

CREEK ROAD REPAIRS



NATURAL ENVIRONMENT STUDY

Prepared for:

CITY OF OJAI



**ROAD: CREEK ROAD
VENTURA COUNTY**

Mission Statement

*To provide quality environmental consulting services with integrity that protect
and enhance the human and natural environment*

December 2007



**Natural Environment Study
for Creek Road Repair Project,
Ojai, Ventura County
(Caltrans Project No. ER-4205[003])**

Prepared for:

City of Ojai

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NATURAL ENVIRONMENT STUDY

The Creek Road repair project would require work within and on the left bank of Stewart Canyon Creek at several sites near the southern limits of the City of Ojai. Stewart Canyon Creek possesses perennial flows and supports sensitive biological resources, including two federally listed species: Southern Steelhead Trout and California Red-legged Frog. The creek also is habitat for two other special-status wildlife species and several vascular plant species and sensitive riparian plant communities. Details of the occurrences and expected direct and indirect impacts to these sensitive resources are discussed in this report.

Surface water will need to be diverted around at least two work sites to place rock riprap at selected sites. No vehicles will be allowed to work in the creek bed, with all such equipment accessing the worksite from Creek Road. A qualified biologist shall monitor all work conducted within the creek or on the creek bank. Preconstruction surveys will be conducted to detect and relocate, if necessary, any sensitive wildlife species within the worksites. To mitigate direct and indirect impacts to sensitive habitats, invasive exotic plant species shall be eradicated from Stewart Canyon Creek between the Creek Road bridge at the lower end of the repair site and 100 linear feet upstream of the northernmost worksite.

The project site is located in the City of Ojai, along Creek Road at Saddle Lane, on south side of incorporated area of city. Creek Road repair site located generally at 34.43535° north latitude by 119.24806° west longitude.

7-VEN-0-OJI-0.8 km (0.5 mi) S of SR150 MP 28.3

EA #07-932705

December 2007

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SUMMARY

The City of Ojai needs to repair existing erosion control features along Creek Road within the city. Six specific repair treatments have been identified, consisting primarily of installing rock riprap at the toe of the slope within Stewart Canyon Creek, a tributary to San Antonio Creek.

The west bank of Creek Road has eroded in the past, and rock riprap and pipe and wire revetments were installed in selected locations on the road/stream bank. The flood event of January 2005 caused some of the existing erosion control features to fail, or were damaged, and are in need of repair.

Stewart Canyon Creek, immediately west of Creek Road at the repair sites, is a perennial stream with natural bed and banks, except where improvements were made in the past. The creek is dominated by natural riparian vegetation, with *Platanus racemosa* (California Sycamore) and *Quercus agrifolia* (Coast Live Oak) representing the dominant trees onsite, and is considered a sensitive plant community. The creek contains pools and riffles dominated by cobbles and small boulders.

The lower portion of Stewart Canyon Creek is habitat for two federally listed species, California Red-legged Frog and Southern Steelhead Trout, and two other special-status wildlife species, Arroyo Chub and Southwestern Pond Turtle. It is also habitat for four special-status plant species, Southern California Black Walnut (*Juglans californica* var. *californica*), Arizona Ash (*Fraxinus velutina*), Dunn's Lobelia (*Lobelia dunnii* var. *serrata*), and Willow Weed (*Polygonum lapathifolium*), none of which are federally or state-listed.

Numerous invasive exotic plant species occur onsite, which has reduced habitat quality from pristine conditions.

The proposed project has potential to adversely impact sensitive plant community, and one or more special-status species, including listed species. Mitigation measures are available to avoid or minimize adverse impacts to all special-status species, through timing of construction, water diversion around worksites, avoiding rare plant populations/individuals, and eradicating invasive exotic plant species from the project site, between the Creek Road bridge over Stewart Canyon Creek at the south end to 100 linear feet upstream of the northernmost repair site.

Permits are required from the U.S. Army Corps of Engineers under Section 404 of the Clean Water Act and water quality certification is required from the Los Angeles Regional Water Quality Control Board under Section 401 of the Clean Water Act. A Streambed Alteration Agreement is required from the California Department of Fish and Game.

Monitoring by a biologist during construction will be required, to minimize potential for accidental impacts to sensitive biological resources.



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LIST OF ABBREVIATED TERMS

ac = acres	ft = feet
AG = annual grass or graminoid	Fu = fungus/mushroom
AH = annual herb	G-rank = Global-rank
BLM = Bureau of Land Management	HA = habitat absent
CA = California	ha = hectares
CCH = Consortium of California Herbaria	HP = habitat present
CDFG = California Department of Fish and Game	km = kilometers
CEQA = California Environmental Quality Act	ls = liters per second
CESA = California Endangered Species Act	m = meter(s)
CFR = Code of Federal Regulations	M = moss (bryophyte)
cfs = cubic feet per second	mi = miles
CH = critical habitat	mm = millimeters
cm = centimeters	NI = no indicator
cms = centimeters per second	NW = northwest
CNDDDB = California Natural Diversity Database	OBL = obligate
CNPS = California Native Plant Society	P = present
Corps = U.S. Army Corps of Engineers	PF = perennial fern or fern ally
CrL = crustose lichen	PG = perennial grass or graminoid
DMEC = David Magney Environmental Consulting	PH = perennial herb
E = endangered	PV = perennial vine
ESA = Federal Endangered Species Act	RWQCB = Los Angeles Regional Water Quality Control Board
ESU = Ecologically Sensitive Unit	S = shrub (used in table only)
F = Federal	S = State
FAC = facultative (referring to probability of plants occurring in wetlands)	SE = State Endangered
FACU = facultative upland	S-rank = State-rank
FACW = facultative wetland	So. = South
FC = Federal Candidate	SSC = Species of Special Concern
FE = Federally Endangered	ssp. = subspecies
Fed = Federal	T = tree
FolL = foliose lichen	USFS = U.S. Forest Service
FrL = fruticose lichen	USFWS = U.S. Fish and Wildlife Service
fs = feet per second	USGS = U.S. Geological Survey
FT = Federally threatened	var. = variety
	VCPD = Ventura County Planning Division
	W = west
	x = name placeholder

CHAPTER 1 – INTRODUCTION

This project involves the repair and restoration of portions of the shoulder of Creek Road along the bank of Stewart Canyon Creek in the City of Ojai, Ventura County, California.

1.1 PROJECT HISTORY

Portions of the shoulder of Creek Road adjacent to Stewart Canyon Creek near the City’s southern boundary are subject to erosion during high storm flows in the creek, which occurred most recently in 2005. Rock riprap and pipe and wire protection have been placed along the stream bank adjacent to the road’s western shoulder in the sections most affected by erosion to prevent damage to the road. These sections have continued to erode and the protective elements are currently in need of repair in order to restore them to a condition adequate to protect Creek Road.



