senior restoration ecologist conducted a subsequent survey of the recently added Berryessa Road access ramp area in October 2010. The BSA was defined as a 100-ft wide strip centered on the proposed trail. Our plant ecologist mapped the distribution of biotic habitats within the BSA via aerial photograph interpretation combined with ground-truthing of the entire trail alignment. Biotic habitats were mapped onto an aerial photograph with an approximate 1:1200 scale. Where appropriate, plant communities were named according to Holland's system of classification (1986) and Sawyer and Keeler-Wolfe (1995).

We reviewed information concerning threatened, endangered, or other special-status species that may occur in the Project region was collected from the following sources:

- California Natural Diversity Database (CNDDB) and its associated species accounts (CNDDB 2010)
- California Wildlife Habitat Relationships information
- *CNPS Inventory of Rare and Endangered Plants of California* (2010)
- *Jepson Manual* (Hickman 1993)
- *The Rare and Endangered Plants of San Mateo and Santa Clara County* (Corelli and Chandik 1995)

A search of the CNDDB was conducted for published accounts of special-status plant and wildlife species occurring in the San José East, San José West, and Milpitas USGS 7.5-minute quads in which the Project area occurs, as well as the surrounding 12 quadrangles including: Niles, La Costa Valley, Mount Day, Calaveras Reservoir, Lick Observatory, Morgan Hill, Santa Teresa Hills, Los Gatos, Castle Rock Ridge, Cupertino, Mountain View, and Newark (CNDDB 2010).

After characterizing the existing biotic conditions, we then carefully reviewed the Project description and overlaid the proposed trail alignment onto the map of biotic habitats to assess biotic impacts. Our impact assessment included an additional field survey of the entire trail alignment to identify the location, species, and diameter at breast height of each riparian tree that would likely be removed or whose roots or shoots would be substantially impacted by trail installation.

2.3 Personnel and Survey Dates

H. T. Harvey & Associates' ecologists conducted reconnaissance-level surveys of the Project site on 10, 17, 23 February, 11 March, and 4 October 2010. Survey personnel included plant ecologist Brian Cleary, M.S., wildlife ecologist Nellie Thorngate, M.S., restoration ecologist, Charles McClain, M.S., and project manager/restoration ecologist Max Busnardo, M.S..

This report was prepared by the following personnel at H. T. Harvey & Associates:

- Dan Stephens, B.S., Principal/Senior Restoration Ecologist
- Steve Rottenborn, Ph.D., Senior Wildlife Ecologist
- Max Busnardo, M.S., Project Manager/Senior Restoration Ecologist
- Nellie Thorngate, M.S., Wildlife Ecologist
- Brian Cleary, M.S., Plant Ecologist

2.4 Agency Coordination and Professional Contacts

A list of special-status species potentially occurring in the immediate vicinity of the Project (i.e., within the San Jose West, San Jose East, and Milpitas USGS 7.5 minute quadrangles) was requested and received (via internet) from the Sacramento USFWS office on 17 February 2010; this species list is provided in Appendix A.

2.5 Limitations That May Influence Results

No focused or protocol-level surveys were conducted for special-status plant or animal species for the preparation of this NES. Therefore, results are based on assessments of habitat suitability for these species on and in the vicinity of the Project site. This methodology is consistent with the generally accepted standards for preparation of NES's.

Chapter 3. Results: Environmental Setting

3.1. Description of the Existing Biological and Physical Conditions

3.1.1. Study Area

The study area is characterized by the open space/riparian corridor of Coyote Creek meandering through a highly developed, urban landscape. Commercial and residential development occurs at the edge of the existing riparian corridor for much of the study area with the exception of the San Jose Municipal Golf Course, a few pockets of undeveloped land, and Watson Park. The following is a description of the trail alignment from downstream (north) to upstream (south):

Reach A – Montague Expressway to O'Toole Avenue (1.1 miles). The proposed trail begins at a trail access point on the west side of Coyote Creek on the south side of Montague Expressway. The trail would connect to an existing paved ramp and undercrossing leading to a gravel segment of trail extending north. A freespan bridge, about 180 ft long, would bring the trail to the east side of the creek. On the east side, the proposed trail follows along an existing SCVWD service road. The trail then continues through an undercrossing beneath Charcot Avenue, with at-grade access points provided on both sides of Charcot Avenue to approach O'Toole Avenue.

Reach B – O'Toole Avenue to Union Pacific Railroad (0.5 miles). The proposed trail crosses under O'Toole Avenue and beneath I-880. The trail then continues along existing service roads on the east side of Coyote Creek, with undercrossings beneath and at-grade access points at Brokaw Road and Ridder Park Drive. The service road ends at Ridder Park Drive and the proposed trail continues southward along the edge of the riparian corridor and crosses beneath the Union Pacific Railroad trestle.

Reach C – Union Pacific Railroad to Notting Hill Drive (1.1 miles). The proposed trail then travels through a 100 ft private open space setback designated on a property slated for planned development. There would be at-grade access points on the north side of Oakland Road and at the end of Corie Court. A freespan pedestrian bridge is proposed to bring the trail to the west side of Coyote Creek, south of the intersection of Shallenberger Road and Oakland Road. The trail would cross beneath Oakland Road, travel along Corie Court, and join an existing service road on City of San José property. A third freespan pedestrian bridge near Hazlett Way would then be installed

to bring the trail back to the east side of Coyote Creek at Notting Hill Drive, where a grade-separated 10-ft wide trail would travels along the edge of the street.

Reach D – Notting Hill Drive to Watson Park (1.4 miles). The proposed trail alignment continues on the east side of Coyote Creek, within a 100-ft private open space setback along the Flea Market property, a planned development site. At-grade trail access points would be provided at three locations within the redeveloped area, located to coincide with the future road network. After an at-grade trail access point at Berryessa Road and an undercrossing beneath the road, the trail would cross over Upper Penitencia Creek before connecting with the planned Penitencia Creek Trail. As noted above, this crossing will either utilize the existing ~30-ft wide culverted crossing or replace the culverted crossing with a freespan pedestrian bridge. Continuing southward through the Flea Market property, the trail would have at-grade access points and an undercrossing at Mabury Road, and would continue south to align with an existing City-owned unpaved service road. North of Highway 101, a final freespan pedestrian bridge would be installed to bring the trail to the west side of Coyote Creek, where it would continue south with an undercrossing beneath Highway 101 and enter Watson Park.

3.1.2. Physical Conditions

The BSA is situated at an elevation of approximately 40 - 85 ft above mean sea level (USGS 7.5 Minute Quadrangle Maps; San Jose East, San Jose West, Milpitas Quads). The average annual precipitation at the site is 15-25 inches, and the average annual temperature is 59 degrees Fahrenheit (Soil Conservation Service [SCS] 1968). Soils from the Mocho series underlay the majority of the BSA (SCS 1968). These soils were originally formed in alluvium (i.e., sediments deposited by Coyote Creek flood waters), are moderately well-drained, and are neutral to slightly alkaline (SCS 1968).

The Mocho Soils Undifferentiated (Mk) occurs throughout the southern half of the BSA from Watson Park to just south of the Oakland Road crossing. The texture of these soils is extremely variable within short horizontal and vertical distances, ranging from gravelly sandy loam, to silt loam and clay loam. The fertility of these soils is low and water availability is highly variable due to the variability in texture. Mocho Soils Undifferentiated generally gives way to the Mocho Loam (Mg) in the northern half of the BSA from the Oakland Road crossing to Montague Expressway. Mocho Loam soils are relatively well-drained with loam to fine sandy loam textures. These high fertility soils are suitable for irrigated row crops, sugar beets, apricots, prunes, pears, and cherries.

3.1.3. Biological Conditions in the Biological Study Area

The distribution of biotic habitats within the BSA is shown in Figures 2A – 2D. Table 1 provides the surface area by habitat type. A list of all plant species encountered within the BSA can be found in Appendix B.

Table 1. Surface Area of Biotic Habitats within the BSA (acres).

Habitat Type	Surface Area (acres)
Mixed Riparian[1]	10.5
Ruderal Herbaceous Field	7.3
Eucalyptus Forest	1.8
Developed	30.5
Total	**50.1**

[1]Includes the Aquatic Habitat within the low-flow channel of Coyote Creek which is covered by riparian canopy and was therefore, not visible in aerial photography.

3.1.3.1. MIXED RIPARIAN FOREST

Vegetation. Mature riparian forest occurs along the banks of Coyote Creek throughout virtually the entire length of the BSA. The riparian overstory canopy reaches heights of over 50 ft in some areas with much of the understory comprised of a patchy network of small trees and shrubs growing in dense and open stands from 3-12 ft in height. The majority of Coyote Creek within the BSA consists of a moderate to deeply incised channel with steep banks that rise approximately 15-20 ft from the bed of the channel to the tops of the banks. Riparian forest extends from the edge of the bed and banks of the channel up to, and occasionally beyond the tops of the banks growing in close proximity to landscaped trees and shrubs associated with adjacent developed areas. A substantial amount of rubbish comprising plastic bags, tarps, bottles, discarded clothes, tires and other trash materials is present throughout the riparian understory. Numerous homeless encampments occur along the mid to upper banks of Coyote Creek including the road and bridge under-crossings within the BSA, particularly along Ridder Park Drive.

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Figure 2A: Habitat Map

Coyote Creek Trail - Montague Expressway to Watson Park NES (2806-02)

January 2011

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Figure 2B: Habitat Map

Coyote Creek Trail - Montague Expressway to Watson Park NES (2806-02)

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Figure 2C: Habitat Map

Coyote Creek Trail - Montague Expressway to Watson Park NES (2806-02)

January 2011

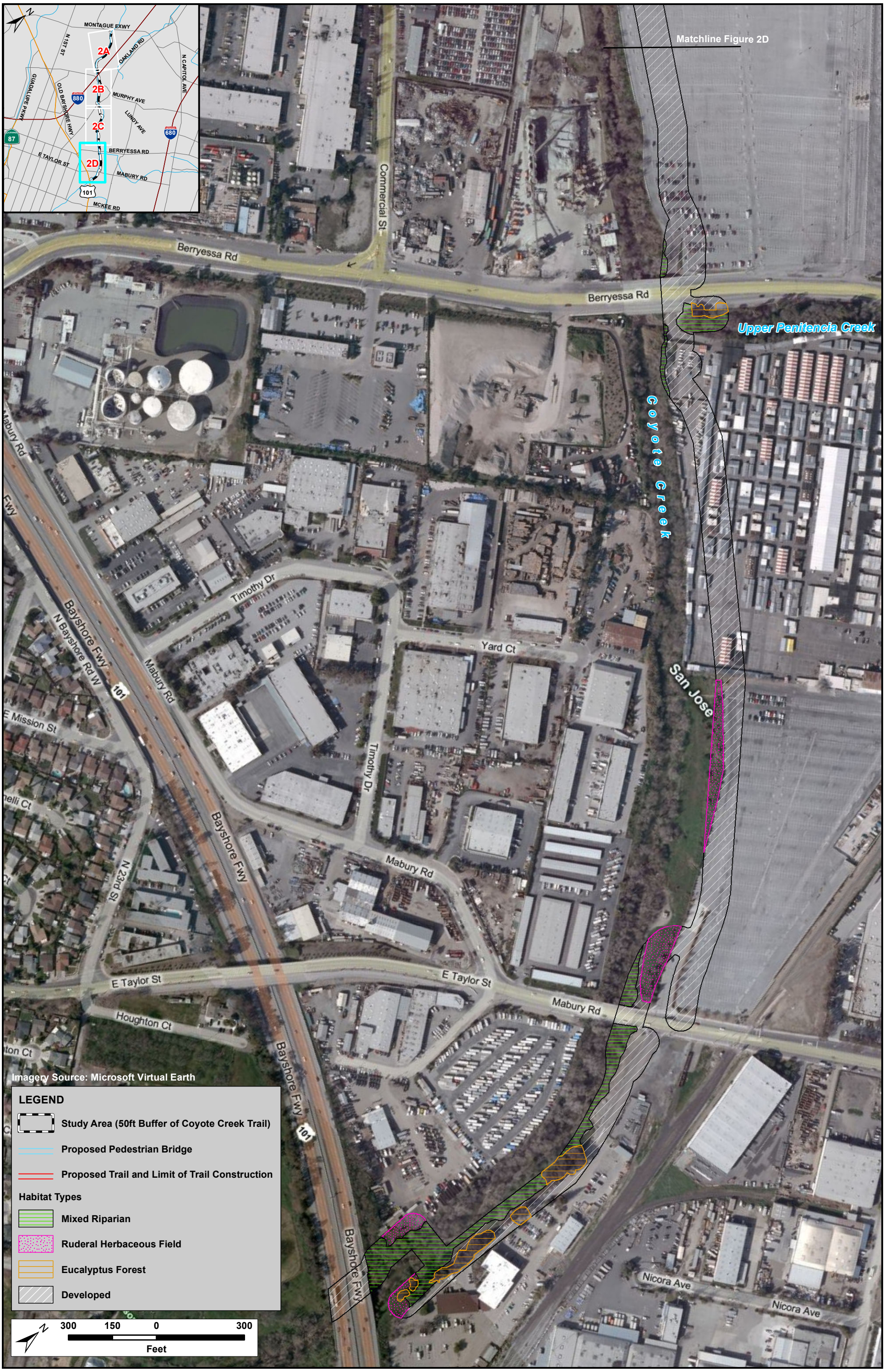

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Figure 2D: Habitat Map

Coyote Creek Trail - Montague Expressway to Watson Park NES (2806-02)

January 2011

Plant species diversity is relatively high within the mixed riparian forest that forms a multi-structured mosaic of native and non-native trees and shrubs with some areas supporting significant stands of exotic trees. Dominant native trees included Fremont's cottonwood (*Populus fremontii*), red willow (*Salix laevigata*), arroyo willow (*Salix lasiolepis*), box elder (*Acer negundo* var. *californicum*), and coast live oak (*Quercus agrifolia*). Other occasional native trees included California bay (*Umbellularia californica*), California buckeye (*Aeseculus californica*), valley oak (*Quercus agrifolia*), western sycamore (*Platanus racemosa*) and holly-leaved cherry (*Prunus ilicifolia*). Some reaches of the riparian corridor support significant stands of large black walnut trees (*Juglans hindsii*), a native tree that in the pre-Spanish era was restricted to several populations (primarily in Southern California). More recently, this species has been used as grafted rootstock for the commercially grown English walnut (*J. regia*) grown throughout California resulting in the spread of this tree as a volunteer species into many riparian communities. Thus, the population found within the banks of Coyote Creek represents a non-native population of this species (CNPS 2010) and very few native stands exist in California.

Numerous extensive patches of non-native, invasive species are present in the overstory and understory of the riparian corridor throughout the BSA. These include black locust (*Robinia pseudoacacia*), tree-of-heaven (*Ailanthus altissima*), giant reed (*Arundo donax*), Chinese elm (*Ulmus parviflora*), blue gum (*Eucalyptus globulus*), Peruvian peppertree (*Schinus molle*), Mexican fan palm (*Washingtonia robusta*) weeping willow (*Salix babylonica*), almond (*Prunus dulcis*), Himalayan blackberry (*Rubus discolor*), and English ivy (*Hedra helix*).

Scattered patches of native shrubs are also present including poison oak (*Toxicodendron diversilobum*), California wild rose (*Rosa californica*), blue elderberry (*Sambucus mexicana*), as well as seedlings and saplings of the natives described above.

The herbaceous understory layer was often sparse to absent as a result of the well-developed riparian tree canopy preventing sunlight from reaching much of the forest floor. Additional factors contributing the lack of herbaceous cover included the disturbed nature of the bed and banks of Coyote Creek from repeated flooding during the winter rainfall period as well as anthropogenic disturbances associated with the homeless encampments. Common weedy, non-native herbaceous species included periwinkle (*Vinca major*), smilograss (*Piptatherum miliaceum*), poison hemlock (*Conium maculatum*), sweet fennel (*Foeniculum vulgare*), wild radish (*Raphanus sativus*) and mare's tail (*Conyza canadensis*). Native herbaceous plants included

well-established areas of common bedstraw (*Galium aparine*) and occasional scattered occurrences of tall umbrella sedge (*Cyperus eragrostis*) in moist areas along the margins of the low-flow channel of Coyote Creek.

A small riparian mitigation site (~0.05 ac) is located along Coyote Creek within the BSA at the corner of Notting Hill Drive and Hazlett Way. This site is planted with native riparian tree and shrub seedlings and saplings.

The downstream approximately 200 ft of Upper Penitencia Creek also falls within the BSA where the Berryessa Road access ramp would be located. Dense riparian tree canopy covers the steep banks and aquatic habitat along this reach of Upper Penitencia Creek. The mixed riparian habitat in this reach is dominated by box elder, a native riparian tree species, with a lower abundance of other native trees including Fremont cottonwood, blue elderberry, and California buckeye. The understory/groundcover comprises non-native species including English ivy and smilo grass. Planted eucalyptus forest occurs along the northern top of the Penitencia Creek bank.

Wildlife. Riparian habitats in California generally support exceptionally rich animal communities and contribute a disproportionately high amount to landscape-level species diversity. The presence of year-round water and abundant invertebrate fauna provide foraging opportunities for many species, and the diverse habitat structure provides ample cover and nesting opportunities. The maturity and structural diversity of the riparian habitat along Coyote Creek in the Project area supports a high diversity and density of vertebrate species, particularly birds. The heavily urbanized context of the Project area limits the value of this habitat somewhat due to the long history of human disturbance and other urban-associated pressures on wildlife populations along Coyote Creek; however this riparian corridor also serves as a refuge for wildlife in an otherwise inhospitable landscape.

The riparian corridor within the Project area supports a host of common invertebrate species that in turn provide food resources for a diversity of vertebrates. Leaf litter, downed tree branches, and fallen logs are expected to provide cover for amphibians such as arboreal salamanders (*Aneides lugubris*), western toads (*Bufo boreas*), and Pacific chorus frogs (*Pseudacris regilla*). Several lizards may also occur here, including western fence lizards (*Sceloporus occidentalis*), western skinks (*Eumeces skiltonianus*), and southern alligator lizards (*Gerrhonotus multicarinatus*).

The riparian corridor along lower Coyote Creek supports a diversity of bird species during the various stages of their annual cycle. Raptors such as red-shouldered hawks (*Buteo lineatus*) and Cooper's hawks (*Accipiter cooperii*) may nest within the riparian

corridor and forage in adjacent habitats. Anna's hummingbirds (*Calypte anna*) and black phoebes (*Sayornis nigricans*) were observed defending territories along the riparian corridor within the BSA. Other breeding songbirds known to use the Coyote Creek riparian corridor within the Project area include western scrub-jays (*Aphelocoma coerulescens*), Bewick's wrens (*Thryomanes bewickii*), chestnut-backed chickadees (*Poecile rufescens*), warbling vireos (*Vireo gilvus*), yellow warblers (*Dendroica petechia*), common yellowthroats (*Geothlypis trichas*), song sparrows (*Melospiza melodia*), western flycatchers (*Empidonax difficilis*), black-headed grosbeaks (*Pheucticus melanocephalus*), and Bullock's orioles (*Icterus bullockii*). Riparian habitats along Coyote Creek are also used heavily by transients of neotropical migrant species such as Swainson's thrushes (*Catharus ustulatus*) and Wilson's warblers (*Wilsonia pusilla*), as well as overwintering temperate migrants including ruby-crowned kinglets (*Regulus calendula*), yellow-rumped warblers (*Dendroica coronata*), and golden-crowned sparrows (*Zonotrichia atricapilla*), which were observed within the BSA during the reconnaissance survey.

Small mammals such as ornate shrews (*Sorex ornatus*), California voles (*Microtus californicus*), and Audubon's cottontails (*Sylvilagus audubonii*), are expected use the Coyote Creek riparian corridor within the BSA. Medium-sized mammals such as raccoons (*Procyon lotor*), striped skunks (*Mephitis mephitis*), and nonnative Virginia opossums (*Didelphis virginiana*) are common, urban-adapted species that are also present in this riparian habitat.

3.1.3.2. AQUATIC

Habitat. Aquatic habitat occurs within the active channel bed of Coyote Creek most of which is well-shaded by the riparian forest tree canopy. Water flow at the time of the surveys was within the low-flow portion of the channel. Occasional small patches of wetland vegetation, such as broad-leaved cattail (*Typha latifolia*), were observed along the margins of the low-flow channel, however these stands were too small to be included as a separate habitat type.

Wildlife. The aquatic habitats within Coyote Creek support several species of native fishes, such as the California roach (*Hesperoleucus symmetricus*), Sacramento sucker (*Catostomus occidentalis*), and sculpins (*Cottus* sp.), as well as non-native fishes such as mosquitofish (*Gambusia affinis*), bluegill (*Lepomis macrochirus*) and inland silverside (*Menidia beryllina*) (Moore et al. 2008). The federally-threatened Central California Coast steelhead (*Oncorhynchus mykiss*) spawns in the Coyote Creek watershed, particularly in Upper Penitencia Creek. The Central Valley Fall Run Chinook salmon, a California species of special concern, has also been documented

using Coyote Creek, although it is unknown whether this species spawns there. Amphibians such as western toads, Pacific chorus frogs, and non-native bullfrogs (*Rana catesbeiana*) are known to be present in the creek. The native western pond turtle (*Actinemys marmorata*) is present in very low numbers along lower Coyote Creek, where it is likely outnumbered by several species of nonnative turtles, such as red-eared sliders (*Trachemys scripta*) and painted turtles (*Chrysemys picta*), which have been released locally from captivity. Waterbirds such as mallards (*Anas platyrhynchos*), green herons (*Butorides virescens*), great egrets (*Ardea alba*), and belted kingfishers (*Ceryle alcyon*) forage in these waters; one great egret was observed within the Project area during the reconnaissance survey. Bats including Yuma myotis (*Myotis yumanensis*) and Brazilian free-tailed bats (*Tadarius brasiliensis*) forage aerially on insects over the creek, and raccoons may forage in the shallows where crayfish or amphibians are present.

