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# BIOLOGICAL RESOURCES ASSESSMENT

for the Santa Clara Valley Water District's Mid-Coyote Creek Project

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#### **EXECUTIVE SUMMARY**

The Santa Clara Valley Water District (SCVWD) retained EDAW Inc., (EDAW) to prepare a preliminary biological resource assessment for the Mid-Coyote Creek Project (project). The primary objective of the proposed project is to enhance the capacity of Coyote Creek to convey floodwaters for the purpose of protecting homes, schools, businesses, and highways along the mid-reaches of the creek from 100-year flood events. Additionally, the project aims to provide opportunities to improve water quality, fisheries, habitat values, and public access.

The purpose of this biological resources assessment is to describe the plant and wildlife resources, excluding fisheries, present within the project area. This assessment will serve as baseline data for subsequent environmental compliance and permitting documents. Descriptions of the major plant communities are provided, along with a discussion of the wildlife habitat values of each community and the potential for the occurrence of special-status plant and wildlife species. Furthermore, detailed, reach-specific discussions of plant community composition, including the presence of invasive plants, and of accompanying wildlife habitat values, are provided for each of the eleven reaches of Coyote Creek present within the project area.

#### INTRODUCTION

## PROJECT LOCATION

The project site encompasses approximately 150 acres extending roughly 6.1 miles along the Coyote Creek corridor, which begins just west of Interstate 880 (I-880) and the city of Milpitas and extends south or upstream to Interstate 280 (I-280) (Exhibit 1). The entire project site lies within urbanized portions of the cities of San Jose and Milpitas and is bordered by residential, commercial, and industrial land uses. Scattered areas characterized by other land uses such as agriculture, parks, and a golf course are also located along the creek. Vegetation along the creek is characterized by dense riparian woodlands containing a wide variety of native plant species. Several non-native species are present as well.

For the purposes of analysis and habitat mapping, the study area was divided into eleven distinct reaches (Exhibit 2) along Coyote Creek starting at Montague Expressway and extending upstream towards I-280. The reach delineations are described as follows:

- Reach 4: Approximately 5,100 feet, from Montague Expressway to Charcot Avenue;
- Reach 5: Approximately 1,800 feet, from Charcot Avenue to I-880;
- Reach 6: Approximately 1,500 feet, from I-880 Avenue to Ridder Park Drive;
- Reach 7: Approximately 1,600 feet, from Ridder Park Drive to Old Oakland Road;
- Reach 8: Approximately 5,800 feet, from Old Oakland Road to Berryessa Road;
- Reach 9: Approximately 2,400 feet, from Berryessa Road to Mabury Road;
- Reach 10: Approximately 1,300 feet, from Mabury Road to U.S. Highway 101;

- Reach 11: Approximately 3,400 feet, from U.S. Highway 101 to E. Julian Street;
- Reach 12: Approximately 2,300 feet, from E. Julian Street to E. Santa Clara Street;
- Reach 13: Approximately 3,300 feet, from E. Santa Clara Street to E. William Street;
- Reach 14: Approximately 3,700 feet, from E. William Street to Interstate I-280.

The aquatic communities, physical processes, and hydrologic characteristics of these reaches, and Coyote Creek in general, are further described in detail in separate technical reports titled Assessment of Stream Ecosystem Functions for the Coyote Creek Watershed (EOA, Inc., 2003), Mid Coyote Creek Baseline Assessment, Montague Expressway to E. Santa Clara Street (HRG 1995), and Vegetation and Wildlife Resources, Coyote Creek, Montague Expressway to E. Julian Street, San Jose, California (HRG, 1989).

## PROJECT DESCRIPTION

The SCVWD provides wholesale water supply, stream stewardship, and floodwater protection services for the Santa Clara Valley and other parts of the County. As part of these responsibilities, the SCVWD initiated a series of projects along Coyote Creek in 1995. The first of these projects, Lower Coyote Creek, enhanced floodwater conveyance capacity and riparian habitat from the San Francisco Bay to Montague Expressway.

The Mid-Coyote Creek Project is located immediately upstream of the Lower Coyote Creek Project and encompasses planned improvements for the mid reach of Coyote Creek as work progresses upstream. Potential project actions include in-stream improvements, such as bank recontouring and bank reinforcement to increase floodwater conveyance, measures to improve water quality within Coyote Creek, and enhancements of in-stream habitat for the benefit of native fish and wildlife species.

#### REGULATORY ENVIRONMENT

State and federal regulations related to the conservation of plants, animals, and their habitats that would be applicable to activities within the project area are summarized below. It should be noted that other federal, state, and local regulations pertaining to other natural resource topics (e.g., Clean Water Act) would be applicable to activities within the project area. Although not described here, these regulations would equally apply to project activities and should be considered in any project actions.

#### FEDERAL LAWS AND REGULATIONS

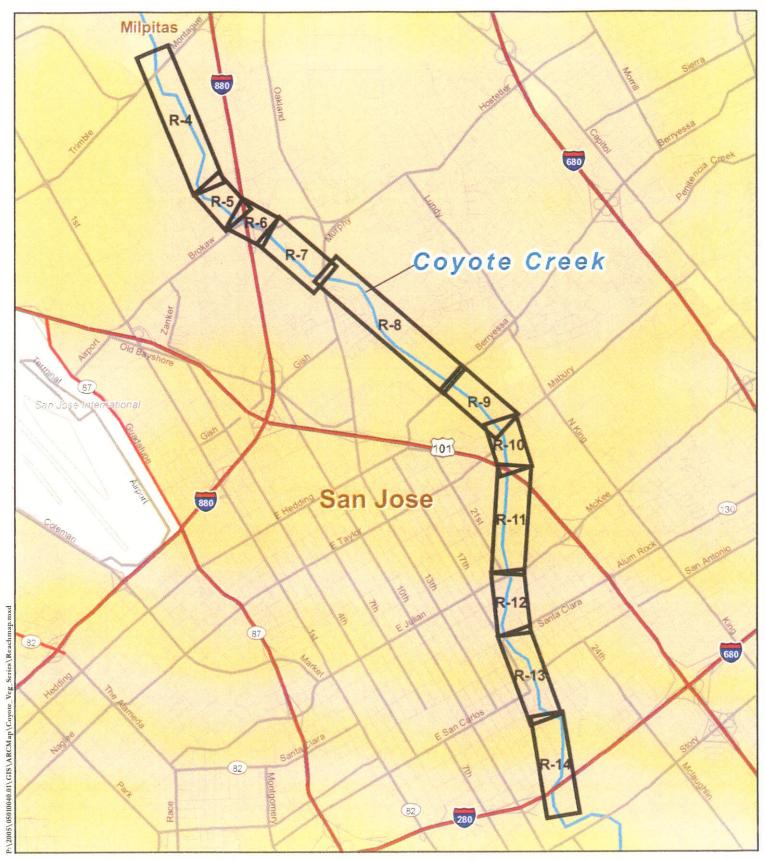
#### Federal Endangered Species Act (ESA)

The U.S. Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS) have authority over projects that may affect the continued existence of a federally listed (threatened or endangered) species. Section 9 of the ESA prohibits the "take" of federally listed species; take is defined under the ESA, in part, as killing, harming, or harassment. Under federal regulations, take is further defined to include habitat modification or degradation where it



Santa Clara Valley Water District Mid-Coyote Creek Project

Exhibit 1: Regional Location Map



Santa Clara Valley Water District Mid-Coyote Creek Project

Exhibit 2: Project Reach Designation Map
[Montegue Expressway to I-280]



actually results in death or injury to wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering. Section 7 of the ESA outlines procedures for federal interagency cooperation to conserve federally-listed species and designated critical habitat. Critical habitat identifies specific areas that have the physical and biological features that are essential to the conservation of a listed species, and that may require special management considerations or protection. Section 7(a)(2) requires federal agencies to consult with USFWS to ensure that they are not undertaking, funding, permitting, or authorizing actions likely to jeopardize the continued existence of listed species or destroy or adversely modify designated critical habitat.

For projects where federal action is not involved and take of a listed species may occur, the project proponent may seek to obtain an incidental take permit under Section 10(a) of the ESA. That section allows USFWS to permit the incidental take of listed species if such take is accompanied by a habitat conservation plan that includes components to minimize and mitigate impacts associated with the take.

#### STATE LAWS AND REGULATIONS

#### California Endangered Species Act (CESA)

In accordance with CESA and Section 2081 of the California Fish and Game Code, a permit from the California Department of Fish and Game (DFG) is required for projects that could result in the take of a species state-listed as threatened or endangered. Under CESA, "take" is defined as an activity that would directly or indirectly kill an individual of a species, but the definition does not include "harm" or "harass," as the federal act does. As a result, the threshold for a take under CESA is higher than that under ESA.

## California Fish and Game Code Sections 3503-3503.5 - Protection of Bird Nests and Raptors

Section 3503 of the California Fish and Game Code states that it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird. Section 3503.5 specifically states that it is unlawful to take, possess, or destroy any raptors (i.e., hawks, owls, eagles, and falcons), including their nests or eggs. Typical violations of these codes include destruction of active nests resulting from removal of vegetation in which the nests are located. Violation of Section 3503.5 could also include failure of active raptor nests resulting from disturbance of nesting pairs by nearby project construction.

#### INFORMAL SPECIES AND HABITAT DESIGNATIONS

## California Department of Fish and Game

The DFG maintains an informal list of species called species of special concern. These are broadly defined as plant and wildlife species that are of concern to the DFG because of population declines and restricted distributions, and/or they are associated with habitats that are declining in California. These species are inventoried in the California Natural Diversity Database (CNDDB) regardless of their legal status.

#### California Native Plant Society (CNPS)

The CNPS has developed lists of plants of special concern in California. A CNPS List 1A plant is a species, subspecies, or variety that is considered to be extinct. A List 1B plant is considered rare, threatened, or endangered in California and elsewhere. A List 2 plant is considered rare, threatened, or endangered in California but is more common elsewhere. A List 3 plant is potentially endangered but additional information on rarity and endangerment is needed. A List 4 plant has a limited distribution but is presently not endangered. All species on Lists 1 and 2 meet the definitions of Section 1901, Chapter 10 of the Native Plant Protection Act (NPPA) or Sections 2062 and 2067 of CESA and are eligible for state listing. It is strongly recommended that CNPS List 1 and List 2 species be fully considered during the evaluation of potential project impacts. Some of the plants on List 3 meet the definitions of Section 1901, Chapter 10 of the NPPA or Sections 2062 and 2067 of CESA and are eligible for state listing. DFG and CNPS recommend that List 3 plants be considered during impact evaluation. Plants on List 4 generally do not meet the definitions of Section 1901, Chapter 10 of the NPPA or Sections 2062 and 2067 of CESA and are not currently eligible for state listing. However, these species are generally of local concern and the CNPS and DFG recommend consideration of List 4 species during impact evaluation, particularly in areas where the species is especially uncommon or has sustained a significant decline.

#### Sensitive Natural Communities

Sensitive natural communities include those that are of special concern to resource agencies or are afforded specific consideration through the CEQA, Section 1602 of the California Fish and Game Code, Section 404 of the Clean Water Act (CWA), and the State's Porter Cologne Act, as discussed under the *Regulatory Setting* above. Sensitive habitats may be of special concern to these agencies and conservation organizations for a variety of reasons, including their locally or regionally declining status, or because they provide important habitat to common and special-status species. Many of these communities are tracked in DFG's Natural Diversity Database, a statewide inventory of the locations and conditions of the state's rarest plant and animal taxa and vegetation types.

## **METHODS**

This biological resources assessment involved the following: 1) review of existing data, 2) reconnaissance-level field surveys and habitat mapping, and 3) evaluation of special-status species and sensitive natural communities with potential to occur in the project area.

### **REVIEW OF EXISTING DATA**

Existing environmental data was reviewed prior to conducting field surveys. Reports supplied by SCVWD included:

 Vegetation and Wildlife Resources, Coyote Creek, Montague Expressway to E. Julian Street, San Jose, California (HRG, 1989);

- Mid-Coyote Creek Baseline Assessment, Montague Expressway to E. Santa Clara Street (HRG, 1995);
- Assessment of Stream Ecosystem Functions for the Coyote Creek Watershed (EOA, Inc., 2003).

Other data reviewed included color aerial photography and maps of the project area. These data sources were reviewed by EDAW biologists to familiarize themselves with the project area, survey access points, and the biological resources likely to be encountered during field surveys.

#### FIELD SURVEYS AND HABITAT MAPPING

EDAW biologists Charles Battaglia, Richard Dwerlkotte, and Anne King conducted reconnaissance-level field surveys of the project area during the first week of May 2006. The purpose of the surveys was to characterize common biological resources present in the project area, determine the potential for sensitive biological resources to occur on the project site, and identify potential opportunities for habitat enhancement. Evaluation of fisheries, other aquatic resources, and in-stream physical and biological habitat components were not conducted for this study.

