IV Biological Resources Assessment

4.1 Introduction

On September 14, 2007, WRA, Inc. performed an assessment of biological resources at the Route 238 Bypass Corridor (Project Area) in the City of Hayward and adjacent unincorporated areas of Alameda County, California (Figure 4.1). The purpose of the assessment was to review the Project Area's biological resources under the California Environmental Quality Act (CEQA) as part of a land use study and development of General Plan and Zoning amendments. The Project Area consists of a 5.3-mile long corridor of undeveloped and developed parcels extending from the Route 238/Interstate 580 Interchange to Industrial Parkway, measuring approximately 1,000 acres. The core of the Project Area consists of parcels owned by the California Department of Transportation (Caltrans) no longer intended for use as a right-of-way for a Route 238 Bypass. The Project Area also includes some privately- and publicly-owned properties adjacent to the state-owned parcels, considered the "influence area" for potential land use changes on the Caltrans properties.

This report describes the results of the site visit, which assessed the Project Area for the (1) potential presence of special status species; (2) potential to support special status species; and (3) presence of other sensitive biological resources protected by local, state, and federal laws and regulations. This report also contains an evaluation of potential impacts to special status species and sensitive biological resources that may occur as a result of the proposed project and potential mitigation measures to compensate for those impacts.

A biological assessment provides general information on the potential presence of sensitive species and habitats. The biological assessment is not an official protocol-level survey for listed species that may be required for project approval by local, state, or federal agencies. However, specific findings on the occurrence of any species or the presence of sensitive habitats may require that protocol surveys be conducted. This assessment is based on information available at the time of the study and on site conditions observed on the date of the site visit.

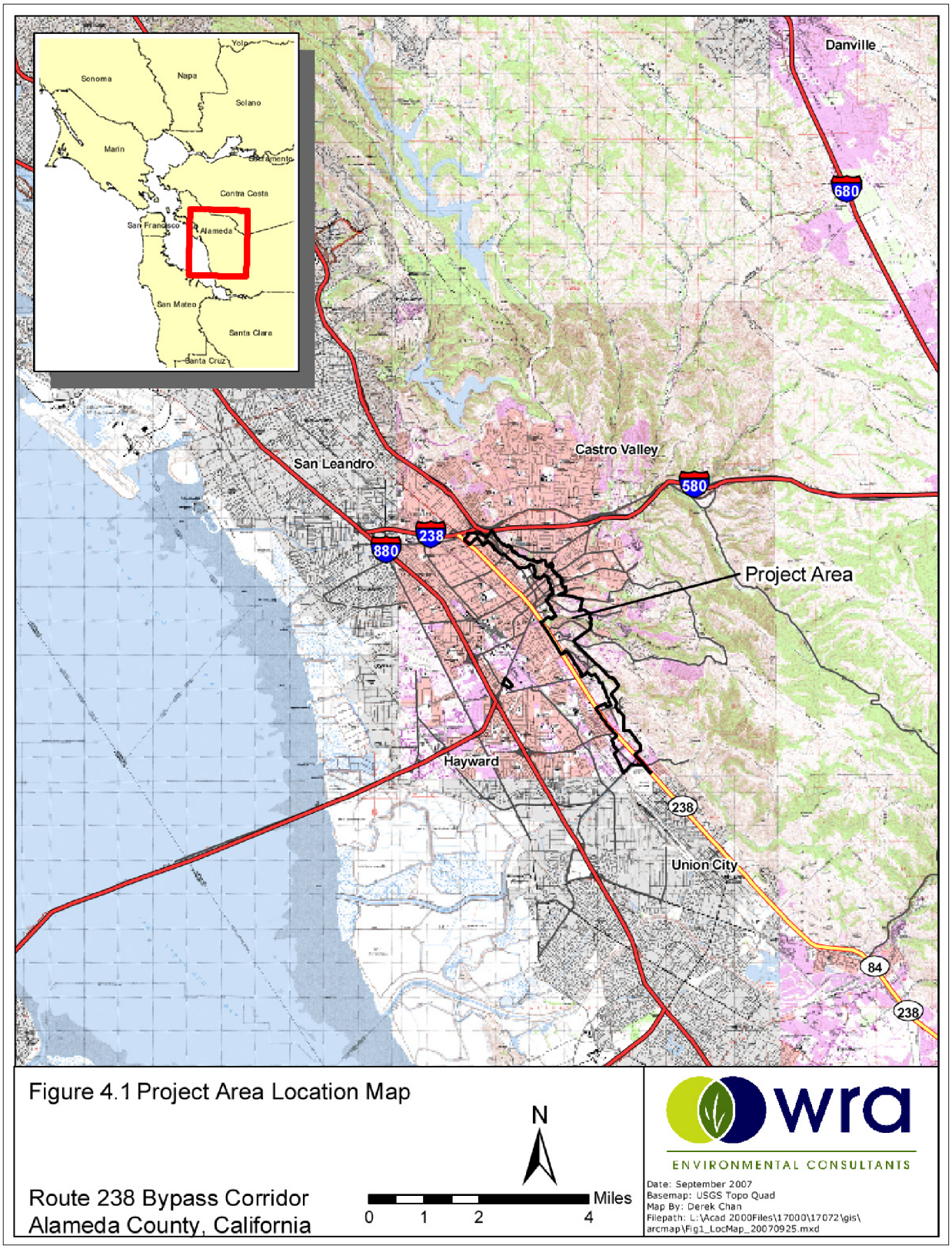

Figure 4.1: Project Area Location Map

4.2 Regulatory Background

The following sections explain the regulatory context of the biological assessment, including applicable laws and regulations that were applied to the field investigations and analysis of potential project impacts.

4.2.1 Special Status Species

Special status species include those plants and wildlife species that have been formally listed, are proposed as endangered or threatened, or are candidates for such listing under the federal Endangered Species Act (ESA) or California Endangered Species Act (CESA). These Acts afford protection to both listed and proposed species. In addition, California Department of Fish and Game (CDFG) Species of Special Concern, which are species that face extirpation in California if current population and habitat trends continue, U.S. Fish and Wildlife Service (USFWS) Birds of Conservation Concern, sensitive species included in USFWS Recovery Plans, and CDFG special status invertebrates are all considered special status species. Although CDFG Species of Special Concern generally have no special legal status, they are given special consideration under the California Environmental Quality Act (CEQA). In addition to regulations for special status species, most birds in the United States, including non-status species, are protected by the Migratory Bird Treaty Act of 1918. Under this legislation, destroying active nests, eggs, and young is illegal. Plant species on California Native Plant Society (CNPS) Lists 1 and 2 are also considered special status plant species. Impacts to these species are considered significant according to CEQA. CNPS List 3 plants have little or no protection under CEQA, but are included in this analysis for completeness.

Critical Habitat

Critical habitat is a term defined and used in the Federal Endangered Species Act as a specific geographic area that contains features essential for the conservation of a threatened or endangered species and that may require special management and protection. The FESA requires federal agencies to consult with the USFWS to conserve listed species on their lands and to ensure that any activities or projects they fund, authorize, or carry out will not jeopardize the survival of a threatened or endangered species. In consultation for those species with critical habitat, federal agencies must also ensure that their activities or projects do not adversely modify critical habitat to the point that it will no longer aid in the species' recovery. In many cases, this level of protection is similar to that already provided to species by the FESA "jeopardy standard." However, areas that are currently unoccupied by the species but which are needed for the species' recovery, are protected by the prohibition against adverse modification of critical habitat

4.2.2 Sensitive Biological Communities

Sensitive biological communities include habitats that fulfill special functions or have special values, such as wetlands, streams, and riparian habitat. These habitats are regulated under federal regulations (such as the Clean Water Act), state regulations (such as the Porter-Cologne Act, the CDFG Streambed Alteration Program, and CEQA), or local ordinances or policies (City or County Tree Ordinances, Special Habitat Management Areas, and General Plan Elements).

Waters of the United States

The U.S. Army Corps of Engineers (Corps) regulates "Waters of the United States" under Section 404 of the Clean Water Act. "Waters of the U.S." are defined broadly as waters susceptible to use in commerce, including interstate waters and wetlands, all other waters (intrastate waterbodies, including wetlands), and their tributaries (33 CFR 328.3). Potential wetland areas, according to the three criteria used to delineate wetlands stated in the *Corps of Engineers Wetlands Delineation Manual* (1987), are identified by the presence of (1) hydrophytic vegetation, (2) hydric soils, and (3) wetland hydrology. Areas that are inundated for sufficient duration and depth to exclude growth of hydrophytic vegetation are subject to Section 404 jurisdiction as "other waters" and are often characterized by an ordinary high water line (OHW). Other waters, for example, generally include lakes, rivers, and streams. The placement of fill material into "Waters of the U.S." (including wetlands) generally requires an individual or nationwide permit from the Corps under Section 404 of the Clean Water Act.

Waters of the State

The term "Waters of the State" is defined by the Porter-Cologne Act as "any surface water or groundwater, including saline waters, within the boundaries of the state." The Regional Water Quality Control Board (RWQCB) protects all waters in its regulatory scope, but has special responsibility for wetlands, riparian areas, and headwaters. These waterbodies have high resource value, are vulnerable to filling, and are not systematically protected by other programs. RWQCB jurisdiction includes "isolated" wetlands and waters that may not be regulated by the Corps under Section 404. "Waters of the State" are regulated by the RWQCB under the State Water Quality Certification Program which regulates discharges of fill and dredged material under Section 401 of the Clean Water Act and the Porter-Cologne Water Quality Control Act. Projects that require a Corps permit, or fall under other federal jurisdiction, and have the potential to impact "Waters of the State," are required to comply with the terms of the Water Quality Certification determination. If a proposed project does not require a federal permit, but does involve dredge or fill activities that may result in a discharge to "Waters of the State," the RWQCB has the option to regulate the dredge and fill activities under its state authority in the form of Waste Discharge Requirements.