3.1.3.3. RUDERAL HERBACEOUS FIELD

Vegetation. Much of the trail will be located outside of the riparian corridor in ruderal herbaceous field habitat. Vegetation in these areas is dominated by a number of non-native, invasive plant species that thrive in disturbed areas. The majority of the ruderal fields are dominated by non-native grasses including smilograss, wild oat (*Avena fatua*), rip-gut brome (*Bromus diandrus*), Italian wild-rye (*Lolium multiflorum*), wild barley (*Hordeum murinum* ssp. *leporinum*), Bermuda grass (*Cynodon dactylon*), and occasionally rabbitsfoot grass (*Polypogon monspeliensis*). Non-native herbaceous forbs included redstem filaree (*Erodium cicutarium*), cheese weed (*Malva parviflora*), telegraph weed (*Heterotheca grandiflora*), wild lettuce (*Lactuca serriola*), black mustard (*Brassica nigra*) and sow thistle (*Sonchus oleraceous*).

Occasional scattered patches of the native shrub coyote brush (*Baccharis pilularis*) are distributed throughout this community type forming small stands of brushy vegetation that generally lacked an herbaceous understory. Although present throughout much of the BSA, coyote brush represented only a small portion of the ruderal herbaceous field habitat.

Wildlife. The ruderal herbaceous habitats within the BSA are relatively small, highly disturbed, and often adjacent to fences, roads, and other developed areas. Such high levels of disturbance reduce the value of these habitat patches for wildlife species, particularly those species requiring extensive grasslands. These patches of herbaceous may, however, be utilized by a variety of generalist and/or urban-adapted wildlife species. Common reptiles such as western fence lizards and gopher snakes

(*Pituophis melanoleucus*) are likely to occur in these habitat patches. Few if any bird species are expected to breed in these habitats, although a few individuals could potentially construct nests within sheltering stands of coyote brush where it occurs. Breeding birds present in adjacent developed or riparian habitats, such as red-shouldered hawks, white-tailed kites (*Elanus leucurus*), mourning doves (*Zenaida macroura*), black phoebes, cliff swallows (*Petrochelidon pyrrhonota*), and house finches (*Carpodacus mexicanus*), may forage in or over these ruderal habitats, and foraging flocks of overwintering golden-crowned sparrows and white-crowned sparrows (*Zonotrichia leucophrys*) are expected to utilize these areas opportunistically. Common mammals expected to use ruderal habitats within the BSA include California ground squirrels (*Spermophilus beecheyi*), deer mice (*Peromyscus maniculatus*), and California voles.

3.1.3.4. EUCALYPTUS FOREST

Vegetation. Several stands of eucalyptus forest dominated by blue gum occur along the east bank of Coyote Creek. A single large stand of eucalyptus trees occupies a portion of the entire east bank of Coyote Creek just south of the Montague Expressway (Figure 2A). Several hundred eucalyptus trees have naturalized to form a dense, continuous stand of arborescent vegetation with an overstory canopy reaching approximately 100 ft in height. In this location the invasive eucalyptus trees have displaced virtually all the mixed riparian forest habitat along the bank of the creek. There is little to no understory vegetation due to a thick accumulation of eucalyptus bark that litters much of the forest floor. Scattered patches of herbaceous vegetation dominated by ruderal, non-native plant species are found in openings that receive adequate sunlight.

A number of additional stands of eucalyptus forest occur within the BSA along the east bank of Coyote Creek including a second grove just south of the stand described above, and a third stand associated with a residential housing development near Chessington Dive. Several similar small groves of eucalyptus forest occupy linear strips of land along the east side of the top of bank adjacent to the City of San Jose Transportation Facility south of Mabury Road and along the north side of the top of bank of Upper Penitencia Creek at Berryessa Road (Figure 4D). All of these stands have been planted within an ornamental landscape setting.

Wildlife. Eucalyptus groves tend to support lower wildlife diversity than mature, native-dominated riparian woodland because of the lack of structural diversity in the lower strata and lack of floristic diversity present within these habitats. Nevertheless, these groves are utilized by several wildlife species. Mature eucalyptus

trees in the Project area provide suitable nesting habitat for raptors such as red-shouldered hawks and red-tailed hawks (*Buteo jamaicensis*). Other nesting birds such as Anna's hummingbirds, house finches, and Bullock's orioles also use these groves. The flowers and foliage of eucalyptus trees provide foraging opportunities for hummingbirds, finches, and warblers, and a small foraging flock of ruby-crowned kinglets and yellow-rumped warblers was observed moving through the large grove by Montague Expressway during the reconnaissance survey. Bats such as western red bats (*Lasiurus blossevillii*), brazilian free-tailed bats, and Yuma myotis could roost in foliage, crevices and shreds of bark; western red bats have even been known to roost in the duff on the floor of eucalyptus groves (D. Johnston, pers. obs.). Urban-adapted mammals such as raccoons, striped skunks, and red foxes may also use these groves periodically.

3.1.3.5. DEVELOPED

Vegetation. The majority of the BSA is developed. The types of development are varied and include a portion of the City of San Jose Transportation Department's parking lot, the City of San Jose Flea Market, residential housing, areas of bare ground and gravel roads maintained by the Santa Clara Valley Water District providing access to the Coyote Creek corridor, the Union Pacific Railroad tracks and numerous undercrossings associated with roads and highways that bisect the BSA including Montague Expressway, O'Toole Avenue, Berryessa Road, Oakland Road, Mabury Road and the I-880.

Vegetation within developed areas consisted of ornamental and cultivated trees and shrubs associated with roads, commercial buildings, sidewalks, parking lots and residential areas. Common trees included Peruvian pepper tree, coast redwood (*Sequoia sempervirens*), blue gum, and ornamental pines (*Pinus* sp.).

Wildlife. Developed habitats primarily support a suite of relatively common or generalist wildlife species that are tolerant of periodic human disturbances. Native bird species commonly found in developed habitats along Coyote Creek include Anna's hummingbirds, northern mockingbirds (*Mimus polyglottos*), and house finches. The European starling (*Sturnus vulgaris*) is a common nonnative species that nests in both artificial cavities and natural cavities in trees within the BSA. Nonnative house sparrows (*Passer domesticus*) typically nest under eaves or on similar artificial substrates near human habitation. Paved or bare access roads and trails within the BSA could occasionally be used by wildlife moving along the riparian corridor; otherwise, they do not provide wildlife habitat. However, man-made bridges that mimic cliffs or rocky crevices found in more natural settings

frequently create habitat for many wildlife species. Crevices that are found in bridges, retaining barriers, and rip-rap provide protection from inclement weather as well as from potential predators. Several of the overpasses within the BSA provide ample nesting substrate for common bird species such as black phoebes and nesting swallows. Opossums, house mice (*Mus musculus*), eastern gray squirrels (*Sciurus carolinensis*), fox squirrels (*Sciurus niger*), Norway rats *(Rattus norvegicus*), and black rats (*Rattus rattus*) are fairly common in developed habitats within the BSA, and native mammals such as deer mice, raccoons, and striped skunks are expected to occur in these areas as well.

3.2. Regional Species and Habitats of Concern

Figure 3A-B depicts the locations of CNDDB-mapped special-status species and sensitive habitats in the Project vicinity. Appendix A provides the special-status species list for the project area obtained from the Sacramento USFWS office on 17 February 2010.

Many of the special-status plant species that occur in the region are associated with habitat or soil types that do not occur on the Project site, or have been lost from the site due to development and disturbance. Soil types and habitats that are absent from the Project site include serpentine soils, strongly alkaline or saline soils, heavy clay soils, very sandy soils, granitic soils, talus slopes, vernal pool habitat, chaparral habitat, coastal scrub habitat, coastal salt marsh habitat, and closed-cone coniferous forest habitat and other forested, montane habitat types. Cismontane woodland and valley and foothill grassland habitats are also technically absent from the Project site, but due to the stands of coast live oak and poison oak along top-of-bank of the Coyote Creek riparian corridor, and the grassy nature of much of the ruderal fields and scrub areas, plants occurring in these habitat types were considered during our analysis. The numerous coyote brush stands encountered within the ruderal herbaceous field habitat of the BSA lacked a significant herbaceous understory, and thus were not considered capable of supporting native chaparral or coastal scrub species. Many of the plant species originally identified as potentially occurring in the area occur at much higher elevations than are present at the Project site, and other plant species occur only at near sea-level elevations and are also not expected to be present.

Special-status species that occur or may occur in the Project region are presented in Table 2. Regional habitats of special concern are discussed in Chapter 4.1. Those species for which potential habitat is present within the Project's BSA are discussed in further detail in Section 4.2

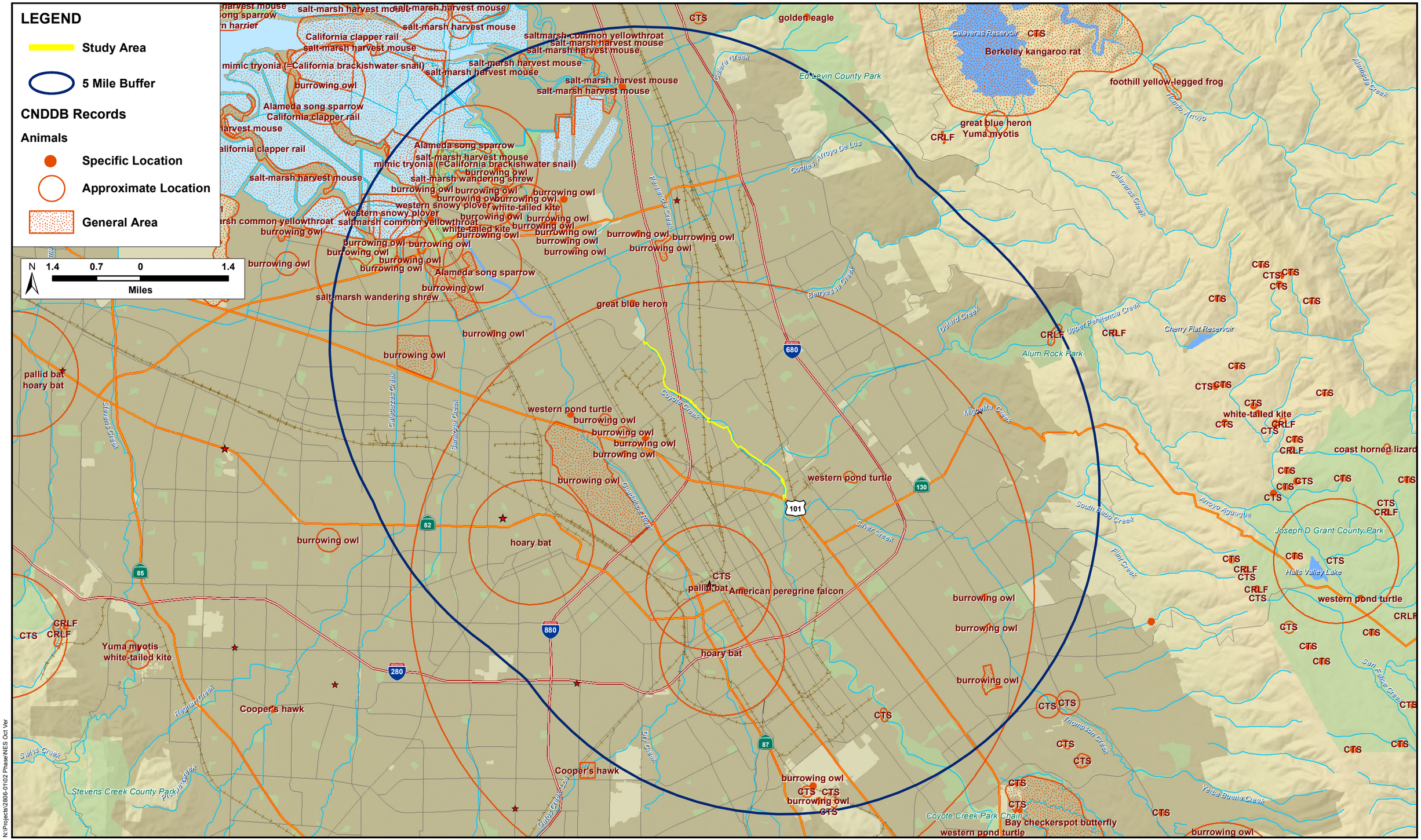

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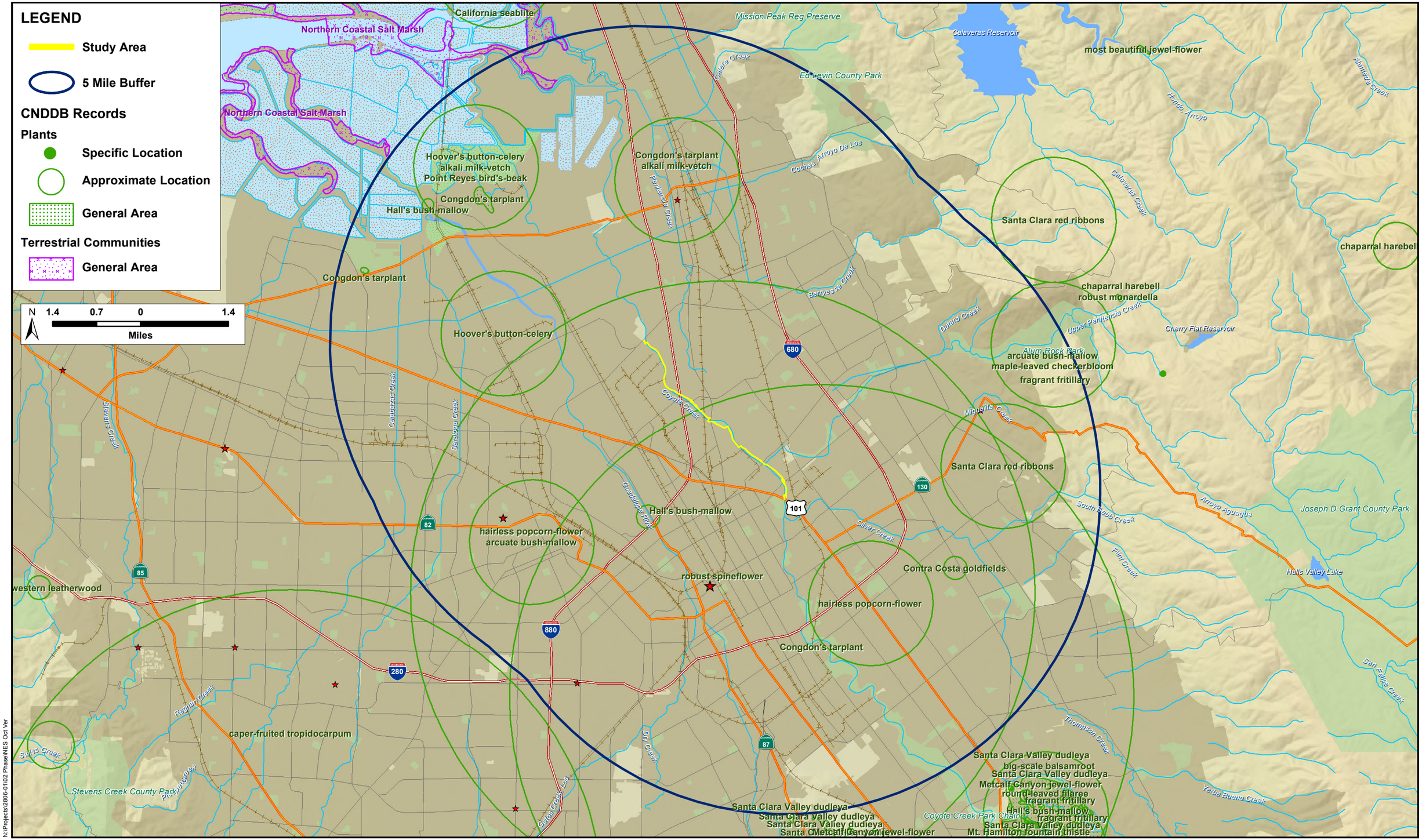
Figure 3A: CNDDB Animal Records

Coyote Creek Trail - Montague Expressway to Watson Park NES (2806 -02)

January 2011



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ECOLOGICAL CONSULTANTS

Figure 3B: CNDDB Plants Records

Coyote Creek Trail - Montague Expressway to Watson Park NES (2806 -02)

January 2011

Table 2. Listed and Proposed Species, and Critical Habitat Potentially Occurring or Known to Occur in the Project Area.

Common Name	Scientific Name	Status	General Habitat Description	Habitat/ Species Present/ Absent	Rationale
Federal Endangered Plant Species					
Robust spineflower	*Chorizanthe robusta* var. *robusta*	CNPS 1B, FE	Very sandy or gravelly areas of chaparral (maritime), cismontane woodland (openings), coastal dunes, coastal scrub	A	No suitably open, dry, well-drained, coarse, loose, mineral soils in area.
Contra Costa goldfields	*Lasthenia conjugens*	CNPS 1B, FE	Mesic, often alkaline cismontane woodland, playas, valley and foothill grassland, vernal pool	A	Habitats on-site potentially supporting valley grassland and cismontane woodland species are highly disturbed. No depressional seeps, vernal pools, or strongly alkaline soils on-site.
Metcalf Canyon jewelflower	*Streptanthus albidus* ssp. *albidus*	CNPS 1B, FE	Serpentinite areas of valley and foothill grassland	A	No serpentinite features on-site.
Federal or State Endangered Animal Species					
Conservancy fairy shrimp	(*Branchinecta conservatio*)	FE	Shallow ephemeral pools in grasslands or wet meadows, often alkaline playa pools	A	No suitable habitat occurs within the BSA.
Vernal pool tadpole shrimp	(*Lepidurus packardi*)	FE	Shallow ephemeral pools in grasslands or wet meadows, often in colder waters	A	No suitable habitat occurs within the BSA.
Coho salmon (Central California Coast)	(*Oncorhynchus kisutch*)	FE, SE	Spawning in accessible coastal streams, generally in areas with complex instream habitat, heavy forest cover,	A	This species is considered to be extirpated from South San Francisco Bay drainages.

Common Name	Scientific Name	Status	General Habitat Description	Habitat/ Species Present/ Absent	Rationale
			and high quality water. Juveniles rear in these areas for two years before migrating to the ocean.		
Chinook salmon (Sacramento River Winter Run)	(*Oncorhynchus tshawytscha*)	FE	Central Valley streams with stable water supply, clean gravel, and good quality riparian habitat. Spawning occurs upstream of the Red Bluff Diversion Dam.	A	The BSA is outside of the current distribution of this species.
Bald eagle	(*Haliaeetus leucocephalus*)	SE, SP	Occurs mainly along seacoasts, rivers, and lakes; nests in tall trees or in cliffs, occasionally on electrical towers. Feeds mostly on fish.	A	Nesting occurs no closer to the site than Calaveras Reservoir, 7 mi northrast of the BSA. The BSA does not provide suitably open habitat for foraging eagles, nor does it offer large enough trees or other structures suitable for nesting.
San Joaquin kit fox	(*Vulpes macrotis mutica*)	FE, ST	Flat or gently sloping grasslands, mostly on the margins of the San Joaquin Valley and adjacent valleys.	A	No records in the Project vicinity. The BSA is outside of the currently known range of the speceis, and is separated from possible movement corridors by extensive development, as well as barriers including Highway 680.
California clapper rail	(*Rallus longirostris obsoletus*)	FE, SE, SP	Restricted to salt marshes and tidal sloughs; usually associated with heavy growth of pickle-weed; feeds on mollusks removed from the mud in sloughs.	A	Suitable tidal marsh habitat does not occur within the BSA.