*Photo 1 (left) - Stewart Canyon Creek at Creek Road bridge on 9 January 2005.
Photo 2 (right) - Stewart Canyon Creek at same location on 17 October 2007.*

1.2 PROJECT DESCRIPTION

The project site is along the western shoulder of Creek Road from just north of its intersection with Saddle Lane southward to just upstream of the bridge on Creek Road that crosses Stewart Canyon Creek. The confluence of Stewart Canyon Creek with San Antonio Creek is just south of the aforementioned bridge. The Creek Road repair site is located in the Ojai, California, Quadrangle (USGS 7.5-minute Series Topographic Map), at the approximate geographic coordinates of 34.43535° north latitude and 119.24806° west longitude, at approximately 198 meters [m] (650 feet [ft]) above mean sea level. Figure 1, Creek Road Repair Project Vicinity Map, shows the project’s location at the



City of Ojai’s southern boundary. Figure 2, Aerial Photograph with Creek Road Repair Sites, shows the particular locations at which repairs are proposed. Figure 3, Locations and Descriptions of Creek Road Repairs, provides more detail on the repairs.

The proposed repairs involve the placement of additional rock in five (5) locations and the regrouting of one (1) drain outlet. These six (6) repair sites are directly adjacent to three (3) reaches of Stewart Canyon Creek (see Figures 2 and 3). This is summarized in Table 1, Proposed Creek Road Repairs. It will be necessary to dewater the three stream reaches at the repair sites during construction (see below). Erosion and siltation controls, consisting of silt fencing, desilting basins, coir rolls and blankets, and other measures as needed, shall be installed to protect the stream bank, riparian vegetation, and the aquatic resources in the creek. Turbidity in the water shall be monitored to determine the effectiveness of the erosion and siltation controls. Invasive non-native *Washingtonia robusta* (Mexican Fan Palm) trees and saplings and other non-native exotic plant species are proposed to be removed along the entire reach of Stewart Canyon Creek from Repair Sites #1 to #5 to enhance native plant communities and wildlife habitats.

Placement of the imported rock, compaction, and grading of the shoulder can be expected to disrupt vehicular traffic on Creek Road, particularly in the southbound direction. It is not expected that the road will need to be closed to traffic for any extended periods or that a detour will need to be provided. Work on the project is planned to begin on 1 July 2008 and end by 30 October 2008, a total of approximately 120 days.

Table 1. Proposed Creek Road Repairs

Construction Prescription ¹	Approximate Linear Extent of Repair	Stream Reach	Approximate Linear Extent of Diversion
1. Place ¼-ton rocks at toe of existing pipe and wire and backfill wire with facing rock	33.5 m (110 ft)	Lower	67 m (220 ft)
2. Repair existing rock riprap as needed	18.3 m (60 ft)		
3. Extend riprap to join exposed bedrock	4.6 m (15 ft)		
4. Place ¼-ton rocks at toe of existing pipe and wire as needed	53.3 m (175 ft)	Middle	61 m (200 ft)
5. Restore bank rock facing with ¼-ton rocks	13.7 m (45 ft)	Upper	18 m (60 ft)
6. RegROUT existing 12” PVC drain outlet	N/A	Lower	N/A

¹ Construction information provided by project engineers, Hawks & Associates, Ventura, CA.



Photo 3 - Worksite 1, view upstream from creek bed. Photo 4 - Worksite 2, view upstream from top of bank.



Photo 5 - Worksite 3, view upstream of bedrock. Photo 6 - Worksite 4, pipe and wire revetment.



Photo 7 - Worksite 5, view upstream of eroded riprap. Photo 8 - Worksite 6, 12" drainpipe and eroded grout.

1.2.1 Temporary Stream Diversion

In order to minimize impacts to the aquatic resources of Stewart Canyon Creek it will be necessary to temporarily divert the stream flow to the west side of the channel when repair work is underway at specific worksites. As described above three stream reaches are expected to be affected by repair activities. With flows expected to be on the order of 28 to 85 liters per second [ls] (1 to 3 cubic feet per second [cfs]), it is proposed that the diversion channels consist of suitable drainpipe secured in place by straw bales, sand bags, and/or steel stakes as needed. Straw bales used in the channel are preferred to be of rice straw and, regardless of the type of straw used, must be free of weed seeds and other contaminants. Sand bags shall contain material that is free of silt and other fine particles, and that is free of weed seeds and other contaminants.

Diversion dikes will be placed in the stream channel just upstream of the repair sites after the diversion pipe is in place. Diversion dikes are to be constructed of straw bales and/or sand bags as described above, in combination with a suitable impermeable fabric and/or steel stakes as needed. At the points where the diverted flow reenters the stream channel another set of dikes shall be installed for desiltation. The desiltation dikes are to be constructed of straw bales and/or sand bags as described above, in combination with a suitable permeable fabric and/or steel stakes as needed to achieve removal of suspended materials and permit return flow to the stream.

The diversion and desiltation dikes and the diversion pipe shall remain in place and be fully functional for the entire duration of any repair work. In order to minimize overall disruption of Stewart Canyon Creek it is suggested that repair work be undertaken sequentially by stream reach. In this way only one reach will be disturbed at a time, rather than all three at once. Upon completion of the repair work all materials installed for diversion and desiltation shall be removed from Stewart Canyon Creek. Prior to or at the time of removal of diversion and desiltation materials, any sediments that have accumulated as a result of this process shall be removed from the stream channel and properly disposed of offsite to prevent them from fouling the water in the creek.