The field survey was conducted by driving or walking the 6.1-mile riparian corridor from 500 feet downstream of the Montague Expressway overpass (downstream location) to 500 feet upstream of the I-280 overpass (upstream location). Field mapping was accomplished using color aerial photography at a 1:600 scale (1 inch = 50 feet). Using these maps, EDAW biologists visually delineated the approximate location and extent of the vegetation communities encountered on the project site. For each community mapped, the biologists recorded dominant species and existing and potential habitat for wildlife.

Upon completion of field mapping, a GIS habitat map was created for the entire project area which included habitat polygons that were digitized from the field maps. Hand-drawn lines from field maps were replicated when creating GIS polygons; however, at a couple locations where access was unusually difficult, field-delineated polygons were further divided into smaller mapping units based on color differences visible on digital aerial images that were not readily apparent on the printed maps. In general, habitat polygons were drawn to depict stands of vegetation where the dominant or co-dominant species were consistent. Individual shrubs or trees were typically not delineated unless they were not represented by the surrounding mapped polygon or the wildlife habitat values that they provided were significantly different from those provided by the surrounding mapped polygon. Areas of invasive plants and/or non-native and horticultural species were mapped regardless of stand size when noted in the field or discernable on aerial photography within GIS. All human-made features (disturbed areas, roads, buildings, etc.) readily visible at a 1:600 scale were also delineated, regardless of size. The resultant minimum mapping unit for the GIS habitat map was less than 0.10 acre.

#### SPECIAL STATUS SPECIES EVALUATION

Prior to conducting the field surveys, a target list of special-status plant species with potential to occur on the project site was compiled by performing database searches of the CNPS Electronic

Inventory of Rare and Endangered Plants (CNPS 2006) and the DFG California Natural Diversity Database (CNDDB 2006). The CNDDB is a statewide inventory managed by DFG, which is continually updated with the locations and condition of the state's rare and declining species and habitats. Although the CNDDB and CNPS are reliable tools for site-specific information on sensitive biological resources, it should be noted that they contain only those records that have been submitted to DFG or CNPS and are not always up to date. State lists of endangered, rare, and/or species of concern were also reviewed to determine species that may potentially occur in the project area. Nine U.S. Geological Survey (USGS) 7.5 minute quadrangles (i.e., Calaveras Reservoir, Cupertino, La Costa Valley, Milpitas, Mt. View, Newark, Niles, San Jose East, and San, San Jose West), which included and surrounded the Mid-Coyote Creek project area, were included in the searches.

## **RESULTS**

#### **VEGETATION COMMUNITIES**

The project site is predominantly characterized by Fremont cottonwood (*Populus fremontii*) and willow (*Salix* sp.) riparian woodland communities, with California sycamore (*Platanus racemosa*) and coast live oak (*Quercus agrifolia*) communities existing in smaller pockets. The remainder of the project site is characterized by willow and coyote brush scrub, annual grassland-ruderal, freshwater wetland, and introduced exotic plant communities; open water occupies the lowest point or thalweg of the channel, and disturbed areas exist in various locations.

The following paragraphs describe the vegetation communities present on the project site in more detail. Table 1 presents a cross reference of these community names and related communities described in other vegetation classifications commonly used in California. Exhibits 3-15 depict the approximate location and extent of each vegetation community within the eleven reaches contained in the project area. Complete lists of all plant and wildlife species observed on the project site are included in Appendix A.

#### COTTONWOOD-WILLOW WOODLAND

The cottonwood-willow riparian woodland is widely and abundantly distributed along Coyote Creek within the project area. Fremont cottonwood and red willow (Salix laevigata) are typically the dominant species in the woodland's canopy layer, although each may be absent locally. Associate woodland species, which are frequently very abundant, include California walnut (Juglans californica), box elder (Acer negundo), California sycamore, narrowleaf willow (Salix exigua) and arroyo willow (Salix lasiolepis). Giant reed (Arundo donax) and weeping willow (Salix babylonica) are abundant in the cottonwood-willow riparian woodland in some project reaches and described below in the Introduced Willow Woodland and Giant Reed Scrub sections. Valley oak (Quercus lobata) saplings and coast live oak occur relatively frequently but are seldom abundant in the riparian woodland. Red willow,

Community Name in this Report	Holland (1986) Classification	Sawyer and Keeler-Wolfe (1995) Classification	
Cottonwood-Willow Woodland	Central Coast Cottonwood- Sycamore Riparian Forest (61210)	Fremont cottonwood series; Arroyo willow series; California sycamore series; Red willow series; Mixed willow series; Giant reed series	
Coast Live Oak-California Walnut Woodland	Central Coast Live Oak Riparian Forest (61220)	California walnut series; Coast live oak series; Hinds walnut stands	
Arroyo Willow Scrub	Central Coast Arroyo Willow Riparian Forest (61230)	Arroyo willow series; Mixed willow series; Giant reed series	
Coyote Brush Scrub	Central Coast Riparian Scrub (63200)	Coyote brush series	
Freshwater Wetland	Coastal and Valley Freshwater Marsh (52410)	Cattail series	
Annual Grassland-Ruderal	Non-native Grassland (42200)	California annual grassland series; Introduced perennial grassland series	

narrow leaf willow and arroyo willow, coyote brush (*Baccharis pilularis*), blackcap raspberry (*Rubus leucodermis*), California rose (*Rosa californica*) and Himalayan blackberry (*Rubus discolor*) are common shrub-layer species. Goose grass (*Galium aparine*) is a ubiquitous and abundant herb layer species particularly in shaded understories. The introduced invasive species, English ivy (*Hedera helix*) and vinca (*Vinca major*) are often abundant where residential areas abut the woodland. Annual grassland is the most common herb layer in open stands of cottonwood-willow riparian woodland.

#### COAST LIVE OAK-CALIFORNIA WALNUT WOODLAND

Coast live oak and California walnut do not form distinctive stands or woodland but occur together in scattered locations. Patches of coast live oak occur most often as small, distinctive stands sometimes associated with species of willow, California walnut, and introduced oaks (*Quercus* sp.). These stands are most often surrounded by annual grassland or coyote brush scrub. Black walnut trees and shrubs are scattered in similar surroundings and frequently form small, dense stands at the fringes of the cottonwood-willow woodland; these stands are most often mapped as part of the cottonwood-willow riparian woodland.

#### ARROYO WILLOW SCRUB

Tall multi-branched shrubs of arroyo willow form dense, pure stands near the active channel within the cottonwood-willow woodland. The associated understory species are few and generally sparsely distributed. Blackcap raspberry, goose grass, tall cyperus (*Cyperus eragrostis*) and perennial brome (*Bromus* cf. *laevipes*) are present in the understory of arroyo willow scrub. In addition, dense clumps of giant reed are present in some stands of arroyo willow scrub.

#### COYOTE BRUSH SCRUB

Coyote brush is a ubiquitous species in all but the wettest vegetation communities. Dense patches of coyote brush are present in many portions of canal banks and higher terraces along Coyote Creek within the project boundaries. These patches are most often surrounded by and intermix with annual grassland vegetation.

#### FRESHWATER WETLAND

Freshwater wetland is associated with the active channel and primary floodplain of mid-Coyote Creek. The reconnaissance survey conducted in May of 2006 was early in the growing season to observe well-developed wetland vegetation. Some of the more abundant freshwater wetland species observed included knotgrass (*Paspalum distichum*), broadleaf cattail (*Typha latifolia*), mule fat (*Baccharis salicifolia*), curly dock (*Rumex crispus*), green dock (*Rumex comglomeratus*), tall cyperus (*Cyperus eragrostis*), cocklebur (*Xanthium strumarium*) and tall whitetop (*Lepidium latifolium*). In most reaches the freshwater wetland habitat had been recently scoured, presumably by large flows that occurred during and after storm events in the winter of 2005/2006. Only in reach 4 was the freshwater wetland relatively open or not shaded by dense riparian woodland. Many portions of Coyote Creek that supported freshwater wetland were heavily shaded and did not support dense wetland vegetation cover. Many areas that may support freshwater wetland habitats were also covered by large amounts of garbage and debris deposited by the flood waters.

#### **OPEN WATER**

Open water habitats were densely shaded by dense riparian woodland cover and had little to no emergent or aquatic vegetation. Broadleaf cattail, tall cyperus and giant reed were among the few species growing in these habitats. As described above for freshwater wetland, open water habitat was only mapped when viewable from an above-canopy perspective. As a result, many of the upstream reaches show small areas of open water, even though a substantial deep water channel existed under the canopy.

#### ANNUAL GRASSLAND-RUDERAL

Annual grassland occurs throughout the project site on canal banks, active floodplains and the few older, higher terraces that have not been developed. Annual grassland is characterized by a dense cover of nonnative annual grasses with numerous species of native and nonnative annual forbs. The most abundant annual grass species observed include bromes (*Bromus diandrus*, *B. hordeaceus*), wild oats (*Avena fatua*), and Italian ryegrass (*Lolium multiflorum*); Smilo grass (*Piptatherum miliaceum*), an introduced perennial grass species, is widespread and dominant in some stands mapped as annual grassland. Common nonnative forbs include filarees (*Erodium botrys*, *E. cicutarium*), bull mallow (*Malva nicaeensis*), radish (*Raphanus sativus*), rose clover (*Trifolium hirtum*), yellow star-thistle (*Centaurea solstitialis*), and hedge parsley (*Torilis arvensis*). California walnut, Blue elderberry (*Sambucus mexicana*), coast live oak, castor-bean (*Ricinus communis*), Peruvian peppertree (*Schinus molle*), palm trees (*Washingtonia* sp.), and coyote brush in particular, are scattered throughout the annual grassland vegetation community.

#### DISTURBED

Disturbed habitats typically have a relatively sparse vegetation cover comprised of a subset of non-native, annual forb and grass species described for the annual grassland vegetation community. Additional species occurring in disturbed-ruderal habitats include Russian thistle (Salsola tragus), prickly lettuce (Lactuca serriola), bristley ox-tongue (Picris echioides), sourgrass (Oxalis pes-caprae), common mallow (Malva neglecta) and fumaria (Fumaria officionalis).

#### **OTHER COMMUNITIES**

The plant communities described below occur in small stands throughout the project area and typically occupy areas smaller than the minimum mapping unit applied in this study. For each of these other communities, the dominant species as well as the location(s) of the community in the study area are described briefly below.

#### Introduced Eucalyptus Woodland

Scattered trees and small stands of blue gum (*Eucalyptus globulus*) are scattered throughout the project reaches, primarily in association with cottonwood-willow woodland, and Annual Grassland-Ruderal communities.

#### Introduced Oak Woodland

Holly oak (*Quercus ilex*), which is a non-native species of oak, is established in many parts of Coyote Creek within the project area. This species is typically associated with coyote brush scrub and annual grassland along canal banks.

#### Introduced Willow Woodland

Weeping willow (Salix babylonica) forms a dominant component of the tree layer in these woodlands, most notably in the downstream reaches.

#### Introduced Exotic Woodland

Scattered, large trees occur sparingly throughout the project reaches, primarily in association with annual grassland on older, higher terraces. Species commonly encountered include Peruvian pepper tree, black locust, and Acacia.

#### Giant Reed Scrub

This community is established primarily in the southern reaches of mid-Coyote Creek in association with cottonwood-willow woodland and arroyo willow scrub, and results from the establishment of the giant reed species in wet areas.

#### WILDLIFE HABITAT AND COMMUNITIES

Wildlife resources of the project area have been comprehensively described in previous assessments conducted in the project area, particularly the *Mid-Coyote Creek Baseline Assessment, Montague Expressway to E. Santa Clara Street* (HRG 1995). Based on descriptions provided in the 1995 assessment and results of reconnaissance field surveys conducted by EDAW in May 2006, current wildlife habitat conditions along these reaches of Coyote Creek are relatively similar to those of the mid-nineties. A list of all wildlife species observed during the May 2006 surveys is provided in Appendix A.

The mid-Coyote Creek corridor represents a small remnant of the habitat that once existed in the southern San Francisco Bay area and many wildlife species have likely been extirpated from the area. However, it is one of very few habitat corridors that persist in the greater San Jose urban area. For that reason, the Coyote Creek corridor is critical to the continued local survival of a number of common and sensitive wildlife species. It provides habitat for a relatively high diversity of wildlife and serves as an important travel corridor between high-quality habitat in the lower and upper reaches of the creek and tributaries of Coyote Creek, such as Upper Penitencia Creek.

The primary habitat types along Mid-Coyote Creek are riparian woodland and scrub. Riparian habitats in California generally support exceptionally rich animal communities and contribute a disproportionately high amount to landscape-level species diversity. This is true of the riparian corridor within the project area, which provides suitable foraging and breeding habitat for several ecological functional groups of birds, including insectivores (e.g., warblers, flycatchers), seed-eaters (e.g., finches), raptors, and cavity-nesters (e.g., swallows and woodpeckers). Riparian habitat also supports a variety of common amphibians, reptiles, and mammals. Nonnative woodland vegetation interspersed throughout the native riparian communities reduces the habitat quality to some extent but is utilized by many wildlife species. The greatest reduction in wildlife habitat value occurs in areas where monospecific stands of nonnative shrubs or trees reduce the species and structural diversity of the riparian community.