Common Name	Scientific Name	Status	General Habitat Description	Habitat/ Species Present/ Absent	Rationale
California least tern	(*Sternula antillarum browni*)	FE, SE, SP	Nests on sandy, upper ocean beaches, and occasionally uses mud flats; forages on adjacent surf line, estuaries, or the open ocean.	A	Suitable sandy flat or salt panne habitat does not occur within the BSA.
Willow Flycatcher	*Empidonax traillii*	FE (*E. t. extimus*) SE (other races)	Breeds locally in willow riparian corridors and moist willow thickets in southern and central deserts and mountains.	HP/SA	Uncommon migrant in riparian habitats; it is likely that none of those occurring on-site are of the state- or federal-listed subspecies.
Salt marsh harvest mouse	(*Reithrodontomys raviventris*)	FE, SE, FP	Salt marshes with a dense plant cover or pickleweed or fat hen; adjacent to upland refugia.	A	Suitable tidal marsh habitat does not occur within the BSA.
Federal or State Threatened Species					
Bay checkerspot butterfly	(*Euphydryas editha bayensis*)	FT	Serpentine grasslands in the San Francisco Bay area where host plant (*Plantago erecta*) is present.	A	No suitable habitat occurs within the BSA.
Delta smelt	(*Hypomesus transpacificus*)	FT, ST	Found only in the Sacramento-San Joaquin Estuary. Breed in fresher waters upstream of the main estuary in tidal sloughs and river channels.	A	The BSA is outside of the current distribution of this species.
Steelhead (Central California Coast)	(*Oncorhynchus mykiss irideus*)	FT	Spawns in cool, clear, well-oxygenated streams. Juveniles remain in fresh water for one or more years before migrating to the ocean.	HP	Steelhead are known to occur in the Project reach of Coyote Creek and in Upper Penitencia Creek. Suitable spawning habitat is absent from the Project area but occurs just upstream of the BSA (Entrix

Common Name	Scientific Name	Status	General Habitat Description	Habitat/ Species Present/ Absent	Rationale
					2006).
Steelhead (Central Valley)	(*Oncorhynchus mykiss irideus*)	FT	Spawns in cool, clear, well-oxygenated streams. Juveniles remain in fresh water for one or more years before migrating to the ocean.	A	The BSA is outside of the distribution of this species.
California red-legged frog	(*Rana draytonii*)	FT, CSSC	Streams, freshwater pools, and ponds with emergent or overhanging vegetation.	A	The portion of Coyote Creek within the BSA provides suitable foraging conditions, but this species has apparently been extirpated from the urbanized Valley floor in the Project vicinity due to predatory bullfrogs and introduced fishes, low water quality, and upland urban development. No recent CNDDB records exist for this reach of Coyote Creek.
California tiger salamander	(*Ambystoma californiense*)	FT, SC/CSSC	Vernal or temporary pools in annual grasslands or open woodlands.	A	No suitable vernal or temporary pools occur within the BSA, and the site is isolated from known populations by substantial development and by barriers such as Highway 680 and Highway 101.
Bank swallow	(*Riparia riparia*)	ST	Colonial nester on vertical banks or cliffs with fine-textured soils near water.	A	No breeding habitat is present within the BSA, and there are no breeding records from Coyote Creek. Likely absent.
Alameda whipsnake	(*Masticophis lateralis euryxanthus*)	FT	Occupies open areas in chapparal, coastal scrub, and open woodlands, often near pond or stream	A	The BSA is outside of the distribution of the species, and is separated from known populations by substantial development and

Common Name	Scientific Name	Status	General Habitat Description	Habitat/ Species Present/ Absent	Rationale
			edges, on the eastern side of the San Francisco Bay Area in Alameda and Contra Costa counties.		barriers such as Highway 680.
California black rail	(*Laterallus jamaicensis*)	ST, SP	Inhabits tidal salt marshes bordering larger bays, or other freshwater and brackish marshes, at low elevations.	A	Suitable tidal marsh habitat does not occur within the BSA.
Western snowy plover	(*Charadrius alexandrinus nivosus*)	FT, CSSC	Coastal beaches above the normal high tide line in flat, open areas with sandy or saline substrates; vegetation and driftwood are usually sparse or absent. In San Francisco Bay, nests in salt pannes.	A	Suitable sandy beach or salt panne habitat does not occur within the BSA.
California Species of Special Concern					
Chinook salmon (Central Valley Fall-Run)	*Oncorhynchus tshawytscha*	CSSC	Cool rivers and large streams that reach the ocean and that have shallow, partly shaded pools, riffles, and runs.	HP	Present in Coyote Creek. Suitable spawning habitat is absent from the Project area but occurs just upstream of the BSA (Entrix 2006).
Western pond turtle	(*Actinemys marmorata*)	CSSC	Ponds, slow-moving streams and rivers, irrigation ditches, and reservoirs with abundant emergent and/or riparian vegetation.	HP	Known to occur in lower Coyote Creek in low numbers, and could potentially nest in sandy uplands adjacent to the creek channel within the BSA.
Foothill yellow-legged frog	(*Rana boylii*)	CSSC	Partially shaded shallow streams and riffles with a rocky substrate. Occur in a variety of habitats in coast ranges.	A	Has been documented in Upper Penitencia Creek, a tributary to Coyote Creek (H. T. Harvey & Associates 1999). Channelization and the presence of introduced

Common Name	Scientific Name	Status	General Habitat Description	Habitat/ Species Present/ Absent	Rationale
					predators have reduced habitat suitability on the valley floor, and there are no recent records from anywhere on the Valley floor in or near the BSA (H. T. Harvey & Associates 1999, CNDDB 2010).
California horned lizard	(*Phyrnosoma coronatum frontale*)	CSSC	Open habitats with sandy, loosely textured soils, such as chaparral, coastal scrub, annual grassland, and clearings in riparian woodlands with the presence of native harvester ants (*Pogonomyrmex barbatus*).	A	Nearest CNDDB records are from the foothills to the east of the BSA in sandy chaparral habitats. The BSA offers ostensibly suitable habitat where sandy soils occur in clearings in the riparian forest, but there are no records within the BSA, and the BSA is separated from known populations by extensive development and barriers including Highway 680.
Northern harrier	(*Circus cyaneus*)	CSSC	Nests and forages in grasslands and salt- or fresh-water marshes. Nests on theground in shrubby vegetation or tall grasses.	A	Occasional individuals may fly over the BSA, but the study area is not open enough, and does not provide large enough patches of tall grassy habitat, to provide suitable foraging or nesting nesting habitat for this species.
Burrowing owl	(*Athene cunicularia*)	CSSC	Found in open, dry grasslands, deserts, and ruderal areas. Requires suitable small mammal burrows for shelter and nesting.	A	Burrowing owls historically occurred throughout much of the Santa Clara Valley, but extensive development in the area has reduced the South Bay population considerably. Some stretches of the BSA support weedy and grassy ruderal habitat

Common Name	Scientific Name	Status	General Habitat Description	Habitat/ Species Present/ Absent	Rationale
					suitable for occasional foraging birds, but the high levels of disturbance and proximity of shrub and tree cover to these areas preclude nesting or roosting by burrowing owls.
Vaux's swift	(*Chaetura vauxi*)	CSSC	Redwood, Douglas fir, & other coniferous forests. Nests in large hollow trees & snags, and occasionally in chimneys. Often nests in flocks. Forages over most terrains & habitats.	A	Suitable breeding habitat does not occur within the BSA. May occur as an occasional forager during the nonbreeding season, but this species is only a species of special concern during the breeding season.
Black swift	(*Cypseloides niger*)	CSSC	Nests in coastal cliffs and under tall waterfalls.	A	Suitable coastal cliff breeding habitat does not occur within the BSA. May occur as an occasional forager during the nonbreeding season, but this species is only a species of special concern during the breeding season.
Loggerhead shrike	(*Lanius ludovicianus*)	CSSC	Grasslands, open woodlands, and other open areas featuring hunting perches and sharp branches or barbed wire for impaling prey items. Nests in dense patches of shrubbery.	HP	Loggerhead shrikes have been observed and captured approximately 3 mi downstream of the BSA at the San Francisco Bay Bird Observatory's Coyote Creek Field Station (CCFS) (J. Scullen, pers. comm), and have been confirmed breeding in Santa Clara county in the Project vicinity in recent years (Bousman 2007a). The BSA contains small amounts of suitable open

Common Name	Scientific Name	Status	General Habitat Description	Habitat/ Species Present/ Absent	Rationale
					grassy habitat and dense brush sufficient to support nesting shrikes in low densities, but it is likely that no more than a single pair would nest here given the intensive urbanization along this reach of creek.
Yellow warbler	(*Dendroica petechia*)	CSSC	Nests in dense stands of willow and other riparian habitat.	HP	Yellow warblers have been confirmed breeding along the Coyote Creek within the BSA in recent years (Bousman 2007b). The BSA supports breeding habitat for yellow warblers, but this species breeds in very low densities on the urban Valley floor, and only a few pairs are expected to breed in the BSA.
San Francisco common yellowthroat	(*Geothlypis trichas sinuosa*)	CSSC	Emergent wetland habitats in the San Francisco Bay area. Nests in emergent aquatic vegetation, dense shrubs, or other dense growth.	HP	San Francisco common yellowthroats are common nesting birds along the Coyote Creek downstream of the BSA at CCFS (J. Scullen, pers. comm), and have been confirmed breeding elsewhere along Coyote Creek (Bousman 2007c). This species is likely to breed within the BSA, although the patchy and disturbed nature of suitable nesting habitat limits the number of nesting birds likely to occur.

Common Name	Scientific Name	Status	General Habitat Description	Habitat/ Species Present/ Absent	Rationale
Yellow-breasted chat	(*Icteria virens*)	CSSC	Nests in dense stands of willow and other riparian habitat.	HP/SA	Although yellow-breasted chats occur as rare migrants along Coyote Creek, there are no recent breeding records from urbanized Valley floor downstream from Hellyer Park, and this species is expected to occur in the BSA only as a rare migrant.
Alameda song sparrow	(*Melospiza melodia pusillula*)	CSSC	Nests in salt marsh, primarily in marsh gumplant and cordgrass along channels.	A	Suitable tidal marsh breeding habitat does not occur within the BSA.
Bryant's Savannah Sparrow	(*Passerculus sandwichensis alaudinus*)	CSSC	Nests in pickleweed dominant salt marsh and adjacent ruderal habitat.	A	Suitable tidal marsh breeding habitat does not occur within the BSA. May occur as an occasional forager during the nonbreeding season, but this species is only a species of special concern during the breeding season.
Tricolored Blackbird	(*Agelaius tricolor*)	CSSC	Nests colonially in cattails or other emergent vegetation around freshwater ponds.	HP	No suitable breeding habitat in the BSA due to the intensively urbanized surroundings of the Project area. Nonbreeders may occasionally forage in the Project area in small numbers.
Pallid Bat	(*Antrozous pallidus*)	CSSC	Forages over many habitats; roosts in buildings, large oaks or redwoods, rocky outcrops and rocky crevices in mines and caves.	A	Occurred historically throughout the South San Francisco Bay Area, but South Bay populations currently occur almost exclusively upslope from the lower Santa Clara Valley floor. The BSA does not provide sufficient roosting or

Common Name	Scientific Name	Status	General Habitat Description	Habitat/ Species Present/ Absent	Rationale
					foraging habitat to support pallid bat roosts.
Townsend's big-eared bat	(*Corynorhinus townsendii)*	CSSC	Roosts primarily in caves, mines, attics, abandoned buildings and large trees with bowls such as found in burned old-growth redwoods Forages over many habitats.	A	There is no suitable roosting habitat within the BSA, and this species is extremely sensitive to disturbance, and is thus not expected to occur in the populated vicinity of the BSA.
Western red bat	(*Lasiurus blossevillii*)	CSSC	Riparian woodlands, eucalyptus groves. Riparian-associated species that roosts in the foliage of large trees.	HP	Western red bats could potentially roost in the eucalyptus grove at Montague Expressway within the BSA, and possibly in trees elsewhere in the BSA, though it does not breed here.
Salt marsh wandering shrew	(*Sorex vagrans halicoetes*)	CSSC	Medium-high salt marshes 6-8 ft above sea level, with a dense plant cover or pickleweed or fat hen; adjacent to upland refugia.	A	Suitable tidal marsh habitat does not occur within the BSA.
San Francisco dusky-footed woodrat	(*Neotoma fuscipes annectens*)	CSSC	Builds nests in a variety of habitats including riparian areas, oak woodlands, and scrub.	HP	Small numbers are known to occur in the lower reaches of Coyote Creek near the San Jose-Santa Clara Water Pollution Control Plant downstream of the BSA. Suitable habitat occurs within the BSA, although its highly disturbed nature and intensively urban surroundings have reduced numbers

Common Name	Scientific Name	Status	General Habitat Description	Habitat/ Species Present/ Absent	Rationale
					substantially. Numbers of this species in the BSA are expected to be low if it occurs at all.
American badger	(*Taxidea taxus*)	CSSC	Burrows in grasslands and occasionally in infrequently disked agricultural areas.	A	The limited amount of grassy, open habitat within the BSA is separated from known badger populations and movement corridors by substantial development and barriers such as Highway 680 and Highway 101.
CNPS-listed Plant Species and State Fully Protected Animal Species					
Bent-flowered fiddleneck	*Amsinckia lunaris*	CNPS 1B	Coastal bluff scrub, cismontane woodland, valley and foothill grassland	HP/SA	Habitats on-site potentially supporting valley grassland species highly disturbed and invaded, existing woodland heavily disturbed and not open enough in character.
Alkali milk-vetch	*Astragalus tener var. tener*	CNPS 1B	Strongly alkaline playas, alkaline adobe clay valley and foothill grassland, alkaline vernal pools.	A	No strongly alkaline soils, adobe clay, playas, or vernal pools within the BSA.
Brittlescale	*Atriplex depressa*	CNPS 1B	Chenopod scrub, meadows and seeps, playas, valley and foothill grassland, and vernal pools underlain with strongly alkaline clay soils.	A	No strongly alkaline clay soils, chenopod scrub, meadows, playas, or vernal pools within the BSA.
San Joaquin spearscale	*Atriplex joaquiniana*	CNPS 1B	Chenopod scrub, meadows and	A	No strongly alkaline soils, chenopod scrub,

Common Name	Scientific Name	Status	General Habitat Description	Habitat/ Species Present/ Absent	Rationale
			seeps, playas, and valley and foothill grassland, underlain with strongly alkaline soils.		meadows, playas or seeps within the BSA.
Mexican mosquito fern	*Azolla mexicana*	CNPS 4	Marshes and swamps within ponds and other slow water areas.	A	All marshes within the BSA are within riverine habitat which is not slow or stagnant enough for this species.
Brewer's calandrinia	*Calandrinia breweri*	CNPS 4	Disturbed or burned sites of chaparral or coastal scrub, underlain by sandy or loamy soils.	A	No suitable chaparral or coastal scrub habitat within the BSA
Round-leaved filaree	*California macrophylla*	CNPS 1B	Cismontane woodland and valley and foothill grassland underlain with heavy clay soils.	A	No significant areas of heavy clay soils present within the BSA; additionally the areas potentially supporting grassland species on-site is highly degraded.
Pink creamsacs	*Castilleja rubicundula ssp. rubicundula*	CNPS 1B	Serpentinite areas of chaparral openings, cismontane woodland, meadows and seeps, and valley and foothill grassland.	A	No serpentinite features on-site.
Congdon's tarplant	*Centromadia parryi ssp. congdonii*	CNPS 1B	Strongly alkaline areas of valley and foothill grassland.	A	While this species is tolerant of disturbance, there are no suitably alkaline soils on-site.
San Francisco collinsia	*Collinsia multicolor*	CNPS 1B	Closed-cone coniferous forest and coastal scrub, sometimes associated with serpentine soils.	A	No serpentinite features on-site, nor suitable closed-cone coniferous forest or coastal scrub habitats.
Tiburon buckwheat	*Eriogonum luteolum var. caninum*	CNPS 3	Serpentinite areas of chaparral,	A	No serpentinite features on-site, or suitable

Common Name	Scientific Name	Status	General Habitat Description	Habitat/ Species Present/ Absent	Rationale
			coastal prairie, and valley and foothill grassland.		chaparral or coastal prairie habitats.
Hoover's button-celery	*Eryngium aristulatum var. hooveri*	CNPS 1B	Found in vernal pools.	A	No vernal pools on-site.
San Francisco wallflower	*Erysimum franciscanum*	CNPS 4	Chaparral, coastal dunes, coastal scrub, and valley and foothill grassland, usually on serpentinite or granitic soils, sometimes on roadsides.	HP/SA	No serpentinite features on-site or suitable chaparral, coastal scrub, or coastal dune habitats. Additionally, no granitic soils are present on-site. Extremely unlikely to occur on grassy areas of site, given unsuitable soils, even though plant is tolerant of disturbance and invasives.
Stinkbells	*Fritillaria agrestis*	CNPS 4	Chaparral, cismontane woodland, pinyon and juniper woodland, and valley and foothill grassland underlain with heavy clay soils, sometimes with serpentinite features.	A	No significant areas of heavy clay soils present within the BSA; additionally the areas potentially supporting grassland species on-site is highly degraded. No serpentinite features on-site.
Fragrant fritillary	*Fritillaria liliacea*	CNPS 1B	Cismontane woodland, coastal prairie, coastal scrub, and valley and foothill grassland, often associated with serpentinite soils.	A	No serpentinite features on-site or suitable chaparral, coastal scrub, or coastal prairie habitats. Areas possibly supporting woodland or grassland species are highly degraded by invasive species, and in places by mowing, both known threats to this species.
Loma Prieta hoita	*Hoita strobilina*	CNPS 1B	Mesic areas of chaparral, cismontane woodland, and	HP/SA	No suitable chaparral or cismontane woodland habitat.

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			riparian woodland, usually underlain by serpentine soils.		The riparian forest habitat on-site is heavily impacted by human disturbance and invaded by non-native species, and given the absence of serpentinite features, is not expected to support this species.
Coast iris	*Iris longipetala*	CNPS 4	Meadows and seeps, and mesic areas of coastal prairie and closed-cone coniferous forests.	A	No suitable meadow, seep, coniferous forest, or coastal prairie habitats exist on-site.
Satan's goldenbush	*Isocoma menziesii* var. *diabolica*	CNPS 4	Open slopes and cliffs in foothill cismontane woodland.	A	No suitably open slopes or cliffs exist within the BSA.
Legenere	*Legenere limosa*	CNPS 1B	Vernal pools.	A	No vernal pools exist on-site.
Large-flowered leptosiphon	*Leptosiphon grandiflorus*	CNPS 4	Coastal bluff scrub, closed-cone coniferous forest, cismontane woodland, coastal dunes, coastal prairie, coastal scrub, and valley and foothill grassland, usually on sandy soils.	HP/SA	No sandy soils exist within the BSA, and even though this species is not always found on very sandy soils, the disturbed, ruderal nature of the available grassland habitat precludes the possibility of this species occurring within the BSA.
Woolly-headed lessingia	*Lessingia hololeuca*	CNPS 3	Broadleafed upland forest, coastal scrub, lower montane coniferous forest, and valley and foothill grassland habitats underlain with serpentine clay soils.	A	No serpentinite features or heavy clay soils are present on-site.
Arcuate bush mallow	*Malacothamnus arcuatus*	CNPS	Serpentinite areas of	A	No serpentinite features exist on-

Common Name	Scientific Name	Status	General Habitat Description	Habitat/ Species Present/ Absent	Rationale
		1B	chaparral and cismontane woodland habitats.		site.
Hall's bush mallow	*Malacothamnus hallii*	CNPS 1B	Chaparral and cismontane woodland habitats, usually on serpentine soils.	A	No serpentinite features or suitable chaparral or high-quality cismontane woodland habitat exists on-site.
Mt. Diablo cottonweed	*Micropus amphibolus*	CNPS 3	Rocky areas in broadleafed upland forest, chaparral, cismontane woodland, and valley and foothill grassland.	A	No suitably rocky areas exist within the BSA; also, the Project area is more than 25 ft lower than the species' published elevational range.
Cotula navarretia	*Navarretia cotulifolia*	CNPS 4	Chaparral, cismontane woodland, and valley and foothill grassland habitats on adobe clay soils.	A	No adobe clay soils exist on-site.
Prostrate navarretia	*Navarretia prostrata*	CNPS 1B	Meadows and seeps, mesic areas of coastal scrub, alkaline valley and foothill grassland, and vernal pools.	A	No suitably mesic meadows, seeps, grassland, coastal scrub, or vernal pool habitat exist on-site; additionally, no strongly alkaline soils are present.
Gairdner's yampah	*Perideridia gairdneri ssp. gairdneri*	CNPS 4	Mesic areas of broadleafed upland forest, chaparral, coastal prairie, and valley and foothill grassland; also vernal pools.	A	No suitably mesic grassland exists on-site; all other habitat types this species occurs in, including vernal pools, are also absent from the BSA.
Michael's rein orchid	*Piperia michaelii*	CNPS 4	Coastal bluff scrub, closed-cone coniferous forest, chaparral, cismontane woodland, coastal scrub, and lower montane coniferous forest.	A	No appropriate habitat for this species exists on site. Lower-elevation populations of this species all occur in the southern Coast Ranges, not within floodplain valleys or more inland riparian habitats.

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Hickman's popcorn-flower	*Plagiobothrys chorisianus var. hickmanii*	CNPS 4	Closed-cone coniferous forest, chaparral, coastal scrub, marshes and swamps, and vernal pools.	A	No suitable coniferous forest, chaparral, coastal scrub, swamp, or vernal pool habitat exists on-site. Marsh habitat on-site is perennially emergent, and riverine in character, and also will not support populations of this species.
Hairless popcorn-flower	*Plagiobothrys glaber*	CNPS 1A	Alkaline meadows and seeps, coastal salt marsh.	A	No strongly alkaline soils or coastal salt marsh is present on-site.
Delta woolly-marbles	*Psilocarphus brevissimus var. multiflorus*	CNPS 4	Vernal pools.	A	No vernal pool habitat exists on-site.
Lobb's aquatic buttercup	*Ranunculus lobbii*	CNPS 4	Seeps and very mesic areas within cismontane woodland, North Coast coniferous forest, and valley and foothill grassland, and vernal pools	A	No suitable seep areas exist within the riparian or grassland areas on-site. Additionally, no vernal pools are present within the BSA.
Rayless ragwort	*Senecio aphanactis*	CNPS 2	Drying alkaline flats in chaparral, cismontane woodland, or coastal scrub	A	No alkaline flats are present on-site.
Maple-leaved checkerbloo m	*Sidalcea malachroides*	CNPS 4	Broadleafed upland forest, coastal prairie, coastal scrub, North Coast coniferous forest, and riparian forest. Often found in disturbed areas.	HP/SA	Maple-leaved checkerbloom was not observed in riparian areas within the BSA. Severely degraded and disturbed riparian habitat within the Coyote Creek corridor precludes the establishment of this species within the BSA. Additional surveys for Maple-leaved checkerbloom are not warranted.
Metcalf Canyon	*Streptanthus albidus ssp. albidus*	CNPS	Serpentinite features in	A	No serpentinite features exist on-

Common Name	Scientific Name	Status	General Habitat Description	Habitat/ Species Present/ Absent	Rationale
jewel-flower		1B	valley and foothill grasslands.		site.
Saline clover	*Trifolium depauperatum* var. *hydrophilum*	CNPS 1B	Marshes, swamps, and vernal pools, also sometimes in mesic, alkaline seeps in valley and foothill grassland.	A	No suitable alkaline seep, swamp, or vernal pool habitat exists on-site. Marsh habitat on-site is perennially emergent, and riverine in character, and also will not support populations of this species.
Golden eagle	(*Aquila chrysaetos*)	SP	Breeds on cliffs or in large trees (rarely on electrical towers), forages in open areas.	A	May occasionally fly over the BSA, but no suitable foraging or nesting habitat is present in the BSA.
White-tailed Kite	(*Elanus leucurus*)	SP	Open habitats such as grassy plains, agricultural fields, open oak woodlands, and marshes. Nests in tall shrubs and trees.	HP	White-tailed kites are known to nest along the Coyote Creek approximately 3 mi downstream of the BSA at the San Francisco Bay Bird Observatory's Coyote Creek Field Station. The BSA offers a limited amount of suitable nesting and foraging habitat for at most 1-2 pairs of this species.
American peregrine falcon	(*Falco peregrinus anatum*)	SP	Forages in many habitats; nests on cliffs and tall bridges and buildings.	A	Peregrine falcons are known to occur in the vicinity of the BSA and may forage in the area on occasion. The BSA does not contain tall structures suitable for nesting.