Streams, Lakes, and Riparian Habitat

Streams and lakes, as habitat for fish and wildlife species, are subject to jurisdiction by CDFG under Sections 1600-1616 of the State Fish and Game Code. Alterations to or work within or adjacent to streambeds or lakes generally require a 1602 Lake and Streambed Alteration Agreement. The term stream, which includes creeks and rivers, is defined in the California Code of Regulations (CCR) as follows: "a body of water that flows at least periodically or intermittently through a bed or channel having banks and supports fish or other aquatic life. This includes watercourses having a surface or subsurface flow that supports or has supported riparian vegetation" (14 CCR 1.72). In addition, the term stream can include ephemeral streams, dry washes, watercourses with subsurface flows, canals, aqueducts, irrigation ditches, and other means of water conveyance if they support aquatic life, riparian vegetation, or stream-dependent terrestrial wildlife (CDFG ESD 1994). Riparian is defined as, "on, or pertaining to, the banks of a stream;" therefore, riparian vegetation is defined as, "vegetation which occurs in and/or adjacent to a stream and is dependent on, and occurs because of, the stream itself" (CDFG ESD 1994). Removal of riparian vegetation also requires a Section 1602 Lake and Streambed Alteration Agreement from CDFG.

Other Sensitive Biological Communities

Other sensitive biological communities not discussed above include habitats that fulfill special functions or have special values. Natural communities considered sensitive are those identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game (CDFG). CDFG ranks sensitive communities as "threatened" or "very threatened" and keeps records of their occurrences in its Natural Diversity Database. Sensitive plant communities are also identified by CDFG on their *List of California Natural Communities Recognized by the CNDDB*. Impacts to sensitive natural communities identified in local or regional plans, policies, regulations or by the CDFG or USFWS must be considered and evaluated under CEQA (California Code of Regulations: Title 14, Div. 6, Chap. 3, Appendix G). Specific habitats may also be identified as sensitive in City or County General Plans or ordinances.

City of Hayward Tree Preservation Ordinance

The City of Hayward Tree Preservation Ordinance encourages the preservation of trees and avoidance during development projects. The City of Hayward Municipal Code, Chapter 10 Article 15 declares it unlawful to remove, destroy, cut branches over one-inch diameter, disfigure or cause to be removed or destroyed any protected tree within the City without first obtaining a Tree Removal and Cutting Permit. Protected trees are defined as those with a minimum diameter at breast height (DBH) of eight inches, street trees, memorial trees dedicated by a City-recognized entity, specimen trees that define a neighborhood or community, and those trees planted to replace a protected tree. In addition, most native trees, such as oaks and California bay, are protected when they measure at least four inches DBH. Trees located on developed single-family residential lots that cannot be further subdivided are exempt from the ordinance, unless such trees have been required or are protected as a condition of previous permit approvals.

Alameda County Tree Ordinance

The County of Alameda Tree Ordinance protects all trees within the County right-of-way. Trees protected by this ordinance include those planted by the County, trees planted as replacement trees under this ordinance, and any trees at least ten feet high and at least two inches DBH. Planting, maintaining, removing, or otherwise damaging trees protected by this ordinance requires an encroachment permit pursuant to Chapter 12 Article 11 of the General Ordinance Code.

4.3 Methods

On September 21, 2007, the Project Area was traversed on foot to determine (1) plant communities present within the Project Area, (2) if existing conditions provide suitable habitat for any special status plant or wildlife species, and (3) if sensitive habitats are present. All plant and wildlife species encountered were recorded, and are summarized in Appendix C.

4.3.1 Biological Communities

Prior to the site visit, the Soil Survey of Alameda County, California, Western Part (NRCS 2007), Final EIR/EIS for the Proposed Route 238 Hayward Bypass Project (Caltrans 2000), topographic maps (USGS 1993), and aerial photographs of the Project Area were examined to determine if any unique soil types or aquatic features have been previously identified in the Project Area. Biological communities present in the Project Area were classified based on existing plant community descriptions described in the *Preliminary Descriptions of the Terrestrial Natural Communities of California* (Holland 1986). However, in some cases it is necessary to identify variants of community types or to describe non-vegetated areas that are not described in the literature. Biological communities were classified as sensitive or non-sensitive as defined by CEQA and other applicable laws and regulations.

Non-sensitive Biological Communities

Non-sensitive biological communities are those communities that are not afforded special protection under CEQA, and other state, federal, and local laws, regulations and ordinances. These communities may, however, provide suitable habitat for some special status plant or wildlife species and are identified or described in Section 4.1.1 below.

Sensitive Biological Communities

Sensitive biological communities are defined as those communities that are given special protection under CEQA and other applicable federal, state, and local laws, regulations and ordinances. Applicable laws and ordinances are discussed above in Section 2.0. Special methods used to identify sensitive biological communities are discussed below.

Wetlands and Waters

The Project Area was surveyed to determine if any wetlands and waters potentially subject to jurisdiction by the Corps, RWQCB, or CDFG were present. The assessment was based primarily on the presence of wetland plant indicators, but may also include any observed indicators of wetland hydrology or wetland soils as defined by the Corps Manual (Environmental Laboratory 1987) and the *Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (Corps 2006). Any potential wetland areas were identified as areas dominated by plant species with a wetland indicator status[10] of OBL, FACW, or FAC as given on the U.S. Fish and Wildlife Service *List of Plant Species that Occur in Wetlands* (Reed 1988).

[10] OBL = Obligate, always found in wetlands (> 99% frequency of occurrence); FACW = Facultative wetland, usually found in wetlands (67-99% frequency of occurrence); FAC = Facultative, equal occurrence in wetland or non-wetlands (34-66% frequency of occurrence).

Evidence of wetland hydrology can include evidence such as visible inundation or saturation, surface sediment deposits, algal mats and drift lines, and oxidized root channels. Some indicators of wetland soils include dark colored soils, soils with a sulfidic odor, and soils that contain redoximorphic features as defined in *Field Indicators of Hydric Soils in the United States* (NRCS 2006).

The preliminary waters determination was based primarily on the presence of unvegetated, ponded areas or flowing water, or evidence indicating their presence such as a high water mark or a defined drainage course. Collection of additional data will be necessary to prepare a delineation report suitable for submission to the Corps.

Other Sensitive Biological Communities

The Project Area was evaluated for the presence of other sensitive biological communities, including riparian areas, sensitive plant communities recognized by CDFG, and oak woodlands and other significant areas of native trees. These sensitive biological communities were mapped and are described in Section 4.1.2 below.

4.3.2 Special Status Species

Literature Review

Potential occurrence of special status species in the Project Area was evaluated by first determining which special status species occur in the vicinity of the Project Area through a literature and database search. Database searches for known occurrences of special status species focused on the Hayward 7.5 minute USGS quadrangle and the eight surrounding USGS quadrangles. The following sources were reviewed to determine which special status plant and wildlife species have been documented to occur in the vicinity of the Project Area:

- California Natural Diversity Database records (CNDDB) (CDFG 2007)
- USFWS quadrangle species lists (USFWS 2007)
- CNPS Electronic Inventory records (CNPS 2007)
- CDFG publication "California's Wildlife, Volumes I-III" (Zeiner et al. 1990)
- CDFG publication "Amphibians and Reptile Species of Special Concern in California" (Jennings 1994)
- A Field Guide to Western Reptiles and Amphibians (Stebbins, R.C. 2003)
- Fairy Shrimps of California's Puddles, Pools and Playas (Eriksen and Belk 1999)
- National Marine Fisheries Service Distribution Maps for California Salmonid Species (2007)

Site Assessment

A site visit was made to the Project Area to search for suitable habitats for species identified in the literature review as occurring in the vicinity. The potential for each special status species to occur in the Project Area was then evaluated according to the following criteria:

- No Potential. Habitat on and adjacent to the site is clearly unsuitable for the species requirements (foraging, breeding, cover, substrate, elevation, hydrology, plant community, site history, disturbance regime).

- Unlikely. Few of the habitat components meeting the species requirements are present, and/or the majority of habitat on and adjacent to the site is unsuitable or of very poor quality. The species is not likely to be found on the site.

- Moderate Potential. Some of the habitat components meeting the species requirements are present, and/or only some of the habitat on or adjacent to the site is unsuitable. The species has a moderate probability of being found on the site.

- High Potential. All of the habitat components meeting the species requirements are present and/or most of the habitat on or adjacent to the site is highly suitable. The species has a high probability of being found on the site.

- Present. Species is observed on the site or has been recorded (i.e. CNDDB, other reports) on the site recently.

The site assessment is intended to identify the presence or absence of suitable habitat for each special status species known to occur in the vicinity in order to determine its potential to occur in the Project Area. The site visit does not constitute a protocol-level survey and is not intended to determine the actual presence or absence of a species; however, if a special status species is observed during the site visit, its presence will be recorded and discussed. Appendix D presents the evaluation of potential for occurrence of each special status plant and wildlife species known to occur in the vicinity of the Project Area with their habitat requirements, potential for occurrence, and rationale for the classification based on criteria listed above. Recommendations for further surveys are made in Section 5.0 below for species with a moderate or high potential to occur in the Project Area.

4.4 Results

The 1,000-acre Project Area is located in the City of Hayward and adjacent unincorporated areas of Alameda County, consisting of a corridor of parcels owned by Caltrans and surrounding private and publicly-owned parcels. The Project Area ranges from 20 to 400 feet in elevation and generally parallels Mission Boulevard and Foothill Boulevard and sits at the base of the Hayward Hills. Plans for a highway bypass along this corridor have been abandoned and the lands are under evaluation for City of Hayward General Plan and zoning designation amendments.

The Project Area is surrounded by urban and suburban land uses on nearly all sides, including residential, commercial, and public uses such as the California State University East Bay campus. The exception is the southeastern portion of the Project Area, which includes a finger of open space and non-urban uses extending from the Hayward Hills and connected to Garin Regional Park and Dry Creek Pioneer Regional Park (East Bay Regional Park District). Several perennial and semi-perennial creeks with riparian forest vegetation cross the Project Area, including San Lorenzo Creek, Castro Valley Creek, Ward Creek, Ziele Creek, and Sulphur Creek. These creeks all enter underground pipes or concrete channels leading to San Francisco Bay within or near the Project Area boundary.

The Project Area is partially developed with a mix of single- and multi-family residential, commercial, and public uses such as developed urban parks. The majority of Caltrans-owned parcels within the Project Area consist of single-family residences or undeveloped open space with mowed or disced grasslands and forested riparian corridors. Other uses within the Project Area include schools, the Route 238/I-580 interchange, and a closed quarry.