Wildlife diversity along Coyote Creek is enhanced by the presence of non-riparian habitat types that support additional species that may not otherwise occur in the project area. These habitats include instream wetlands utilized by species that occur more frequently in the open freshwater and tidal wetlands of the lower creek reaches. Upland habitats, such as coyote brush scrub, may enhance the overall wildlife species diversity and, in many cases, provide a buffer between the riparian corridor and disturbances of adjacent developed areas. Lower quality habitat provided by annual grassland and ruderal vegetation also serves as a buffer and, in some cases, provides opportunities for habitat enhancement.

The greatest value of Coyote Creek to terrestrial wildlife is likely the habitat it provides for birds. Although reaches within the project area are relatively narrow and surrounded by urban development, the corridor supports a surprisingly high diversity of bird species. It is important habitat for numerous resident and migratory species, including neotropical migrants that breed in or migrate through the western United States. The Coyote Creek corridor provides breeding habitat, as well as important stopover areas during spring and fall migration, and a dispersal corridor for residents and short distance migrants. Riparian habitat degradation and loss may be

the most important cause of landbird population declines in western North America (RHJV 2004). Conservation of neotropical migrants has received considerable attention over the past 15 years due to local and widespread population declines of species within this group. Therefore, the importance of the Coyote Creek riparian corridor to resident and migrant bird communities and opportunities to enhance the project area's habitat value should be considered during the project planning and implementation phases.

The Coyote Creek corridor is also known to support a variety of bat species, including significant numbers of Yuma myotis (*Myotis yumanensis*) in the lower reaches. Other common bat species known and likely to occur in smaller numbers within the project area include Mexican free-tailed bat (*Tadarida brasiliensis*), big brown bat (*Eptesicus fuscus*), and hoary bat (*Lasiurus cinereus*) (Johnston, pers. comm.). Special-status bat species that could occur in the project area are discussed in the following section. As discussed above in relation to migratory birds, the portion of Coyote Creek within the project parameters provides essential habitat for these bat species in an urbanized area that supports very little suitable habitat. It also serves as a link to habitat and populations in the upper reaches of Coyote Creek and Penitencia Creek.

#### SENSITIVE BIOLOGICAL RESOURCES

A search of the nine 7.5-minute USGS quadrants was performed in both the CNDDB and CNPS databases to identify sensitive biological resources, including sensitive habitats and special-status species, that are known to occur in the vicinity of the project site. In addition, a list of federal endangered and threatened species that could occur in or be affected by projects occurring within these quadrangles was obtained from the USFWS. Sensitive biological resources include those that are afforded special protection through the California Environmental Quality Act (CEQA), California Fish and Game Code (including the CESA), the federal ESA, the federal Clean Water Act, and local plans, policies, and regulations.

#### SPECIAL-STATUS SPECIES

Special-status species include plants and animals that are legally protected or that are otherwise considered sensitive by federal, state, or local resource conservation agencies and organizations. These include:

- plant and wildlife species that are listed by the state and/or federal Endangered Species
   Act as rare, threatened, or endangered;
- plant and wildlife species considered candidates for listing or proposed for listing;
- plant and wildlife species identified by DFG as species of special concern;
- wildlife species identified by DFG as fully protected; and
- plants considered by the CNPS to be rare, threatened, or endangered.

The term California Species of Special Concern is applied by DFG to animals not listed under the federal ESA or the CESA, but nonetheless declining at a rate that could result in listing, or historically occurred in low numbers and known threats to their persistence currently exist.

Table 2 provides a list of special-status plant and wildlife species known to occur or with the potential to occur along Coyote Creek within the project boundaries. This list is based on results of the database searches, the habitat types present, and the elevation range and habitat requirements of the species identified in the database searches.

TABLE 2: SPECIAL-STATUS PLANT AND WILDLIFE SPECIES WITH POTENTIAL TO OCCUR IN THE MID-COYOTE CREEK RIPARIAN CORRIDOR

Chesias	Status 1			H-14-4 D	D ( // 15 C	
Species	USFWS	DFG	CNPS	- Habitat Requirements	Potential for Occurrence	
Plants				8		
Mt. Hamilton thistle Cirsium fontinale var. campylon			1B	Chaparral, valley and foothill grassland, cismontane woodland; usually on serpentine soil Elevation: 310 – 2,920 feet Blooming: Feb – Oct	Unlikely; species known to occur on margins of streams and on wet sites but is usually on serpentine soils; elevation range higher than project site	
Fragrant fritillary Fritillaria liliacea			1B	Cismontane woodland, coastal scrub and prairie, valley and foothill grassland; often on serpentine soil Elevation: 10 – 1,345 feet Blooming: Feb – Apr	Unlikely; species known to occur in open meadows, swales, and grassy slopes; often on serpentine soils, but also found on clay soils	
Loma Prieta hoita Hoita strobilina			1B	Chaparral, cismontane and riparian woodland; usually on serpentine soil, mesic Elevation: 95 – 2,825 feet Blooming: Apr – June	Unlikely; species known to occur in riparian woodland but is usually on serpentine soils; elevation range higher than project site	
Slender-leaved pondweed Potamogeton filiformis			2	Freshwater marshes and swamps, shallow clear water of lakes and drainage channels Elevation: 49 – 7,580 feet Blooming: May – July	Unlikely; suitable habitat possibly exists in the creek, but conditions do not match recorded occurrences	
Maple-leaved checkerbloom Sidalcea malachroides			1B	Broadleaf upland and north coast coniferous forests, coastal prairie and scrub, riparian woodland (often in disturbed areas) Elevation: 6 – 2,495 feet Blooming: Apr – Aug	Unlikely; species is extremely rare in the area, with one occurrence in 1892; more recent occurrences are associated with coniferous forest habitat in Monterey and Mendocino counties	

TABLE 2: SPECIAL-STATUS PLANT AND WILDLIFE SPECIES WITH POTENTIAL TO OCCUR IN THE MID-COYOTE CREEK RIPARIAN CORRIDOR

Caralan	Status 1					
Species	USFWS	DFG	CNPS	Habitat Requirements	Potential for Occurrence	
Amphibians and Reptiles						
CA red-legged frog Rana aurora draytonii	Т	SSC		Deep, still or slow-moving water with dense shrubby riparian or emergent vegetation	Unlikely; creek provides low-quality habitat, and species was not documented during focused surveys conducted in 1994	
Western pond turtle Emys marmorata		SSC		Still or slow-moving water with bank snags or instream emergent woody debris for basking sites; nests are typically located on unshaded slopes in dry substrates high in clay or silt	Known to occur; observed in reaches 11 and 13 during EDAW survey	
Birds						
White-tailed kite Elanus leucurus		FP	-	Forage in grasslands and agricultural fields; nest in isolated trees or small woodland patches	Moderate; suitable nesting and foraging habitat is present in some reaches, and kites are known to nest in the vicinity	
Cooper's hawk Accipter cooperii		SSC		Mature woodlands and woodland margins	Moderate; potentially suitable nesting and foraging habitat is present, and active nests have been documented in the vicinity	
Burrowing Owl Athene cunicularia		SSC		Grasslands, agricultural fields, and other open areas with low vegetation	Moderate; potentially suitable habitat is present in some reaches, and burrowing owls are known to occur in the vicinity	
Yellow warbler Dendroica petechia		SSC		Riparian woodland, typically with open canopy and dense understory	Moderate; marginally suitable habitat present and nesting population documented in previous surveys, but no individuals observed during 1994 or 2006 surveys	
Mammals						
Pallid bat Antrozous pallidus		SSC		Various habitats in regions with rocky outcrops; typically roost in rock crevices and buildings, less frequently in mines, caves, and hollow trees.	Moderate; known to occur in upper reaches of Coyote Creek and Penitencia Creek and could forage in the project area	

TABLE 2: SPECIAL-STATUS PLANT AND WILDLIFE SPECIES WITH POTENTIAL TO OCCUR IN THE MID-COYOTE CREEK RIPARIAN CORRIDOR

Species	Status 1			- Habitat Requirements	Potential for Occurrence
	USFWS	DFG	CNPS	nabitat Requirements	Potential for occurrence
Western red bat  Lasiurus blossevillii		SSC		Wooded areas at lower elevations; typically roosts in snags and trees with moderately dense canopies	Moderate; known to occur in Upper Penitencia Creek and could forage in the project area
San Francisco dusky- footed woodrat Neotoma fuscipes annectens		SSC		Woodland and chaparral with moderate canopy and moderate to dense understory	Unlikely; potentially suitable habitat is present in some reaches but is subject to regular flooding

<sup>1</sup> STATUS DEFINITIONS

U.S. Fish and Wildlife Service (USFWS):

T = Federal Threatened

California Department of Fish and Game (DFG):

SSC = Species of Special Concern

FP = Fully Protected

California Native Plant Society (CNPS) Listing Categories:

1B = Plants rare, threatened, or endangered in California and elsewhere

2 = Plants rare, threatened, or endangered in California but more common elsewhere

Source: EDAW 2006 surveys, CNPS 2006, CNDDB 2005

#### Special-Status Plants

Based on the database searches and existing environmental documents, 35 special-status plant species that occur within the nine surrounding USGS 7.5 minutes quadrants were identified as having potential to occur in the region. Of these species, five were deemed to have a potential to occur on the project site. Information on these species, including their listing status, associated habitat type, blooming period and potential to occur on the project site is provided above in Table 2. Habitat and elevation range information for these species was obtained from the *Inventory of Rare and Endangered Plants of California* (CNPS 2001). The remaining special-status plants that have been documented in the vicinity do not have potential to occur in the project area because they are restricted to higher elevations and/or habitats not present in the Coyote Creek project reach or because it was determined, in the professional opinion of the botanists conducting the evaluation, that the species are not likely to be found within the area.

The species with potential to occur on the project site include Mt. Hamilton thistle (Cirsium fontinale var. campylon), fragrant fritillary (Fritillaria liliacea), Loma Prieta hoita (Hoita strobilina), and maple-leaved checkerbloom (Sidalcea malachroides), all of which are CNPS List 1B (plants considered rare, threatened, or endangered in California and elsewhere) plants. These species are associated with riparian and other habitat found on the site; however, detailed analysis of their documented occurrences indicated that they usually occur in more specialized habitat, such as on serpentine soil, not present on the project site. The fifth species is slender leaved pondweed (Potamogeton filiformis). This species is a CNPS List 2 (plants considered rare, threatened, or endangered in California but more common elsewhere) plant that is mainly found in freshwater marshes and swamps, shallow clear-water lakes, and drainage channels. The only source of information in the CNDDB for the nine quadrants used for this project is an 1899 collection near Palo Alto, in Santa Clara County, but the exact location is uncertain.

Based on the information in Table 2, potentially suitable habitat for these special-status plant species was identified on the project site; however, due to the specific habitat requirements of these species, it is unlikely they would occur. Although these plants were not observed during this resource assessment, a focused special-status plant survey is recommended to determine if these plants are present in the project area.

#### Special-Status Wildlife

Special-status wildlife species with potential to occur along the Coyote Creek project reach were evaluated based on a review of existing documentation (i.e., CNDDB and previous biological resource assessments) and observations made during the reconnaissance survey. Most of the special-status animals initially considered in this evaluation were eliminated from further analysis because no suitable habitat for them occurs in the project area or the project area is outside of their known range. These include species restricted to saltmarsh, shoreline habitats, vernal pools, and grasslands. Most of the special-status bird species that could occur in the project area are not discussed in this document because their occurrence in the project area is rare and/or restricted to migrant or wintering individuals. In most cases, the special-status species designation for birds is limited to their presence as a nesting species. Although the project area likely provides valuable foraging, migratory, and/or wintering habitat for these species, their presence does not represent a special-status species regulatory constraint. A thorough discussion of special-status wildlife species that were eliminated from further analysis and are not specifically addressed in this document can be found in the Mid-Coyote Creek Baseline Assessment Montague Expressway to E. Santa Clara Street (HRG 1995). In addition, Appendix B includes a table summarizing information on species that have potential to occur in the project area or have been documented in the past but are not specifically addressed below because they are unlikely to represent a constraint to project planning and implementation. Species that are known to occur or have a moderate to low potential to occur and that could pose a constraint to the project planning and/or implementation on the site are discussed in the following sections:

## California Red-legged Frog

California red-legged frog (*Rana aurora draytonii*) is federally listed as a threatened species and is a California Species of Special Concern. Red-legged frogs breed in still or slow-moving water, typically preferring deep-water habitats. Dense vegetation cover is preferred to maintain cooler water temperatures and provide escape cover from predators (Jennings and Hayes 1994). This species was documented immediately downstream of the project in the mid-1980s. However, none were found during multiple subsequent reconnaissance surveys or during focused surveys conducted in 1994 (HRG 1995). Aquatic habitat along Coyote Creek within the project area is of low quality for red-legged frogs, because of compromised water quality, lack of ponded areas, very scarce emergent vegetation, and presence of predatory fishes and bullfrogs. Extant populations of California red-legged frog in Santa Clara County are primarily restricted to foothill and mountain streams, and the species are considered extirpated from most streams in urban areas of the county (SCVWD 2001). Therefore, California red-legged frog is unlikely to occur in the project area.