Absent [A] - no habitat present and no further work needed. Habitat Present/Species Absent [HP/SA] – site conditions consistent with suitable habitat, but for other reasons (e.g., range or habitat quality), the species is not expected to occur. Habitat Present [HP] - habitat is, or may be present. The species may be present. Critical Habitat [CH] - Project footprint is located within a designated critical habitat unit, but

does not necessarily mean that appropriate habitat is present. Status: Federal Endangered (FE); Federal Threatened (FT); Federal Proposed (FP, FPE, FPT); Federal Candidate (FC), Federal Species of Concern (FSC); State Endangered (SE); State Threatened (ST); Fully Protected (FP); State Rare (SR); State Species of Special Concern (SSC); California Native Plant Society (CNPS), etc.

Chapter 4. Results: Biological Resources, Discussion of Impacts and Mitigation

4.1. Natural Communities of Special Concern

A query of sensitive habitats in Rarefind (CNDDB 2010) was performed for the San José East quadrangle and all surrounding quadrangles. CNDDB (2010) identified the following sensitive habitats as occurring in the Project region: northern coastal salt marsh, serpentine bunchgrass, valley needlegrass grassland, and sycamore alluvial woodland. Although sycamores are present within the riparian forest in the Project BSA, and an occurrence of sycamore alluvial woodland is found on Coyote Creek south of the Project site, in the vicinity of Morgan Hill (CNDDB element code CTT62100CA, occurrence 10), no reaches of Coyote Creek within the Project area satisfy the definition of sycamore alluvial woodland. Native occurrences of sycamore alluvial woodland are overwhelmingly dominated by widely-spaced sycamores, with a widely-spaced elderberry and mulefat understory; additionally, these woodlands form on low, braided, alluvial channels across a wide floodplain, and typically only show seasonal wetland hydrology (Holland 1986). Within the reaches of Coyote Creek surveyed for this Project, sycamores were not common compared to species such as Fremont's cottonwood, red willow, arroyo willow, box elder, and coast live oak. Also, Coyote Creek in the vicinity of the BSA has high, steep banks, perennial flow, a thick understory dominated by non-native saplings, and does not have a widely-spaced overstory.

As described in Chapter 3 above, a dense cover of mixed riparian forest habitat (~10.4 ac) occurs along the floodplains and banks of Coyote Creek throughout the BSA. Aquatic habitat is present within the perennial, low-flow channel of Coyote Creek throughout the BSA. Small, scattered patches of freshwater marsh habitat also occur within portions of the BSA below the ordinary high water of Coyote Creek.

4.1.1. Discussion of Mixed Riparian Forest

While the riparian corridor within the BSA is bounded by various developments, parks, and ruderal fields, this corridor consists of a relatively wide (~150-300 ft), contiguous band of dense riparian vegetation. The riparian vegetation within the bed and banks of Coyote Creek has an overstory variably dominated by a mix of native and non-native trees including Fremont's cottonwood, red and arroyo willows, box elder, coast live oak, black walnut, black locust, tree-of-heaven, and Chinese elm. The

understory is dominated by non-native species including saplings of black locust, Chinese elm, and tree-of-heaven saplings, as well as a diversity of non-native herbaceous species including periwinkle, smilograss, and Italian wild-rye. Scattered patches of native-dominated understory also occur in the BSA and are dominated by species such as blue elderberry and poison oak.

4.1.1.1. SURVEY RESULTS

The BSA contains approximately (10.4 ac) of mixed riparian forest habitat. This habitat is limited to the banks, and in some areas, just outside the top-of-bank, of primarily Coyote Creek. The BSA also includes a 200 ft long reach of Upper Penitencia Creek just upstream of its confluence with Coyote Creek. Riparian impacts are quantified below via the stem-count method. However, for the purpose of this general characterization, we ranked the riparian plant associations at the impact sites according to the following habitat quality categories. The habitat quality categories were based on observed vegetation characteristics that correspond to wildlife habitat values such as the presence/absence and the density of the overstory vegetation, the presence or absence of native species, and the complexity of vegetation structure (e.g., presence of tree, shrub and herbaceous layers).

The three habitat quality categories are:

High quality: Moderate to high density of native overstory species (i.e., trees) with continuous native understory or with native understory (i.e., shrubs, grasses, herbs) occurring in dense thickets; dense native overstory with sparse, non-native or no understory; and native willow thicket.

Medium quality: Sparse native overstory with sparse, non-native or no understory, non-native overstory with native understory, and dense non-native overstory with non-native or no understory.

Lower quality: Sparse non-native overstory with sparse, non-native or no understory. This category also includes non-native grassland habitat, ruderal habitat, bare ground riprap, gabions, and other forms of ground cover not included in the medium or high quality categories.

Under this classification system, the riparian habitat located within the BSA is of high to medium quality throughout the BSA due to the dense overstory. The habitat quality varies from high to medium depending on the abundance of non-native tree species in a given area. However, it should be noted that especially on the lower banks, habitat quality has been further degraded by soil compaction, loss of

herbaceous vegetation and trash dumping associated with a significant homeless population.

4.1.1.2. AVOIDANCE AND MINIMIZATION EFFORTS

Project impacts to riparian forest habitat have been avoided to the maximum extent feasible during the conceptual design process. This was accomplished by designing the trail to utilize and/or improve existing service roads, walkways, and trails to the maximum extent feasible. Therefore, riparian habitat impacts were primarily limited to the trail under-crossings (i.e., where the trail crosses under existing bridges), and the five proposed pedestrian bridges (including the optional bridge over Upper Penitencia Creek). As noted in the Project description, the pedestrian bridge crossings were designed to minimize impacts to riparian habitat by utilizing freespan bridges that will be assembled adjacent to the installation site and installed with two cranes; one crane on each side of the creek. Since the existing service roads provide adequate access, heavy equipment will not access the creek bed and banks during bridge installation.

4.1.1.3. PROJECT IMPACTS

It is anticipated that the Project will result in direct (removal) and indirect (trimming, root impacts, soil compaction) impacts to riparian forest vegetation. In many cases, removal of trees will cause temporary impacts to the riparian forest habitat quality, as existing native trees (saplings and mature trees) are expected to rapidly grow to fill in available canopy gaps. Additionally, several non-native, invasive tree species will be removed from the riparian corridor including weeping willow, blue gum eucalyptus, and tree-of-heaven. Removal of these species constitutes an impact since these species provide some limited wildlife habitat, but will also result in an ecological benefit by reducing the propagation of these invasive species within the riparian corridor.

Indirect impacts may occur to trees that are not removed due to trimming and root impacts caused by construction equipment access and grading (i.e., soil compaction, root damage via excavation, long-term reduction in soil moisture where trail paves over root zones). However, increased pedestrian traffic is not expected to be an impact, because the habitat is adjacent to highly developed areas within San José, and an increase in trail use traffic is likely to be mitigated by a concomitant decrease in utilization of the entire riparian corridor by homeless individuals.

We quantified riparian tree impacts by conducting a stem count. We identified the species and measured the diameter at breast height (dbh) of each tree to be impacted.

The stem count included trees that would be removed during construction and those that would likely die in the near-term after construction due to severe trimming, and/or root impacts.

Table 3 provides the stem count results. The majority of the riparian trees to be impacted are native species (6 – 17 inches dbh) and include primarily red willow, Fremont's cottonwood, box elder, and blue elderberry. Several non-native species of limited invasiveness (i.e., peppertree and olive) and several invasive species (i.e., blue gum eucalyptus, tree-of heaven, and weeping willow) will also be impacted. Appendix C provides a list of the riparian tree species and quantities that will be impacted.

Table 3. Riparian Tree Impacts

Size Class of Impacted Stem (diameter at breast height, inches)	# Impacted Stems of Native Tree Species	# Impacted Stems of Non-native Tree Species	# Impacted Stems of Non-native, Invasive Tree Species1	Total for Size Class
< 6	1	1	0	2
6 – 11	40	5	6	51
12 – 17	17	1	2	20
≥ 18	9	2	2	13
Totals	**67**	**9**	**10**	**86**

[1]Invasive species were defined as those species rated as Moderate to High Invasiveness by the California Invasive Plant Council (http://www.cal-ipc.org/ip/inventory/index.php)

4.1.1.4. COMPENSATORY MITIGATION TYPE AND QUANTITY

The trees to be impacted by this Project are regionally abundant species, and due to the urban context of the Project site, they are principally used by regionally common wildlife species. Nevertheless, riparian habitat is a sensitive, regulated habitat and the permanent loss of riparian habitat is considered a significant impact requiring compensatory mitigation. Riparian impacts will be mitigated by the restoration of additional riparian habitat based on the stem replacement ratios discussed below. The degree of impact to the structure and function of the riparian forest in the BSA varies based on the species and size of the trees to be removed. Therefore, the following habitat mitigation quantity is calibrated to the size and species of tree. Larger, more mature trees contribute more to habitat value than saplings, and will be mitigated at a greater ratio. As noted above, the removal of non-native, invasive trees from the riparian corridor constitutes an impact, but can also benefit the riparian corridor by reducing the reproduction of these species. Therefore, the mitigation ratio for invasive tree species is much lower.

Table 4 provides the per-stem mitigation ratios used to calculate the required number of native riparian trees to plant as mitigation for this Project to reduce the impacts to a minimal level. The mitigation ratios proposed below are in line with the City of San Jose's tree ordinance (City of San Jose Civil Code 13.32.020) for native tree removal; however we have lowered the mitigation ratios for non-native species to be commensurate with the ecological impacts.

Table 4. Riparian Impact Stem Replacement Ratios and Subsequent Mitigation Plantings Required to Compensate for Project Impacts

Size Class of Impacted Stem	Ratio for Native Tree Species (replacement:loss)	Ratio for Non-native Tree Species (replacement:loss)	Ratio for Non-native, Invasive Tree Species (replacement:loss)	# Mitigation Stem Replacement Needed for Project Impacts by Size Class
< 6 in dbh	1:1	0.5:1	0:1	1
6 – 11 in dbh	2:1	1:1	0.5:1	84
12 – 17 in dbh	3:1	2:1	0.5:1	46
≥ 18 in dbh	5:1	2:1	0.5:1	48
# Mitigation Stem Replacement Needed for Project Impacts by Species Class	**177**	**12**	**5**	**194** Total Replacement Plantings Required to Mitigate Project Impacts (planted in a 1.3 ac area)

A total of 1.46 ac of riparian habitat mitigation is required. This surface area includes 1.3 ac of riparian tree replacement mitigation to accommodate the quantity of replacement trees summarized in Table 4 and 0.16 ac of riparian mitigation to compensate for the removal of a 0.05 ac riparian mitigation site located at the corner of Notting Hill Drive and Hazlett Way (mitigated at a 3:1 ratio (mitigation surface area: impact surface area)). The 1.3 ac of riparian tree replacement mitigation was calculated assuming that a total of 252 trees would be planted on approximately 16-ft average on-center spacing (planted trees approximately 16 ft apart from one another). At least 252 trees would be planted to allow for up to 30% mortality during the plant establishment period (first 3-5 years after planting) to result in at least 194 surviving native riparian trees per the requirement in Table 4.

This mitigation quantity includes approximately 1100 ft^2 of riparian mitigation for the loss of riparian habitat due to the Project option to replace a culverted crossing with a freespan bridge at Upper Penitencia Creek. If this option is not selected, then the riparian mitigation requirement can be reduced by 1100 ft^2.

The riparian mitigation should target a dense cover of cottonwood/willow and/or coast live oak/valley oak dominated riparian habitat within the Coyote Creek Watershed as close to the impact site as is feasible.

Riparian Mitigation Sites

North Coyote Park Site. The riparian mitigation will be located at the City-owned, North Coyote Park. H. T. Harvey & Associates' restoration ecologists conducted a reconnaissance survey of the site on 10 February 2010. This site is situated between the Coyote Creek riparian corridor and the proposed trail approximately mid-way through the Project reach (Figure 2C). The site offers the following riparian restoration opportunities which make this location suitable to compensate for the Project's riparian impacts:

- location on Coyote Creek is in close proximity to riparian impacts
- landscape position and topography are suitable to widen the existing riparian corridor via the restoration of a riparian habitat ecotone from water-loving Fremont cottonwood/willow riparian forest to drought-tolerant coast live oak/valley oak riparian forest; plant associations that are comparable to those to be impacted.
- topography is gently sloped and terraced, providing an ideal landform for revegetation of a riparian ecotone.
- riparian habitat restoration will be located between a proposed trail segment and the existing riparian corridor, thus providing a restored habitat buffer between the trail and existing riparian habitat.
- At least one patch of giant reed is located along the upslope edge of the existing riparian corridor at this site and could be eradicated and replanted with native riparian species
- available surface area is more than adequate to accommodate 1.35 ac of riparian mitigation

Upper Penitencia Creek Culvert Removal. As noted in the Project Description (Chapter 1), the Project includes the option to remove an existing approximately 30-ft wide culverted crossing on Upper Penitencia Creek with a 14-ft wide, freespan pedestrian bridge. This option would include the restoration of a stable earth channel bed and banks. The restored creek banks would be revegetated with native riparian

species similar to the habitat on Upper Penitencia Creek just upstream of the crossing (e.g., willows, cottonwoods, box elder, coast live oak, blue elderberry). If this option is selected, approximately 1000 ft^2 of riparian habitat restoration would be provided on the restored banks of Upper Penitencia Creek. This is much less than the riparian mitigation requirement of 1.46 ac, but could be used as a small portion of mitigation, with the majority of the mitigation accomplished at the North Coyote Park site.

Mitigation Design and Monitoring Requirements

A restoration ecologist will prepare the conceptual riparian mitigation design and ecological monitoring plan. The North Coyote Park site has the following constraints to riparian restoration that the restoration ecologist will assess and account for in the conceptual mitigation design.

- The soils at the North Coyote Creek Park site are mapped as Riverwash series (SCS 1968). Riverwash is coarse textured alluvium comprising a mixture of sand, gravel, and cobble with little fine-grained material, correspondingly low fertility, and the potential for abrupt changes in texture with depth in the seedling rooting zone.
- Coyote brush scrub, an early-successional woody plant association, is patchily distributed across the site. The design should replace a portion of this habitat with riparian trees and tall-statured riparian shrubs to increase the rate of plant community succession. The optimal configuration of coyote brush scrub to be converted and that to be preserved for wildlife use should be considered in collaboration with a wildlife ecologist.

A Riparian Mitigation and Monitoring Plan will be prepared by a restoration ecologist during the regulatory agency permitting phase of the Project as is typical during the environmental clearance process. This plan will identify the preferred mitigation site location(s) and will include the following:

- Mitigation design:
  - existing and proposed site hydrology
  - soil preparation methods (including amendments) and other site preparation elements as appropriate
  - planting plan
  - irrigation and maintenance plan
- Monitoring plan (including final success and performance criteria, monitoring methods, data analysis, reporting requirements, monitoring schedule, remedial measures/adaptive management, etc.). Riparian mitigation sites will be

monitored over a 10-year period to determine if the performance and success criteria are met.

- Contingency plan for mitigation elements that do not meet performance or final success criteria.

Sections 1600-1616 of the California Fish and Game Code require that a Streambed Alteration Agreement be obtained from the CDFG prior to any activities, such as this Project's proposed construction and possibly the mitigation installation, that will impact CDFG jurisdiction within the bed and banks of a creek (e.g., Coyote Creek), including its riparian habitat.

4.1.1.5. CUMULATIVE IMPACTS

Cumulative impacts to riparian habitats result from past, current, and reasonably foreseeable future projects in the region, including the construction of approximately 9 mi of the Coyote Creek Trail that still remains to be installed. These projects will all undergo (or have undergone) separate environmental review, and will require separate environmental permitting from regulatory agencies, if needed. It is expected that significant ecological impacts identified for these individual projects will be mitigated, either through the CEQA or permitting process. The contribution of this Project to cumulative impacts on riparian habitats will be minimal considering the benefits of compensatory mitigation plantings, the reduction in non-native invasive species density within the riparian impact areas, and the likely reduction in homeless traffic within the riparian corridor post-trail construction. Thus, provided that this Project successfully incorporates the conservation measures described in this NES, the Project will not contribute to substantial cumulative effects on riparian habitat.

4.1.2. Aquatic Habitat

4.1.2.1. SURVEY RESULTS

Coyote Creek within the BSA, is a perennial stream with perennial aquatic habitat in its low-flow channel. Small, scattered patches of freshwater marsh occur along the edges of the low-flow channel. The low-flow channel up to the Ordinary High Water Mark falls within USACE-jurisdiction.

4.1.2.2. AVOIDANCE AND MINIMIZATION EFFORTS

Temporary and permanent impacts to the aquatic and any associated marsh habitats within Coyote Creek will be avoided to the maximum extent feasible by limiting the impact areas to the minimum necessary to perform the proposed work and restricting

all work within the banks of the creek to the dry season (15 April – 15 October). The five pedestrian bridges (including the optional bridge over Upper Penitencia Creek) are freespan bridges that will be pre-fabricated and installed via cranes situated at the top of creek bank on each side of the creek. The existing service roads provide adequate access and therefore, heavy equipment will not access the creek bed and banks during bridge installation. All temporary staging areas will be located in upland areas or on existing developed areas.

The following standard Best Management Practices will be implemented to minimize any potential Project impacts to aquatic habitat and water quality: 1) no equipment will be operated in the live stream channel; 2) no debris, soil, silt, sand, bark, slash, sawdust, cement, concrete, washings, petroleum products or other organic or earthen material shall be allowed to enter into or be placed where it may be washed by rainfall or runoff into waters of the U.S./State; 3) standard erosion control and slope stabilization measures (e.g., fiber rolls, staw bale dikes, native grass seeding, straw mulch, erosion control fabric) will be required for work performed in any area where erosion could lead to sedimentation of a waterbody; 4) machinery will be refueled at least 60 ft from any aquatic habitat, and a spill prevention and response plan will be developed. All workers will be informed of the importance of preventing spills and of the appropriate measures to take should a spill occur; and 5) dewatering of Upper Penitencia Creek, under the freespan bridge option, will be done in a fashion that maintains fish passage and minimizes temporary water quality impacts.

4.1.2.3. PROJECT IMPACTS

The Project will not impact freshwater wetlands or aquatic habitat within the low-flow channel of Coyote Creek. The Project will result in the loss of Shaded Riverine Aquatic (SRA) habitat due to tree removal at the bridge crossings; this impact is discussed at length below in the section on impacts to Central California Coast steelhead and Central Valley Fall-Run Chinook salmon.

The Project includes the option to replace an existing culverted crossing on Upper Penitencia Creek with a freespan pedestrian bridge along with the restoration of approximately 30 ln ft of stream channel and associated riparian habitat. This option would result in a net benefit to aquatic habitat at Upper Penitencia Creek via the restoration of 30 ln ft of stable, earthen stream channel. This option would also result in temporary disturbance to aquatic habitat during construction to dewater the channel and remove the existing culvert and reconstruct a stable earthen channel bed (see Section 4.3.1.2 below regarding avoidance and minimization measures for salmonids).

4.1.2.4. COMPENSATORY MITIGATION

With the implementation of the avoidance and minimization measures described above, impacts to aquatic habitat will be minimal, and no compensatory mitigation is proposed.

4.1.2.5. CUMULATIVE IMPACTS

Cumulative impacts to aquatic habitats result from past, current, and reasonably foreseeable future projects in the region, including the construction of approximately 9 mi of the Coyote Creek Trail that still remains to be installed. These projects will all undergo (or have undergone) separate environmental review, and will require separate environmental permitting from regulatory agencies, if needed. It is expected that significant ecological impacts identified for these individual projects will be mitigated, either through the CEQA or permitting process. The contribution of this Project to cumulative impacts on aquatic habitats will be minimal considering design elements that avoid and minimize construction activities within aquatic habitats, and the integration of BMPs to protect water quality. Thus, provided that this Project successfully incorporates the conservation measures described in this NES, the Project will not contribute to substantial cumulative effects on aquatic habitat.

4.2. Special-Status Plant Species

As shown in Table 2, no special-status plant species are expected to occur in the BSA. Therefore, the Project will not impact any special-status plant species.

4.3. Special-Status Animal Species

A reconnaissance-level wildlife survey of the Project alignment was conducted on 17 February 2010, noting special-status species and habitats potentially suitable for these species. A list of all special-status animal species that may potentially occur in the Project region is presented in Table 1 above. Most of these species were rejected for potential occurrence in the Project area because it lacks suitable habitat and/or is outside of the range of the species. Several other species are known to occur in somewhat similar habitat (e.g., riparian forests) in less developed areas in Santa Clara County but are not known or expected to be present in valley-floor areas as heavily urbanized as the Project area. Table 5 summarizes potential Project impacts to listed, proposed, or other special-status species known or expected to occur in the Project area, in relation to NEPA, CEQA, and FESA; expanded discussions of these species follow.

4.3.1. Central California Coast Steelhead and Central Valley Fall-Run Chinook Salmon

4.3.1.1. SURVEY RESULTS

The steelhead is an anadromous form of rainbow trout that migrates upstream from the ocean to spawn in late fall or early winter, when flows are sufficient to allow them to reach suitable habitat in far upstream areas. Spawning occurs between December and June. Steelhead usually spawn in clear, cool, perennial sections of relatively undisturbed streams. Preferred streams typically support dense canopy cover that provides shade, woody debris, and organic matter. Streams in which spawning occurs are usually free of rooted or aquatic vegetation. Gravel substrates are the optimum spawning habitat. Steelhead usually cannot survive long in pools or streams with water temperatures above 70°F. Despite their general requirement for cool water, steelhead can use warmer habitats if adequate food supply is available (Moyle 2002).