Figure 1. Creek Road Repair Project Vicinity Map

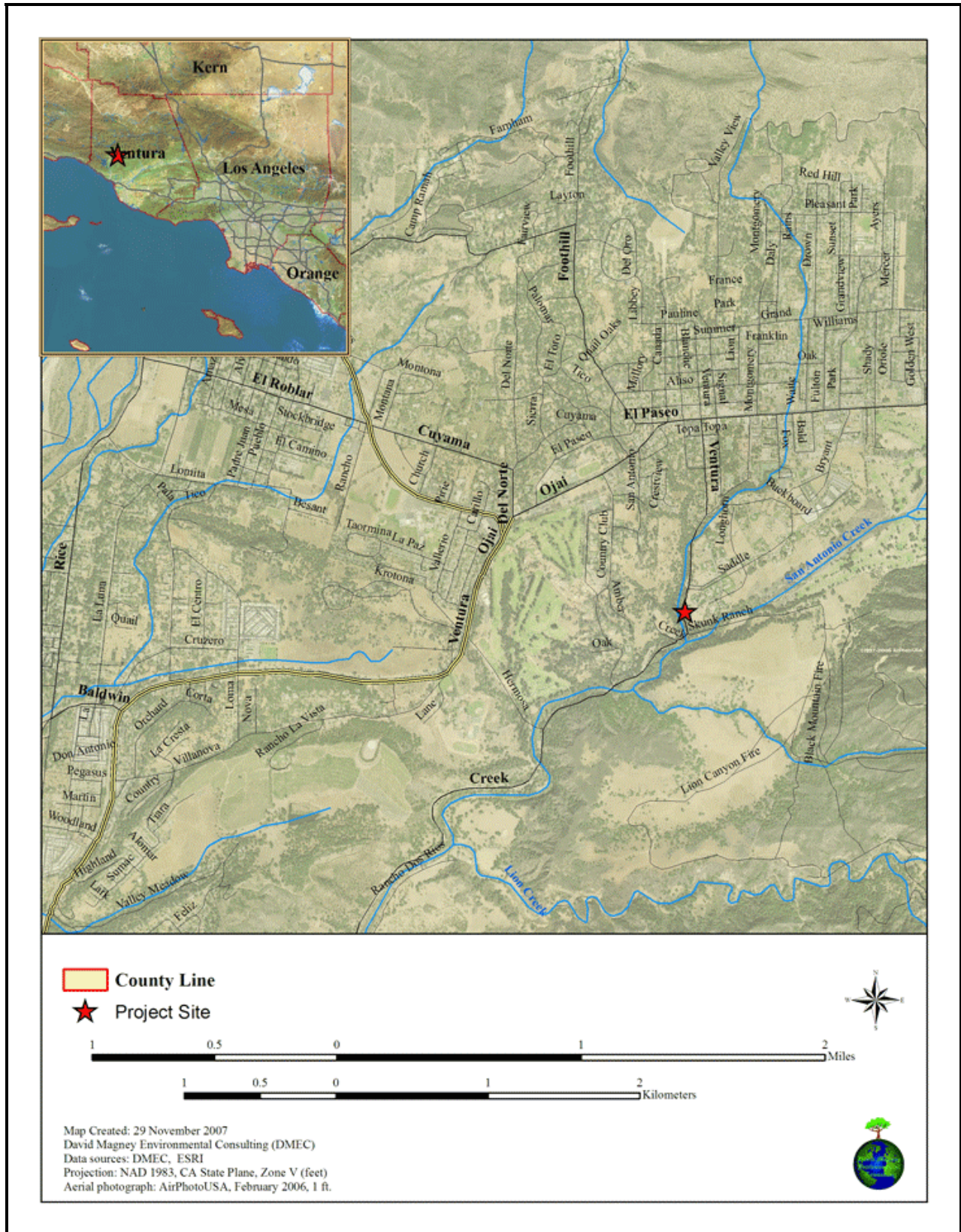


Figure 2. Aerial Photograph with Creek Road Repair Sites

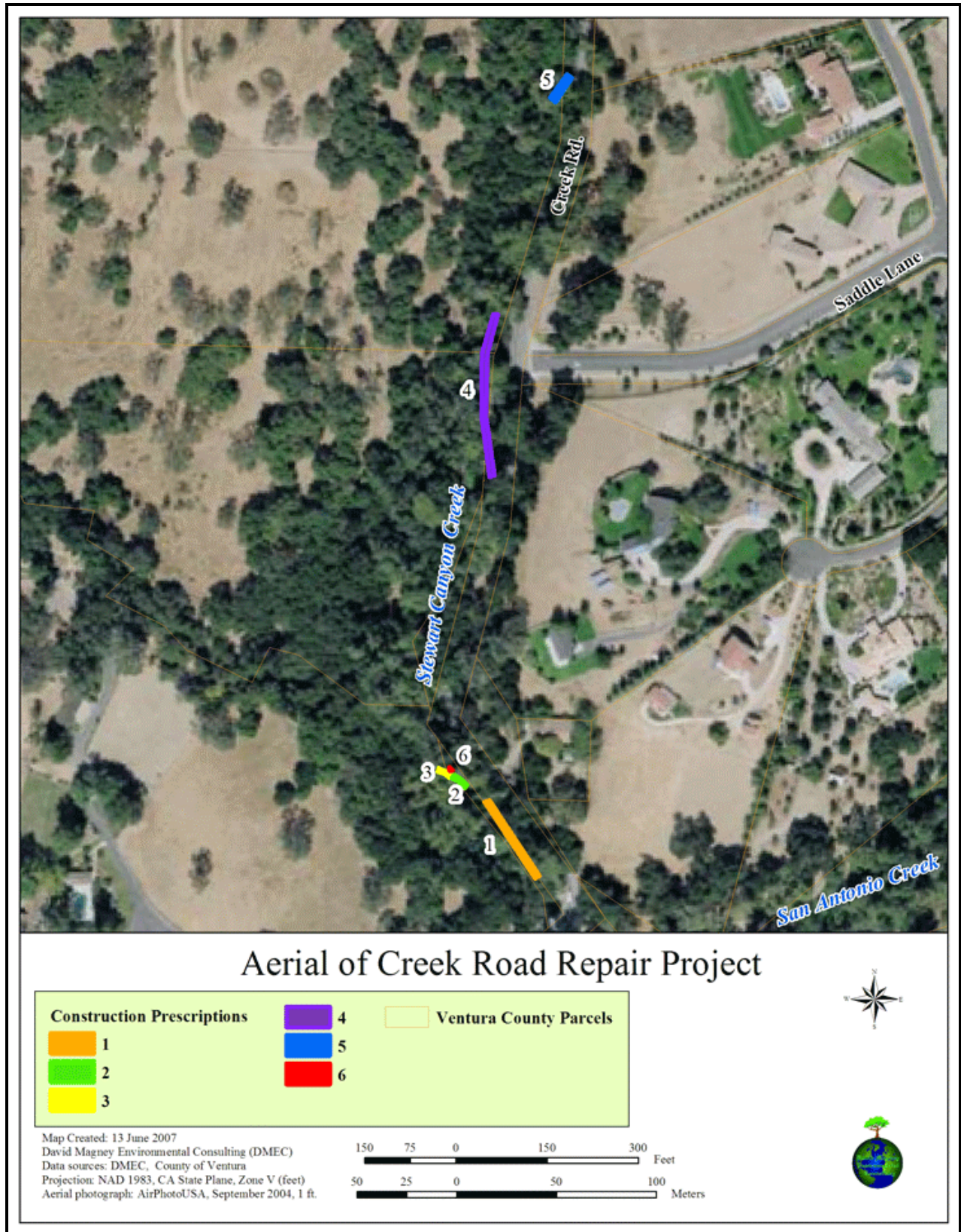


Figure 3. Locations and Descriptions of Creek Road Repairs

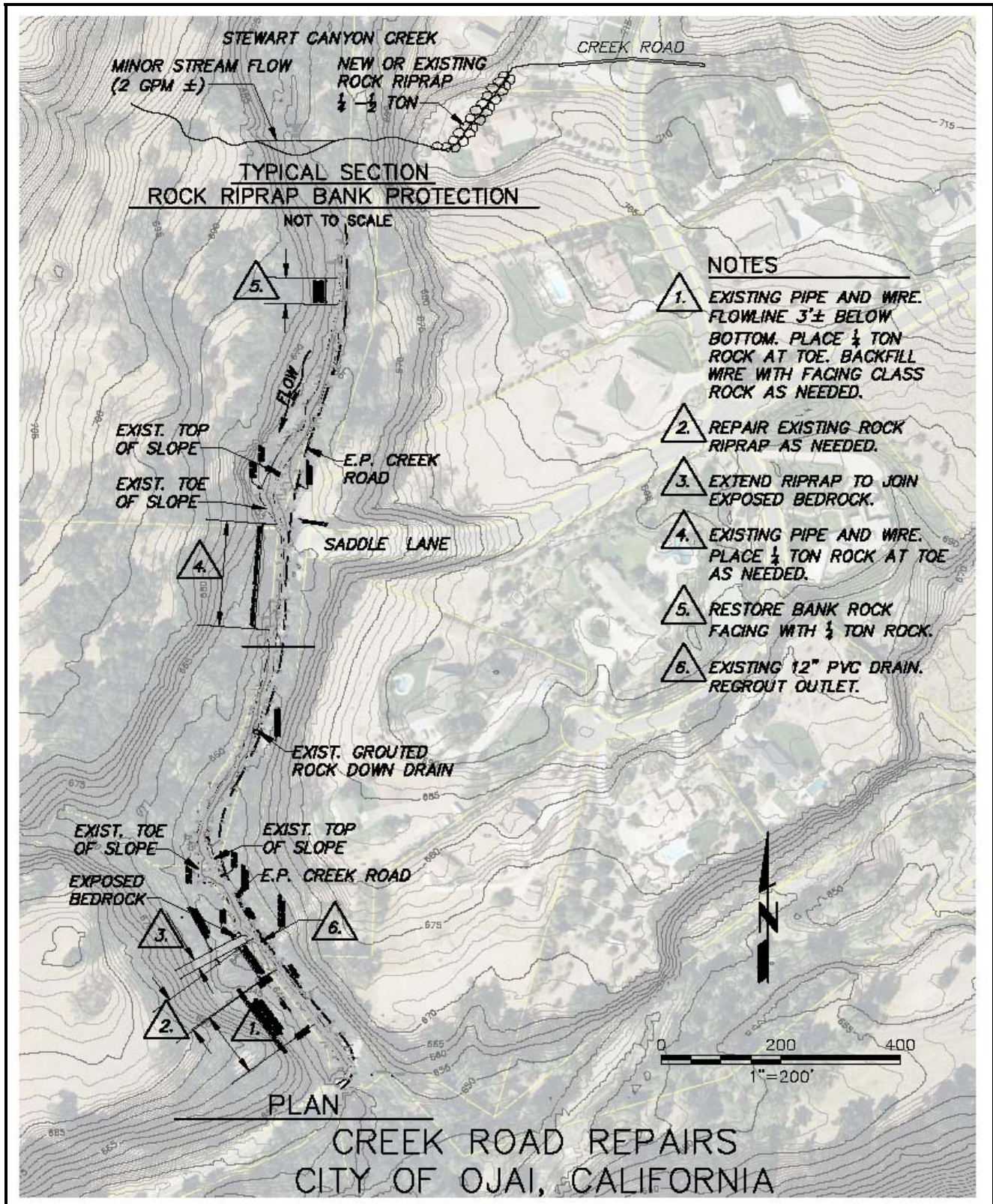


Figure provided by Hawks & Associates, Ventura, CA.

CHAPTER 2 - STUDY METHODS

This section presents information on the regulatory matters, studies, and definitions of special-status resources associated with the Creek Road repair project.

2.1 REGULATORY REQUIREMENTS

The Creek Road repair project requires permits from the U.S. Army Corps of Engineers (Corps) under Section 404 of the Clean Water Act and from the California Department of Fish and Game (CDFG) for a Streambed Alteration Agreement under Section 1600 et seq. of the California Fish and Game Code. Water quality certification from the Los Angeles Regional Water Quality Control Board (RWQCB) is also required pursuant to Section 401 of the Clean Water Act.

2.2 STUDIES REQUIRED

The Creek Road repair project requires studies to inventory the known biological resources on the project site, identify sensitive and special-status resources, and determine the potential impacts of the project on these resources. David Magney Environmental Consulting (DMEC) has conducted field surveys on the project site in 2007, has conducted a search of the current California Natural Diversity Database (CNDDDB) for special-status resources potentially occurring onsite, and has conducted field surveys for other projects in this location and in several other nearby locations.