#### Western Pond Turtle

Western pond turtle (*Emys marmorata*) is a California Species of Special Concern. Pond turtles occur in still or slow-moving aquatic habitats with bank snags or instream emergent woody debris for basking sites. They typically nest on unshaded slopes in dry substrates high in clay or silt, often close to aquatic habitat. Mid-Coyote Creek likely supports a small population of pond turtles, as an individual was observed on several occasions during the 1994 surveys (HRG 1995) and twice during the 2006 surveys (reaches 11 and 13).

#### White-tailed Kite

White-tailed kite (*Elanus leucurus*) is fully protected under §3511 of the California Fish and Game Code. Kites forage in grasslands and other open habitats and nest in isolated trees or small woodland patches. This species was not addressed in previous documents, but nest sites within several miles of the lower reaches of the project area have been documented in the CNDDB, and an EDAW biologist documented an active nest in recent years along the nearby Lower Guadalupe River. There is moderate potential for this species to nest in Reaches 6 and 8, where suitable nest trees are present adjacent to open areas of suitable foraging habitat.

### Cooper's Hawk

Cooper's hawk (*Accipiter cooperii*) is a California Species of Special Concern. Previous assessments of biological resources along Coyote Creek within the project parameters have indicated that this species only occurs in the project area as an uncommon migrant or winter visitor. However, surveys conducted by SCVWD and EDAW biologists in 2005 and 2006 documented an active Cooper's hawk nest along Upper Silver Creek, approximately five miles southeast of the upper reaches of the project area.

## Burrowing Owl

Burrowing owl (*Athene cunicularia*) is a California Species of Special Concern. Burrowing owls prefer grasslands and other dry, open habitats. They typically nest and roost in burrow systems created by medium-sized mammals (e.g. ground squirrels), artificial sites (e.g., drain pipes and culverts), or self-excavated burrows, where soil conditions are appropriate. This species has persisted in several areas within the relatively urbanized region in the vicinity of the project area. No burrowing owls or evidence of their presence along Coyote Creek was observed during 1994 or 2006 surveys. However, potentially suitable habitat for burrowing owls is present along Reaches 5, 6, 8, and 11. Although vegetation on levee slopes and adjacent upland areas is typically too tall to attract burrowing owls, there are several locations in these reaches where grading and/or vegetation management had rendered the sites potentially suitable. Therefore, there is some potential for burrowing owls to occur in these areas in the future.

#### Yellow Warbler

Yellow warbler (*Dendroica petechia*) is a California Species of Special Concern. This species nests in riparian woodland, typically with open canopy and dense understory. A small population of nesting yellow warblers was documented during the 1989 surveys within Coyote Creek project area (HRG 1995). However, no individuals were detected in 1994 or 2006. Potentially suitable

nesting habitat is present in the project area, primarily in Reach 8, but it is unclear whether this species still nests along this portion of the creek. Yellow warbler breeding populations have declined dramatically in California in recent decades. Although they continue to nest elsewhere in Santa Clara County (SCVAS 2006), nesting yellow warblers may have been extirpated from the Coyote Creek project area.

#### Pallid Bat

Pallid bat (Antrozous pallidus) is a California Species of Special Concern. This species occurs in a variety of habitats in regions with rocky outcrops. Pallid bats typically roost in rock crevices and buildings, but can also utilize mines, caves, and hollow trees. Pallid bats have been recorded along Upper Penitencia Creek, but this population may now be restricted to less developed foothill areas further east. Pallid bats also occur in the upper reaches of Coyote Creek. Although they are not known to occur along the Coyote Creek reaches within the project area, individuals from these nearby populations could forage in the project area (Johnston, pers. comm.).

#### Western Red Bat

Western red bat (*Lasiurus blossevillii*) is a California Species of Special Concern. This species is restricted to wooded habitats, typically at lower elevations, and roosts in snags and trees with moderately dense canopies. Red bats are also known to occur in Upper Penitencia Creek, and individuals from this population could forage in the project area (Johnston, pers. comm.).

#### San Francisco Dusky-footed Woodrat

The San Francisco dusky-footed woodrat (*Neotoma fuscipes annectens*) is a California Species of Special Concern. These mammals occur in woodlands and chaparral with moderate canopy and moderate to dense understory. They prefer upland habitats and an availability of shredded grass, leaves, and similar nest building materials, all of which may be a limiting factor in habitat suitability. Woodrats are unlikely to occur in the project area, because wooded areas of potentially suitable habitat are restricted to a narrow corridor between the levees and are subject to regular flooding, which limits the availability of suitable nest sites and nest building material.

## REACH-SPECIFIC CONDITIONS

The preceding discussion described the general conditions of vegetation and wildlife communities within the project area and the potential for occurrence of special status species. Because the Mid-Coyote Creek project area encompasses 6.1 miles of creek, there is variability in vegetation community composition and wildlife habitat values among all reaches. Notable biological attributes of each reach within the project area are described in this section. Please refer to the vegetation community maps provided in Exhibits 3-15 for a depiction of some of the attributes. Representative photographs of several reaches are provided in Appendix C.

Wildlife habitat values are discussed in a qualitative manner, because systematic surveys of wildlife use were not conducted as part of this assessment. Therefore, quantitative conclusions regarding use of different reaches by various wildlife species cannot be drawn. However, vegetation conditions within the Coyote Creek project corridor and adjacent land uses are primary

factors that influence wildlife use and habitat values and can be evaluated on a qualitative basis. Key vegetation conditions include the diversity of vegetation communities (e.g., woodland, grassland, marsh, etc.), the diversity in plant species and structure (e.g., trees, shrubs, ground cover) within a community, and the presence and distribution of nonnative vegetation. In general, greater diversity in these communities and in the species and structure that makes up the community supports a more diverse wildlife assemblage.

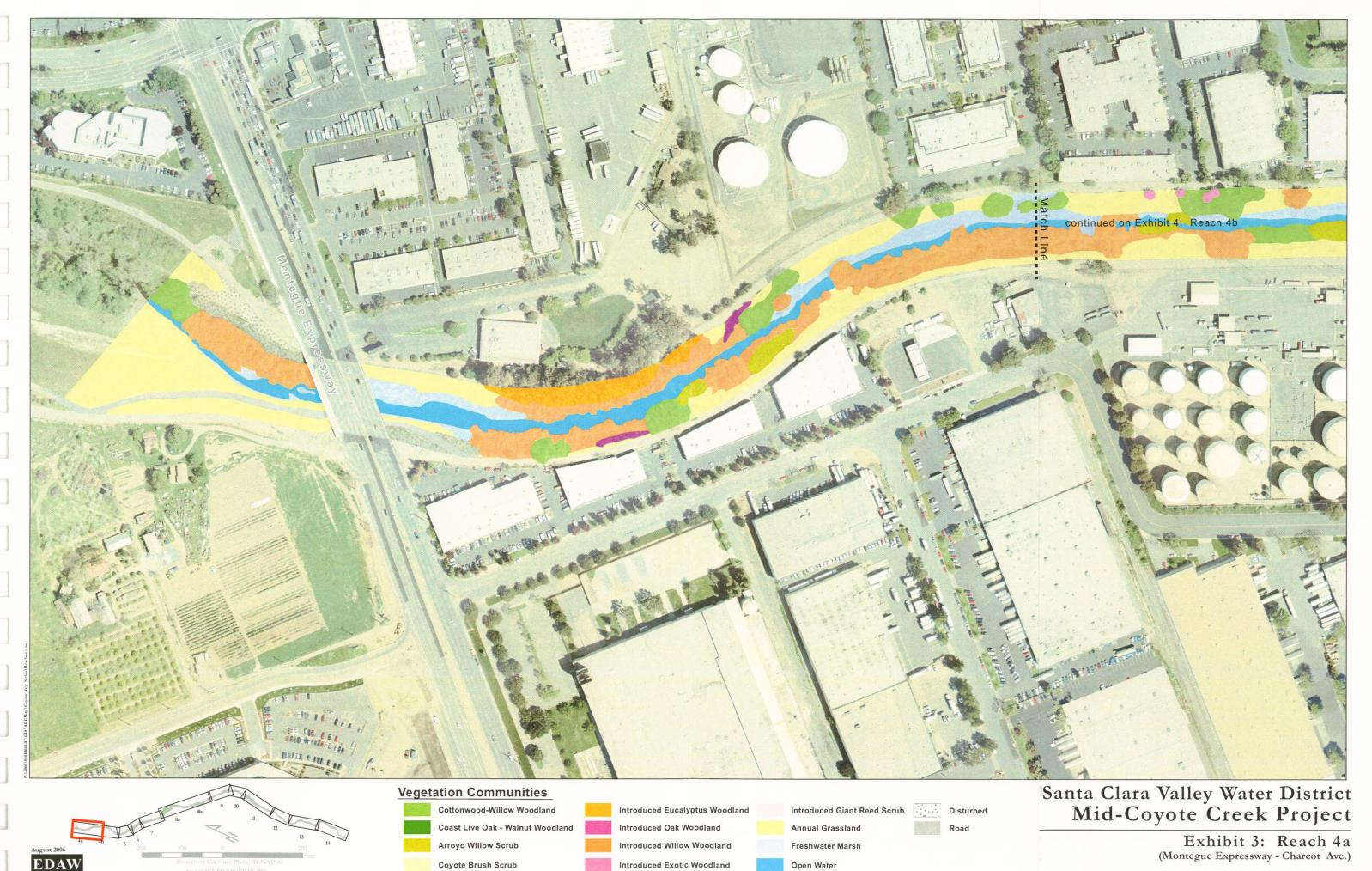
Nonnative vegetation occurs throughout the project reaches, although the dominant species and distribution varies from reach to reach. The potential effects of these nonnative species on wildlife values also vary. In circumstances where nonnative vegetation is distributed in relatively small areas within native vegetation, detrimental effects can be minimal. Even in cases of widespread infestations, adverse effects can be limited if the nonnative species is similar in structure to native species and is part of a diverse vegetative community. However, widespread infestations of nonnative species that result in a reduction in the number and structural diversity of plant species can be very detrimental to wildlife habitat values.

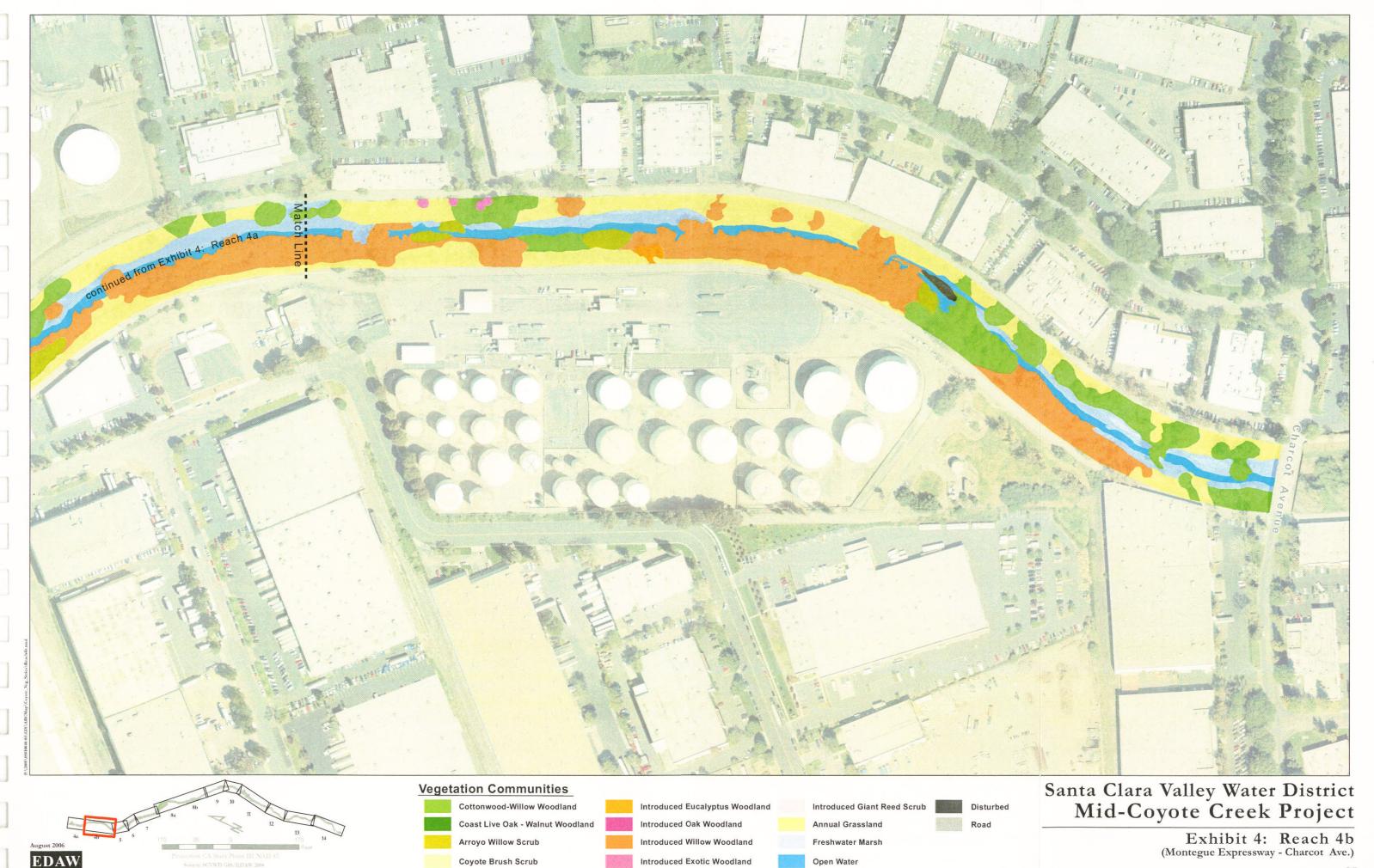
Disturbance levels for adjacent land uses are another source of adverse effect to wildlife habitat quality along Coyote Creek. Disturbance levels are relatively high throughout the project area, with commercial and industrial land uses prominent in the downstream reaches and urban residential land uses dominating the upstream reaches. The presence of homeless people is also a prominent feature in many of the reaches. A more indirect but significant effect of human activity throughout the project area is the substantial and widespread distribution of feral cats. The feral cat population along this and other urban creeks can have a drastic effect on bird and small mammal populations. Residential areas serve as a source for increasing the population and supplemental feeding by humans helps sustain the population. Evidence of such feeding was observed at a number of locations, including a major feeding area at the end of the cul-de-sac on the west side of Reach 8, immediately upstream from Old Oakland Road. A large number of bowls of cat food were observed at this location and several cats were seen feeding there.