The following sections present the results and discussion of the biological assessment within the Project Area.

4.4.1 Biological Communities

Table 4.1 summarizes the area of each biological community type observed in the Project Area. Non-sensitive biological communities in the Project Area include non-native annual grassland, coastal scrub, disturbed/ruderal areas, and developed areas. Four sensitive biological community types are found in the Project Area: riparian forest, oak woodland, wetlands, and waters. Descriptions for each biological community are contained in the following sections. Biological communities within the Project Area are shown in Figures 4.2-A through 4.2-D.

Biological Communities within the Project Area.

Community Type	Approximate Area (acres)
Riparian forest	74
Oak woodland	14
Wetland areas	6
Non-native annual grassland	125
Coastal scrub	8
Exotic woodland	67
Disturbed/Ruderal	109
Development (Urban/landscaping)	589
Total Project Area Size	992
Waters	3.6 miles

Table 4.1 Biological Communities within the Project Area

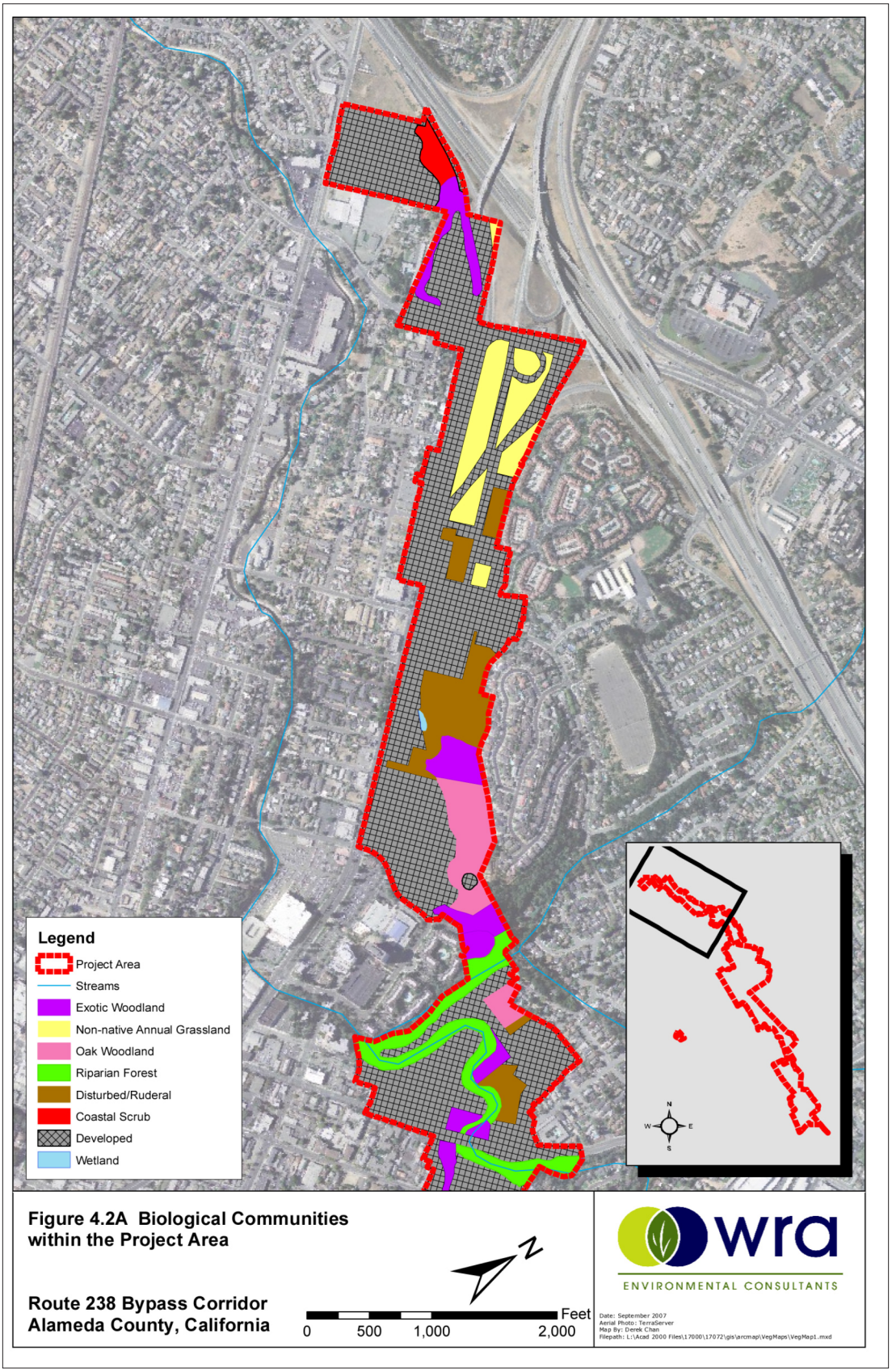

Figure 4.2-A: Biological Communities within the Project Area

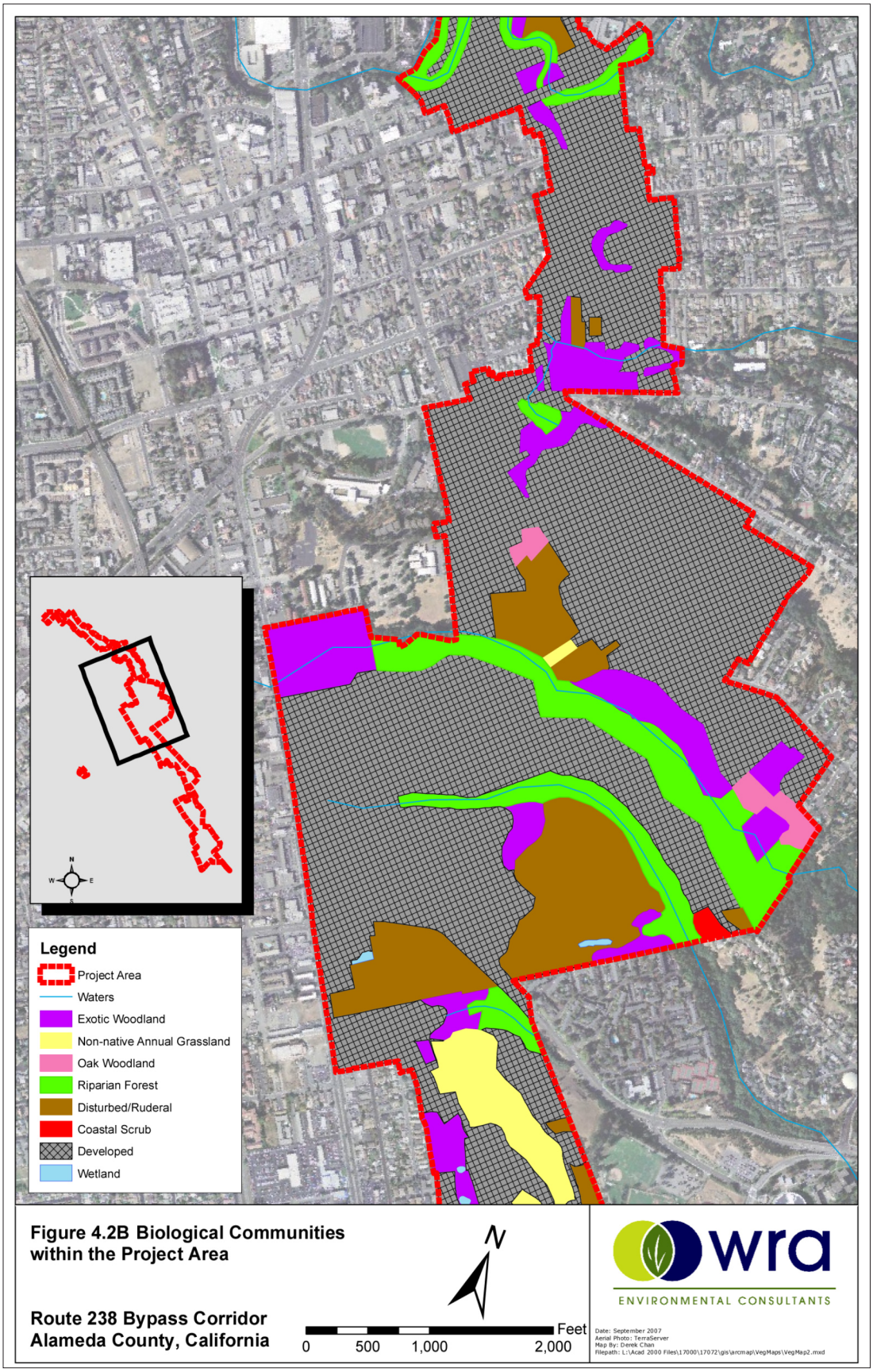

Figure 4.2-B: Biological Communities within the Project Area

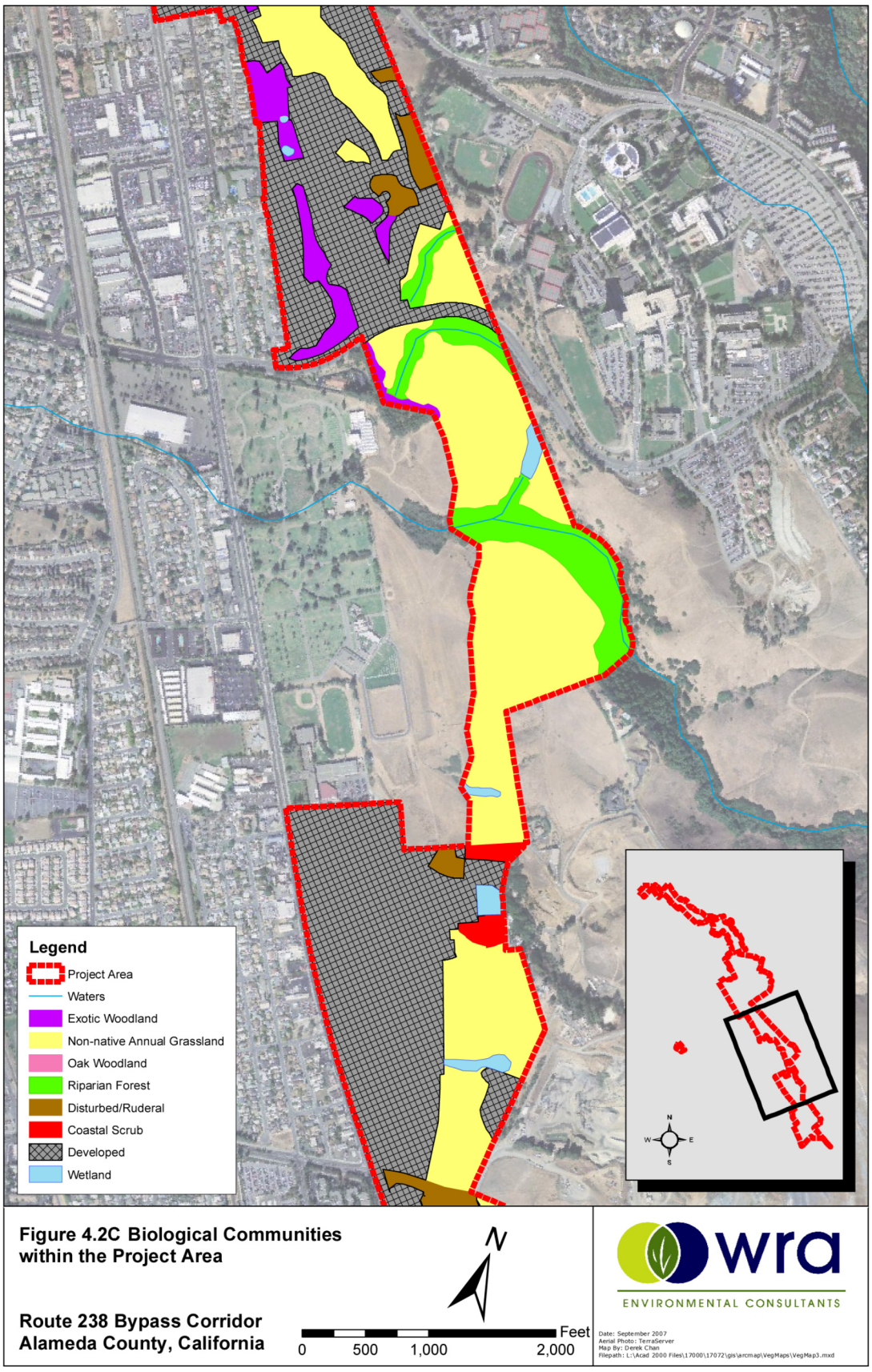

Figure 4.2-C: Biological Communities within the Project Area

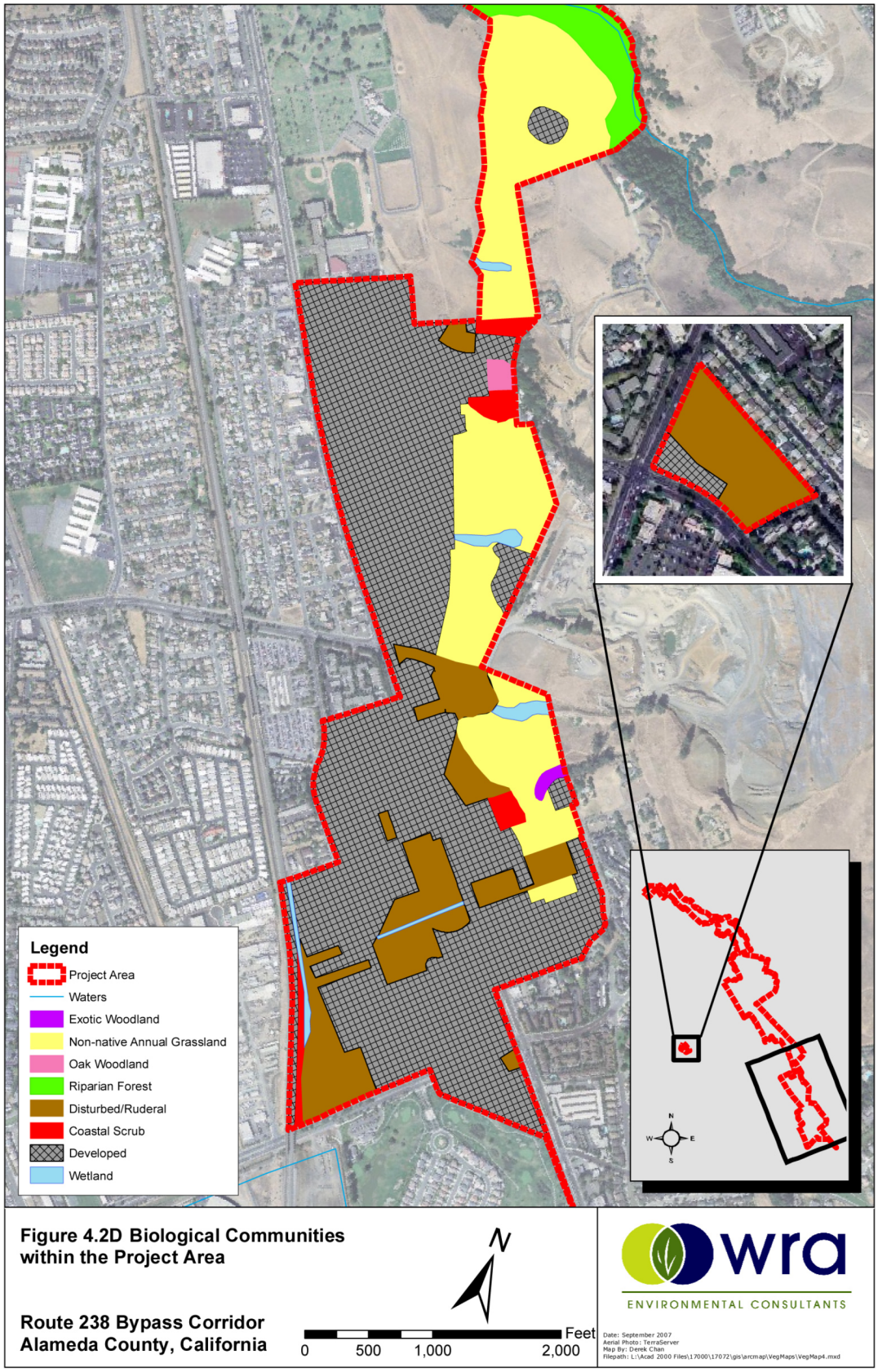

Figure 4.2-D: Biological Communities within the Project Area

Non-sensitive Biological Communities

Non-native annual grassland

Non-native annual grassland is present in the large, steep undeveloped parcels of the Project Area. This community type is described as non-native grassland by Holland (1986) and California annual grassland by Sawyer and Keeler-Wolf (1995), and is dominated by exotic annual grasses with scattered native and non-native forbs. Project Area grasslands are generally dominated by wild oats (*Avena* spp.) and other common invasive grasses such as ripgut brome (*Bromus diandrus*) and Italian ryegrass (*Lolium multiflorum*). The exotic herbaceous species observed in this community included yellow star thistle (*Centaurea solstitialis*), rose clover (*Trifolium hirtum*), chicory (*Cichorium intybus*), and fennel (*Foeniculum vulgare*). Scattered native and exotic trees and shrubs are naturally-occurring or planted in the grasslands, but do not generally create more than five percent average canopy cover. It is likely that more native species would be observed in these areas during the spring and early summer, but they generally appear disturbed by invasive species and historic grazing impacts. Most portions of the Project Area mapped as non-native annual grassland continue to be managed with mowing or goat and cattle grazing to reduce fuel loads.