DMEC also conducted searches of DMEC's in-house files on known occurrences of plants and wildlife, supported by online database searches of the Jepson Herbarium online Consortium of California Public Herbaria (CCH²) and CalFlora³.

2.3 PERSONNEL AND SURVEY DATES

DMEC biologists David Magney, Stephen Hoskinson, and William Abbott performed field surveys of the project site. Mr. Abbott conducted a preliminary field survey on 13 June 2007. Mr. Magney conducted field surveys of the site on 17 and 24 October 2007, and 14 November 2007. Mr. Hoskinson conducted field surveys of the site on 24 and 31 October 2007. The results of the field surveys are presented below in Section 3.1.3, Biological Conditions in the Biological Study Area.

² Consortium of California Herbaria (<http://ucjeps.berkeley.edu/consortium/>).

³ CalFlora online floristic database (<http://www.calflora.org/>).



2.4 AGENCY COORDINATION AND PROFESSIONAL CONTACTS

The regulatory agencies and contacts are listed below:

- U.S. Army Corps of Engineers – John Markham. Phone 805/585-2150. Permit Application No. 200700766-JWM. Clean Water Act – Section 404. Coordination with U.S. Fish and Wildlife Service (USFWS) and National Marine Fisheries Service will be handled by the Corps under this permit.
- California Department of Fish and Game – Natasha Lohmus. Phone 805/684-6281. Streambed Alteration Agreement. California Fish and Game Code – Section 1600 et seq.
- Los Angeles Regional Water Quality Control Board - Dana Cole, Engineering Geologist. Phone 213/576-5733. Water quality certification. Section 401 Clean Water Act.