Steelhead populations have declined due to degradation of spawning and rearing habitat, introduction of barriers to upstream migration, over-harvesting by recreational fisheries, and reduction in winter flows due to damming and spring flows due to water diversion. While steelhead historically occurred regularly throughout Coyote Creek, they are now relatively rare due to urbanization, the presence of barriers, and loss of spawning and rearing habitat. In the portion of Coyote Creek where the trail Project occurs, *Oncorhynchus mykiss* were documented in 2008 (Moore et al. 2008), although it was not determined whether the individuals documented were anadromous (steelhead) or resident (rainbow trout). Steelhead are not known to spawn along this reach of Coyote Creek, and a stream habitat assessment of the Coyote Creek in 2003 found no spawning gravels in the reach of the stream within the Project area, with the possible exception of very small amounts of gravels near the Montague Expressway overcrossing (Buchan and Randall 2003). Steelhead have been documented spawning in Upper Penitencia Creek (Moore et al. 2008), in reaches well upstream from where the Project crosses this creek. Therefore, steelhead are expected to use the reaches of Coyote Creek and Upper Penitencia Creek within the Project area primarily during upstream and downstream movements between the ocean and upstream spawning areas. It is unknown whether any steelhead rearing occurs within the Project reach of Coyote Creek, but it is possible that some rearing occurs here. The Project reach of Coyote Creek and Upper Penitencia Creek are included in the Critical Habitat designation for the Central California Coast steelhead (NMFS 2005).

Like the steelhead, the Chinook salmon is an anadromous salmonid. Fall-run Chinook salmon populations have suffered the effects of over-fishing by commercial fisheries, degradation of spawning and rearing habitat, added barriers to upstream migration, and reductions in winter flows due to damming. Approximately 40 to 50 percent of the spawning and rearing habitats in Central Valley streams have been lost or degraded. Adults of the Central Valley fall-run Evolutionarily Significant Unit (ESU) migrate from the ocean to spawning streams in late fall and begin spawning in beds of coarse river gravels between October and December. Chinook salmon generally spawn in cool waters providing incubation temperatures no warmer than 55° F. Compared to steelhead, Chinook salmon are more likely to spawn in coarse gravels and lower in the watershed.

Chinook salmon did not historically spawn in streams flowing into South San Francisco Bay. Since the mid-1980s, however, small numbers of fall-run Chinook salmon have been found in several such streams, including Coyote Creek, Los Gatos Creek, and the Guadalupe River (Leidy et al. 2003), and the species has recently been recorded along lower Alameda Creek as well. Chinook salmon are known to spawn in lower parts of the Coyote Creek watershed, but it is not known whether spawning occurs along the reach of Coyote Creek in the Project area. A stream habitat assessment of the Coyote Creek in 2003 found virtually no spawning gravels in the reach of the stream within the Project area (Buchan and Randall 2003). However, small numbers of salmon may use the Project area during migration between the ocean and upstream spawning and rearing areas.

4.3.1.2. AVOIDANCE AND MINIMIZATION EFFORTS

Construction of the Project may cause indirect impacts to individual steelhead or Chinook salmon resulting from impacts to water quality during construction. The Project applicant will implement Best Management Practices as described under Section 4.1.2.2 above to prevent or minimize adverse effects on water quality during construction.

No impacts are currently proposed to occur within aquatic or wetland habitats, and thus no direct impacts to steelhead or Chinook salmon are expected with implementation of BMPs. However, the Project includes the option to replace an existing culverted crossing on Upper Penitencia Creek with a freespan pedestrian bridge. If this option is implemented, the existing culvert would be removed, and approximately 30 ln ft of stream channel and associated riparian habitat would be restored. This option would result in a net benefit to aquatic habitat in Upper Penitencia Creek and would benefit salmonids by improving habitat and fish passage

through this reach. Nevertheless, temporary impacts to water quality could occur during the removal of the culvert and restoration of a natural channel here, and impacts to salmonids within the creek could occur during culvert removal and restoration as well. Therefore, the following measures will be implemented during any culvert removal or restoration activities within Upper Penitencia Creek to reduce adverse effects on salmonids:

- If culvert removal or other activities in a flowing stream are unavoidable, the work area will be dewatered (e.g., using coffer dams), and any stream flow shall be diverted around the work area by a barrier, temporary culvert or a new channel capable of permitting upstream and downstream fish movement.
- Construction of the barrier or the new channel shall normally begin in the downstream area and continue in an upstream direction and the flow shall be diverted only when construction of the diversion is completed.
- If a segment of Upper Penitencia Creek must be dewatered or diverted, such work will occur during the dry season (roughly 15 June to 15 October, with the potential for extensions beyond this period, in consultation with NMFS, if dry weather permits). Additionally, a qualified biologist will be present during the construction of the coffer dams and dewatering of the area within the coffer dams to ensure that no salmonids, western pond turtles, or other native wildlife are directly impacted during installation of the coffer dams, and to thoroughly inspect and seine (i.e., utilize a net to capture aquatic species) the area within the coffer dams before the work area is pumped out. Any native fish, reptiles, or amphibians within the work area will be removed to the area immediately downstream. No steelhead will be moved without authorization of the NMFS.
- A construction personnel education program will be given by a qualified biologist before the commencement of construction to explain to construction personnel how best to avoid the accidental take of steelhead and salmon. The approved biologist will conduct a training session that will be scheduled as a mandatory informational field meeting for contractors and all construction personnel. The field meeting will include topics on species identification, life history, descriptions of habitat requirements during various life stages, review of habitat sensitivity, required practices before the start of construction and a discussion of

general measures that are being implemented to conserve the species as they relate to the Project, penalties for noncompliance, and boundaries of the construction area. Emphasis will be placed on the importance of the habitat and life stage requirements within the context of Project avoidance and minimization measures. Handouts, illustrations, photographs, and/or Project mapping showing areas where minimization and avoidance measures are being implemented will be included as part of this education program. Upon completion of training, employees will sign a form stating that they attended the training and understand all the conservation and protection measures. Training shall be conducted in languages other than English for workers who do not speak or understand English.

The use of pile drivers to install bridge supports and potentially retaining walls could result in impacts to salmonids. Conservation measures described in the technical guidance for reducing impacts to salmonids from pile driving detailed by CalTrans (2009) shall be followed where practicable. Such measures will include, but are not limited to:

- Limiting pile-driving work to the period 15 June to 15 October as described above, or even a narrower window within this period if so advised by NMFS or CDFG fisheries biologists
- Avoid in-water installation of piles (which is not proposed by the Project)
- Use low-impact pile-driving equipment such as vibratory hammers that minimize underwater sound pressure levels or press-in pile installation to the greatest extent practicable
- Avoid using steel piles to the greatest extent practicable
- Limit construction-related underwater sound exposure levels to less than 187 dB and sound pressure levels to less than 208 dB, following Popper et al. (2006)
- If feasible, generate lower intensity underwater sounds to repel fish from the immediate construction area prior to use of a high-pressure hammer

4.3.1.3. PROJECT IMPACTS

The Project as currently proposed will not involve any work in the live channel, with the potential exception of removal of the culverted crossing over upper Penitencia

Creek. Because all trail crossings will use a freespan design, all construction access and installation activities will occur via existing service roads, and standard BMPs for water quality will be followed as described above, there will be no permanent impacts to in-stream habitat for steelhead or other aquatic species resulting from this Project. If the option to remove the culverted crossing over Penitencia Creek and replace it with a freespan bridge is taken, culvert removal could affect individual steelhead or Chinook salmon. In the absence of impact avoidance measures, construction-related activities could potentially result in direct mortality of these animals (e.g., crushing with heavy machinery, or stranding fish during dewatering activities). Temporary dewatering of the creek to avoid work within the live channel (and to minimize downstream sedimentation) would be necessary if any equipment or structures will be placed in the channel during removal of the existing culvert if that option is taken. However, if the option to remove the culverted crossing of Penitencia Creek is taken, the Project will result in a net benefit to habitat for steelhead and other aquatic species via removal of the culvert (a partial barrier to fish passage) and restoration of riparian habitat associated with that portion of the Project.

Construction in and near creeks can have a significant adverse effect on water quality downstream from the Project site due to increased turbidity and siltation. Degradation of water quality downstream resulting from construction could result in a substantial impact to aquatic wildlife species, including steelhead and Chinook salmon. Sedimentation could not only impair water quality, it could also fill the interstices between salmonid spawning gravels downstream from the site, or cover fish eggs in downstream areas, thus reducing reproductive potential.

Steelhead and Chinook salmon could be adversely impacted by noise and vibrations related to pile driving during installation of bridge supports and/or retaining walls. Noise and vibration from pile driving, jack-hammering, or other percussive activities could cause the mortality of individual fish if the noise is particularly loud and the fish are very close, or could cause sensory damage. The loss of hearing sensitivity may adversely affect the ability of salmonids to orient themselves, detect predators, locate prey, or sense their acoustic environment. Fish also may exhibit noise-induced avoidance behavior that causes them to move into less suitable habitat.

Implementation of BMPs as described above will minimize impacts to individual steelhead and Chinook salmon, including impacts resulting from noise/vibration, and avoid adverse effects on water quality during construction.

Shaded Riverine Aquatic Habitat

In addition to potential loss of individual steelhead and Chinook salmon and impacts to water quality, the Project will also result in the temporary and permanent loss of SRA habitat. Riparian vegetation in the action area provides shade over Coyote and Upper Penitencia Creeks, helping to maintain moderate water temperatures during summer and to provide organic matter input (leaf drop) and terrestrial insects to the aquatic food chain. We quantified the Project's SRA habitat impact as the linear distance of riparian tree canopy (native or non-native) for trees rooted within 15 ft of the edge of the low-flow channel. Approximately 230 linear ft of SRA habitat will be removed to allow for the installation of the 4 pedestrian bridges over Coyote Creek and the replacement of the culvert at Upper Penitencia Creek with a freespan bridge. The linear distance of SRA impact is approximately 1% of the total channel length adjacent to the Project (22,605 ln ft) and as such spans a very small portion of the Project reach. The low-flow channel is well shaded throughout the majority of the Project reach and large trees that will not be impacted occur immediately adjacent to the SRA trees to be impacted and will continue to shade the channel.

Additionally, numerous existing willows and cottonwoods are present adjacent to the SRA trees to be removed and natural recruitment of willows and cottonwoods is evident adjacent to the proposed bridge locations. Therefore, we expect SRA habitat to re-establish within the impact areas within 7-10 years following bridge installation via the growth of adjacent willow/cottonwood tree canopy and natural recruitment of new willow/cottonwood seedlings. Future trail maintenance will entail pruning to prevent riparian canopy from growing over the bridge, therefore there will be a permanent loss of approximately 56 ln ft of SRA habitat in the space occupied by the bridges. Given the small percentage of SRA removal in the Project reach, the likely natural recruitment of SRA, and the shade to be provided by the bridges themselves, we do not expect Project activities to result in a net change in water temperature or a substantial decrease in coarse woody debris or organic matter provided to the stream; thus the Project's impacts to SRA habitat will not have a substantial effect on steelhead, Chinook salmon, or other aquatic species.

4.3.1.4. COMPENSATORY MITIGATION

With the implementation of the avoidance and minimization measures described above, residual impacts to steelhead and Chinook salmon will be minimal, and no compensatory mitigation is proposed.

4.3.1.5. CUMULATIVE EFFECTS

Cumulative impacts to steelhead and Chinook salmon result from past, current, and reasonably foreseeable future projects in the region, including the construction of approximately 9 mi of the Coyote Creek Trail that still remains to be installed. These projects will all undergo (or have undergone) separate environmental review, and will require separate environmental permitting from regulatory agencies, if needed. It is expected that significant ecological impacts identified for these individual projects will be mitigated, either through the CEQA or permitting process. The contribution of this Project to cumulative impacts to steelhead and Chinook salmon will be minimal considering design elements that avoid and minimize construction activities within aquatic habitats, and the integration of BMPs to protect water quality. Thus, provided that this Project successfully incorporates the conservation measures described in this NES, the Project will not contribute to substantial cumulative effects on steelhead and Chinook salmon.

4.3.2. Western Pond Turtle

4.3.2.1. SURVEY RESULTS

The western pond turtle can be found in freshwater aquatic habitats throughout the pacific states from Baja California Norte to northern Washington State (Bury and Germano 2008). The central California population was historically present in most drainages on the pacific slope (Jennings and Hayes 1994), but streambed alterations and other sources of habitat destruction, exacerbated by frequent drought events, have caused substantial population declines throughout most of the range (Stebbins 2003). Western pond turtles can be found in intermittent and perennial slow-moving waters, including stock ponds, streams, rivers, marshes, and lakes. The nesting season typically occurs from April through July with the peak occurring in late May to early July. Ponds or slack-water pools with suitable basking sites (such as logs) are an important habitat component, and western pond turtles do not occur commonly along high-gradient streams. Nesting habitat comprises open, sandy or silty uplands with full sun exposure. Females typically lay their eggs within 165 ft of their aquatic habitat, but are known to make considerable overland journeys, and have been documented making their nests as far as 1300 ft (0.25 mi) from the water (Jennings and Hayes 1994, Bury and Germano 2008). Breeding occurs in late spring or early summer (typically May to June). Juveniles feed in shallow aquatic habitats (often creeks) with emergent vegetation and ample invertebrate prey. Adults are omnivorous, feeding on a variety of aquatic and terrestrial invertebrates, detritus, and

vegetation. Pond turtles may aestivate in upland areas when water sources are intermittent, but more study is needed.

Western pond turtles have been recorded in Coyote Creek just upstream of the Project reach (EDAW 2006). During intensive bird surveys along the urban portions of Coyote Creek and the Guadalupe River in the mid-1990s, incidental turtle detections were recorded, and western pond turtle numbers along these creeks were observed to be very low (S. Rottenborn, unpublished data). A number of nonnative turtles, including the red-eared slider, painted turtle, and others, were also observed. The cumulative stressors of urbanization, including release of nonnative turtles, predation and harassment by pets and nonnative mammals, capture by humans, degradation of water quality, and loss of upland nesting habitat due to development and the construction of barriers between the creek and nesting areas, have reduced western pond turtle populations, and reduced the likelihood that a viable population can persist along this reach of Coyote Creek. Suitable nesting habitat is present in undeveloped, ruderal habitat along the creek within the BSA, but given the low populations present in this reach, it is unknown whether nesting occurs in the BSA.

4.3.2.2. AVOIDANCE AND MINIMIZATION EFFORTS

Due to the low numbers of western pond turtles present within the BSA, the strictly aquatic nature of this species apart from egg-laying, and the very limited impacts to areas along the immediate edge of aquatic habitats, there is a very low probability that individual western pond turtles will be impacted by this Project. The avoidance and minimization measures described in Sections 4.1.2.2 and 4.3.1.2 above will minimize impacts on water quality, and will avoid impacts to pond turtles during construction and dewatering of the coffer dam, if work is to occur within the Upper Penitencia Creek channel. There are no practicable measures to detect or avoid impacts to western pond turtles or their nests in upland areas, in the unlikely event that construction work will occur in an upland area where a pond turtle, or its nest, is present.

4.3.2.3. PROJECT IMPACTS

As described above, there is a very low probability that individual western pond turtles will be impacted by this Project. There is some potential for crushing of turtles during work in aquatic habitat if that occurs (i.e., if the culverted crossing over Upper Penitencia Creek is removed), although the skittish nature of this species (which would flee the work area upon approach) and the proposed avoidance and minimization measures will limit the probability of such an effect. Water quality

impacts may also occur due to sedimentation during construction, although again, avoidance and minimization measures will limit the probability of such effects. There is a very low probability that adults would be killed or injured, or nests destroyed, during construction in upland areas.

The increased number and frequency of human visitors along the creek as a result of trail construction may increase disturbance of western pond turtles, and may increase the potential for capture or harassment of turtles. However, much of the Project area is already heavily disturbed by human activity on adjacent lands, and by people within the creek corridor, and the vegetated buffer between the trail and the creek in most areas will minimize disturbance of basking or foraging turtles.

Overall, due to the low number of turtles in the Project area and the low probability of impacts, effects of this Project on the western pond turtle are not expected to be substantial.

4.3.2.4. COMPENSATORY MITIGATION

Due to the limited nature of Project impacts to western pond turtles, no compensatory mitigation is proposed.

4.3.2.5. CUMULATIVE EFFECTS

Cumulative impacts to western pond turtles result from past, current, and reasonably foreseeable future projects in the region, including the construction of approximately 9 mi of the Coyote Creek Trail that still remains to be installed. These projects will all undergo (or have undergone) separate environmental review, and will require separate environmental permitting from regulatory agencies, if needed. It is expected that significant ecological impacts identified for these individual projects will be mitigated, either through the CEQA or permitting process. The contribution of this Project to cumulative impacts to western pond turtles will be minimal considering design elements that avoid and minimize construction activities within aquatic habitats, and the integration of BMPs to protect water quality. Thus, provided that this Project successfully incorporates the conservation measures described in this NES, the Project will not contribute to substantial cumulative effects on western pond turtles.

4.3.3. Special-Status Bird Species of Limited Occurrence in Project Area

Based on reconnaissance-level surveys, previous surveys in the vicinity of the Project conducted by H. T. Harvey& Associates and others, and the results of database

reviews, several special-status bird species that could occasionally occur in the Project area as non-breeding foragers were identified. These species are grouped together because they are not expected to nest in the Project vicinity, and because they will be affected very little, if at all, by the Coyote Creek Trail Project.

4.3.3.1. SURVEY RESULTS

Several special-status bird species may occur in the vicinity as occasional visitors, migrants, and transients; these include the American peregrine falcon (*Falco peregrinus anatum*), Vaux's swift (*Chaetura vauxi*), black swift (*Cypseloides niger*), willow flycatcher (*Empidonax traillii*), yellow-breasted chat (*Icteria virens*), Bryant's savannah sparrow (*Passerculus sandwichensis alaudinus*), and tricolored blackbird (*Agelaius tricolor*). None of these species are expected to breed on the Project site, and Vaux's swifts, black swifts, yellow-breasted chats, Bryant's savannah sparrows, and tricolored blackbirds are only considered special-status species during the nesting season. Any migrant willow flycatchers occurring on the site are likely from breeding populations outside the state, and thus would not be considered representatives from the state or federally listed California populations.

4.3.3.2. AVOIDANCE AND MINIMIZATION EFFORTS

These species are not expected to breed in the Project area, and occasional foraging individuals are not expected to be impacted directly by the Project, as they can easily flee construction equipment or human users of the trail before injury or mortality occurs. As a result, no avoidance and minimization measures are warranted.

4.3.3.3. PROJECT IMPACTS

The two swift species are aerial foragers that are not expected to be impacted by the Project. A very small amount of potential foraging habitat will be permanently and temporarily impacted by the Project, and small numbers of individuals of these species may be temporarily disturbed or displaced during construction. In addition, increased number and frequency of human visitors along the creek as a result of trail construction may increase disturbance of foraging special-status birds. However, much of the Project area is already heavily disturbed by human activity on adjacent lands, and by people within the creek corridor. Also, the number of individuals of these species that forage in the Project area is very low. Therefore, no long-term or large-scale effects on populations of these species are expected.

4.3.3.4. COMPENSATORY MITIGATION

Because of the limited nature of Project effects on these species and their habitats, no compensatory mitigation is necessary.

4.3.3.5. CUMULATIVE EFFECTS

Foraging habitat for these species is fairly common in the South Bay region. The Project's limited, temporary impacts to these species will not contribute appreciably to cumulative effects on these species, and there are no foreseeable projects that will result in large-scale impacts to South Bay habitat of these species.

4.3.4. Special-Status Bird Species with Limited Breeding Populations in the Project Area

Based on reconnaissance-level surveys, previous surveys in the vicinity of the Project conducted by H. T. Harvey& Associates and others, and the results of database reviews, it was determined that four special-status bird species could potentially breed on the site: the white-tailed kite, loggerhead shrike (*Lanius ludovicianus*), San Francisco common yellowthroat (*Geothlypis trichas sinuosa*), and yellow warbler (*Dendroica petechia*). These special-status bird species are grouped together for the purpose of impact assessment.

4.3.4.1. SURVEY RESULTS

In California, white-tailed kites can be found in the Central Valley and along the coast, in grasslands, agricultural fields, cismontane woodlands, and other open habitats (Polite et al. 1990, Dunk 1995, Erichsen et al. 1996). White-tailed kites are year-round residents, establishing breeding territories that encompass open areas with healthy prey populations, and snags, shrubs, trees, or other nesting substrates (Dunk 1995). Nonbreeding birds typically remain in the same area over the winter, although some movements do occur (Polite et al. 1990). The presence of white-tailed kites is closely tied to the presence of prey species, particularly voles, and prey base may be the most important factor in determining habitat quality for white-tailed kites (Dunk and Cooper 1994, Skonieczny and Dunk 1997). Potential breeding habitat for white-tailed kites is present in the BSA in areas where potential nesting trees and shrubs occur adjacent to moderately extensive ruderal habitats. However, because of the territorial nature of this species and the species' rarity in urban riparian areas on the Valley floor (Rottenborn 1997), no more than one or two pairs is expected to breed in the vicinity of the Project site.

The loggerhead shrike is distributed throughout much of California, except in higher-elevation and heavily forested areas (Humple 2008). While the species' range in California has remained stable over time, populations have declined steadily (Cade and Woods 1997). Loggerhead shrikes establish breeding territories in open habitats with relatively short vegetation that allows for visibility of prey; they can be found in grasslands, scrub habitats, riparian areas, other open woodlands, ruderal habitats, and developed areas including golf courses and agricultural fields (Yosef 1996). They require the presence of structures for impaling their prey; these most often take the form of thorny or sharp-stemmed shrubs, or barbed wire (Humple 2008). Shrikes nest earlier than most other passerines, especially in the west where populations are sedentary. The breeding season may begin as early as late February, and lasts through July. Nests are typically established in shrubs and low trees including sagebrush, willow, and mesquite, through brush piles may also be used when shrubs are not available. The BSA provides ostensibly suitable foraging and breeding habitat in areas where open grasslands and ruderal spaces are adjacent to or punctuated with shrubs or trees. However, shrikes are very rare in urbanized sections of the Valley floor in areas that do not provide large expanses of open, grassy or ruderal habitat. Because of the limited nature of open foraging habitats and the highly territorial nature of this species, no more than one pair is expected to breed in the Project area.