## REACH 4 (4A – 4B): MONTAGUE EXPRESSWAY TO CHARCOT AVENUE

#### **VEGETATION**

Reach 4 (Exhibit 3 & 4) is approximately 5,100 feet long, covers 20.58 acres, and includes 8 distinct vegetative community types. The dominant plant community is Annual Grassland-Ruderal, which occupies approximately 6.07 acres (29%) along the mid to upper levee banks and smaller open areas within the woodlands. The largest open areas exist around the Montague Expressway overpass, with substantial linear bands persisting south (upstream) along the banks. Dominant species include ripgut, wild oats, and in a few areas, smilo grass; less dominant but common species include radish, and bull mallow. The dominant tree community is Introduced Willow Woodland, which consists of weeping willow and occupies approximately 5.64 acres (27%) of lower channel banks, especially along the western side of the creek. Walnut trees make up a substantial amount of the canopy fringe and are also mixed within the forest, as is box elder, and to a lesser degree, blue elderberry. Patches of Cottonwood-Willow Woodland are present





throughout the reach, mostly occurring on the eastern bank, and account for approximately 2.95 acres (14%) of habitat; the community begins to appear more frequently as the reach approaches Charcot Avenue. Smaller patches of Arroyo Willow Scrub are mixed into both woodland communities throughout the reach, and an unusual and unidentified oak tree is locally abundant downstream, along mid and upper portions of the west levee, but becomes scattered and eventually rare moving southward.

Primarily scoured zones of Freshwater Wetland are present as narrow linear bands along the waters edge in most of the reach. Wetland vegetation includes cattails, California tule, and perennial peppergrass, most of which is coming up as new growth. Due to the open nature of the reach, continuous Open Water habitat is visible throughout the majority of the reach. The Freshwater Marsh and Open Water combined account for 3.88 acres (19%) of habitat within the reach.

A large area of Introduced Eucalyptus Woodland occupies the east bank just south of Montague Expressway. Much of the woodland is outside of the riparian corridor mapped in the field effort; however, 0.53 acres (3%) was mapped along the top and middle bank. Further upstream along the upper east bank, several palm trees and remnants of others apparently cut down, occupy the bank. The remainder of the reach consists of Disturbed areas (bare ground and rock fortified bank) and roads, mainly around the levees near the Montague Expressway overpass.

#### WILDLIFE

Wildlife habitat values in Reach 4 are moderate to high. This reach supports a riparian corridor that is relatively high in species and structural diversity. The west side of the creek supports substantially higher quality habitat than the east side, primarily because of a wider riparian strip, better shrub diversity, and fewer nonnative trees. Another asset of this reach is the areas of freshwater marsh, which is uncommon within the boundaries of the project reach. As a result, this is one of few reaches upstream of Montague Expressway likely to support birds that are typically associated with marsh habitats, such as herons and egrets. Disturbance from adjacent commercial and industrial development along Reach 4 is relatively high, particularly near the fuel distribution facility on the west side of the creek.

## **REACH 5: CHARCOT TO INTERSTATE 880**

#### **VEGETATION**

Reach 5 (Exhibit 5) is approximately 1,800 feet long and covers 8.94 acres. Of the 5 distinct plant communities within the reach, Cottonwood Willow Woodland is the most dominant (3.40 acres [38%]), followed by Annual Grassland-Ruderal (3.23 acres [36%]) and Introduced Willow Woodland (1.71 acres [19%]). Initially moving south from Charcot Avenue, the Cottonwood Willow Woodland exists as patches along the west side of the channel, while the Introduced Willow Woodland dominates the majority of the low channel area; however, approximately one-third of the way upstream, the Cottonwood Willow Woodland becomes dominate in the low channel area, especially on the west side, and the Introduced Willow Woodland community is reduced to small scattered patches along the west bank. In the now dominant Cottonwood Willow Woodland, and occasionally in the Annual Grassland-Ruderal community, associated

woody species frequently observed include arroyo willow, walnut, box elder, California sycamore, and blue elderberry; while understory associates are typically goose grass, ripgut, Italian thistle, and other grasses.

A few coast live oaks were observed in the Annual Grassland-Ruderal community throughout the reach, but were not mapped as a distinct community. The Annual Grassland-Ruderal community occupies a linear band along the entire length of the east bank, with the band increasing substantially in width moving south from Charcot Avenue to I-880. Additionally, a narrow linear band of the Annual Grassland-Ruderal community occupies the downstream section of the west bank, and an even larger area exists on the west side, between O'Toole Avenue and I-880. A small area of Coyote Brush Scrub occupies the upper bank on the east side of the channel, immediately south of O'Toole Avenue, and a small scoured area of Freshwater Wetland, with the same plant species seen in Reach 4, exists immediately upstream of the Charcot Avenue overpass.

#### WILDLIFE

Riparian habitat values of Reach 5 are similar to those of Reach 4, although there are generally more large trees and less shrub and ground cover. The highest quality riparian habitat is concentrated on the western side of this creek where an overflow channel is present along much of the reach. When water is present (e.g., after high flow events), this channel could provide higher quality habitat for amphibians and aquatic reptiles than the main channel does. Also of note is a patch of upland scrub vegetation on the eastern side of the creek just downstream of O'Toole Avenue. In combination with the adjacent riparian, this vegetation species and structural diversity enhances the overall wildlife habitat quality and may support some additional species that do not typically utilize the riparian woodland. The lowest quality habitat is along the very disturbed portion between O'Toole and I-880.

#### REACH 6: INTERSTATE 880 TO RIDDER PARK DRIVE

#### **VEGETATION**

Reach 6 (Exhibit 6) is approximately 1,500 feet long and covers 7.28 acres. Much like Reach 5, this reach contains 5 distinct plant communities, with the Cottonwood Willow Woodland (3.58 acres [49%]) and Annual Grassland-Ruderal (2.31 acres [32%]) being most dominant. The species associated with these communities are similar to those in previous reaches; although, the presence of California sycamore changes from rare to appearing occasionally.

Between I-880 and E. Brokaw Road, the upper east bank is primarily composed of open Annual Grassland-Ruderal community, with a few groves of Coast Live Oak Woodland just south of I-880. This community also includes a linear band of Coyote Brush Scrub, and scattered blue elderberry, Fremont cottonwood, white alder (*Alnus rhombifolia*), and valley oak (*Quercus lobata*) trees. Previous studies (HRG, 1989; HRG, 1995) conducted on Coyote Creek reported this section as being landscaped and that the scattered trees noted above, were planted. The later of the two studies concluded that the trees appeared healthy and vigorous, and our study observed the same. The low bank and channel area is occupied by a wide zone of Freshwater Wetland (0.76 acres) and Cottonwood Willow Woodland communities. The upper bank on the west side of this section is occupied by the Annual Grassland-Ruderal community, which occasionally





extends onto the lower bank, and the Cottonwood Willow Woodland community occupies the majority of the low-channel areas. Newly observed species associated with the open Annual Grassland-Ruderal community include Italian ryegrass (*Lolium multiflorum*), poison hemlock (*Conium maculatum*), and black mustard (*Brassica nigra*).

The majority of both banks between Brokaw Road and Ridder Park Drive contain a continuous corridor of the Cottonwood Willow Woodland plant community. Numerous non-native English elm trees (*Ulmus minor*), along with the previously mentioned native associate species, are mixed within the community and form a dense canopy structure. Other exotic species that appear occasionally include Black Locust (*Robina pseudoacacia*), Peruvian peppertree, and blue gum.

#### WILDLIFE

Reach 6 has a combination of high and low quality characteristics related to wildlife use. The vegetation in this reach is relatively diverse, with a riparian corridor that supports large native trees, snags, and native shrubs, particularly between Brokaw Avenue and Ridder Park Drive and freshwater marsh and upland shrub and tree cover between I-880 and Brokaw Avenue. The area of upland vegetation supports a number of small native oak trees along the upper slope of the levee and coyote brush scrub on the lower slope. A large area of recently disced open land east of the upstream portion of the reach currently has value as a buffer from development. As with the upstream potion of Reach 5, however, disturbance levels along Reach 6 are relatively high and reduce the overall wildlife value. In addition to disturbance from the three road crossings along this short reach, there are high levels of human disturbance from encampments of homeless people.

# REACH 7: RIDDER PARK DRIVE TO OLD OAKLAND ROAD

#### VEGETATION

Reach 7 (Exhibit 7) is approximately 1,600 feet long, covers 7.85 acres, and includes 2 distinct plant communities. The reach is almost entirely occupied by the Cottonwood Willow Woodland plant community (6.25 acres [80%]), with Annual Grassland-Ruderal areas making up the remainder (0.86 acres [11%]). Open Water (0.49 [6%]), and Disturbed (0.25 [3%]) areas accounting for the remainder of the reach.

South of the railroad crossing, the east bank is closely bordered by industrial land uses, and the west bank is closely bordered by Schallenberger Road along the entire reach. Nevertheless, this reach marks the beginning of a long stretch of the corridor dominated by the Cottonwood Willow Woodland community, and this trend continues to the south, only occasionally giving way to smaller stands of Introduced and other native plant communities.

Associate species in woodland and grassland community types are the same as in Reach 6; although, California Buckeye (*Aesculus californica*) was observed as a new species

#### WILDLIFE

Riparian vegetation along Reach 7 provides relatively high quality habitat because of its good structural diversity, including large native trees, snags, dense shrub layer, and ground cover. A large patch of ruderal upland habitat is present on the east side of the creek between Ridder Park Drive and the railroad tracks. This area does not provide habitat for many wildlife species, although it does serve as a disturbance buffer and provides an opportunity for habitat enhancement.

# REACH 8 (8A - 8B): OLD OAKLAND ROAD TO BERRYESSA ROAD

#### **VEGETATION**

Reach 8 (Exhibit 8 & 9) is approximately 5,800 feet long, covers 37.33 acres, and includes 5 distinct plant communities. The Cottonwood Willow Woodland community dominates the reach, occupying 21.36 (57%) of the total acreage, and Annual Grassland-Ruderal (6.30 acres [17%]), Arroyo Willow Scrub (2.65 acres [7%]), Coyote Brush Scrub (1.40 acres [4%]), and Giant Reed Scrub (0.72 acres [2%]) make up the others. This is the first observed occurrence of the invasive Introduced Giant Reed Scrub, with the majority of the large stand occurring in the southern section of the reach near Berryessa Road. The entire length of the Cottonwood Willow Woodland contains a dense canopy with increased amounts of mature red willows and box elder, and with lesser amounts of walnut and blue elderberry trees.