One valley needlegrass grassland community is recorded in the CNDDB in the vicinity of the Project Area, located two miles north along Fairmont Ridge above Lake Chabot (CDFG 2007). A few non-native annual grassland areas of the Project Area, particularly between Carlos Bee Boulevard and Harder Road, include sparse to dense patches of native purple needlegrass (*Nassella pulchra*). However, none were large enough to identify as a distinct native grassland community. Approximately 125 acres of non-native annual grassland is present in the Project Area. Given the disturbed nature but relatively large size of these grassland areas, they represent moderate-value habitat for special status and common plant and wildlife species. Wildlife species likely to be found in this or similar habitat include harvest mouse (*Reithrodontomys* sp.), shrew (Sorex sp.), Western Meadowlark (*Sturnella neglecta*), gopher snake (*Pituophis catenifer*), and others.

Coastal scrub

The coastal scrub community type is present in small patches on steep slopes scattered throughout the Project Area. This community is a disturbed variation of the northern coastal scrub community described by Holland (1986), and the coyote brush series and California sagebrush series described by Sawyer and Keeler-Wolf (1995). Within the Project Area, coastal scrub consists of sparse to dense coyote brush (*Baccharis pilularis*) or California sagebrush (*Artemisia californica*), with an understory similar to the non-native annual grassland community type. Most areas mapped as coastal scrub appear to be former ruderal or non-native annual grassland areas that have been colonized by native shrubs.

The coastal scrub community type covers approximately eight acres within the Project Area, and is not considered sensitive. These areas are a very minor component of the existing natural resources of the site, but provide valuable transitional habitat between the more common grasslands and forested areas. This community may support wildlife species such as coyote (*Canis latrans*), Savannah Sparrow (*Passerculus sandwichensis*), and western fence lizard (*Sceloporus occidentalis*).

Disturbed/ruderal

Although not described in the literature, typical ruderal communities include areas that have been partially developed or have been used in the past for agriculture. In the Project Area, the disturbed/ruderal communities consist primarily of vacant parcels that have been recently disced. Discing has occurred on almost all of the flat non-forested

parcels owned by Caltrans, leaving highly disturbed vegetation and soils. At the time of this assessment, vegetation in disced areas was sparse and consisted almost exclusively of Italian ryegrass, bristly ox-tongue (*Picris echioides*), cheeseweed (*Malva parviflora*), and field bindweed (*Convolvulus arvensis*). Many other disturbed vacant parcels included in this community type have compacted soils that have been re-colonized primarily by ruderal species such as fennel, stinkwort (*Dittrichia graveolens*), pampas grass (*Cortaderia jubata*), and Russian thistle (*Salsola tragus*). An abandoned quarry near the center of the Project Area was also mapped as disturbed/ruderal due to a limited vegetation cover dominated by pampas grass, fennel, cotoneaster (*Cotoneaster* sp.), and other ruderal exotic species.