The yellow warbler is a widespread neotropical migrant that inhabits wet deciduous forests throughout North America (Lowther et al. 1999). In California, yellow warblers can be found occupying riparian habitats along the entire coast, on both eastern and western slopes of the Sierra Nevada up to approximately 1700 ft, and throughout the northern portion of the state. Both the historical and current range excludes the southwestern desert region of the state, and yellow warblers have been largely extirpated from the Central Valley. Their range has remained relatively stable over time, but their populations have declined substantially in many localities due to habitat loss (Cain et al. 2003, Heath 2008). Yellow Warblers breed from early May through early August in wet, early-successional or recently disturbed habitats dominated by willow thickets. Ideal breeding habitat for yellow warblers is comprised of dense, shrubby understory and open canopy in riparian corridors, in close proximity to water (Lowther et al. 1999), where they construct cup nests approximately 3 – 40 ft off the ground in upright forks of shrubs or trees in dense willow thickets or in other dense vegetation. The riparian habitat in the Coyote Creek corridor is ostensibly suitable for nesting yellow warblers nearly throughout the Project area, and they have been documented breeding within the Project alignment (Bousman 2007). Because this species is most often found in areas with some open, undeveloped habitat

adjacent to the riparian vegetation (e.g., where encroachment by development is limited), the highest-quality nesting habitat is present where the Coyote Creek riparian corridor is adjacent to ruderal habitat. However, abundance of this species along lower Coyote Creek, particularly more heavily urbanized areas, is low (Rottenborn 1997), and it is likely that only a few pairs nest within the BSA.

The San Francisco subspecies of the widely-distributed common yellowthroat is found only on the immediate coast of California from Tomales Bay in the north to the southern edge of San Mateo County in the south, including the San Francisco Bay. San Francisco common yellowthroats are typically associated with brackish marshes and freshwater riparian swamps; they nest in the dense emergent vegetation that grows up in such moist areas (Guzy and Ritchison 1999). Common yellowthroats will use small and isolated patches of habitat as long as groundwater is close enough to the surface to encourage the establishment of dense stands of rushes (*Scirpus* spp.), cattails, willows (*Salix* spp.), *Juncus* spp., or other emergent vegetation (Nur et al. 1997). Ideal habitat, however, is comprised of at least 0.4 ha of thick riparian or marsh vegetation in perpetually moist areas, where populations of brown-headed cowbirds (*Molothrus ater*) are low (Menges 1998). Common yellowthroats build open-cup nests low in the vegetation, and nest from mid-march through late July. Areas of dense emergent vegetation such as cattails occur in small patches throughout the BSA, offering suitable breeding habitat for this species. San Francisco common yellowthroats are common nesting birds along the lowermost reaches of Coyote Creek downstream of the BSA at the Coyote Creek Field Station (downstream from Highway 237). However, they occur much more sparingly within the Project reach, (Bousman 2007), where the dense tree canopy in most areas produces unsuitable conditions and the urban development on either side of the creek precludes nesting along the outer edges of the riparian corridor. This species may breed in very low numbers within the BSA where more extensive, open emergent vegetation occurs along Coyote Creek.

4.3.4.2. AVOIDANCE AND MINIMIZATION EFFORTS

White-tailed kites, loggerhead shrikes, yellow warblers, and San Francisco common yellowthroats are still relatively common regionally, and the greater South Bay vicinity contains abundant nesting habitat for these species. The Project area represents a miniscule fraction of suitable nesting and foraging habitat for these species in the region, and the Project's effects on these species are not expected to result in appreciable impacts to regional populations. Therefore, no avoidance or minimization measures for these species are warranted.

Nevertheless, these species, like other native bird species in the Project vicinity, are protected by the federal Migratory Bird Treaty Act and California Fish and Game Code. It is expected that this Project will implement measures to avoid impacts to active nests of such protected birds. These measures, described in detail in Section 5.4 below, will prevent impacts to active nests of these species should they nest in the Project vicinity during construction.

4.3.4.3. PROJECT IMPACTS

No adults or volant young of these species are expected to be impacted directly by the Project, and the measures to avoid impacts to nesting birds described in Section 5.4 will avoid impacts to nests, eggs, and young of these species. Limited permanent and temporary impacts to a very small amount of potential habitat for these species will occur. However, such impacts will have no measurable effect on regional populations of these species, likely impacting habitat for no more than a single pair of each species (at most).

Increased number and frequency of human visitors along the creek as a result of trail construction may increase disturbance of nesting special-status birds. However, much of the Project area is already heavily disturbed by human activity on adjacent lands, and by people within the creek corridor, and the effects of increased human disturbance on these species are expected to be minimal.

4.3.4.4. COMPENSATORY MITIGATION

Compensatory mitigation for impacts to riparian habitats, described in Section 4.1.1.4 above, will offset most of the very limited impact to nesting habitat of these species. Because of the limited nature of Project impacts on these species and their habitats, no additional compensatory mitigation is necessary.

4.3.4.5. CUMULATIVE EFFECTS

Cumulative impacts to nesting birds result from past, current, and reasonably foreseeable future projects in the region, including the construction of approximately 9 mi of the Coyote Creek Trail that still remains to be installed. These projects will all undergo (or have undergone) separate environmental review, and will require separate environmental permitting from regulatory agencies, if needed. It is expected that significant ecological impacts identified for these individual projects will be mitigated, either through the CEQA or permitting process. The contribution of this Project to cumulative impacts to nesting birds will be minimal considering the planned mitigation for loss of riparian habitats, as described above. Thus, provided

that this Project successfully incorporates the conservation measures described in this NES, the Project will not contribute to substantial cumulative effects on nesting birds.

4.3.5. Discussion of Roosting Bats

Bats are known to roost under or in association with bridges in the South Bay, and several species may roost in trees in the Project area as well, so the potential for the Project area to support roosting bats was assessed.

4.3.5.1. Survey Results

The only special-status bat expected to occur in the Project area is the western red bat (*Lasiurus blossevillii*). Western red bats are not known or expected to breed along Coyote Creek or elsewhere in the South Bay. However, this tree foliage-roosting species may overwinter along the creek and will migrate through in fall and spring months. The eucalyptus grove near Montague Expressway offers suitable roosting habitat for this species, as do cottonwoods and large willows within the riparian corridor along the Project alignment. Although individuals could roost in trees within the Project alignment, they are expected to occur only in very low densities.

The Project area includes 10 bridge crossings of Coyote Creek, and at least some of those bridges provide potential day roosting and/or night roosting habitat for several non-special-status bat species. Additionally, the culvert over Upper Penitencia Creek within the Project alignment, which could potentially be removed, could be used as a roosting resource by some bats, and mature trees providing cavities or extensive areas of loose bark could support bat roosts as well. These trees and structures could potentially have up to many hundreds of Mexican free-tailed bats and/or dozens of Yuma bats. Additional surveys and deployment of an Anabat unit (which records ultrasonic bat calls) or comparable acoustical monitoring device would be needed to conclusively determine the presence and type of roosts (e.g., maternity or bachelor, day or night roost or both), species composition, and number of occupants.

4.3.5.2. Avoidance and Minimization Efforts

Habitat Assessment and Initial Survey. The reconnaissance surveys conducted for this Project were not intensive enough to conclusively determine the presence of bat roosts, type of roosts (e.g., maternity or bachelor, day or night roost or both), species composition, or number of occupants of any bat roosts in the BSA. Given that bats are known to roost, sometimes in very high numbers, in bridges throughout the South Bay, and given that some mature trees within the Project area could also support bat roosts, additional surveys are warranted. Prior to construction (but far enough in advance of construction to allow for adequate planning of avoidance and

minimization efforts without delaying construction), a bat biologist will conduct a habitat assessment throughout the Project alignment, to identify potential maternity roost sites or substantial day roost sites.

If potential roost habitat is identified within the BSA, then prior to construction (but far enough in advance of construction to allow for adequate planning of avoidance and minimization efforts without delaying construction), a trained bat biologist will conduct acoustical monitoring surveys using an Anabat or comparable device and visual surveys at dusk to identify roost locations and types, the species composition, and number of occupants. If acoustical monitoring and visual survey results suggest that bats are roosting in trees near the BSA, multiple observations may be required to locate the roosts in order to determine if the roost will be impacted.

Pre-construction Survey. Because the aforementioned surveys may be conducted for planning purposes well in advance of construction, several months may pass between that survey and the initiation of construction in a given area. Therefore, a second pre-construction survey for roosting bats, following the methods described above, will be conducted within 15 days prior to the commencement of these activities in a given area to determine whether bats have occupied a roost in or near the project's impact areas. This survey should be facilitated considerably by information (e.g., on potential roost trees) gathered during the previous survey.

Roost Evaluation. If a bat roost is present in a bridge or tree in or adjacent to the Project's construction areas, a qualified bat biologist will determine the likelihood that the roost will be affected by Project activities. The impacts of roost eviction relative to the potential construction disturbance will be evaluated and the bats will be evicted only if the qualified bat biologist determines it is necessary.

Buffer. If a maternity roost of any bat species is present, the bat biologist will determine the extent of a construction-free buffer around the active roost that will be maintained. This buffer would be maintained from 1 April until the young are flying, typically after 31 August.

Roost Eviction. If it is determined that a bat roost will be directly disturbed or removed, the bats will be evicted from the colony site prior to construction. Eviction of bats will occur at night, so that bats will have less potential for predation compared to daytime roost abandonment. Eviction will occur between 1 September and 31 March, outside the maternity season, unless the roost in question is known (e.g., as a result of mist-netting) to be a non-maternity roost occupied only by males. Eviction will not occur during long periods of inclement or cold weather (as determined by the

bat biologist) when prey are not available or bats are in torpor (i.e., temporary hibernation- a state of decreased physiological activity).

If bats roosting within a bridge need to be evicted, one-way doors will be inserted into the crevices to allow bats to exit, but not re-enter, the crevices. These one-way doors will be inspected regularly until demolition commences, and will be removed the morning of demolition. If feasible, one-way doors will also be used to evict bats from tree roosts. If use of a one-way door is not feasible, or the exact location of the roost entrance in a tree is not known, the trees with roosts that need to be removed should first be disturbed by removal of some of the trees' limbs not containing the bats. Such disturbance will occur at dusk to allow bats to escape during the darker hours. These trees would then be removed the following day. All of these activities will be performed under the supervision of the bat biologist.

4.3.5.3. PROJECT IMPACTS

Mexican free-tailed bats, Yuma bats, and possibly other bat species, could use some of the bridges within the Project alignment as roosting sites, and could potentially use them as maternity colony sites. Furthermore, large trees within the BSA could support bat colonies as well. If maternity colonies or large day roosts are sufficiently disturbed (i.e., by Project-related noise, movement of equipment and people, or vibrations from Project activities such as pile driving) to cause abandonment of the site by the roosting bats, Project activities could substantially affect populations of these species, depending on the number of individuals impacted. With implementation of avoidance and minimization measures as described above, abandonment of an active maternity colony or injury or mortality of individual bats occupying roost trees is not expected to occur. However, removal of trees that have been used as roost sites (i.e., after the bats have been evicted) would result in a loss of roosting habitat. Also, increased human activity could result in the cessation of use of both day and night roosts in trees or under bridges.

Lighting will be added to the undersides of 10 bridges to increase public safety along the proposed trail. The effect of lighting on bats is poorly studied, and lighting may have both beneficial and adverse effects. Lighting may attract insects, which in turn may be fed on by bats. However, lighting may also make bats more detectable by predators, and it is possible that increased lighting under bridges occupied by bat roosts may deter bats from using those roosts.

4.3.5.4. COMPENSATORY MITIGATION

Compensatory mitigation would be necessary if the direct loss of a roost will result in a decline in regional populations of a given species due to the absence of alternative

roost sites in nearby areas that could be used by the species in question. Making this determination requires consideration of the abundance of the species in question (i.e., the extent to which the loss of a given number of bats within the BSA will affect the regional population) and whether alternative roosting habitat is present nearby (e.g., on other bridges in the South Bay). As mentioned above, the surveys conducted for this study were not sufficiently intensive to allow such a determination to be made at this time.

The results of the visual and acoustic surveys described above will be analyzed to determine the presence, number, and identity of bats roosting in areas that will be disturbed by the Project. If 20 or more individuals of the Yuma bat, or 100 or more individuals of Mexican free-tailed bat or another bat species, will be displaced by the Project as a result of removal of a roost tree, then a qualified bat biologist will determine whether alternative roost sites are present in the Project vicinity, taking into account the number of individuals of each bat species that will be impacted, and the type of roost (e.g., day or night, maternity or bachelor) impacted. If insufficient alternative roost sites are present, in the opinion of the bat biologist, then roosting habitat will be provided in the form of a structure (e.g., either incorporated into the bridge design, a structure attached to the bridge, or bat houses placed near the bridge) designed by a qualified bat biologist to provide suitable roosting habitat for the displaced species.

The Project does not propose permanent alterations of any existing bridges in the Project area aside from the installation of safety lighting under the bridges. As a result, if any bats require eviction from bridges to avoid disturbance of a maternity roost during construction, the devices used to evict the bats will be removed following completion of construction and the bats would again be able to use the bridge as a roost site. Therefore, the only reasons why bats might abandon a bridge roost as a result of the Project are (1) an increase in human activity resulting in disturbance of the roost, or (2) abandonment due to the installation of lighting under the bridge. Following Project construction, any bridge maternity roost supporting more than 20 Yuma myotis or more than 100 individuals of another bat species will be monitored for occupancy for a period of 2 years. If the roost is occupied by the species present prior to construction, no additional mitigation will be required. If the species present prior to construction does not reoccupy the roost within 2 years, then alternative roosting habitat will be provided as described above. Alternatively, the applicant can decide to provide the alternative roosting habitat in lieu of monitoring.

4.3.5.5. CUMULATIVE IMPACTS

Cumulative impacts to roosting bats result from past, current, and reasonably foreseeable future projects in the region, including the construction of approximately 9 mi of the Coyote Creek Trail that still remains to be installed. These projects will all undergo (or have undergone) separate environmental review, and will require separate environmental permitting from regulatory agencies, if needed. It is expected that significant ecological impacts identified for these individual projects will be mitigated, either through the CEQA or permitting process. Thus, provided that this Project successfully incorporates the conservation measures described in this NES, the Project will not contribute to substantial cumulative effects on bats.

4.3.6. Discussion of San Francisco Dusky-footed Woodrats

4.3.6.1. SURVEY RESULTS

San Francisco dusky-footed woodrats may potentially occur within the BSA. The species has been documented in low densities in Coyote Creek downstream of the Project area.

The San Francisco dusky-footed woodrat can be found in a variety of woodland and scrub habitats throughout the southern San Francisco Bay area and the adjacent central coast range down to the Pajaro River in northern Monterey County (Hall 1981, Bryiski et al. 1990). Woodrats prefer riparian and oak woodland forests with dense understory, as well as thick chaparral habitat (Lee and Tietje 2005). Although woodrats are locally common where they occur, habitat conversion and increased urbanization, as well as increasing populations of introduced predators like domestic cats (*Felis cattus*) pose substantial threats to the subspecies. Dusky-footed woodrats build large, complex nests of sticks and other woody debris, which may be maintained by a series of occupants for several years (Carraway and Verts 1991). However woodrats are also known to make use of anthropogenic structures such as electrical boxes, pipes, wooden pallets and even portable storage containers. Woodrat house densities increase with canopy density and presence of poison oak. Dens serve as nurseries, shelter from weather and predators, and food storage facilities. The breeding season begins in February and sometimes runs through September, with females bearing a single brood of 1 to 4 young per year (Carraway and Verts 1991). The species is known to occur in the lower reaches of Coyote Creek near the San Jose-Santa Clara Water Pollution Control Plant downstream of the BSA. Dusky-footed woodrats occur very sparingly on the urbanized Santa Clara Valley floor because they are extremely sensitive to non-native predators such as cats and because urbanization inhibits the recolonization of vacant habitat after predation has depleted

existing populations. In general, woodrats occur on the Valley floor in very low densities, in less-developed areas that provide riparian, oak woodland, and scrub habitat. Suitable habitat occurs within the BSA, although its highly disturbed nature and the intensity of adjacent urbanization reduces the potential of occurrence and potential abundance of woodrats here, and densities of this species are expected to be low if it occurs at all.

4.3.6.2. AVOIDANCE AND MINIMIZATION EFFORTS

The San Francisco dusky-footed woodrat is relatively common in the region, but it has been largely excluded from the Valley floor due to habitat conversion, habitat fragmentation/isolation, and abundance of non-native predators. However, there are occasional records along the Coyote Creek, indicating a persisting population in at least some areas. Because the species is rare on the Valley floor, any take of individuals or remaining habitat could be considered significant under CEQA. To avoid impacts to dusky-footed woodrats as a result of Project activities, the following conservation measures will be implemented:

1. If feasible, Project activities should be initiated after 31 August to avoid impacts during the breeding season.
2. Pre-construction surveys for woodrat nests will be conducted within the Project boundary by a qualified mammalogist within 15 days prior to the commencement of construction activities, to determine whether individuals of this special-status species has established nests in or immediately adjacent to the Project's impact areas.
3. If a woodrat nest is located within the construction area, or close enough to the construction area that, in the opinion of a qualified biologist, construction activities may result in the injury or mortality of woodrats, the biologist will determine appropriate measures necessary to avoid take in consultation with the CDFG. Such measures may include the following:
    a. If possible, a disturbance-free buffer (typically 10 ft) will be established around each nest found during the preconstruction survey. The buffer and any logs, trees or branches upon which the nests rest should be avoided if feasible.
    b. If avoidance of nests is not feasible, the nests will be dismantled and the nesting material moved to a new location outside the Project's impact areas so that it can be used by woodrats to construct new nests. Prior to nest deconstruction, all understory vegetation will be cleared within the Project site or in the area immediately surrounding the nest, but the nest itself will not be removed at this stage. Then, each active nest will be

disturbed by a qualified wildlife biologist to the degree that all woodrats leave the nest and seek refuge out of the impact area. Whether the nest is on the ground or in a tree, the nest would be nudged to cause the woodrats to flee. For tree nests, a tarp will be placed below the nest and the nest dismantled using hand tools (either from the ground or from a lift). For any nest, the nest material will then be piled at the base of a nearby hardwood tree (preferably an oak, willow, or other appropriate tree species, with refuge sites among the tree roots) outside of the impact area. If nearby habitat outside the impact area lacks suitable structure, logs (e.g., 4 ft long and 6 inches in diameter) will be placed in undisturbed riparian or oak woodland habitat nearby and the sticks from the dismantled nests will be placed among these logs. Ideally, the spacing distance between the newly placed piles of sticks will not be less than 100 ft, unless a qualified wildlife biologist has determined that a specific habitat can support higher densities of nests.

4.3.6.3. PROJECT IMPACTS

Dusky-footed woodrats could potentially occur in the Project area in low numbers. Project activities that disturb or remove woodrat nests could result in the direct injury or mortality of individuals, particularly if the disturbance occurs during the breeding season, when pups are not mobile and could be abandoned. The Project will also result in the loss of a very small amount of upland habitat that could potentially be used as foraging habitat by this species.

4.3.6.4. COMPENSATORY MITIGATION

The Project will have no effect on the regional abundance of the San Francisco dusky-footed woodrat given the low abundance of the species in the Project area. Also, due to predation and other urban stressors, available habitat is not likely to be limiting woodrat populations in the Project area, and thus, habitat mitigation will not necessarily benefit woodrat populations along this reach of Coyote Creek. Therefore, no compensatory mitigation is warranted.

4.3.6.5. CUMULATIVE EFFECTS

Cumulative impacts to dusky-footed woodrats result from past, current, and reasonably foreseeable future projects in the region, including the construction of approximately 9 mi of the Coyote Creek Trail that still remains to be installed. These projects will all undergo (or have undergone) separate environmental review, and will require separate environmental permitting from regulatory agencies, if needed. It is expected that significant ecological impacts identified for these individual projects

will be mitigated, either through the CEQA or permitting process. Thus, provided that this Project successfully incorporates the conservation measures described in this NES, the Project will not contribute to substantial cumulative effects on this species.

4.4. Wildlife Movement

Because Coyote Creek and its associated riparian habitat represent a linear patch of relatively natural habitat within the urban Santa Clara Valley floor, it is necessary to assess the degree to which the Project area is used for wildlife movement and to assess whether or not the Project may affect such movement.

4.4.1.1. SURVEY RESULTS

Patches of relatively natural habitat, such as that present along Coyote Creek within the Project area, that are embedded within a matrix of lower-quality habitat, such as the urban Santa Clara Valley floor, can serve as movement corridors for wildlife. The creek serves as a movement corridor for aquatic species such as fish and western pond turtles, which move through the Project reach between upstream and downstream areas. Historically, prior to intensive urbanization of the Santa Clara Valley, Coyote Creek may have served a similar function for animals moving between San Francisco Bay and areas farther south in the Valley by providing food and cover for such species. However, intensive urbanization and alteration of lower Coyote Creek, including that portion within the Project area, has substantially reduced its utility for wildlife movement, and it no longer serves as a connection between large core populations. Thus we do not expect large-scale movements to occur within the Project area. However, Coyote Creek is one of the few substantial natural spaces within the highly developed context of the South Bay, and as such remains an important corridor for locally dispersing wildlife within the South Bay.

4.4.1.2. AVOIDANCE AND MINIMIZATION EFFORTS

Because the Project is designed to minimize impacts to the riparian corridor, minimizations of impacts specific to wildlife movement were determined not to be necessary.