A large open area of the Annual Grassland-Ruderal community, with scattered groups of Coyote Brush Scrub is located immediately south of Old Oakland Road, along the western side of the creek. Ruderal species observed in the area include bristly ox-tongue, common thistle (*Cirsium vulgare*), and Italian thistle. Smaller areas of Annual Grassland-Ruderal occur along the upper banks throughout the remainder of the reach. Beyond this area, Cottonwood Willow Woodland forms a continuous canopy across the channel, and to the south, from Old Oakland Road to well past the golf course. The woodland closely borders the entire length of the golf course on the east bank, while Annual Grassland-Ruderal with scattered Coyote Brush Scrub and walnut trees occupy the west bank. This section also contains small scattered patches of the giant reed scrub; however, they were too small to be mapped.

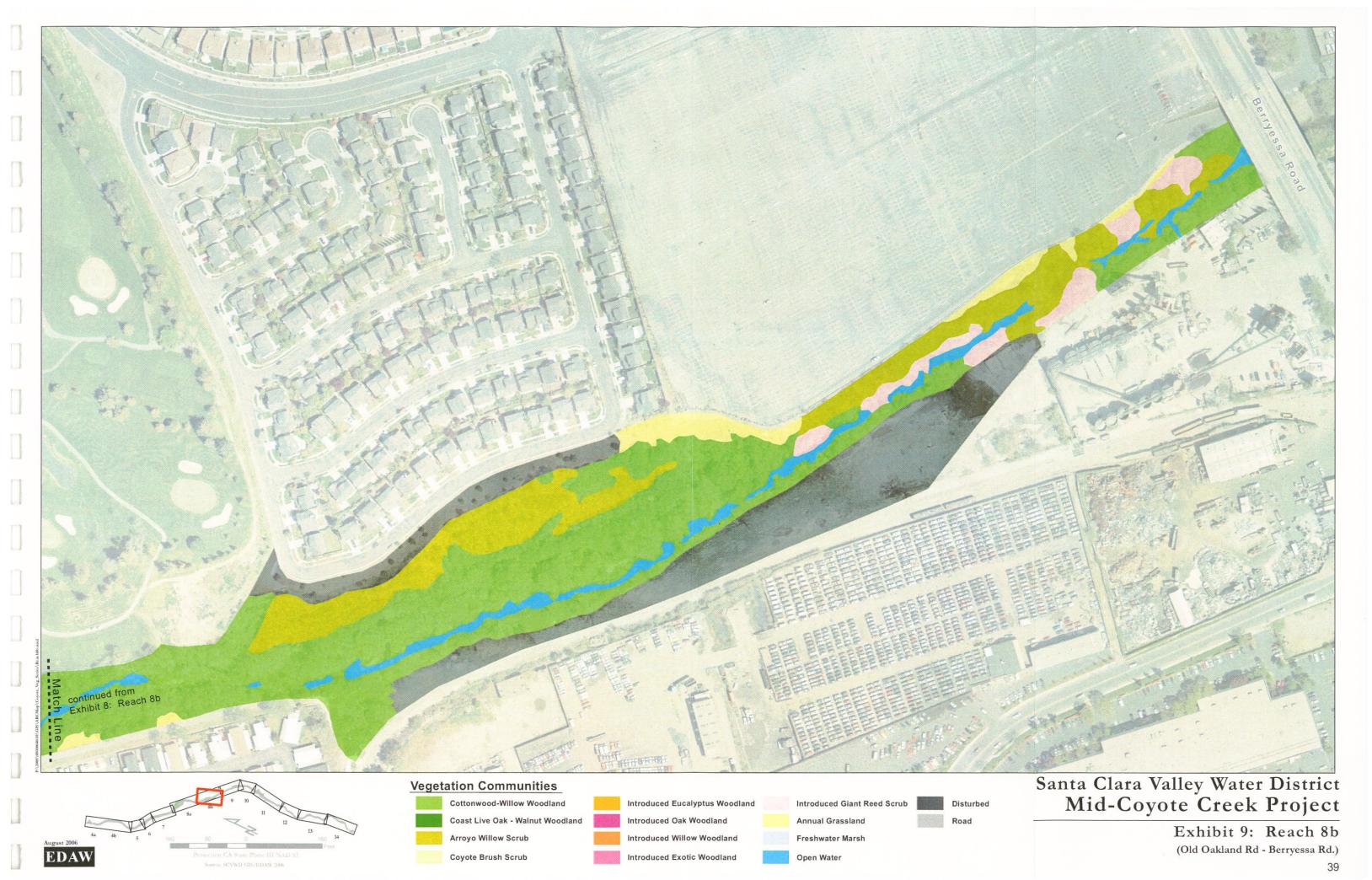
South of the golf course, the Cottonwood Willow Woodland continues to occupy the majority of the channel, and a large stand of young Arroyo Willow Scrub occupies the east bank. In the most southern stretch, where a large parking lot and heavy industrial land use flank both sides of the creek, the invasive Giant Reed Scrub community grows in large patches along the bank and lower channel, along with Arroyo Willow Scrub, Annual Grassland-Ruderal and the Cottonwood Willow Woodland. Large Disturbed areas are present on both sides of the creek, starting below the golf course and extending south towards Berryessa Road.

#### WILDLIFE

Reach 8 is a very long reach with wildlife habitat quality that varies from poor to very high. The approximately 1,500 feet immediately upstream of Old Oakland Road likely supports the highest quality wildlife habitat along Mid-Coyote Creek. The riparian corridor is very wide immediately







upstream of Old Oakland Road, and vegetation within the larger 1,500-foot segment supports a high level of structural diversity, including various native trees and shrubs and extensive ground cover. Another key feature of this segment is the open space buffer provided by the golf course to the east and undeveloped uplands to the west. The area to the west also supports large areas of coyote brush scrub cover and has excellent potential for habitat enhancement. The vegetative diversity along this downstream portion of Reach 8, in turn, supports higher wildlife diversity. The approximately 3,000 feet in the middle of this reach has moderate to high wildlife habitat value. It supports a relatively diverse riparian assemblage but the upstream portions are relatively narrow and much of it is immediately bordered by residential development. The upstream 1,300 feet of the reach is a very narrow corridor with poor habitat value. Disturbance levels are very high in this segment, particularly from the industrial metal yard immediately west. In addition, the vegetation supports few healthy trees and supports widespread areas of nonnative species.

#### REACH 9: BERRYESSA ROAD TO MABURY ROAD

#### VEGETATION

Reach 9 (Exhibit 10) is approximately 2,400 feet long, covers 9.64 acres, and includes 3 distinct plant communities. Although this reach is similar to Reach 8, the Giant Reed Scrub community gradually decreases moving south through this reach. The areas where it does exist are smaller than in Reach 8 and were not mapped; however, it was noted as initially appearing on the east bank to the south of Berryesssa Road and decreasing as the reach progresses south towards Mabury Road.

The Cottonwood Willow Woodland plant community is the most dominant (5.39 acres [56%]) and forms a continuous canopy along the entire length of the reach, much like that one found in Reach 8; however, in much of this reach, red willow, Fremont cottonwood, box elder, and California sycamore now seem equally dominant. The understory vegetation is sparse, mainly consisting of herbaceous species, such as stinging nettle (*Urtica dioica*), giant reed, and grasses.

Narrow linear bands of the Annual Grassland-Ruderal community occupy a couple areas along the upper banks on the west side of the creek, as well as a large area along the upper bank. The total area of Annual Grassland-Ruderal mapped in the reach is 2.83 acres (29%). Smaller patches of Arroyo Willow Scrub exist along both banks at the south end of the reach near Mabury Road and account for 0.20 acres (2%). The remaining areas are mapped as Disturbed and Roads.

#### WILDLIFE

Wildlife habitat values of Reach 9 are fair. This is a relatively narrow corridor with high levels of disturbance from adjacent industrial land uses. Riparian vegetation in this reach has descent structural diversity, but there are many small patches of nonnative shrubs. The ruderal area to the east, immediately downstream of Mabury Road, is of little wildlife value but provides a buffer from adjacent disturbance and an opportunity for habitat enhancement.

# REACH 10: MABURY ROAD TO U.S. HIGHWAY 101

#### VEGETATION

Reach 10 (Exhibit 11) is approximately 1,300 feet long, covers 4.91 acres, and includes 4 distinct plant communities. This relatively short reach contains a continuous Cottonwood Willow Woodland canopy along its entire length and accounts for 3.85 acres (78%). Like the previous reaches, this Cottonwood Willow Woodland community contains many red willow trees, which are often larger and higher than the cottonwood trees. Furthermore, at the time of the survey these trees seemed to be "leafing out" and will likely appear more abundant as the summer season progresses. The understory species were almost identical to those in Reach 9, with the addition of English ivy and California blackberry (*Rubus ursinus*). An occasional patch of giant reed also appeared along the west bank; tree tobacco, apricot, and big leaf maple (*Acer macrophyllum*) appeared at various locations; and individual palm trees were observed on the east bank.

The other plant communities include small clusters of Arroyo Willow Scrub (0.25 acres [5%]), one small area of Annual Grassland-Ruderal (0.07 acres [1%]), and several groups of Introduced Eucalyptus trees (0.35 acres [7%]) along the upper banks on the east side of the creek. A Disturbed area, of mostly bare ground, occupies the upper bank from the south end of the eucalyptus trees to Highway 101.

#### WILDLIFE

This short reach is of moderate wildlife value. It supports a fairly wide corridor of native woodland with extensive trees. However, it also supports several large and many small patches of introduced trees and shrubs, and the vegetation has less structural diversity.

# REACH 11: U.S. HIGHWAY 101 TO E. JULIAN STREET

#### **VEGETATION**

Reach 11 (Exhibit 12) is approximately 3,400 feet long, covers 19.87 acres, and includes 9 distinct plant communities. The banks along both sides of this reach drop off and are very steep in many sections, making access to the channel challenging and difficult. The exception is the area around the confluence of Lower Silver Creek, where the slope is more gradual and the canopy is more open. The majority of the corridor is a dense Cottonwood Willow Woodland community that covers 10.10 acres (50%). The associate and understory species are generally the same as in the past few reaches, with the exception being the increased presence of Introduced Exotic communities, scattered individual trees (*Locus* spp.), larger and more California sycamore, and Coast Live Oak woodlands along the upper banks.

The section immediately south of Highway 101, on the east side of the creek, contains clusters of Coast Live Oak, Introduced Oak, and Peruvian pepper trees, as well as Coyote Brush Scrub and an occasional patch of the giant reed scrub. The greater part of this area is a large Annual Grassland-Ruderal community that occupies 3.92 acres (20%) on the east side down to Lower Silver Creek and the west side down to a park area. At the confluence of Lower Silver Creek, the







canopy is not as dense, and a small area of Freshwater Wetland contained cattails, smartweed (*Polygonum* sp.) and nutsedge (*Cyperus eragrostis*) species.

The middle section of the reach is composed of Cottonwood Willow Woodland, with clusters of Arroyo Willow Scrub, and a few small areas of Introduced Eucalyptus and Exotic Woodland (Peruvian Pepper Tree) occupy the upper banks. In general more landscaped species occupy the upper banks in this section, likely due to the residential areas that closely flank the corridor.

In the southern third of the reach, the Cottonwood Willow Woodland continues to occupy the lower channel, with small patches of Arroyo Willow Scrub and Introduced Exotic Woodlands. A large stand of the Coast Live Oak-Walnut Woodland occupies the eastern side of the channel that borders the San Jose Academy High School.

#### WILDLIFE

Habitat along Reach 11 varies between the upstream and downstream portions. The downstream portion has relatively high wildlife habitat value, because it is bordered by ruderal undeveloped land to the east and park land to the west. This portion also has a diversity of habitats, including native riparian woodland with many large trees and a good shrub layer, the confluence of Coyote Creek and Silver Creek, and adjacent ruderal uplands that provide a good opportunity for habitat enhancement. The upstream potion of this reach is much narrower and is immediately bordered by residential development and a school.

# REACH 12: E. JULIAN STREET TO E. SANTA CLARA AVENUE

#### VEGETATION

Reach 12 (Exhibit 13) is approximately 2,300 feet long, covers 7.19 acres, and includes 6 distinct plant communities. Much like Reach 11, both the east and west banks are steep in most areas, with one exception being the area near the baseball field on the east side. The corridor is also relatively narrow due to businesses, schools, and parks along the east side and residential development and backyards along the entire west side.

The Cottonwood Willow Woodland plant community creates a dense canopy throughout the entire reach and accounts for 5.64 acres (78%). The only exceptions are a few small areas of Annual Grassland-Ruderal (0.22 acres [3%]) and Arroyo Willow Scrub (0.26 acres [4%]), and a few areas of the Introduced Eucalyptus Woodland occupying the upper banks.

The associate and understory species are the same as those described in the last several reaches, with large California sycamore and red willow trees, numerous box elder, blue elderberry, and walnut, and a few random introduced and exotic trees along the banks. A small open area at the top of the east bank, and just north of Roosevelt Park, has many young Fremont cottonwood and elm trees that appear to be planted.