Approximately 109 acres of the disturbed/ruderal community type is present in the Project Area, and these areas provide poor habitat for special status or even common native species. Wildlife species that can be found in such areas may include Rock Dove (*Columba livia*), Brewer's Blackbird (*Euphagus cyanocephalus*), gophers (*Thomomys bottae*), and voles (*Microtus* sp).

Exotic woodland

Many undeveloped parcels within the Project Area have relatively dense tree and/or shrub canopies consisting almost entirely of exotic species. The understory in these parcels is similar to non-native annual grassland or the disturbed/ruderal community type where grading or other soil disturbance has occurred. These parcels do not appear to be regularly maintained except for mowing or grazing to reduce fuel loads. While some of the trees and shrubs may be historic plantings, many of the species are naturalized and some are invasive. These areas provide a somewhat natural open woodland habitat beneficial to wildlife, so this community was mapped separately from urban areas with maintained landscaping. Exotic woodlands within the Project Area range from contiguous patches of blue gum eucalyptus (*Eucalyptus globulus)* to small lots covered with a diverse mix of typical weedy urban trees and shrubs including eucalyptus, acacias (*Acacia* spp.), cotoneaster, and tree of heaven (*Ailanthus altissima*). These exotic woodlands also support scattered native species including coast live oak (*Quercus agrifolia*), toyon (*Heteromeles arbutifolia*), coyote brush, and willows (*Salix* spp.).

Approximately 67 acres of exotic woodland are present in the Project Area. Hayward Memorial Park was mapped under this community type because of the somewhat natural habitat of a weedy understory with a mix of large native and naturalized exotic trees and shrubs. Wildlife species that may be found in this community include striped skunk (*Mephitis mephitis*), Great Horned Owl (*Bubo virginianus*), Mourning Dove (*Zenaida macroura*), and Wild Turkey (*Megeagris gallopavo*).

Development (urban/landscaping)

Development consists of all portions of the Project Area not mapped as a natural community type, and includes commercial and residential uses, roads, and other areas dominated by human uses. Much of these developed areas contain planted exotic vegetation and casually- to intensively-maintained landscaping. Scattered native trees, primarily coast live oak, persist as street trees, in residential yards, and on larger landscaped grounds such as schools.

Urban development and landscaping covers approximately 589 acres of the Project Area, and these areas are not likely to provide habitat for special status species due to noise and light pollution, invasive plants and repeated disturbance, and exotic predators such as feral cats. The primary habitat value of these areas lies in the trees, which may be utilized by both birds and bats. Species that may be found here include Rock Dove (*Columba livia*), European Starling (*Sturnella vulgaris*), House Sparrow (*Passer domesticus*), Yuma myotis bat (*Myotis yumanensis*), and roof rat (*Rattus rattus*).

Sensitive Biological Communities

Waters

Approximately 5.6 miles (19,100 linear feet) of waters are present in the Project Area, comprised primarily of perennial to semi-perennial creeks. Most creeks were still flowing with several inches of water at the time of the assessment visit, which was conducted in early fall following a relatively dry winter season. The creeks are generally two to eight feet wide with a gravelly substrate, with San Lorenzo Creek being the largest watercourse crossing the Project Area. Many fish barriers and other structures that reduce wildlife habitat values are present, especially to the west of the Project Area where most waters flow through concrete channels or underground culverts.

Creeks within the Project Area have the potential to support special status species, particularly San Lorenzo Creek and large pools in Castro Valley Creek. Steelhead or rainbow trout (*Oncorhynchus mykiss*) (FT, CSC) are believed to be present in San Lorenzo Creek (Leidy et al. 2003), which passes through the northern portion of the Project Area near A Street. Short lengths of adjoining smaller creeks may also be used as rearing habitat by juvenile *O. mykiss* during certain times of the year. Perennial creeks, riparian corridors, and relatively undisturbed upland areas nearby may also provide habitat for California red-legged frog (*Rana aurora draytonii*, CRLF), a federal threatened and CDFG species of special concern, which has been documented to occur in the vicinity. A small reservoir in Hayward Memorial Park may also provide habitat for CRLF. More common species that may occur near creeks include Black Phoebe (*Sayornis nigricans*), Mallard (*Anas platyrhynchos*), garter snake (*Thamnophis* sp.), and crayfish (*Pacifasticus leniusculus*).

Wetlands

Although a formal wetland delineation was not conducted as a part of this assessment, several wetlands with potential to be jurisdictional "Waters of the U.S." were identified within the Project Area based primarily upon the presence of wetland vegetation. Four general types of wetlands were identified: freshwater marsh, vegetated ditches, seep wetlands, and seasonal wetlands, although all are relatively disturbed communities and most appear to be inadvertently created by human activities, as described below. Wetland areas total roughly eight acres, although the scale of mapping results in a higher acreage estimate than is likely to be identified in a jurisdictional wetland delineation. Due to the time of year and highly disturbed nature of many of the mowed and disced undeveloped parcels, it is likely that not all seasonal wetlands were identified during these brief assessment visits.

Freshwater marsh communities are present near urban development and were mapped in the Project Area based upon the dominance of cattail (*Typha* sp.) and/or common reed (*Arundo donax*). Several small patches of freshwater marsh vegetation abut commercial or residential lots and may rely on unintentional irrigation or leaks from water tanks and underground pipes. Holland (1986) describes Coastal and Valley Freshwater Marsh communities as permanently flooded by fresh water, without significant current. Perennial, emergent monocots up to four meters tall typically dominate these marshes, including cattails (*Typha* spp.), bulrushes (*Scirpus* spp.), and a variety of sedges (*Carex* spp., *Cyperus* spp., *Eleocharis* spp.). All freshwater marsh communities in the Project Area are small, disturbed, and surrounded by development.

Two man-made ditches cross the southern end of the Project Area. One is located between Valle Vista Avenue and Industrial Parkway, extending from Mission Boulevard to Dixon Street, where it then flows southwest in an underground culvert until it empties into the second canal paralleling the BART tracks and the Project Area boundary. These ditches are largely vegetated with a freshwater marsh community, but are clearly man-made channels that carry

stormwater. The ditches still held approximately an inch of water at the time of this assessment. Common wetland vegetation in these ditches include cattail, water cress (*Rorippa nasturtium-aquaticum*), barnyard grass (*Echinochloa crus-galli*), and rabbitfoot grass (*Polypogon monspeliensis*).

Several freshwater seep wetlands exhibit similar vegetation communities to freshwater marsh, dominated by perennial, emergent vegetation, but are located in sloped drainages that conduct a small amount of flow. Holland (1986) describes Freshwater Seep communities as dominated by perennial herbs, growing in permanently moist or wet soil and usually forming complete cover. Dominant vegetation in seep-like wetlands of the Project Area includes wetland species such as iris-leaf rush (*Juncus xiphioides*), common tule (*Scirpus acutus* var. *occidentalis*), Himalayan blackberry, cattail, tall flatsedge (*Cyperus eragrostis*), and red willows (*Salix laevigata*). The water source of these wetlands was often unclear during the assessment, although some are clearly positioned downhill from large water tanks, culverts, or quarry operations.

Seasonal wetland plant communities are not described in Holland (1986), but occur in swales and depressions that are ponded during the rainy season for sufficient duration to support vegetation adapted to wetland conditions. Seasonal wetlands in California are highly variable in plant composition, depending on the length of ponding or inundation. They also generally lack the plant community assemblage typical of defined marshes and vernal pools. Potential seasonal wetlands in the Project Area are generally found on flat or slightly sloped ground in very disturbed non-native annual grassland, disturbed/ruderal areas, and in small un-maintained areas of urban development. The only seasonal wetlands identifiable during the assessment exhibited dry soils but strong wetland vegetation or hydrology indicators such as hoof prints and a clearly different community from the surrounding vegetation. Vegetation in these wetlands includes typical weedy species such as Italian ryegrass, narrow-leaved milkweed (*Asclepias fascicularis*), heliotrope (*Heliotropium curassavicum*), and stinkwort. Seasonal wetlands in the Project Area include features apparently fed by leaking water tanks, leaking underground pipes, and irrigation from a large neighboring garden and greenhouse.

Seasonal wetlands generally provide food, cover, and water for over 100 species of birds, and can provide foraging habitats for bats. In addition, amphibian species such as the federal-listed California tiger salamander (*Ambystoma californiense*) and California red-legged frog (*Rana aurora draytonii*) may utilize them as part of their migratory corridor. However, the seasonal wetlands in the Project Area support disturbed exotic vegetation, are surrounded by urban development or other intensive uses, and are unlikely to provide valuable habitat for special status species.

Riparian forest

Riparian forests line all of the creeks in the Project Area, and range from completely native tree canopies to a mix of urban plantings with invasive and native trees. The largest corridors of riparian forest within the Project Area are dominated by coast live oak and California bay (*Umbellularia californica*), with scattered Californica buckeye (*Aesculus californica*) and big leaf maple (*Acer macrophyllum*). These forests are typical of oak/bay forests in the San Francisco Bay Area, and are similar to the coast live oak forest and southern coast live oak riparian forest communities described by Holland (1986) and the coast live oak series and California bay series described by Sawyer and Keeler-Wolf (1995). A dense tree canopy results in minimal understory vegetation, including scattered toyon, snowberry (*Symphoricarpos albus*), poison oak (*Toxicodendron diversilobum*), California blackberry (*Rubus ursinus*), and blue elderberry (*Sambucus mexicana*).

A few creeks have significantly narrower riparian corridors remaining due to surrounding urban development, along with a more disturbed species composition of mixed natives and exotic trees and shrubs, namely San Lorenzo Creek, Castro Valley Creek, and the small seasonal creek segments directly west of Hayward High School. Some

of the riparian forests, most notably Ward Creek in Hayward Memorial Park, have moderate to severe infestations of invasive plants such as English ivy (*Hedera helix*), Himalayan blackberry (*Rubus discolor*), and cape ivy (*Delairea odorata*).