4.4.1.3. PROJECT IMPACTS

The Project will result in an increase in pedestrian and bicycle traffic along Coyote Creek within the Project area, which could potentially discourage animals, particularly diurnal animals (which would be active when human use of the trail would be highest), from using the area as a movement corridor. However, the modest

lighting under the crossings, as well as the overall expected increase in human use of the trail, is likely to disperse the currently high homeless population along this reach of the creek, particularly under bridges within the Project reach. A reduction in the number of people present along Coyote Creek at night could potentially make the area more suitable for nocturnally dispersing wildlife. As a result, the Project's effects on terrestrial wildlife movement will not be substantial. The Project will not introduce any impediments to wildlife movement, either on land or in Coyote Creek and Upper Penitencia Creek, and if the culvert within Upper Penitencia Creek is removed, the Project will result in a net benefit to movement of aquatic species.

4.4.1.4. COMPENSATORY MITIGATION

Because the project will not result in substantial impacts to wildlife movement, no compensatory mitigation is recommended.

4.4.1.5. CUMULATIVE EFFECTS

Cumulative impacts to wildlife movement result from past, current, and reasonably foreseeable future projects in the region that could reduce habitat connectivity and hinder wildlife movement between core wildlife populations in the South Bay. With respect to the Coyote Creek Trail Project, because the reach of the Coyote Creek within the Project area does not currently provide habitat connectivity between large core areas of open space to the south, east, and west, and because the Project will not introduce any impediments to wildlife movement and may in some cases benefit locally dispersing wildlife, this Project will not contribute to cumulative effects on wildlife movement.

Table 5. Summary of Potential Project Impacts to Listed, Proposed, or other Special-Status Species in Relation to NEPA, CEQA, and FESA.

Common Name	Scientific Name	Status	Potential Impact Under FESA*	Potential Impact Under CEQA*	Potential Impact Under NEPA*
Steelhead (Central California Coast)	(*Oncorhynchus mykiss irideus*)	FT	May affect, not likely to adversely affect	Less-than-significant	Effect
Central Valley fall-run chinook salmon	*Oncorhynchus tshawytscha*	CSSC	Not Applicable	Less-than-significant	Effect
Western pond turtle	(*Actinemys marmorata*)	CSSC	Not Applicable	Less-than-significant	Effect
Loggerhead Shrike	(*Lanius ludovicianus*)	CSSC	Not Applicable	Less-than-significant	Effect
Yellow Warbler	(*Dendroica petechia*)	CSSC	Not Applicable	Less-than-significant	Effect
San Francisco common yellowthroat	(*Geothlypis trichas sinuosa*)	CSSC	Not Applicable	Less-than-significant	Effect
Western red bat	(*Lasiurus blossevillii*)	CSSC	Not Applicable	Less-than-significant	Effect
San Francisco dusky-footed woodrat	(*Neotoma fuscipes annectens*)	CSSC	Not Applicable	Less-than-significant	Effect
White-tailed kite	(*Elanus leucurus*)	SP	Not Applicable	Less-than-significant	Effect

*With the proposed conservation measures discussed in this NES

Chapter 5. Results: Permits and Technical Studies for Special Laws or Conditions

5.1. Federal Endangered Species Act Consultation Summary

Provisions of the FESA, as amended (16 USC 1531) protect federally listed threatened and endangered species and their habitats from unlawful take. "Take" under FESA includes activities such as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." The USFWS regulations define harm to include some types of "significant habitat modification or degradation." The U.S. Supreme Court ruled on 29 June 1995, that "harm" may include habitat modification "...where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering."

There has not been any consultation with the USFWS or NMFS regarding this Project. No take of federally listed species regulated by the USFWS will occur as a result of this Project. If all adverse effects to steelhead can be avoided, then no take of federally listed species regulated by the NMFS will occur either. However, if the culvert along Upper Penitencia Creek is removed, then the USACE is likely to engage in at least informal consultation with the NMFS during Section 404 permitting since that activity, though ultimately beneficial, could result in short-term adverse effects on steelhead.

5.2. Federal Fisheries and Essential Fish Habitat Consultation Summary

Magnuson-Stevens Fishery Conservation and Management Act. The Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA) governs all fishery management activities that occur in federal waters within the United States 200 nautical mile limit. The Act establishes eight Regional Fishery Management Councils responsible for the preparation of fishery management plans to achieve the optimum yield from U.S. fisheries in their regions. These councils, with assistance from the NMFS, establish Essential Fish Habitat (EFH) in fishery management plans for all managed species. Federal agencies that fund, permit, or implement activities that

may adversely affect EFH are required to consult with the NMFS regarding potential adverse effects of their actions on EFH, and respond in writing to the NMFS recommendations.

Because Coyote Creek provides spawning habitat for Chinook salmon, which is managed according to the Pacific Coast Salmon Fisheries Management Plan, Coyote Creek is considered EFH for the species.

There has been no consultation with the NMFS to date about this Project. If all adverse effects to Chinook salmon can be avoided, then no adverse effects to EFH will occur. If the culvert along Upper Penitencia Creek is removed, then the NMFS may comment on impacts to EFH since that activity, though ultimately beneficial, could result in short-term adverse effects on Chinook salmon.

5.3. California Endangered Species Act Consultation Summary

Provisions of California's Endangered Species Act (Fish and Game Code of California, Chapter 1.5, Sections 2050-2116) protect state-listed threatened and endangered species. The CDFG regulates activities that may result in "take" of individuals. Take is defined as, "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill".

No species listed under the California Endangered Species Act are present on the site.

5.4. Regulatory Overview for Birds

5.4.1. The Migratory Bird Treaty Act

The Federal Migratory Bird Treaty Act (MBTA; 16 U.S.C., §703, Supp. I, 1989) prohibits killing, possessing, or trading in migratory birds except in accordance with regulations prescribed by the Secretary of the Interior. The trustee agency that addresses issues related to the MBTA is the U.S. Fish and Wildlife Service. Migratory birds protected under this law include all native birds and certain game birds (e.g., turkeys and pheasants; Federal Register 70(2):372-377). This act encompasses whole birds, parts of birds, and bird nests and eggs. Construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings, or otherwise lead to nest abandonment, a violation of the MBTA. The MBTA protects active nests from destruction and all nests of species protected by the MBTA, whether active or not, cannot be possessed. An active nest under the

MBTA as described by the Department of the Interior in their Migratory Bird Permit Memorandum dated 15 April 2003 is one having eggs or young. Nest starts, prior to egg laying, are not protected from destruction.

5.4.2. California State Fish & Game Code

Migratory birds are also protected in and by the state of California. The State Fish and Game Code §3513 specifically emulates the MBTA and other sections and subsections of §3500-3516 provide additional protections for birds. Specifically, § 3503 protects birds' nests and eggs from all forms of needless take. All native birds are protected, although game birds may be taken with a hunting license. Disturbance that causes nest abandonment and/or loss of reproductive effort is considered "take" by the CDFG. In addition, § 3511 lists species that are "fully protected" and cannot be taken or possessed at any time.

In addition, raptors (eagles, hawks, and owls) and their nests are specifically protected in California under Fish and Game Code Section 3503.5. Section 3503.5 states that it is "unlawful to take, possess, or destroy any birds in the order Falconiformes or Strigiformes (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto."

For all of these regulations, resource agencies typically consider "nests" to be active nests (nests with eggs or chicks). Destruction of inactive nests is generally not considered "take."

5.4.2.1. Project Applicability

A number of species of birds nest within the Project area, both in vegetation and on structures such as bridges. The vast majority of birds found on the Project site are protected under the MBTA, and by Fish and Game Code. Project construction, especially removal of trees and activities of construction equipment, has the potential to take nests, eggs, young or individuals of these protected species. Construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings, or otherwise lead to the abandonment of nests. Although this impact is not significant under CEQA due to the local and regional abundance of the species in question and the low magnitude of the potential impact, the following measures will be implemented to reduce the risk of a violation of the MBTA and the California Fish and Game Code.

5.4.2.2. AVOIDANCE/MINIMIZATION MEASURES FOR POTENTIAL DISTURBANCE OF NESTING BIRDS

Measure 1. Avoidance. Construction activities will be avoided during the nesting season to the extent practicable. The nesting season for most birds, including most raptors, in the San Francisco Bay area extends from 1 February to 31 August.

Measure 2. Inhibiting Nesting. If vegetation is to be removed by the Project and all necessary approvals have been obtained, potential nesting substrate (e.g., bushes, trees, grass, burrows) that will be removed by the Project should be removed before the start of the nesting season (February) to help preclude nesting. In addition, to avoid impacts to nesting swallows that could potentially occur on bridges, old nests should be removed prior to 1 February, or after 1 February if a qualified ornithologist determines that the nests are not active. After 1 February, swallow nests may be removed on a regular basis (e.g., every other day), to prevent active nests from becoming established.

Measure 3. Pre-construction/Pre-disturbance Surveys. If it is not possible to schedule construction between September and January, then pre-construction surveys for nesting birds will be conducted by a qualified ornithologist to ensure that no nests will be disturbed during Project implementation. This survey will be conducted no more than 7 days prior to the initiation of construction activities. During this survey, the ornithologist will inspect all trees and other potential nesting habitats (e.g., grasslands, buildings) in and immediately adjacent to the impact areas for nests. If an active nest is found sufficiently close to work areas to be disturbed by these activities, the ornithologist will determine the extent of a construction-free buffer zone to be established around the nest, typically 250 ft for raptors, but substantially less (typically 50 ft) for other birds, to ensure that no nests of species protected by the MBTA or State Code will be disturbed during Project implementation.

5.5. Wetlands and Other Waters Coordination Summary

"Waters of the United States" (i.e., jurisdictional waters) are subject to the jurisdiction of the USACE. These waters may include all waters used, or potentially used, for interstate commerce, including all waters subject to the ebb and flow of the tide, all interstate waters, all other waters (intrastate lakes, rivers, streams, mudflats, sandflats, playa lakes, natural ponds, etc.), all impoundments of waters otherwise defined as "Waters of the U.S.," tributaries of waters otherwise defined as "Waters of the U.S.," the territorial seas, and wetlands adjacent to "Waters of the U.S." (33 CFR, Part 328, Section 328.3). Activities affecting these areas may require permits from

the ACOE and the Regional Water Quality Control Board under Sections 404 and 401 of the Clean Water Act.

Small, scattered patches of freshwater wetlands exist along the edge of the low-flow channel of Coyote Creek within the BSA. However, due to Project design, Project construction is not expected to impact jurisdictional wetlands. Therefore, based on current Project plans, no wetland habitat is likely to occur within the Project impact area and no formal wetland delineation (wetland technical assessment) is necessary for the proposed Project. Nevertheless, the bed of Coyote Creek and Upper Penitencia Creek is considered jurisdictional Waters of the U.S. up to the ordinary high water mark. A Section 404 permit from the USACE will be required if trail construction will occur below the ordinary high water mark. Additionally, a Section 404 permit will be required if the culvert-removal/freespan bridge option is selected at Upper Penitencia Creek.

Chapter 6. References

Bryiski, P., R. Duke, and H. Shellhammer. 1990. Dusky-footed woodrat (N*eotoma fuscipes*) In California's Wildlife, Vol. 3. Mammals. State of California Department of Fish and Game. D. Zeiner, W. Laudenslayer, Jr., K. Mayer, and M. White, Eds. Pp. 246-247.

Bousman, W. G. 2007a. Loggerhead Shrike (*Lanius ludovicianus*). In Bousman, W. G. , Ed. Breeding Bird Atlas of Santa Clara County, California. Santa Clara Audubon Society. Pp 288-289

Bousman, W. G. 2007b. Yellow Warbler (*Dendroica petechia*). In Bousman, W. G. , Ed. Breeding Bird Atlas of Santa Clara County, California. Santa Clara Audubon Society. Pp 376-377

Bousman, W. G. 2007c. Common Yellowthroat (*Geothlypis trichas*). In Bousman, W. G. , Ed. Breeding Bird Atlas of Santa Clara County, California. Santa Clara Audubon Society. Pp 386-387

Buchan, L. A. J. and P. J. Randall. 2003. Assessment of Stream Ecosystem Functions for the Coyote Creek Watershed: Coyote Creek watershed Integrated Pilot Assessment Final Report. Prepared for the Santa Clara Valley Urban Runoff Pollution Prevention Program.

Bury, R. B. and D. J. Germano. 2008. *Actinemys marmorata* (Baird and Girard 1852) – Western pond turtle, Pacific pond turtle. In A. G. J. Rhodin, P. C. H. Pritchard, P. P. van Dijk, R. A. Saumure, K. A. Buhlmann, and J. B. Iverson, eds.: Conservation biology of freshwater turtles and tortoises: A compilation project of the IUCN/SSC Tortoise and Freshwater Turtle Specialist Group. Chelonian Research Monographs 5: 001.2-001.9. http://www.iucn-tftsp.org/cbftt

Cade, T. J. and C. P. Woods. 1997. Changes in distribution and abundance of the loggerhead shrike. Conserv. Biol. 11(1): 21-31

Cain, J. W., M. L. Morrison, and H. L. Bombay. 2003. Predator activity and nest success of willow flycatchers and yellow warblers. J. Wildl. Manag. 67(3): 600-610

Caltrans. 2002. Style Guide for Environmental Documents. Division of Environmental Analyses North & Central Regions, California.

Caltrans. 2005. Template for Natural Environment Study. The Biological Consultancy Group. Biological Studies and Technical Assistance Office, California.

Caltrans. 2006. Standard Environmental Reference. Accessed 1/4/07, http://www.dot.ca.gov/ser/vol3/chap1.htm. Posted November 22, 2006.

Caltrans. 2009. Technical Guidance for Assessment and Mitigation of the Hydroacoustic Effects of Pile Driving on Fish. Prepared by IFC Jones and Stokes for the California Department of Transportation.

[CDFG] California Department of Fish and Game. 1994. A Field Guide to Lake and Streambed Alteration Agreements, Sections 1600-1607. Environmental Services Division.

[CDFG] California Department of Fish and Game. 2000. Guidelines of Assessing the Effects of Proposed Developments on Rare and Endangered Plants and Plant Communities. California Department of Fish and Game, Sacramento, California. 2 pp.

Carraway L. N. and B. J. Verts. 1991. Neotoma fuscipes. Mammalian Species No. 386, The American Society of Mammalogists. 10 p.

[CNDDB] California Natural Diversity Database. 2010. Rarefind. California Department of Fish and Game.

[CNPS] California Native Plant Society. 2007. Inventory of Rare and Endangered Plants of California (6th edition). Rare Plant Scientific Advisory Committee, David P. Tibor, Convening Editor. http://cnps.web.aplus.net/cgi-bin/inv/inventory.cgi

Corelli, T., and Z. Chandik. 1995. The rare and endangered plants of San Mateo and Santa Clara County. Monocot Press, Half Moon Bay, CA. 139 pp.

Dunk, J. R. and R. J. Cooper. 1994. Territory-size regulation in black-shouldered kites. Auk 111(3): 588-595

Dunk, J. R. 1995. White-tailed Kite (*Elanus leucurus*). In The Birds of North America Online (A. Poole, Ed.). Ithaca: Cornell Lab of Ornithology; Retrieved from the Birds of North America Online: http://bna.birds.cornell.edu/bna/species/178

EDAW Inc. 2006. Biological Resources Assessment for the Santa Clara Valley Water District's Mid-Coyote Creek Project. Prepared for the Santa Clara Valley Water District.

Entrix, Inc. 2006. Coyote Creek: Montague Ex. to Interstate 280 Baseline Fisheries Habitat Study. Prepared for the Santa Clara Valley Water District.

Erichsen, E. L., S. K. Smallwood, A. M. Commandatore, B. W. Wilson, and M. D. Fry. 1996. White-tailed Kite movement and nesting patterns in an agricultural

landscape. In Raptors in Human Landscapes, D. Bird, D. Varland, and J. Negro, Eds. San Diego, CA: Academic Press. Pp 165-175

Gardali, T. and J. Evens. 2008. San Francisco Common Yellowthroat (*Geothlypis trichas sinuosa*). In Shuford, W. D. and T. Gardali, eds. California Bird Species of Special Concern: A ranked assessment of species, subspecies, and distinct populations of birds of immediate conservation concern in California. Studies of Western Birds 1. Western Field Ornithologists, Camarillo, California; and California Department of Fish and Game, Sacramento.

Guzy, M. J. and G. Ritchison. 1999. Common Yellowthroat (*Geothlypis trichas*). In A Poole, ed. The Birds of North America Online. Ithaca: Cornell Lab of Ornithology. http://bna.birds.cornell.edu/bna/species/448. Accessed 31 December 2008

Hall, E. R. 1981. The mammals of North America. Second ed., 2 vols. John Wiley and Sons, New York. 2:699-700.

Heath, S. K. 2008. Yellow Warbler (*Dendroica petechia*). In Shuford, W. D. and T. Gardali, eds. California Bird Species of Special Concern: A ranked assessment of species, subspecies, and distinct populations of birds of immediate conservation concern in California. Studies of Western Birds 1. Western Field Ornithologists, Camarillo, California; and California Department of Fish and Game, Sacramento.

Hickman, J. C. 1993. The Jepson Manual: Higher Plants of California. University of California Press.

Holland, R.F. 1986. Preliminary Description of the Terrestrial Natural Communities of California. California Department of Fish & Game.

H. T. Harvey & Associates. 1999. Santa Clara Valley Water District Foothill Yellow-legged Frog Distribution and Status, 1999. Prepared for the Santa Clara Valley Water District. 19 pp.

H. T. Harvey & Associates. 2008. Adobe Creek reach 5 woodrat mitigation project report. Project 2961-02. Prepared for the Santa Clara Valley Water District and the California Department of Fish and Game.

Humple, D. 2008. Loggerhead Shrike (*Lanius ludovicianus*). In Shuford, W. D. and T. Gardali, eds. California Bird Species of Special Concern: A ranked assessment of species, subspecies, and distinct populations of birds of immediate conservation concern in California. Studies of Western Birds 1. Western Field Ornithologists, Camarillo, California; and California Department of Fish and Game, Sacramento.

Jennings, M. R. and M. P. Hayes. 1994. Amphibian and reptile species of special concern in California. California Department of Fish and Game, Inland Fisheries Division, Rancho Cordova, California. iii+255 p.

Lee, D. E. and W. D. Tietje. 2005. Dusky-footed woodrat demography and prescribed fire in a California oak woodland. J. Wildl. Manage. 69(3): 1211-1220

Leidy, R. A., G. S. Becker, and B. N. Harvey. 2003. Historical distribution and current status of steelhead/rainbow trout (*Oncorhynchus mykiss*) in streams of the San Francisco Estuary, California. Center for Ecosystem Management and Restoration, Oakland, CA.

Lowther, P. E., C. Celada, N. K. Klein, C. C. Rimmer and D. A. Spector. 1999. Yellow Warbler (*Dendroica petechia*). In The Birds of North America Online (A. Poole, Ed.). Ithaca: Cornell Lab of Ornithology; Retrieved from the Birds of North America Online: http://bna.birds.cornell.edu/bna/species/454

Menges, T. 1998. Common Yellowthroat (*Geothlypis trichas*). In The Riparian Bird Conservation Plan: a strategy for reversing the decline of riparian-associated birds in California. California Partners in Flight. http://www.prbo.org/calpif/htmldocs/riparian_v-2.html

Moore, M., L. Porcella, D. Salsbery, and V. Stephens. 2008. Mid-Coyote Flood Protection Project Baseline Fisheries Monitoring Report, Year 2. Santa Clara Valley Water District.

Moyle, P. B. 2002. Inland fishes of California. University of California press. CA: Berkeley. Pp 245-251

[NMFS] National Oceanic and Atmospheric Administration, National Marine Fisheries Service. 2005. Endangered and Threatened Species; designation of Critical Habitat for seven Evolutionarily Significant Units of Pacific salmon and steelhead in California; Final Rule. Federal Register 70(170):52488-52627.

Nur, N., S. Zack, J. Evans, and T. Gardali. 1997. Tidal marsh birds of the San Francisco Bay region: status, distribution, and conservation of five category 2 taxa. Final draft report to the United States Geological Survey. Petaluma: PRBO Conservation Science. 66 pp

Polite, C. 1990. Black-shouldered Kite *Elanus caeruleus*. In California's Wildlife, Vol II: Birds. D. C. Zeiner, W. F. Laudenslayer Jr, K.E. Mayer, and M. White, Eds. California Department of Fish and Game, California Statewide Wildlife Habitat Relationships System. Pp 120-121

Popper, A. N. , T. J. Carlson, A. D. Hawkins, B. L. Southall, and R. L. Gentry. 2006. Interim Criteria for Injury of Fish Exposed to Pile Driving Operations: A White Paper.

Rottenborn, S. C. 1997. The impacts of urbanization on riparian bird communities in central California. Unpublished Ph.D. dissertation, Stanford University.

Sawyer, J.O., and T. Keeler-Wolf. 1995. A Manual of California Vegetation. California Native Plant Society.

Skonieczny, M. F. and J. R. Dunk. 1997. Hunting synchrony in White-tailed Kites. J. Raptor Res. 31(1): 79-81

[SCS] Soil Conservation Service. 1968. Soil Survey of Santa Clara County, California, Western Part. Washington, D.C., U.S. Department of Agriculture.

Stebbins, R. C. 2003. A field guide to western reptiles and amphibians. Third edition. Houghton Mifflin Company, Boston, MA, 336 p.

[USFWS] U.S. Fish and Wildlife Service and National Marine Fisheries Service. 1998. Endangered species consultation handbook. Procedures for conducting consultation and conference activities under Section 7 of the Endangered Species Act. March 1998, Final.

Yosef, R. 1996. Loggerhead Shrike (*Lanius ludovicianus*). In A. Poole, Ed. The Birds of North America Online. Ithaca: Cornell Lab of Ornithology; retrieved from the Birds of North America Online, http: //bna.birds.cornell.edu/bna/species/231

PERSONAL COMMUNICATIONS

J. Scullen, Station Manager, San Francisco Bay Bird Observatory's Coyote Creek Field Station, to N .Thorngate, Wildlife Ecologist, H. T. Harvey & Associates. Email communication on 2 March 2010.