2.5 LIMITATIONS THAT MAY INFLUENCE RESULTS

Field surveys were conducted during the summer and fall seasons, when many ephemeral plant species are not visible or identifiable. This could result in an underreporting of species, particularly plants; however, DMEC has conducted numerous surveys in the Ojai Valley and has an extensive database of plant occurrences to supplement direct observations during the field surveys conducted at the project site in 2007 (Magney 2007b).

The seasonality of the field surveys should not represent significant limitations on the results of this study. Furthermore, since water is not the limiting factor for plants in riparian wetland systems such as Stewart Canyon Creek, wetland plants would not be expected to be limited or absent during at least one of the field visits.

2.6 DEFINITIONS OF SPECIAL-STATUS RESOURCES

Special-status habitats are vegetation types, associations, or sub-associations that support concentrations of special-status plant or wildlife species, are of relatively limited distribution, or are of particular value to wildlife.

Special-status species are plants and animals that are at least one of the following:

Listed as Endangered or Threatened under Federal or California Endangered Species Acts,

Listed as Rare under the California Native Plant Protection Act, or

Considered rare (but not formally listed) by resource agencies, professional organizations (e.g. Audubon Society, California Native Plant Society [CNPS], The Wildlife Society), and the scientific community.

Listed species are those taxa that are formally listed as Endangered or Threatened by the federal government (e.g. USFWS), pursuant to the Federal Endangered Species Act (ESA) or as Endangered, Threatened, or Tare (for plants only) by the State of California (i.e. California Fish and Game Commission), pursuant to the California Endangered Species Act (CESA) or the California Native Plant Protection Act, or those formally adopted by a local (e.g. county or city government) agency as of local



concern or rare, or similar status. Special-status species are defined in Table 2, Definitions of Special-Status Species.

Table 2. Definitions of Special-Status Species

<ul style="list-style-type: none"> ○ Plants and animals legally protected under the California and Federal Endangered Species Acts or under other regulations. ○ Plants and animals considered sufficiently rare by the scientific community to qualify for such listing; or ○ Plants and animals considered to be sensitive because they are unique, declining regionally or locally, or are at the extent of their natural range. 	
Special-Status Plant Species	Special-Status Animal Species
<ul style="list-style-type: none"> ○ Plants listed or proposed for listing as threatened or endangered under the Federal Endangered Species Act (50 CFR 17.12 for listed plants and various notices in <i>Federal Register</i> for proposed species). ○ Plants that are Category 1 or 2 candidates for possible future listing as threatened or endangered under the Federal Endangered Species Act (55 CFR 6184, February 21, 1990). ○ Plants that meet the definitions of rare or endangered species under the CEQA (<i>State CEQA Guidelines</i>, Section 15380). ○ Plants considered by CNPS to be "rare, threatened, or endangered" in California (Lists 1B and 2 in CNPS 2001). ○ Plants listed by CNPS as plants needing more information and plants of limited distribution (Lists 3 & 4 in CNPS 2001). ○ Plants listed by CNPS as locally rare (Lake 2004, Magney 2007a, Wilken 2003). ○ Plants listed or proposed for listing by the State of California as threatened or endangered under the California Endangered Species Act (14 CCR 670.5). ○ Plants listed under the California Native Plant Protection Act (California Fish and Game Code 1900 et seq.). ○ Plants considered sensitive by other federal agencies (i.e. U.S. Forest Service, Bureau of Land Management) or state and local agencies or jurisdictions. ○ Plants considered sensitive or unique by the scientific community; occurs at natural range limits (<i>State CEQA Guidelines</i>, Appendix G). 	<ul style="list-style-type: none"> ○ Animals listed/proposed for listing as threatened/endangered under the Federal Endangered Species Act (50 CFR 17.11 for listed animals and various notices in <i>Federal Register</i> for proposed species). ○ Animals that are Category 1 or 2 candidates for possible future listing as threatened or endangered under Federal Endangered Species Act (54 CFR 554). ○ Animals that meet the definitions of rare or endangered species under the CEQA (<i>State CEQA Guidelines</i>, Section 15380). ○ Animals listed or proposed for listing by the State of California as threatened and endangered under the California Endangered Species Act (14 CCR 670.5). ○ Animal species of special concern (SSC) to the CDFG. ○ Animal species that are fully protected in California (California Fish & Game Code, Sections 3511 [birds], 4700 [mammals], 5050 [reptiles, amphibians]). ○ Animals considered rare or sensitive locally by a local agency or scientific community (<i>State CEQA Guidelines</i>, Appendix G)

The CNPS' *Inventory of Rare and Endangered Plants of California* (CNPS 2001, 2007) categorizes rare California plants into one of five lists (1A, 1B, 2, 3, and 4) representing five levels of species status, one of which is assigned to a sensitive species to indicate its status of rarity or endangerment and distribution. Most taxa also receive a threat code extension following the List (e.g. 1B.1, 2.3), which replaces the R-E-D Code previously used by CNPS. Table 3, California Native Plant Society Rare Plants List, provides a definition for each List code number, and Table 4, California Native Plant Society List Threat Code Extensions, defines the CNPS List Threat Code Extensions that indicates the level of endangerment within California.



Table 3. California Native Plant Society Rare Plants List (CNPS List)

CNPS List	Definition
1A	Presumed Extinct in California
1B	Rare, Threatened, or Endangered in California and elsewhere
2	Rare, Threatened, or Endangered in California, but more common elsewhere
3	Need more information (a Review List)
4	Plants of Limited Distribution (a Watch List)

Table 4. California Native Plant Society List Threat Code Extensions

CNPS Threat Code Extension	Definition
x.1	Seriously endangered in California (over 80% of occurrences threatened / high degree and immediacy of threat)
x.2	Fairly endangered in California (20-80% occurrences threatened)
x.3	Not very endangered in California (<20% of occurrences threatened)

The California Natural Diversity Database (CNDDDB) Element Ranking system provides a numeric global and state-ranking system for all special-status species tracked by the CNDDDB. The global rank (G-rank) is a reflection of the overall condition of an element (species or natural community) throughout its global range. The state rank (S-rank) is assigned much the same way as the global rank, except state ranks in California often also contain a threat designation attached to the S-rank. This Element Ranking system is defined below in Table 5, California Natural Diversity Database Element Ranking System.

As described for the CNDDDB ranking, not all special-status species considered in this report are tracked by CNPS at a statewide level; however, CNPS, primarily through local chapters (guided by the CNPS Local Flora Committee), has developed regional/county lists of **Species of Local Concern**. The Channel Islands Chapter of CNPS has developed a list of locally rare plants of Ventura County (Magney 2007a), which is periodically updated. According to Magney (2007a), Ventura County Locally Rare plant species are defined as plants with only 5 or fewer occurrences in Ventura County, and Ventura County Locally Uncommon species are defined as plants with only 6 to 10 occurrences in the County, basically applying the same rarity rankings used by the CNDDDB (Magney 2004).