Riparian forest covers approximately 74 acres, providing the primary remaining native plant habitat within the Project Area and valuable wildlife corridors connecting to larger natural areas to the east and south. All contiguous forest canopies on the steep slopes lining perennial and seasonal creeks were considered riparian forest, although the actual delineation of riparian corridors under the jurisdiction of CDFG may result in narrower corridors more directly influenced by the creek channels. Wildlife species that may be found in riparian forest include black-tail deer (*Odocoileus hemionus*), raccoon (*Procyon lotor*), dusky-footed woodrat (*Neotoma fuscipes*), Lesser Goldfinch (*Carduelis psaltria*), Spotted Towhee (*Pipilo maculatus*), and chorus frog (*Pseudacris regilla*).

Oak woodland

Oak woodland is present in disturbed, remnant patches in the Project Area, often adjacent to more intact riparian forested corridors. This community is similar to the coast live oak woodland community described by Holland (1986) and the coast live oak series described by Sawyer and Keeler-Wolf (1995). This community is typically dominated by coast live oak with an understory of non-native annual grasses and both native and non-native shrubs. It is usually found on steep slopes, raised stream banks, and stream terraces. Within the Project Area, oak woodland persists in small remnant patches, often in or surrounded by areas of graded, disturbed soils and ruderal vegetation or non-native annual grassland species. Many of the oak woodland areas appear to be regularly mowed or grazed by cattle or goats. The native species diversity in this community type is lower than most riparian forest in the Project Area, and the native tree canopy cover ranges from approximately 10 to 100 percent.

The oak woodland community type covers approximately 14 acres within the Project Area, and is considered sensitive for the purposes of this report because of the concentration of native oak trees protected by local tree ordinances. However, these areas are mostly very disturbed and fragmented compared to a typical coast live oak woodland community in less urban areas. They are not as valuable as the riparian forest within the Project Area in terms of habitat, total acreage, or connectivity to other native habitats in the vicinity. Oak woodland areas adjacent to riparian forest provide the most valuable habitat because they enhance wildlife corridors and transitional habitats between forest and grassland areas. Wildlife species that may utilize these areas include Northern Flicker (*Colaptes auratus*), Western Scrub-Jay (*Aphelocoma californica*), fox squirrel (*Sciurus niger*), and raccoon (*Procyon lotor*).

4.4.2 Special Status Species

Plants

Based upon a review of the resources and databases given in Section 3.2.1, 44 special status plant species have been documented in the vicinity of the Project Area. Plant species occurrences documented in the CNDDB within five miles of the Project Area are shown in Figure 4.3 The Project Area has the potential to support 21 of these species. Appendix D summarizes the potential for occurrence for each special status plant species occurring in the Hayward USGS 7.5 minute quadrangle and eight surrounding quadrangles. No special status plant species were observed in the Project Area during the assessment site visit, nor are any known to have been observed in previous studies. No special status plant species have a high potential to occur in the Project Area, because the remaining natural areas are disturbed by historic uses, grazing, discing, mowing, homeless encampments, and surrounding urban development. Two special status plant species have a moderate potential to occur in the Project Area, and are discussed below. The remaining species documented to occur in the vicinity of the Project Area are unlikely or have no potential to occur.

The site assessment occurred during the blooming period of four of the 21 special status plant species with potential to occur in the Project Area; none of the potentially blooming species were observed. However, the assessment was not a protocol-level rare plant survey, so presence of any special status species cannot be ruled out. Plants observed during this reconnaissance-level survey were identified to the species level when possible given the two-day time frame and late phenology of many plants, and are listed in Appendix C.

Western leatherwood (*Dirca occidentalis*). CNPS List 1B. Western leatherwood is a deciduous shrub in the Mezereum family (Thymelaeaceae) that typically occurs in riparian areas in broadleafed upland forest, closed-cone coniferous forest, chaparral, cismontane woodland, and North Coast coniferous forest, from 160 to 1,300 feet in elevation. The species is known from the San Francisco Bay Area and blooms from January to March. Populations in the vicinity of the Project Area are located primarily in the Oakland Hills. This species has a moderate potential to occur in most riparian forest corridors in the Project Area.

Diablo helianthella (*Helianthella castanea*). CNPS List 1B. Diablo helianthella is a perennial herb in the sunflower family (Asteraceae) that occurs over a very limited geographic area, primarily in Contra Costa and Alameda counties. It occurs in a variety of habitats including broadleafed upland forest, chaparral, cismontane woodland, coastal scrub, riparian woodland, and valley and foothill grassland, at elevations from 200 to 4,270 feet. Diablo helianthella blooms from March to June, and has a moderate potential to occur in less disturbed grasslands and openings or edges of oak woodland and riparian forests in the Project Area.

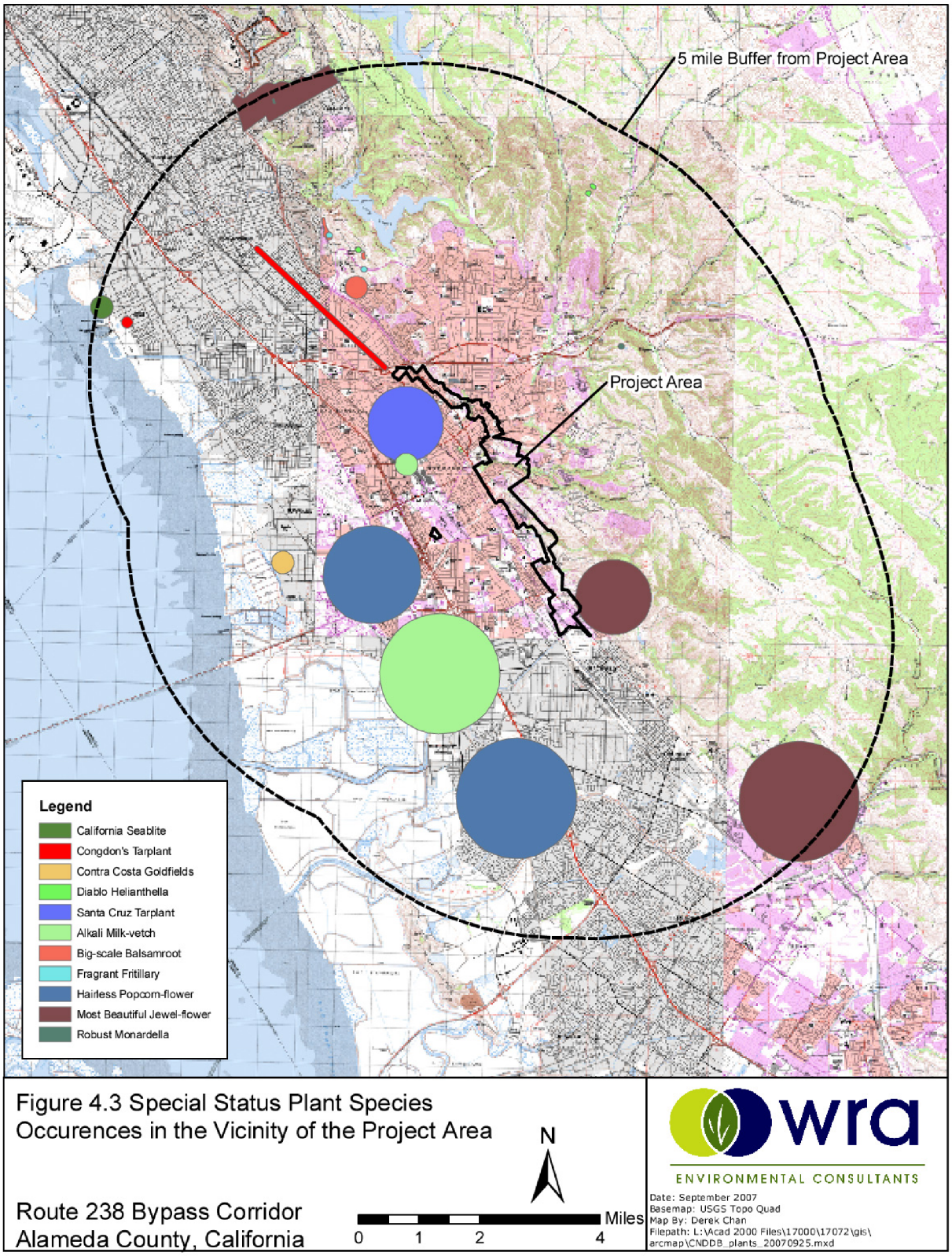

Figure 4.3: Special Status Plant Species Occurrences in the Vicinity of the Project Area

Wildlife

Forty-nine special status species of wildlife have been recorded in the vicinity of the Project Area. Appendix D summarizes the potential for each of these species to occur in the Project Area. Wildlife species occurrences documented in the CNDDB within five miles of the Project Area are shown in Figure 4.4 One special status wildlife species was observed in the Project Area during the site assessment, and two additional species are believed to be present. Five special status wildlife species have a high potential to occur in the Project Area, and twelve special status wildlife species have a moderate potential to occur in the Project Area. Special status wildlife species of particular interest are discussed below.

The following non-listed special status species have a high to moderate potential for occurrence within the Project Area due to the presence of suitable habitat and/or proximity to accepted range and documented occurrences. They are discussed further in Appendix D.