Appendix A USFWS Special-Status Species List

United States Department of the Interior
FISH AND WILDLIFE SERVICE
Sacramento Fish and Wildlife Office
2800 Cottage Way, Room W-2605
Sacramento, California 95825

February 17, 2010

Document Number: 100217101734

Nellie Thorngate
H. T. Harvey & Associates
983 University Avenue, Bldg D
Los Gatos, CA 95032

Subject: Species List for Coyote Creek Trail, Montague to Silver Creek

Dear: Ms. Thorngate

We are sending this official species list in response to your February 17, 2010 request for information about endangered and threatened species. The list covers the California counties and/or U.S. Geological Survey 7½ minute quad or quads you requested.

Our database was developed primarily to assist Federal agencies that are consulting with us. Therefore, our lists include all of the sensitive species that have been found in a certain area *and also ones that may be affected by projects in the area*. For example, a fish may be on the list for a quad if it lives somewhere downstream from that quad. Birds are included even if they only migrate through an area. In other words, we include all of the species we want people to consider when they do something that affects the environment.

Please read Important Information About Your Species List (below). It explains how we made the list and describes your responsibilities under the Endangered Species Act.

Our database is constantly updated as species are proposed, listed and delisted. If you address proposed and candidate species in your planning, this should not be a problem. However, we recommend that you get an updated list every 90 days. That would be May 18, 2010.

Please contact us if your project may affect endangered or threatened species or if you have any questions about the attached list or your responsibilities under the Endangered Species Act. A list of Endangered Species Program contacts can be found at www.fws.gov/sacramento/es/branches.htm.

Endangered Species Division

U.S. Fish & Wildlife Service
Sacramento Fish & Wildlife Office

Federal Endangered and Threatened Species that Occur in or may be Affected by Projects in the Counties and/or U.S.G.S. 7 1/2 Minute Quads you requested

Document Number: 100217103241

Database Last Updated: December 1, 2009

Quad Lists

Listed Species

Invertebrates

Branchinecta conservatio
- Conservancy fairy shrimp (E)

Euphydryas editha bayensis
- bay checkerspot butterfly (T)
- Critical habitat, bay checkerspot butterfly (X)

Lepidurus packardi
- Critical habitat, vernal pool tadpole shrimp (X)
- vernal pool tadpole shrimp (E)

Fish

Hypomesus transpacificus
- delta smelt (T)

Oncorhynchus mykiss
- Central California Coastal steelhead (T) (NMFS)
- Central Valley steelhead (T) (NMFS)
- Critical habitat, Central California coastal steelhead (X) (NMFS)

Oncorhynchus tshawytscha
- Central Valley spring-run chinook salmon (T) (NMFS)
- winter-run chinook salmon, Sacramento River (E) (NMFS)

Amphibians

Ambystoma californiense
- California tiger salamander, central population (T)

Rana aurora draytonii
- California red-legged frog (T)
- Critical habitat, California red-legged frog (X)

Reptiles

Masticophis lateralis euryxanthus
- Alameda whipsnake [=striped racer] (T)

Birds

Charadrius alexandrinus nivosus
- western snowy plover (T)

Pelecanus occidentalis californicus
- California brown pelican (E)

Rallus longirostris obsoletus
- California clapper rail (E)

Sternula antillarum (=Sterna, =albifrons) browni
- California least tern (E)

Mammals

Reithrodontomys raviventris

salt marsh harvest mouse (E)

Vulpes macrotis mutica
San Joaquin kit fox (E)

Plants

Dudleya setchellii
Santa Clara Valley dudleya (E)

Lasthenia conjugens
Contra Costa goldfields (E)
Critical habitat, Contra Costa goldfields (X)

Streptanthus albidus ssp. albidus
Metcalf Canyon jewelflower (E)

Suaeda californica
California sea blite (E)

Proposed Species

Amphibians

Rana aurora draytonii
Critical habitat, California red-legged frog (PX)

Quads Containing Listed, Proposed or Candidate Species:

MILPITAS (427B)

SAN JOSE WEST (427C)

SAN JOSE EAST (427D)

County Lists

No county species lists requested.

Key:

(E) *Endangered* - Listed as being in danger of extinction.
(T) *Threatened* - Listed as likely to become endangered within the foreseeable future.
(P) *Proposed* - Officially proposed in the Federal Register for listing as endangered or threatened.
(NMFS) Species under the Jurisdiction of the National Oceanic & Atmospheric Administration Fisheries Service. Consult with them directly about these species.
Critical Habitat - Area essential to the conservation of a species.
(PX) *Proposed Critical Habitat* - The species is already listed. Critical habitat is being proposed for it.
(C) *Candidate* - Candidate to become a proposed species.
(V) Vacated by a court order. Not currently in effect. Being reviewed by the Service.
(X) *Critical Habitat* designated for this species

Important Information About Your Species List

How We Make Species Lists

We store information about endangered and threatened species lists by U.S. Geological Survey 7½ minute quads. The United States is divided into these quads, which are about the size of San Francisco.

The animals on your species list are ones that occur within, **or may be affected by** projects within, the quads covered by the list.

- Fish and other aquatic species appear on your list if they are in the same watershed as your quad or if water use in your quad might affect them.
- Amphibians will be on the list for a quad or county if pesticides applied in that area may be carried to their habitat by air currents.
- Birds are shown regardless of whether they are resident or migratory. Relevant birds on the

county list should be considered regardless of whether they appear on a quad list.

Plants

Any plants on your list are ones that have actually been observed in the area covered by the list. Plants may exist in an area without ever having been detected there. You can find out what's in the surrounding quads through the California Native Plant Society's online Inventory of Rare and Endangered Plants.

Surveying

Some of the species on your list may not be affected by your project. A trained biologist and/or botanist, familiar with the habitat requirements of the species on your list, should determine whether they or habitats suitable for them may be affected by your project. We recommend that your surveys include any proposed and candidate species on your list. See our Protocol and Recovery Permits pages.

For plant surveys, we recommend using the Guidelines for Conducting and Reporting Botanical Inventories. The results of your surveys should be published in any environmental documents prepared for your project.

Your Responsibilities Under the Endangered Species Act

All animals identified as listed above are fully protected under the Endangered Species Act of 1973, as amended. Section 9 of the Act and its implementing regulations prohibit the take of a federally listed wildlife species. Take is defined by the Act as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect" any such animal.

> Take may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or shelter (50 CFR §17.3).

Take incidental to an otherwise lawful activity may be authorized by one of two procedures:

- If a Federal agency is involved with the permitting, funding, or carrying out of a project that may result in take, then that agency must engage in a formal consultation with the Service.

  During formal consultation, the Federal agency, the applicant and the Service work together to avoid or minimize the impact on listed species and their habitat. Such consultation would result in a biological opinion by the Service addressing the anticipated effect of the project on listed and proposed species. The opinion may authorize a limited level of incidental take.

- If no Federal agency is involved with the project, and federally listed species may be taken as part of the project, then you, the applicant, should apply for an incidental take permit. The Service may issue such a permit if you submit a satisfactory conservation plan for the species that would be affected by your project.

  Should your survey determine that federally listed or proposed species occur in the area and are likely to be affected by the project, we recommend that you work with this office and the California Department of Fish and Game to develop a plan that minimizes the project's direct and indirect impacts to listed species and compensates for project-related loss of habitat. You should include the plan in any environmental documents you file.

Critical Habitat

When a species is listed as endangered or threatened, areas of habitat considered essential to its conservation may be designated as critical habitat. These areas may require special management considerations or protection. They provide needed space for growth and normal behavior; food, water, air, light, other nutritional or physiological requirements; cover or shelter; and sites for breeding, reproduction, rearing of offspring, germination or seed

dispersal.

Although critical habitat may be designated on private or State lands, activities on these lands are not restricted unless there is Federal involvement in the activities or direct harm to listed wildlife.

If any species has proposed or designated critical habitat within a quad, there will be a separate line for this on the species list. Boundary descriptions of the critical habitat may be found in the Federal Register. The information is also reprinted in the Code of Federal Regulations (50 CFR 17.95). See our Map Room page.

Candidate Species

We recommend that you address impacts to candidate species. We put plants and animals on our candidate list when we have enough scientific information to eventually propose them for listing as threatened or endangered. By considering these species early in your planning process you may be able to avoid the problems that could develop if one of these candidates was listed before the end of your project.

Species of Concern

The Sacramento Fish & Wildlife Office no longer maintains a list of species of concern. However, various other agencies and organizations maintain lists of at-risk species. These lists provide essential information for land management planning and conservation efforts. More info

Wetlands

If your project will impact wetlands, riparian habitat, or other jurisdictional waters as defined by section 404 of the Clean Water Act and/or section 10 of the Rivers and Harbors Act, you will need to obtain a permit from the U.S. Army Corps of Engineers. Impacts to wetland habitats require site specific mitigation and monitoring. For questions regarding wetlands, please contact Mark Littlefield of this office at (916) 414-6580.

Updates

Our database is constantly updated as species are proposed, listed and delisted. If you address proposed and candidate species in your planning, this should not be a problem. However, we recommend that you get an updated list every 90 days. That would be May 18, 2010.

Appendix B Plant Species Observed within the BSA

Appendix B. Plant Species Observed within the Biological Study Area

Coyote Creek Trail (Montague Expressway to U. S. Hwy 101) Plant Species Observed within the Biological Study Area		
FAMILY NAME	**SCIENTIFIC NAME**	**COMMON NAME**
Aceraceae	*Acer negundo* var. *californicum*	box elder
Anacardiaceae	*Schinus molle*	Peruvian peppertree
	Toxicodendron diversilobum	poison oak
Apiaceae	*Conium maculatum*	poison hemlock
	Daucus carota	wild carrot
Apocynaceae	*Vinca major*	periwinkle
Araliaceae	*Hedera helix*	English ivy
Arecaceae	*Washingtonia robusta*	Mexican fan palm
Asteraceae	*Baccharis pilularis*	coyote brush
	Baccharis salicifolia	mulefat
	Conyza canadensis	mares tail
	Dittrichia graveolens	dittrichia
	Heterotheca grandiflora	telegraphweed
	Lactuca serriola	prickly lettuce
	Picris echioides	bristly ox-tongue
	Silybum marianum	milk thistle
	Xanthium strumarium	rough cocklebur
Brassicaceae	*Brassica nigra*	black mustard
	Raphanus sativus	wild radish
Caprifoliaceae	*Sambucus mexicana*	blue elderberry
Cyperaceae	*Cyperus eragrostis*	tall flatsedge
Fabaceae	*Robinia pseudoacacia*	black locust
	Trifolium hirtum	rose clover
	Vicia sativa	spring vetch
Fagaceae	*Quercus agrifolia*	coast live oak
	Quercus lobata	Valley oak
Geraniaceae	*Erodium cicutarium*	redstem filaree
Juglandaceae	*Juglans hindsii*	black walnut
Lauraceae	*Umbellularia californica*	California bay
Malvaceae	*Malva parviflora*	small mallow
Myrtaceae	*Eucalyptus globulus*	blue gum
Oleaceae	*Olea europaea*	olive
Pinaceae	*Pinus* sp.	ornamental pine
Platanaceae	*Platanus racemosa*	western sycamore
Poaceae	*Avena fatua*	wild oats
	Bromus diandrus	ripgut brome
	Cynodon dactylon	Bermuda grass
	Hordeum marinum ssp. *gussoneanum*	Mediterranean barley
	Hordeum murinum ssp. *leporinum*	hare barley
	Lolium multiflorum	Italian rygrass
	Piptatherum miliaceum	smilograss
	Polypogon monspeliensis	rabbitsfoot grass

Coyote Creek Trail (Montague Expressway to U. S. Hwy 101)
Plant Species Observed within the Biological Study Area

FAMILY NAME	SCIENTIFIC NAME	COMMON NAME
Polygonaceae	*Rumex crispus*	curly dock
Rosaceae	*Prunus dulcis*	almond
	Prunus ilicifolia	holly-leaved cherry
	Rosa californica	California wild rose
	Rubus discolor	Himalayan blackberry
	Rubus ursinus	Pacific blackberry
Rubiaceae	*Gallium aparine*	common bedstraw
Salicaceae	*Populus fremontii*	Fremont's cottonwood
	Salix babylonica	weeping willow
	Salix laevigata	red willow
	Salix lasiolepis	arroyo willow
Simaroubaceae	*Ailanthus altissima*	tree-of-heaven
Taxodiaceae	*Sequoia sempervirens*	coast redwood
Typhaceae	*Typha latifolia*	broad-leaved cattail
Ulmaceae	*Ulmus parviflora*	Chinese elm

The species are arranged alphabetically by family name for all vascular plants encountered during the plant survey. Plants are also listed alphabetically within each family. Species nomenclature is from Hickman (1993) except where different nomenclature has been adopted by Reed (1988).

Appendix C Riparian Tree Impact Data

Impact Location	Riparian Tree Species	Common Name	Native? (Y=yes, N=no)	Diameter at Breast Height (inches)	Circumference at Breast Height (inches)	Habitat Type
Berryessa Road	*Acer negundo*	Box elder	Y	12	38	Mixed Riparian
Berryessa Road	*Acer negundo*	Box elder	Y	12	38	Mixed Riparian
Berryessa Road	*Eucalyptus sp.*	Eucalyptus	N	16	50	Mixed Riparian
Berryessa Road	*Eucalyptus sp.*	Eucalyptus	N	19	60	Mixed Riparian
Berryessa Road	*Eucalyptus sp.*	Eucalyptus	N	8	25	Mixed Riparian
Berryessa Road	*Eucalyptus sp.*	Eucalyptus	N	10	31	Mixed Riparian
Berryessa Road	*Eucalyptus sp.*	Eucalyptus	N	8	25	Mixed Riparian
Berryessa Road	*Eucalyptus sp.*	Eucalyptus	N	6	19	Mixed Riparian
Berryessa Road	*Populus fremontii*	Fremont's cottonwood	Y	22	69	Mixed Riparian
Berryessa Road	*Unknown*		N	5	16	Mixed Riparian
Charcot Avenue	*Populus fremontii*	Fremont's cottonwood	Y	22	69	Mixed Riparian
Charcot Avenue	*Populus fremontii*	Fremont's cottonwood	Y	12	38	Mixed Riparian
Charcot Avenue	*Populus fremontii*	Fremont's cottonwood	Y	16	50	Mixed Riparian
Charcot Avenue	*Salix laevigata*	Red willow	Y	18	57	Mixed Riparian
Charcot Avenue	*Salix laevigata*	Red willow	Y	18	57	Mixed Riparian
Charcot Avenue	*Salix laevigata*	Red willow	Y	18	57	Mixed Riparian
Charcot Avenue	*Salix laevigata*	Red willow	Y	14	44	Mixed Riparian
Charcot Avenue	*Salix laevigata*	Red willow	Y	14	44	Mixed Riparian
Highway 101	*Acer negundo*	Box elder	Y	6	19	Mixed Riparian
Highway 101	*Eucalyptus globulus*	Blue gum eucalyptus	N	10	31	Mixed Riparian
Highway 101	*Populus fremontii*	Fremont's cottonwood	Y	24	75	Mixed Riparian
Highway 101	*Populus fremontii*	Fremont's cottonwood	Y	6	19	Mixed Riparian

Impact Location	Riparian Tree Species	Common Name	Native? (Y=yes, N=no)	Diameter at Breast Height (inches)	Circumference at Breast Height (inches)	Habitat Type
Highway 101	*Quercus agrifolia*	Coast live oak	Y	12	38	Mixed Riparian
Highway 101	*Salix laevigata*	Red willow	Y	8	25	Mixed Riparian
Highway 101	*Salix laevigata*	Red willow	Y	8	25	Mixed Riparian
Highway 101	*Salix laevigata*	Red willow	Y	12	38	Mixed Riparian
Highway 101	*Salix laevigata*	Red willow	Y	6	19	Mixed Riparian
Highway 101	*Salix laevigata*	Red willow	Y	6	19	Mixed Riparian
Highway 101	*Salix laevigata*	Red willow	Y	6	19	Mixed Riparian
Highway 101	*Sambucus mexicana*	Blue elderberry	Y	6	19	Mixed Riparian
Highway 101	*Sambucus mexicana*	Blue elderberry	Y	6	19	Mixed Riparian
Highway 101	*Sambucus mexicana*	Blue elderberry	Y	6	19	Mixed Riparian
Highway 101	*Sambucus mexicana*	Blue elderberry	Y	6	19	Mixed Riparian
Highway 101	*Schinus molle*	Pepper tree	N	36	113	Mixed Riparian
Mabury Road	*Acer negundo*	Box elder	Y	6	19	Mixed Riparian
Mabury Road	*Acer negundo*	Box elder	Y	6	19	Mixed Riparian
Mabury Road	*Acer negundo*	Box elder	Y	6	19	Mixed Riparian
Mabury Road	*Acer negundo*	Box elder	Y	6	19	Mixed Riparian
Mabury Road	*Acer negundo*	Box elder	Y	6	19	Mixed Riparian
Mabury Road	*Acer negundo*	Box elder	Y	6	19	Mixed Riparian
Mabury Road	*Ailanthus altissima*	Tree-of-heaven	N	12	38	Mixed Riparian
Mabury Road	*Salix laevigata*	Red willow	Y	16	50	Mixed Riparian
Mabury Road	*Salix laevigata*	Red willow	Y	16	50	Mixed Riparian
Mabury Road	*Salix laevigata*	Red willow	Y	16	50	Mixed Riparian

Impact Location	Riparian Tree Species	Common Name	Native? (Y=yes, N=no)	Diameter at Breast Height (inches)	Circumference at Breast Height (inches)	Habitat Type
Montague Expressway	*Populus fremontii*	Fremont's cottonwood	Y	8	25	Eucalyptus Forest
Montague Expressway	*Populus fremontii*	Fremont's cottonwood	Y	10	31	Eucalyptus Forest
Montague Expressway	*Populus fremontii*	Fremont's cottonwood	Y	20	63	Eucalyptus Forest
Montague Expressway	*Populus fremontii*	Fremont's cottonwood	Y	10	31	Eucalyptus Forest
Montague Expressway	*Populus fremontii*	Fremont's cottonwood	Y	8	25	Eucalyptus Forest
Montague Expressway	*Populus fremontii*	Fremont's cottonwood	Y	14	44	Eucalyptus Forest
Montague Expressway	*Populus fremontii*	Fremont's cottonwood	Y	16	50	Eucalyptus Forest
Montague Expressway	*Quercus chrysolepis*	Canyon live oak	Y	8	25	Mixed Riparian
Montague Expressway	*Quercus chrysolepis*	Canyon live oak	Y	12	38	Mixed Riparian
Montague Expressway	*Salix babylonica*	Weeping willow	N	10	31	Mixed Riparian
Montague Expressway	*Salix babylonica*	Weeping willow	N	10	31	Mixed Riparian
Montague Expressway	*Salix babylonica*	Weeping willow	N	6	19	Mixed Riparian
Montague Expressway	*Salix babylonica*	Weeping willow	N	6	19	Mixed Riparian
Montague Expressway	*Salix babylonica*	Weeping willow	N	10	31	Mixed Riparian
Montague Expressway	*Salix babylonica*	Weeping willow	N	15	47	Mixed Riparian
Notting Hill Drive	*Salix laevigata*	Red willow	Y	8	25	Mixed Riparian
Notting Hill Drive	*Salix laevigata*	Red willow	Y	8	25	Mixed Riparian
Notting Hill Drive	*Salix laevigata*	Red willow	Y	7	22	Mixed Riparian
Notting Hill Drive	*Salix laevigata*	Red willow	Y	7	22	Mixed Riparian
Notting Hill Drive	*Salix laevigata*	Red willow	Y	7	22	Mixed Riparian
Notting Hill Drive	*Salix laevigata*	Red willow	Y	20	63	Mixed Riparian
Oakland Road	*Acer negundo*	Box elder	Y	10	31	Mixed Riparian

Impact Location	Riparian Tree Species	Common Name	Native? (Y=yes, N=no)	Diameter at Breast Height (inches)	Circumference at Breast Height (inches)	Habitat Type
Oakland Road	*Eucalyptus globulus*	Blue gum eucalyptus	N	44	138	Mixed Riparian
Oakland Road	*Eucalyptus globulus*	Blue gum eucalyptus	N	48	151	Mixed Riparian
Oakland Road	*Juglans hindsii*	Black walnut	Y	15	47	Mixed Riparian
Oakland Road	*Olea europaea*	Olive	N	6	19	Mixed Riparian
Oakland Road	*Populus fremontii*	Fremont's cottonwood	Y	8	25	Mixed Riparian
Oakland Road	*Populus fremontii*	Fremont's cottonwood	Y	8	25	Mixed Riparian
Oakland Road	*Populus fremontii*	Fremont's cottonwood	Y	12	38	Mixed Riparian
Oakland Road	*Salix laevigata*	Red willow	Y	8	25	Mixed Riparian
Oakland Road	*Salix laevigata*	Red willow	Y	10	31	Mixed Riparian
Oakland Road	*Salix laevigata*	Red willow	Y	8	25	Mixed Riparian
Oakland Road	*Sambucus mexicana*	Blue elderberry	Y	6	19	Mixed Riparian
Oakland Road	*Sambucus mexicana*	Blue elderberry	Y	6	19	Mixed Riparian
Oakland Road	*Sambucus mexicana*	Blue elderberry	Y	10	31	Mixed Riparian
Oakland Road	*Sambucus mexicana*	Blue elderberry	Y	11	35	Mixed Riparian
Ridder Park Drive	*Populus fremontii*	Fremont's cottonwood	Y	6	19	Mixed Riparian
Ridder Park Drive	*Sambucus mexicana*	Blue elderberry	Y	30	94	Mixed Riparian
Ridder Park Drive	*Sambucus mexicana*	Blue elderberry	Y	14	44	Mixed Riparian
Ridder Park Drive	*Sambucus mexicana*	Blue elderberry	Y	8	25	Mixed Riparian
Ridder Park Drive	*Sambucus mexicana*	Blue elderberry	Y	10	31	Mixed Riparian
Ridder Park Drive	*Sambucus mexicana*	Blue elderberry	Y	4	13	Mixed Riparian

Note- This is a tally of all stems. For multi-stemmed trees- stems were logged separately.