The Ventura County Planning Division (VCPD) has also preliminarily adopted a list of locally rare species of plants and wildlife, referred to as **Ventura County Locally Important Species**, which are taxa that are declining throughout the extent of their range and have a maximum of five (5) element occurrences (VCPD 2005).



Table 5. California Natural Diversity Database Element Ranking System

Global Ranking (G)	
G1	Less than 6 viable element occurrences (pops for species), OR less than 1,000 individuals, OR <809.4 hectares (ha) (2,000 acres [ac]).
G2	6 to 20 element occurrences OR 809.4 to 4,047 ha (2,000 to 10,000 ac).
G3	21 to 100 element occurrences OR 3,000 to 10,000 individuals OR 4,047 to 20,235 ha (10,000 to 50,000 ac).
G4	Apparently secure; rank lower than G3, factors exist to cause some concern (i.e. there is some threat, or somewhat narrow habitat).
G5	Population, or stand, demonstrably secure to ineradicable due to being commonly found in the world.
GH	All sites are historic ; the element has not been seen for at least 20 years, but suitable habitat still exists.
GX	All sites are extirpated ; this element is extinct in the wild.
GXC	Extinct in the wild; exists in cultivation.
G1Q	The element is very rare, but there is a taxonomic question associated with it.
<p>Subspecies Level: Subspecies receive a T-rank attached to the G-rank. With the subspecies, the G-rank reflects the condition of the entire <u>species</u>, whereas the T-rank reflects the global situation of just the <u>subspecies</u> or <u>variety</u>. For example: <i>Chorizanthe robusta</i> var. <i>hartwegii</i> is ranked G2T1. The G-rank refers to the whole species range (<i>Chorizanthe robusta</i>), whereas the T-rank refers only to the global condition of the variety (var. <i>hartwegii</i>).</p>	
State Ranking (S)	
S1	Less than 6 element occurrences OR less than 1,000 individuals OR less than 809.4 ha (2,000 ac). S1.1 = very threatened S1.2 = threatened S1.3 = no current threats known
S2	6 to 20 element occurrences OR 3,000 individuals OR 809.4 to 4,047 ha (2,000 to 10,000 ac). S2.1 = very threatened S2.2 = threatened S2.3 = no current threats known..
S3	21 to 100 element occurrences OR 3,000 to 10,000 individuals OR 4,047 to 20,235 ha (10,000 to 50,000 ac). S3.1 = very threatened S3.2 = threatened S3.3 = no current threats known
S4	Apparently secure within California; this rank is clearly lower than S3 but factors exist to cause some concern (i.e. there is some threat, or somewhat narrow habitat). NO THREAT RANK.
S5	Demonstrably secure to ineradicable in California. NO THREAT RANK.
SH	All California sites are historic ; the element has not been seen for at least 20 years, but suitable habitat still exists.
SX	All California sites are extirpated ; this element is extinct in the wild.
Notes	
<p>1. Other considerations used when ranking a species or natural community include the pattern of distribution of the element on the landscape, fragmentation of the population/stands, and historical extent as compared to its modern range. It is important to take an aerial view when ranking sensitive elements rather than simply counting element occurrences.</p> <p>2. Uncertainty about the rank of an element is expressed in two major ways: by expressing the rank as a range of values (e.g. S2S3 means the rank is somewhere between S2 and S3), and by adding a ? to the rank (e.g. S2?). This represents more certainty than S2S3, but less than S2.</p>	

CHAPTER 3 - RESULTS: ENVIRONMENTAL SETTING

The existing biological and physical conditions on the Creek Road project site are described below, including the sensitive and special-status species and habitats known in the region and may occur onsite.

3.1 DESCRIPTION OF EXISTING BIOLOGICAL AND PHYSICAL CONDITIONS

The following sections describe the project site setting, physical conditions, and biological resources of the Creek Road repair project site and adjacent areas.

3.1.1 Study Area

Stewart Canyon Creek is part of the San Antonio Creek Watershed, which is a subwatershed of the Ventura River system. The project site is on the last and lowest reach of Stewart Canyon Creek just north of its confluence with San Antonio Creek. San Antonio Creek is a major tributary of the Ventura River, and joins the Ventura River 13 kilometers [km] (8 miles [mi]) upstream from the river's point of discharge into the Pacific Ocean. The Ventura River flows in a southerly direction, terminating in a small estuary that is subject to tidal influx and outflow when not isolated by a sand bar.

The reach of Stewart Canyon Creek adjacent to the Creek Road repair site is described as a pool and riffle stream with perennial flow in a defined channel. The streambed and banks are generally in a natural state except for the sections with riprap and other materials that fortify portions of the eastern bank along Creek Road (see Figure 3 and Photos 3 through 8 above). Instream cover consists of overhanging vegetation, submerged boulders and bedrock, logs, root wads, and submerged vegetation. The reported average depth in the study area is 0.1 m (0.33 ft), the average width is 1.47 m (4.83 ft), the average flow velocity is 21.6 centimeters [cm] per second [cms] (0.71 ft per second [fs]), and the average discharge is 65.7 ls (2.32 cfs) (DMEC 2005a).

3.1.2 Physical Conditions

The Ventura River basin forms part of the Western Transverse Ranges of southern California (Hickman 1993) and is characterized by steep, coastal, mountainous, and narrow canyons, which converge to form a comparatively broad, gently sloping central valley. The crest of the mountains along the boundary of the watershed commonly rises to over 1,524 m (5,000 ft), and in a few areas, there are elevations of 1,828 m (6,000 ft). Much of the river upper watershed (tributaries) lies within the Los Padres National Forest. Stewart Canyon Creek originates in Stewart Canyon on the southern slopes of Nordhoff Ridge north of the City of Ojai, draining the south side of Nordhoff Peak.

The climate of the Ventura River basin is characterized by two distinct seasons: a cool, wet winter from November through April; and a warm, dry summer from May through October. The majority of the precipitation falls as rain during the months of December through March in most years, with annual



precipitation varying considerably from year to year. The average annual rainfall for the basin also varies, ranging from 400 millimeters [mm] (16 inches) near the river's mouth at the Pacific Ocean, to approximately 1,020 mm (40 inches) in the mountainous areas of the basin. The average annual rainfall for the entire basin is approximately 560 mm (22 inches). Snow is common during the winter months in the higher elevations; however, the snow does not normally contribute significantly to the annual stream run-off and melts relatively quickly (DMEC 2005a).

3.1.3 Biological Conditions in the Biological Study Area

This section presents the results of the field surveys conducted by DMEC on the project site in June, October, and November of 2007. Included are the flora, fauna, and habitats observed along the reach of Stewart Canyon Creek adjacent to the Creek Road repair site. The surveys generally included the stream bank west of the edge of the pavement on Creek Road and the stream channel.