#### WILDLIFE

Reach 12 is in a highly urbanized setting, with residential development, a school, and a City Park that extends to the immediate edge of the creek corridor. The vegetation supports relatively high

quality cover of large trees, although the corridor is narrow and diversity of structure and species composition in the riparian corridor is limited. Therefore, this reach provides good habitat for species that rely primarily on tree cover, but likely supports fewer species for which shrub and ground cover are important.

# REACH 13: E. SANTA CLARA AVENUE TO E. WILLIAM STREET

#### **VEGETATION**

Reach 13 (Exhibit 14) is approximately 3,300 feet long, covers 11.2 acres, and includes only 3 distinct plant communities. Like Reach 11 and 12, the banks throughout this reach are steep, with businesses and residential development located right up to the edge of the corridor. In many sections of the corridor, the riparian canopy grows in the backyards and even over several houses.

Other than a few small communities of Introduced Eucalyptus Woodland (0.15 acres [1%]) and Arroyo Willow Scrub (0.51 acres [5%]), the entire reach is occupied by a healthy Cottonwood Willow Woodland plant community (8.95 acres [80%]).

Immediately south of E. Santa Clara Street, Fremont cottonwood trees become less abundant, and scattered eucalyptus and palm trees grow on the banks. Moving further south towards San Antonio Street, the trend continues, however, with less exotic species and more of the previously noted native associate species.

South of San Antonio Street and down to Williams Street, large sycamore, red willow, Fremont cottonwood, and walnut trees make up the canopy, with the smaller box elder and blue elderberry associates. A few random exotic species, such as black lotus, and English ivy continues to appear on the banks at isolated locations.

#### WILDLIFE

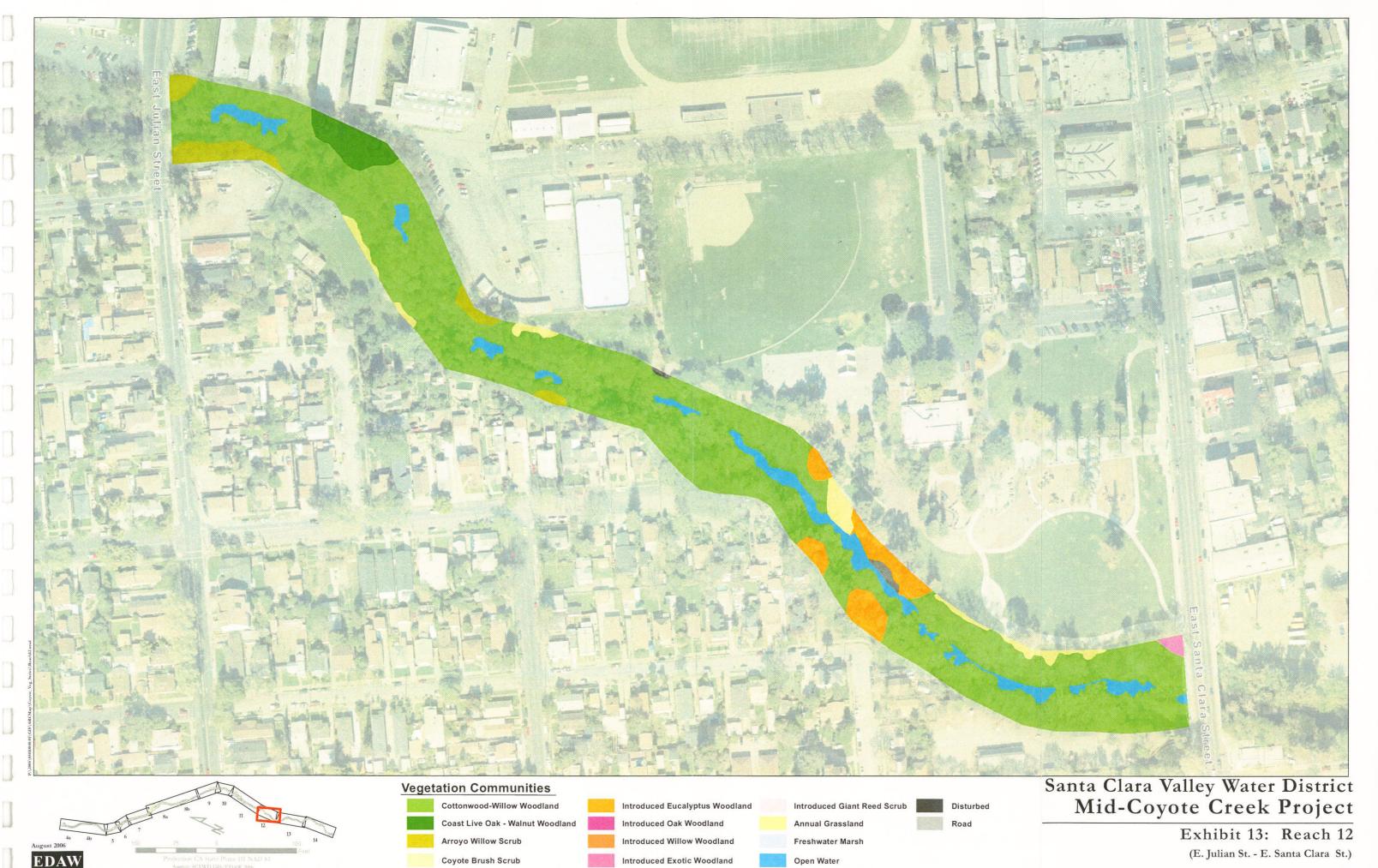
Wildlife habitat conditions along Reach 13 are similar to those of Reach 12. Urban residential development extends to the very edge of the corridor, and the vegetation is dominated by large trees, with limited shrub and ground cover.

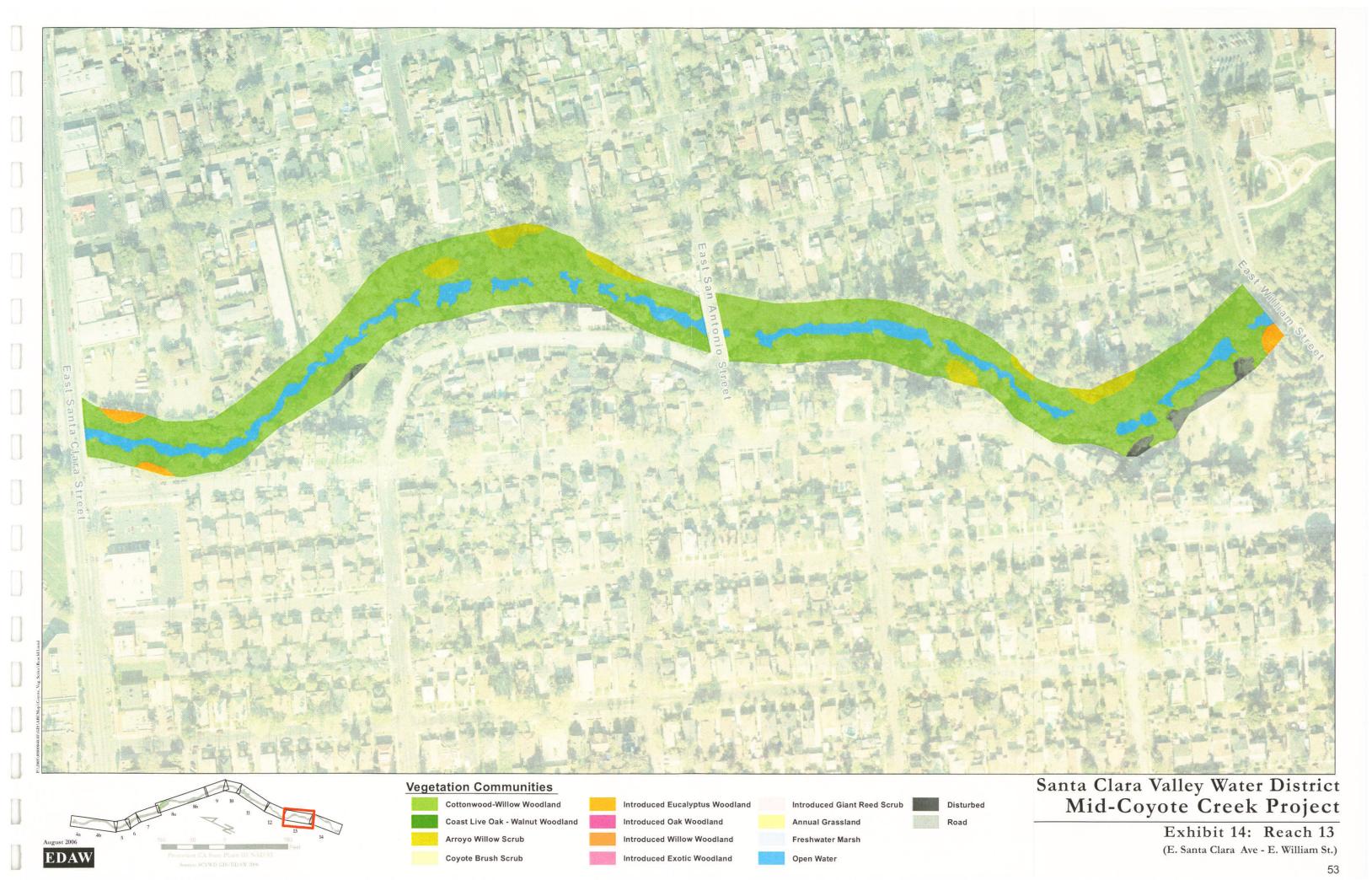
# REACH 14: E. WILLIAM STREET TO INTERSTATE 280

#### **VEGETATION**

Reach 14 (Exhibit 15) is approximately 3,700 feet long, covers 11.53 acres, and includes 4 distinct plant communities. Immediately south of Williams Street, the residential housing ends and parks border both sides of the corridor. On the west side, as the reach moves through Williams Park, large coast live-oak, along with some valley oak, Peruvian pepper, and eucalyptus trees flank the corridor. Along the east side, the new Selma Olinder Park contains open areas with landscaped native trees and walking paths.

The vegetation along the reach is much like Reach 13, with a healthy Cottonwood Willow Woodland plant community (9.80 acres [85%]) dominating the corridor and only a few other very small communities of Annual Grassland-Ruderal (0.33 acres [3%]), Arroyo Willow Scrub







(0.30 acres [3%]), and Coast Live Oak Woodland (0.08 acres [0.7%]) communities occupying the upper banks. The California sycamore trees, which seemed to increase in size over the last few reaches are more visible and seem larger than before. Western wild cucumber (*Marah oreganus*) shows up in large patches along the upper west bank and poison oak dominates the understory. The tree canopy now includes a greater number of native trees and less introduced and exotic species; although, landscaped apricot trees appear a number of times along the edge of the canopy.

Approaching I-280, the percentage of cottonwood trees in the community is higher than in any other reach, and the riparian forest includes coast live oak, valley oak, and other native trees. The open Annual Grassland-Ruderal areas are dominated by Italian ryegrass, pineapple weed (*Chamomilla suaveolens*), and filaree. On the south side of I-280, the riparian forest includes he same diverse mix of native trees.

#### WILDLIFE

Although Reach 14 is also within an urban residential area, it is somewhat buffered from this development by park lands on both sides of the downstream segment. The upstream portion is currently bordered by open space, but recent residential development is encroaching into these areas and may soon abut the riparian corridor. Large native trees dominate this reach and provide high quality habitat for associated species, but there is limited structural diversity and little habitat for species reliant on shrub and ground cover.