- San Francisco dusky-footed woodrat (*Neotoma fuscipes annectens*)
- Townsend's big-eared bat (*Corynorhinus townsendii*)
- Western mastiff bat *(Eumops perotis californicus*)
- Cooper's Hawk (*Accipiter cooperi*)
- Sharp-shinned Hawk *(Accipiter striatus*)
- Golden Eagle (*Aquila chrysaetos*)
- Ferruginous Hawk (*Buteo regalis*)
- Northern Harrier (*Circus cyaneus)*
- White-tailed Kite (*Elanus leucurus*)
- Long-eared Owl (*Asio otus*)
- California Horned Lark (*Eremophila alpestris actia*)
- Yellow Warbler (*Dendroica petechia brewsteri*)
- Saltmarsh Common Yellowthroat (*Geothlypis trichas sinuosa*)
- Monarch butterfly (*Danaus plexippus*) (roost site)
- Western pond turtle (*Actinemys marmorata*)
- Coast horned lizard (*Phrynosoma coronatum frontale*)

California red-legged frog (*Rana aurora draytonii*). Federal Threatened, CDFG Species of Concern. The California red-legged frog (CRLF) is dependent on suitable aquatic, estivation, and upland habitat. During periods of wet weather, starting with the first rainfall in late fall, red-legged frogs disperse away from their estivation sites to seek suitable breeding habitat. Aquatic and breeding habitat is characterized by dense, shrubby, riparian vegetation

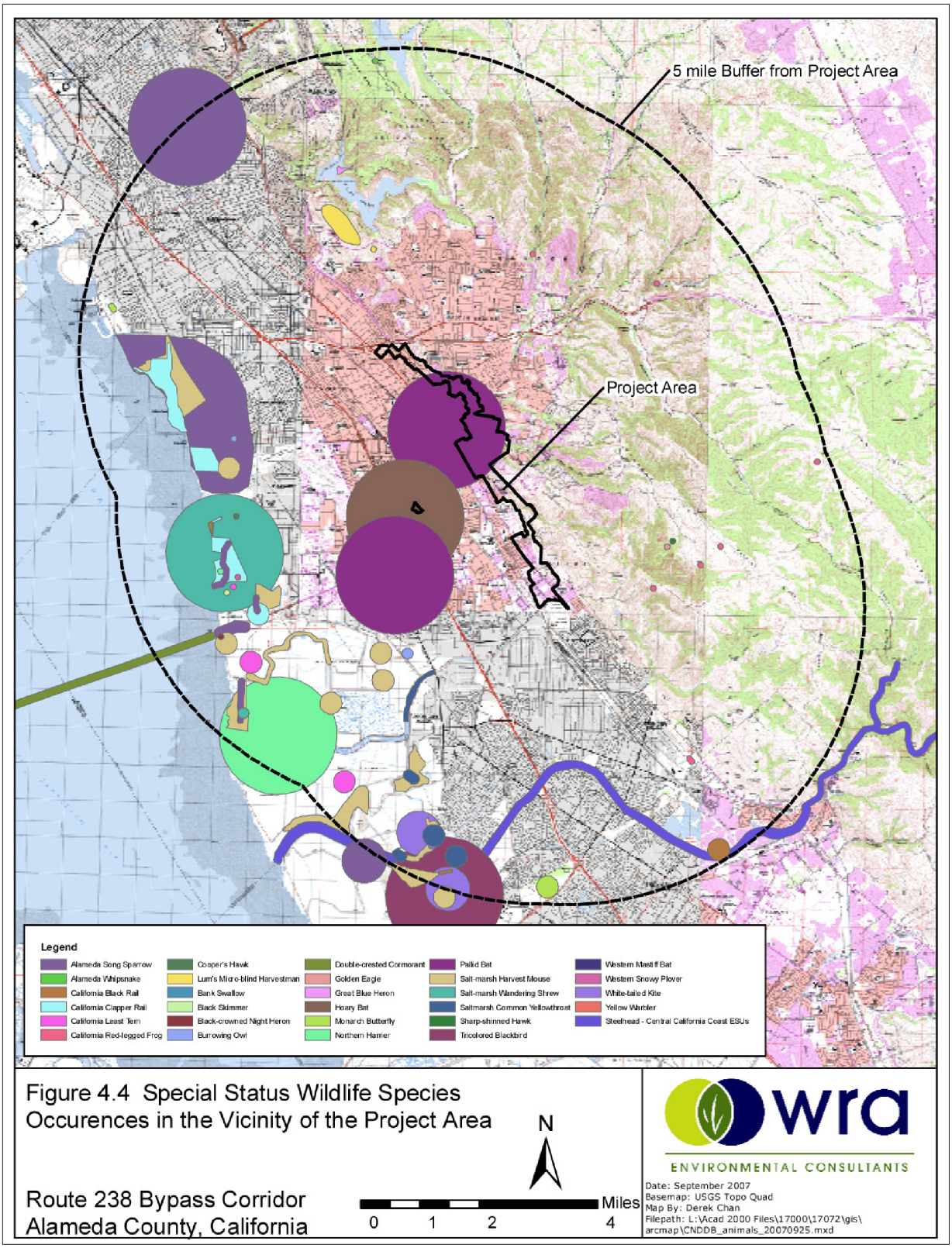

Figure 4.4: Special Status Wildlife Species Occurrences in the Vicinity of the Project Area

and deep, still or slow-moving water. Breeding occurs between late November and late April. CRLF estivate (undergo a period of prolonged inactivity) during the dry months in small mammal burrows, moist leaf litter, incised stream channels, and large cracks in the bottom of dried ponds.

CRLF has a moderate potential for occurrence within the Project Area. Marginal habitat for CRLF is present in a number of creeks that pass through the property moving from east to west. Adjacent riparian areas and upland habitat provide opportunities for dispersal and estivation. Deeper pools within perennial creeks and a small reservoir near Hayward Memorial Park may provide breeding habitat for CRLF. Surveys for this species were performed throughout the Project Area in 1996, but negative findings are only considered valid for 1-2 years, and multiple findings of CRLF have been reported just east of Hayward in subsequent years. Since CRLF is a federally listed species, it is likely to be the species of greatest concern with regard to development within the Project Area. Development in disced or previously-developed land surrounded by urban land uses should not impact this species. However, protocol-level surveys may be necessary in many areas near creeks and undisturbed land to ensure absence of CRLF before construction can take place.

Alameda Whipsnake (*Masticophis lateralis euryxanthus*). Federal Threatened Species, State Threatened Species. Alameda whipsnake (AWS) is associated with scrub communities, including mixed chaparral, chamise-redshank chaparral, coastal scrub, and annual grassland and oak woodlands that lie adjacent to scrub habitats that contain areas of rock outcrops. Rock outcrops are important as they are a favored location for lizard prey. Whipsnakes frequently venture into adjacent habitats, including grassland, oak savanna, and occasionally oak-bay woodland.

The Alameda whipsnake is unlikely to occur within the Project Area. While small areas of marginal habitat for this species may exist within the site, whipsnakes are likely to stay mostly within higher-quality habitat areas to the east. Extensive trapping done within the Project Area in 1996 and 1997 resulted in no findings of AWS. The USFWS agreed during a 2006 technical assistance meeting that no impacts to AWS or CRLF would result from development of the La Vista Quarry, a heavily disturbed land parcel abutting the Project Area to the southeast (J. Dreier, pers. communication). The City of Hayward also agreed that no impacts to CRLF or AWS would result from development of La Vista Quarry or development near Garin Regional Park to the north (Patenaude 2006). These areas had previously been identified as the only areas with potential to support AWS during habitat assessments in 1991 and 1993. These locations also have similar habitat values to many parts of the Project Area, as they are disturbed, invaded by non-native plants, and adjacent to or nearly surrounded by urban development. In the time since the 1991-93 assessments, the area has likely decreased in habitat value due to further development, fragmentation, and land management practices such as discing. AWS is therefore unlikely to occur in the project area, although some potential still exists, especially in the mixed grassland and woodland slopes between Calhoun Street and Harder Road. However, previous assessments and surveys for this species appear sufficient to conclude that no significant impacts to AWS should occur from development within the Project Area.

Steelhead-Central California Coast (*Oncorhynchus mykiss irideus*). Federal Threatened. The Central California Coast ESU includes all naturally spawned populations of steelhead (and their progeny) in California streams from the Russian River to Aptos Creek, and the drainages of San Francisco and San Pablo Bays eastward to the Napa River (inclusive), excluding the Sacramento-San Joaquin River Basin. Steelhead typically migrate to marine waters after spending two years in freshwater, though they may stay up to seven. They then reside in marine waters for 2 or 3 years prior to returning to their natal stream to spawn as 4-or 5-year-olds. Steelhead adults typically spawn between December and June. In California, females typically spawn two times before they die. Preferred spawning habitat for steelhead is in perennial streams with cool to cold water temperatures, high dissolved oxygen levels and fast flowing water. Abundant riffle areas (shallow areas with gravel or cobble substrate) for spawning and deeper pools with sufficient riparian cover for rearing are necessary for successful breeding.

The fish species *O. mykiss* is present within the Project Area, having been recently documented in San Lorenzo Creek (Leidy *et al.* 2003). The USFWS would likely consider these fish to be the protected oceangoing subspecies. However, barriers to movement and spawning as well as minimal and degraded habitat make San Lorenzo Creek and adjoining tributaries only marginal habitat. While *O. mykiss* may technically be present within a small portion of the Project Area, it is unlikely that this species will be impacted by development. In general, human activities that would impact this species include removal of shade trees in the riparian corridor, installation of barriers in the creek channel, and creation of sediment runoff that would accumulate in the creek. Sedimentation from modern construction projects is avoided through the use of Best Management Practices (BMPs) and Storm Water Pollution Prevention Plans (SWPPPs), so sedimentation in San Lorenzo Creek as a result of development is unlikely. Construction activities in the riparian corridor and creek channel would require consultation with the CDFG, at which time impacts to *O. mykiss* could be addressed. Therefore, with regard to the remaining Project Area and development plans, this species should not be impacted.

Loggerhead Shrike (*Lanius ludovicianus*). CDFG Species of Special Concern, USFWS Bird of Conservation Concern. The loggerhead shrike is a common resident and winter visitor in lowlands and foothills throughout California. It prefers open habitats with scattered trees, shrubs, posts, fences, utility lines or other perches. Nests are usually built on a stable branch in a densely-foliaged shrub or small tree and are usually well-concealed. The highest densities occur in open-canopied valley foothill hardwood, valley foothill hardwood-conifer, valley foothill riparian pinyon-juniper, juniper, and desert riparian habitats. While this species eats mostly Arthropods, they also take amphibians, small to medium-sized reptiles, small mammals and birds. They are also known to scavenge on carrion.

Loggerhead Shrike is present within the Project Area. WRA biologists observed a single shrike in agricultural grassland north of East 16th Street. Mixed grassland and open areas provide foraging habitat for this species, and nesting habitat is present in trees and shrubs throughout the region. Impacts to this species and most other birds can be avoided by following the precautionary measures outlined in Section 4.3.