3.1.3.1 Flora

A total of fifty-seven (57) vascular plant species were observed along the reach of Stewart Canyon Creek adjacent to the Creek Road repair site. This includes thirty (30, or 53%) native plant species, and twenty-six (26, or 46%) introduced (non-native) plant species. One (1) grass species (*Hordeum* sp.) was not identifiable to the species level and its nativity is not known; however, it is expected to be a non-native taxon. Four (4) special-status plant species were found onsite, including *Juglans californica* var. *californica*, (Southern California Black Walnut – CNPS List 4.2) and three (3) Ventura County Locally Rare Species: *Fraxinus velutina* (Velvet or Arizona Ash), *Lobelia dunnii* var. *serrata* (Dunn's Lobelia), and *Polygonum lapathifolium* (Willow Weed).

Sixteen (16) nonvascular plants were identified onsite, including four (4) moss, ten (10) lichen, and two (2) fungus species. All plant species identified and recorded during field surveys are listed in Table 6, Plant Species Observed at the Creek Road Repair Site. Table 6, which is alphabetized by scientific (botanical) name, provides a common name, growth habit, wetland indicator status, and family for each plant species, including vascular and nonvascular plants (bryophytes and lichens) and fungi. Thirty-eight (38, or 52%) of the seventy-three (73) total plant species observed onsite are considered hydrophytic (water-loving) species that have a wetland indicator status of FAC, FACW, or OBL (Reed 1988) (see Footnote 6 for Table 6 below for wetland indicator status definitions).



Table 6. Plant Species Observed at the Creek Road Repair Site

Scientific Name ⁴	Common Name	Habit ⁵	WIS ⁶	Family
Vascular Plants				
<i>Artemisia douglasiana</i>	Mugwort	PH	FACW	Asteraceae
<i>Arundo donax</i> *	Giant Reed	PG	FACW	Poaceae
<i>Baccharis salicifolia</i>	Mulefat	S	FACW	Asteraceae
<i>Clematis ligusticifolia</i>	Virgin's Bower	PV	FAC	Ranunculaceae
<i>Conyza canadensis</i>	Horseweed	AH	FAC	Asteraceae
<i>Cyperus eragrostis</i>	Umbrella-Sedge	PH	FACW	Cyperaceae
<i>Daucus pusillus</i>	Southwestern Carrot	AH	-	Apiaceae
<i>Echinochloa crus-galli</i> *	Barnyard Grass	AG	FACW	Poaceae
<i>Epilobium ciliatum</i> ssp. <i>ciliatum</i>	Northern Willow-herb	PH	FACW	Onagraceae
<i>Equisetum laevigatum</i>	Smooth Scouring-rush	PF	FACW	Equisetaceae
<i>Erucastrum [Hirschfeldia] incanum</i> *	Summer Mustard	PH	-	Brassicaceae
<i>Eucalyptus polyanthemos</i> *+	Silver Dollar Gum	T	-	Myrtaceae
<i>Ficus carica</i> *+	Edible Fig	T	-	Moraceae
<i>Fraxinus velutina</i>	Velvet or Arizona Ash	T	FACW	Oleaceae
<i>Geranium molle</i> *	Annual Cranesbill	AH	-	Geraniaceae
<i>Hedera canariensis</i> *+	Canary Ivy	PV	-	Araliaceae
<i>Heteromeles arbutifolia</i>	Toyon	S	-	Rosaceae
<i>Hordeum</i> sp.	Barley	AG	-	Poaceae
<i>Juglans californica</i> var. <i>californica</i>	Southern California Black Walnut	T	FAC	Juglandaceae
<i>Koeleria paniculata</i> var. <i>paniculata</i> *+	Goldenrain Tree	T	-	Sapindaceae
<i>Leptochloa uninervia</i>	Mexican Sprangletop	A/PG	FACW	Poaceae
<i>Ligustrum lucidum</i> *+	Glossy Privet	T/S	-	Oleaceae
<i>Lobelia dunnii</i> var. <i>serrata</i>	Dunn's Lobelia	PH	FACW-	Campanulaceae
<i>Malva nicaeensis</i> *	Bull Mallow	AH	-	Malvaceae
<i>Medicago polymorpha</i> *	Common Burclover	AH	-	Fabaceae
<i>Mentha arvensis</i>	Field Mint	PH	FACW	Lamiaceae
<i>Mentha spicata</i> var. <i>spicata</i> *	Spearmint	PH	OBL	Lamiaceae
<i>Mimulus cardinalis</i>	Scarlet Monkeyflower	PH	OBL	Phrymaceae
<i>Nerium oleander</i> *+	Oleander	S	-	Apocynaceae
<i>Phoenix canariensis</i> *+	Canary Island Date Palm	T	(FAC)	Areaceae

⁴ * = Introduced/naturalized plant species. + = Planted, exotic ornamental species that have persisted and escaped locally into natural plant communities. **Bold** = Special-status species. Scientific and common names follow Hickman (1993) and Flora of North America (Flora of North America Editorial Committee 1993-2007).

⁵ Habit definitions: AG = annual grass or graminoid; PG = perennial grass or graminoid; AH = annual herb; PH = perennial herb; PV = perennial vine; S = shrub; T = tree; CrL = crustose lichen; FoL = foliose lichen; FrL = fruticose lichen; M = moss/bryophyte; Fu = fungus/mushroom.

⁶ WIS = Wetland Indicator Status. The following code definitions are according to Reed (1988):

OBL = obligate wetland species, occurs almost always in wetlands (>99% probability).

FACW = facultative wetland species, usually found in wetlands (67-99% probability).

FAC = facultative species, equally likely to occur in wetlands or nonwetlands (34-66% probability).

FACU = facultative upland species, usually found in nonwetlands (67-99% probability).

+ or - symbols are modifiers that indicate greater or lesser affinity for wetland habitats.

NI = no indicator has been assigned due to a lack of information to determine indicator status.

* = a tentative assignment to that indicator status by Reed (1988).

Parentheses indicate a wetland status as suggested by David L. Magney based on extensive field observations.