## CONCLUSIONS AND ENHANCEMENT RECOMMENDATIONS

There are a number of opportunities for habitat enhancement along Coyote Creek within the project area. These primarily relate to vegetation restoration and enhancement within the riparian corridor and adjacent upland areas. Such enhancement would improve the quality of vegetation communities in the project area and the wildlife populations they support. The following is a summary of key potential habitat enhancement opportunities and other wildlife-related recommendations:

- Develop and implement a plan for control of invasive nonnative plant species. This plan
  should target species and areas in which infestations of nonnative plants are extensive
  enough to reduce species and structural diversity of vegetation communities, and in some
  cases, redirect flows. The plan should also include an extended management period, to
  ensure infestations do not become reestablished over time.
- Develop and implement a plan for revegetation of areas in which extensive invasive plant removal is conducted. This plan should target invasive species control areas where removal results in creation of relatively large barren areas that should be revegetated with native species to maximize enhancement potential and minimize re-invasion. Areas in which removal occurs on a small scale may not warrant revegation if native species are anticipated to naturally recruit.
- Develop and implement a plan for enhancement of upland areas that provide relatively low-quality habitat. Habitat quality in a number of upland areas within the project

reaches could be enhanced through planting of native species. These areas primarily include nonnative grassland habitat adjacent to the riparian corridor that could be vegetated with native trees and shrubs to enhance habitat quality and provide a more effective buffer between the riparian corridor and adjacent developed areas. Specific areas in which such enhancement measures are recommended include:

- Reach 5 west side of the creek, between O'Toole Avenue and I-880
- Reach 6 east side, between I-880 and East Brokaw Road
- Reach 7 east side, between Ridder Park Drive and the railroad tracks
- Reach 8 west side, between Old Oakland Avenue and trailer park
- Reach 9 east side, downstream of Mabury
- Reach 11 both sides, between Highway 101 and lower Silver Creek
- Conduct focused surveys for special-status plant and wildlife species. Several special-status species could occur along Coyote Creek within the project area but their current status is unclear because no recent focused surveys have been conducted. If such species are present, it would be beneficial to know of their occurrence and the potential for project constraints that they may represent during the project planning process. Surveys are recommended for the six special-status plants listed in Table 2 and for burrowing owls and nesting white-tailed kites, Cooper's hawks, and yellow warblers.
- Assess feasibility and potential effectiveness of implementing a plan to reduce feral cat populations. A number of measures of varying cost and complexity could be undertaken in an attempt to reduce feral cat populations. Such measures could include a public awareness program highlighting the detrimental effects feral cats can have to direct control measures (e.g., trapping).
- Educational signage regarding native riparian resources, stewardship, and "good neighbor behavior"
  - Install educational signage regarding native riparian resources, stewardship,
     "good neighbor behavior regarding wildlife
  - o Distribute California Integrated Pest Management "don't plant a pest" brochures
  - Create opportunities for community involvement, including collaboration with local activist groups

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# APPENDIX A Species Observed

# Wildlife Species Observed During Surveys of Coyote Creek Conducted by EDAW in May 2006

Common Name	Scientific Name		
Birds			
Mallard	Anas platyrhynchos		
Double-crested Cormorant	Phalacrocorax auritus		
Great Egret	Ardea alba		
Red-shouldered Hawk	Buteo lineatus		
Rock Pigeon	Columba livia		
Mourning Dove	Zenaida macroura		
Anna's Hummingbird	Calypte anna		
Belted Kingfisher	Ceryle alcyon		
Nuttall's Woodpecker	Picoides nuttallii		
Downy Woodpecker	Picoides pubescens		
Black Phoebe	Sayornis nigricans		
Pacific-slope Flycatcher	Empidonax dificilis		
Warbling Vireo	Vireo gilvus		
Western Scrub-Jay	Aphelocoma californica		
American Crow	Corvus brachyrhynchos		
Cliff Swallow	Petrochelidon pyrrhonota		
Northern Rough-winged Swallow	Stelgidopteryx serripennis		
Chesnut-backed Chickadee	Poecile rufescens		
Bushtit	Psaltriparus minimus		
Bewick's Wren	Thryomanes bewickii		
American Robin	Turdus migratorius		
Northern Mockingbird	Mimus polyglottos		
European Starling	Sturnus vulgaris		
Cedar Waxwing	Bombycilla cedrorum		
Orange-crowned Warbler	Vermivora celata		
Yellow-rumped Warbler	Dendroica coronata		
Wilson's Warbler	Wilsonia pusilla		
Western Tanager	Piranga ludoviciana		
California Towhee	Pipilo crissalis		
Song Sparrow	Melospiza melodia		
White-crowned Sparrow	Zonotrichia leucophrys		
Lazuli Bunting	Passerina amoena		
Red-winged Blackbird	Agelaius phoeniceus		
Brown-headed Cowbird	Molothrus ater		
Bullock's Oriole	Icterus bullockii		
House Finch	Carpodacus mexicanus		
Lesser Goldfinch	Carduelis psaltria		
American Goldfinch	Carduelis tristis		
Other Wildlife			
Western Pond Turtle	Emys marmorata		
Fox Squirrel	Sciurus niger		
California Ground Squirrel	Spermophilus beecheyi		
Raccoon	Procyon lotor		
Domestic Cat	Felis sylvestris catus		

# Plant Species Observed During Surveys of Coyote Creek Conducted by EDAW in May 2006

Common Name	Scientific Name		
Box Elder	Acer negundo		
California Buckeye	Aesculus californica		
Giant Reed	Arundo donax		
Wild Oats	Avena fatua		
Coyote Brush	Baccharis pilularis		
Mule-fat	Baccharis salicifolia		
Perennial Brome	Bromus laevipes		
Ripgut	Bromus diandrus		
Soft Chess	Bromus hordeaceus		
Yellow Star-thistle	Centaurea solstitialis		
Pineapple Weed	Chamomilla suaveolens		
Nutsedge	Cyperus eragrostis		
Storksbill	Erodium botrys		
Redstem Filaree	Erodium cicutarium		
Blue Gum	Eucalyptus globulus		
Fumaria	Fumaria officinalis		
Goose Grass	Galium aparine		
English Ivy	Hedera helix		
California Walnut	Juglans californica		
Northern California Black Walnut	Juglans hindsii		
Prickly lettuce	Lactuca serriola		
Perennial Pepperweed	Lepidium latifolium		
Italian Ryegrass	Lolium multiflorum		
Common Mallow	Malva neglecta		
Bull Mallow	Malva nicaeensis		
Wild Cucumber	Marah oreganus		
Bermuda Buttercup	Oxalis pes-caprae		
Knotgrass	Paspalum distichum		
Bristly Ox-tongue	Paspaium aistichum Picris echioides		
Smilo Grass	Piptatherum miliaceum		
California Sycamore	Platanus racemosa		
Fremont Cottonwood			
Coast Live Oak	Populus fremontii		
Valley Oak	Quercus agrifolia Quercus lobata		
Wild Radish	Raphanus sativus		
Castor-bean	Ricinus communis		
Black Locust	Robinia pseudoacacia		
California Rose			
	Rosa californica Rubus discolor		
Himalayan Blackberry			
Blackcap Raspberry	Rubus leucodermis		
Green Dock	Rumex comglomeratus		
Curly Dock	Rumex crispus		
Weeping Willow	Salix babylonica		
Narrow-leaf Willow	Salix exigua		
Red Willow	Salix laevigata		
Arroyo Willow	Salix lasiolepis		
Russian Thistle	Salsola tragus		
Mexican Elderberry	Sambucus mexicana		
Peruvian Pepper Tree	Schinus molle		

Common Name	Scientific Name Torilis arvensis	
Hedge Parsley		
Poison Oak	Toxicondendron diversilobun	
Rose Clover	Trifolium hirtum	
Broadleaf Cattail	Typha latifolia	
English Elm	Ulmus minor	
Garden Vetch	Vicia sativa	
Vinca	Vinca major	
Palm Trees	Washingtonia spp	
Cocklebur	Xanthium strumarium	

# **APPENDIX B**

Additional CNDBB Species

### Special-Status Wildlife with Potential to Occur Along Coyote Creek However Excluded from Focused Evaluation

Species	Status*		Habitat	Potential Occurrence in	
Species	USFWS DFG		Habitat	Project Area	
Amphibians					
California tiger salamander Ambystoma tigrinum californiense	Т	SSC	Breed in vernal pools and small ponds; seek cover in burrows, crevices, and under logs	May have occurred in the project area in the past but suitable aquatic and upland habitat are no longer present	
Foothill yellow-legged frog Rana boylei		SSC	Rocky streams with cobble- sized substrate and rocks or boulders for basking	Documented in Reach 3, just downstream of the project area, in 1984, but project reaches do not provide suitable habitat	
Birds					
Double-crested cormorant Phalacrocorax auritus		SSC	Forage in aquatic habitats; nest on isolated islets or in tall lakeside trees	Observed during 2006 surveys; likely to travel through and may occasionally forage in project area but habitat is not suitable for nesting	
Osprey Pandion haliaetus		SSC	Nest on dead snags, living trees, cliffs, utility poles, etc. along lakes and rivers	May occur as a rare migrant and winter visitor	
Sharp-shinned hawk Accipiter striatus		SSC	Dense coniferous and riparian forest	May occur as an uncommon migrant and winter visitor	
Merlin Falco columbarius		SSC	Forage in grasslands, agricultural fields, marshes, and other open habitats	May occur as a rare migrant and winter visitor	
American peregrine falcon Falco peregrinus anatum		Е	Forage in a variety of open habitats, particularly marshes and other wetlands; nest on cliffs and ledges	May occur uncommonly throughout the year, but no suitable nesting habitat in the near vicinity	
California gull  Larus californicus			Various coastal habitats and near inland waterbodies	Common non-breeding resident throughout San Francisco Bay Area but unlikely to forage in project area	
Willow flycatcher Empidonax traillii		Е	Riparian woodland and scrub	May occur as rare migrant	
Loggerhead shrike Lanius ludovicianus		SSC	Forage in grasslands, and agricultural fields; nest in scattered shrubs and trees	May occur as a rare visitor, but unlikely to nest in project area	
Yellow-breasted chat Icteria virens		SSC	Riparian woodland with dense shrub cover	May have nested in project area in the past, but now only occurs as a rare migrant	

#### \* Status Definitions

U.S. Fish and Wildlife Service Federal Listing Categories

T Threatened

California Department of Fish and Game State Listing Categories

E Endangered

SSC California Species of Concern

Source: EDAW 2006, HRG 1995

# APPENDIX C Site Photographs



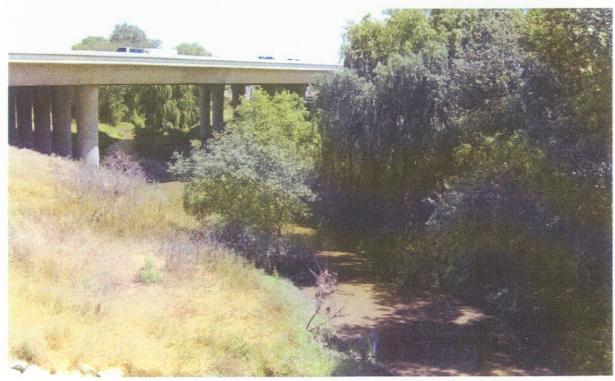
Reach 4 (upstream of Montague Expressway): Freshwater marsh and ruderal grassland vegetation in foreground, with introduced willow woodland behind and eucalyptus woodland on left, at top of east levee. (EDAW 2006)



Reach 4 (downstream of Charcot Avenue): Cottonwood and introduced willow woodland with little shrub or ground cover (EDAW 2006)



Reach 5 (downstream of O'Toole Avenue): Coyote brush scrub to right, on east levee slope, and structurally diverse cottonwood-willow woodland along creek (EDAW 2006)



Reach 5 (between O'Toole Avenue and Interstate 880): Cottonwood-willow woodland on west side of creek to right and ruderal grassland on east levee slope (EDAW 2006)



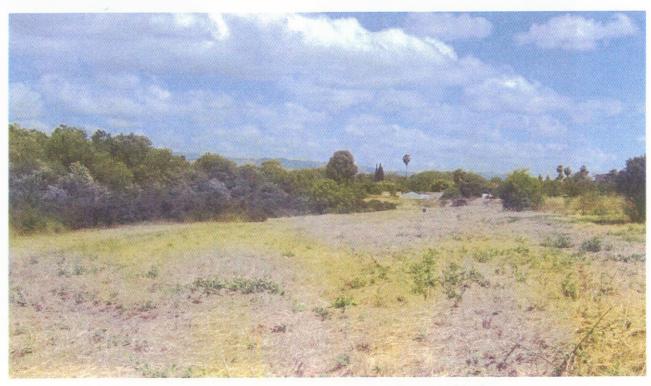
Reach 7 (upstream of Ridder Park Drive): Cottonwood-willow woodland with diverse structure and species composition (EDAW 2006)



Reach 8 (upstream of Old Oakland Road): Evidence of food being provided to support feral cat population (EDAW 2006)



Reach 8 (upstream of Old Oakland Road): Well-developed riparian corridor of diverse structure and species composition (EDAW 2006)



Reach 8 (upstream of Old Oakland Road): Undeveloped ruderal land to the west (EDAW 2006)



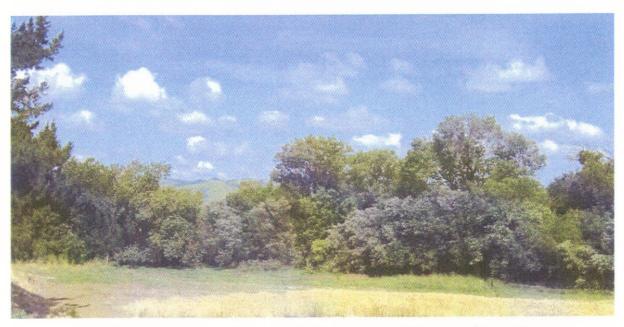
Reach 9 (upstream of Berryessa Road): Relatively diverse riparian habitat with non-native vegetation (EDAW 2006)



Reach 13 (upstream of Santa Clara Street): Less diverse habitat structure with relatively narrow corridor and presence of non-native vegetation (EDAW 2006)



Reach 14 (upstream of East William Street): Cottonwood-willow woodland with large tree cover and some smaller trees and shrubs (EDAW 2006)



Reach 14 (downstream of Interstate 280): Cottonwood willow woodland with diverse tree structure and some shrub cover; ruderal grassland to the west, in foreground (EDAW 2006)