Pallid bat (*Antrozous pallidus*). CDFG Species of Special Concern, WBWG High Priority. The pallid bat is found in a variety of low elevation habitats throughout California. It selects a variety of day roosts including rock outcrops, mines, caves, hollow trees, buildings, and bridges. Night roosts are usually found under bridges, but also in caves, mines, and buildings. Pallid bats are sensitive to roost disturbance. Unlike most bats, pallid bats primarily feed on large ground-dwelling arthropods, and many prey are taken on the ground (Zeiner, et al. 1990).

Pallid bat is believed to be present within the Project Area. CNDDB records show an occurrence of this species that covers the central Hayward area. Suitable roost habitat is present throughout the site in tree cavities and structures such as bridges and vacant buildings. Foraging habitat is available in open areas over fields and near creeks or other water sources. Presence of this species may also indicate suitable habitat for other sensitive bats including such species as Townsend's big-eared bat (*Corynorhinus townsendii*), western mastiff bat (*Eumops perotis californicus*), and others. Impacts to pallid bat and most other bats can be avoided by following the precautionary measures outlined in Section 4.3.

4.5 Summary and Recommendations

Four sensitive biological community types were identified within the Project Area. Two special status plant species and 20 special status wildlife species have a moderate or high potential to occur, or are present within the Project Area. The following sections present recommendations for future studies and/or measures to avoid or reduce impacts to these species and sensitive habitats.

4.5.1 Biological Communities

Most of the Project Area is comprised of urban development, disturbed/ruderal vegetation, and non-native annual grassland, which are not sensitive biological communities. However, the Project Area does contain approximately 6 acres of wetland areas and approximately 3.6 miles of perennial to seasonal creeks potentially within the jurisdiction of the Corps under Section 404 of the Clean Water Act and RWQCB under the Porter Cologne Act and Section 401 of the Clean Water Act. The Project Area also contains 74 acres of riparian oak/bay forest, some or all of which is potentially within the jurisdiction of CDFG under Section 1602 of the State Fish and Game Code. Jurisdictional wetland delineations and mapping of riparian vegetation under jurisdiction of CDFG will be necessary to establish more precise locations and acreage of these sensitive communities.

Tree surveys should be conducted by a certified arborist in all areas proposed to be impacted and covered by local tree ordinances, due to the presence of protected and native trees throughout the developed and undeveloped portions of the Project Area. Impacts to trees will require removal permits pursuant to the Hayward Tree Preservation Ordinance or the Alameda County Tree Ordinance in County right-of-ways. Although several areas are mapped as oak woodland and have relatively large populations of coast live oak, including seedlings and saplings, isolated areas of oak woodland that are not adjacent to riparian corridors are a somewhat lower priority for protection, due to disturbed understory vegetation and fragmentation from other natural areas.

Depending on the proposed impacts, permits may be required from the Corps and RWQCB for impacts to wetlands and waters. A 1602 Streambed Alteration Agreement (SAA) is required from CDFG for impacts to creeks, creek banks, and riparian areas. Mitigation plans including success criteria and long-term monitoring requirements will also likely be required.

Due to the extensive impacts that have already occurred to all streams and wetland seeps downstream in more urban areas, it is recommended that the riparian and wetland corridors be the highest priority for protection in future land use plans for the Project Area. Although non-native annual grasslands are not considered a sensitive community, several grassland areas in the Project Area provide valuable transitional habitat and buffers around riparian corridors. The areas listed below are also less disturbed by fuel reduction and grazing management and have a higher potential to support native and special status plants and wildlife. These grasslands include the area from Harder Road to Calhoun Street, which surround the Ziele Creek riparian corridor as well as a smaller unnamed creek directly south of Harder Road.

In addition, the few remaining open spaces between Ward Creek and 2nd Street provide opportunities to enhance this riparian corridor. Several transitional habitat areas of woodland, coastal scrub, and grassland species remain in this zone, although several areas have been disced or invaded by blue gum eucalyptus. The Ward Creek corridor therefore offers opportunities for mitigation and restoration projects, in particular the removal of invasive species that currently threaten the creek and adjoining habitats, including eucalyptus groves and extensive infestations of English ivy, Himalayan blackberry, and cape ivy. The eroding trail along Ward Creek in Hayward Memorial Park also offers an opportunity for mitigation for any proposed impacts to streams in the Project Area, as trail improvements and exotic species removal could reduce current impacts to water quality and the native riparian forest species.

4.5.2 Special Status Plant Species

Of the 44 special status plant species known to occur in the vicinity of the Project Area, only two species, western leatherwood and Diablo helianthella, were determined to have a moderate potential to occur in the Project Area. Twenty-one species were determined to have a low potential to occur, and the other 21 were determined to have no potential. Riparian forest corridors provide the most intact native habitat remaining in the Project Area that could support special status plants. Oak woodlands and non-native grasslands have heavily disturbed understory vegetation and soils due to grazing, mowing, discing, and surrounding urban development, and are less likely to support special status plants.

Due to the large size and variety of habitats and historic land uses in the Project Area, rare plant surveys are recommended for all areas that are not mapped as developed or disturbed/ruderal, including riparian forest, oak woodland, non-native annual grassland, coastal scrub, and wetland areas. Surveys should focus on those species with a moderate potential to occur in the Project Area, and should include protocol-level surveys in February and May of riparian areas and other suitable habitats for western leatherwood and Diablo helianthella. General protocol-level rare plant surveys are necessary in early spring (February-April), late spring (May-June), and late summer (July-September) to determine the presence or absence of any other plant species with potential to occur in undeveloped habitats of the Project Area.

4.5.3 Special Status Wildlife Species

While a number of special status wildlife species have potential to occur within portions of the Project Area, the vast majority of the area surveyed is unsuitable as habitat for these species. The majority of the Project Area is urban, having been disturbed, graded, developed, landscaped, paved, and otherwise modified and occupied by humans. However, due to the large size of the Project Area covered and the extreme variation in land use and vegetative communities, some areas of suitable habitat are present. In general, wooded ravines along creeks and minimally-disced grasslands contiguous with large areas of open space to the east cannot be ruled out as habitat for a number of species. However, most open fields and vacant lots have been disced, apparently regularly, and this management greatly reduces the possibility for most species to utilize these areas for foraging, nesting, or other activities. Most woodlands are disturbed and in close proximity to areas of development or human activity. Therefore, habitats for special-status species within the Project Area are sub-optimal, but hold potential for the occurrence of some species nonetheless.

Potential impacts to special status wildlife species that could occur as a result of development within the Project Area can be summarized as follows:

- CRLF may be impacted by construction activity in relatively undisturbed riparian and upland areas adjacent to creeks.
- Nesting birds, including a number of special status birds, may be impacted by construction during the breeding season from February to August.
- Bats, including some special status bats, may be impacted by construction activity during critical life stages from November through August.
- The federally listed fish *O. mykiss* may be impacted by development in or near San Lorenzo Creek, near A Street in Hayward

California red-legged frog has a moderate potential for occurrence within the Project Area, Protocol-level surveys are recommended in areas that may be developed and are close to aquatic features or are relatively undisturbed. Surveys for CRLF were conducted in 1996, resulting in no observation of this species. However, CRLF survey conclusions generally expire after two years. Aquatic habitat with the potential to support CRLF is present within the Project Area, and upland areas between creek corridors could be used as dispersal habitat. The CNDDB lists recent occurrences of CRLF within two to three miles from the Project Area. It is recommended that protocol-level surveys be performed in all perennial creeks, reservoirs, and deep pools of water before development occurs in or near these areas.

Nesting birds protected by the Migratory Bird Treaty Act and other regulations may be impacted by construction during the bird breeding season from February to August. Ideally, the clearing of vegetation and the initiation of construction can be done in the non-breeding season between September and January. If these activities cannot be done in the non-breeding season, a qualified biologist should perform pre-construction bird surveys within 30 days of the onset of construction or clearing of vegetation. If nesting birds are discovered in the vicinity of planned development, it will likely be necessary to establish buffer areas around the nest until the nest is vacated. The size of the buffer would be dependent on the particular species of nesting bird.

Disturbance of trees, rock outcrops, bridges, and buildings in the Project Area may impact bat roosts. As with birds, bat roost sites can change from year to year, so pre-construction surveys are usually necessary to determine the presence or absence of bat roost sites in a given area. Pre-construction bat surveys do not need to be performed if work is conducted between September 1 and October 31, after young have matured and prior to the bat hibernation period. However, if it is necessary to disturb potential bat roost sites between November 1 and August 31, pre-construction surveys will be necessary. Pre-construction bat surveys involve surveying trees, rock outcrops, bridges, and buildings subject to removal or demolition for evidence of bat use (guano accumulation, or acoustic or visual detections). If evidence of bat use is found, then biologists will conduct a minimum of three acoustic surveys between April and September under appropriate conditions using an acoustic detector, to determine whether a site is occupied. If bats are found, they should be excluded from occupied roosts in the presence of a qualified biologist during the fall prior to construction.

The federally listed fish *O. mykiss* may be impacted by development in or near San Lorenzo Creek, near A Street in Hayward. However, this species is unlikely to be impacted by development within most of the Project Area. In order to avoid sedimentation in San Lorenzo Creek and its tributaries, thorough erosion control measures should be designed and implemented during construction activities in the vicinity. Such measures are typically required as part of a SWPPP that is developed while obtaining a grading permit. Additional impacts to *O. mykiss* can be avoided by planning to leave the riparian corridor around San Lorenzo Creek as undisturbed as possible. Any disturbance to the creek channel or riparian habitat would require CDFG approval, at which time further mitigation for impacts to *O. mykiss* would be addressed.

Recommendations to avoid impacting special-status wildlife can be summarized as follows:

- To avoid impacting California red-legged frog, perform habitat assessments and protocol-level surveys in any relatively undisturbed riparian and upland areas adjacent to creeks within 1-2 years of the onset of construction.
- To avoid disturbance to breeding birds, perform tree and brush clearing outside of the breeding bird season, or have a qualified biologist perform surveys within 30 days of work.
- To avoid disturbance of bats, perform work that disturbs trees, rock outcrops, bridges, buildings, and other structures outside of September and October–otherwise perform preconstruction surveys.
- To avoid harming salmonid fishes and their habitat, develop and implement erosion control plans and barriers to prevent silt and other debris from entering creeks. Plan to minimize development in the San Lorenzo Creek riparian corridor.

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