Scientific Name ⁴	Common Name	Habit ⁵	WIS ⁶	Family
<i>Picris echioides</i> *	Bristly Ox-tongue	A/PH	FAC*	Asteraceae
<i>Piptatherum miliaceum</i> *	Smilo Grass	PG	(FACU-)	Poaceae
<i>Pistacia chinensis</i> *	Chinese Pistache	T	-	Anacardiaceae
<i>Plantago major</i> *	Common Plantain	PH	FACW-	Plantaginaceae
<i>Platanus racemosa</i> var. <i>racemosa</i>	California Sycamore	T	FACW	Platanaceae
<i>Polygonum lapathifolium</i>	Willow Weed	AH	OBL	Polygonaceae
<i>Quercus agrifolia</i> var. <i>agrifolia</i>	Coast Live Oak	T	-	Fagaceae
<i>Quercus lobata</i>	Valley Oak	T	FAC*	Fagaceae
<i>Rorippa nasturtium-aquaticum</i>	Water Cress	PH	OBL	Brassicaceae
<i>Rosa californica</i>	California Wild Rose	S	FAC+	Rosaceae
<i>Rubus discolor</i> *	Himalayan Blackberry	PV	FACW*	Rosaceae
<i>Rubus ursinus</i>	Pacific Blackberry	PV	FACW*	Rosaceae
<i>Rumex crispus</i> *	Curly Dock	PH	FACW-	Polygonaceae
<i>Rumex salicifolius</i> var. <i>salicifolius</i>	Willow Dock	PH	OBL	Polygonaceae
<i>Salix laevigata</i>	Red Willow	T	FACW	Salicaceae
<i>Salix lasiolepis</i> var. <i>lasiolepis</i>	Arroyo Willow	T	FACW	Salicaceae
<i>Salix lucida</i> ssp. <i>lasiandra</i>	Shining [Yellow] Willow	T	OBL	Salicaceae
<i>Sonchus asper</i> *	Prickly Sow-thistle	AH	FAC	Asteraceae
<i>Sonchus oleraceus</i> *	Common Sow-thistle	AH	NI*	Asteraceae
<i>Stachys bullata</i>	California Hedgenettle	PH	-	Lamiaceae
<i>Toxicodendron diversilobum</i>	Western Poison Oak	S/V	(FACU)	Anacardiaceae
<i>Ulmus pumila</i> *+	Siberian Elm	T	-	Ulmaceae
<i>Urtica urens</i> *	Dwarf Nettle	AH	-	Urticaceae
<i>Veronica anagallis-aquatica</i>	Water Speedwell	AH	OBL	Veronicaceae
<i>Vinca major</i> *+	Periwinkle	PH	-	Apocynaceae
<i>Washingtonia robusta</i> *+	Mexican Fan Palm	T	-	Arecaceae
<i>Xanthium strumarium</i>	Cocklebur	AH	FAC+	Asteraceae
Nonvascular Plants				
<i>Bryophytes – Mosses</i>				
<i>Didymodon brachyphyllus</i>	Shortleaf Didymodon Moss	M	OBL	Pottiaceae
<i>Didymodon vinealis</i>	Wine-colored Didymodon Moss	M	OBL	Pottiaceae
<i>Grimmia trichophylla</i>	Grimmia Dry Rock Moss	M	(FACU)	Grimmiaceae
<i>Pohlia</i> cf. <i>cruda</i>	Fresh-face Pohlia Moss	M	(FACW)	Bryaceae
<i>Lichens</i>				
<i>Caloplaca</i> sp.	Lichen	CrL	-	Caloplacaceae
<i>Candelaria concolor</i>	Yolk Lichen	FoL	-	Candelariaceae
<i>Evernia prunastri</i>	Evernia Lichen	FrL	-	Parmeliaceae
<i>Lecanora</i> sp.	Rim Lichen	CrL	-	Lecanoraceae
<i>Lecanora varia</i>	Rim Lichen	CrL	-	Lecanoraceae
<i>Lepraria incana</i>	Dust Lichen	CrL	-	Stereocaulaceae
<i>Parmelia</i> cf. <i>sulcata</i>	Shield Lichen	FoL	-	Parmeliaceae
<i>Parmotrema crinitum</i>		FoL	-	Parmeliaceae
<i>Ramalina subleptocarpha</i>	Slit-rimmed Ramalina	FrL	-	Ramalinaceae
<i>Xanthoria polycarpa</i>	Xanthoria Lichen	FoL	-	Teloschistaceae
<i>Fungi – Mushrooms</i>				
<i>Merulius tremellosus</i>	Dry Rot Fungus	Fu	-	Meruliaceae
<i>Pisolithus tinctorius</i>	Dead Man's Foot Fungus	Fu	-	Pisolithaceae



Voucher specimens were collected for several plant species (includes vascular plants, lichens, and bryophytes), and [will be] deposited into the herbarium at the University of California, Santa Barbara (UCSB). Those species for which vouchers were collected are listed in Table 7, Plants Vouchered from the Creek Road Project Site.

Table 7. Plants Vouchered from the Creek Road Project Site

Scientific Name	Collector(s)	Collection Number	Determined By
<i>Cyperus eragrostis</i>	D.L. Magney	221-07	D.L. Magney
<i>Didymodon brachyphyllus</i>	D.L. Magney	223-07	C.B. Wishner
<i>Didymodon vinealis</i>	D.L. Magney	235-07	C.B. Wishner
<i>Didymodon vinealis</i>	D.L. Magney	243-07	D.L. Magney
<i>Echinochloa crus-galli</i>	D.L. Magney	231-07	D.L. Magney
<i>Epilobium ciliatum</i> ssp. <i>ciliatum</i>	D.L. Magney	229-07	D.L. Magney
<i>Equisetum laevigatum</i>	D.L. Magney	226-07	D.L. Magney
<i>Fraxinus velutina</i>	D.L. Magney	227-07	D.L. Magney
<i>Geranium molle</i>	D.L. Magney	237-07	D.L. Magney
<i>Grimmia trichophylla</i>	D.L. Magney	241-07	D.L. Magney
<i>Koelreuteria paniculata</i> var. <i>paniculata</i>	D.L. Magney	236-07	D.L. Magney
<i>Lecanora varia</i>	D.L. Magney	248-07	D.L. Magney
<i>Lepraria incana</i>	D.L. Magney	249-07	D.L. Magney
<i>Leptochloa uninervia</i>	D.L. Magney	232-07	D.L. Magney
<i>Ligustrum lucidum</i>	D.L. Magney	233-07	D.L. Magney
<i>Lobelia serrata</i> var. <i>dunnii</i>	D.L. Magney	225-07	D.L. Magney
<i>Malva nicaeensis</i>	D.L. Magney	230-07	D.L. Magney
<i>Mentha arvensis</i>	D.L. Magney	234-07	D.L. Magney
<i>Mentha spicata</i> var. <i>spicata</i>	D.L. Magney	244-07	D.L. Magney
<i>Nerium oleander</i>	D.L. Magney	208-07	D.L. Magney
<i>Parmotrema crinitum</i>	D.L. Magney	250-07	D.L. Magney
<i>Pistacia chinensis</i>	D.L. Magney	238-07	D.L. Magney
<i>Pohlia</i> cf <i>cruda</i>	D.L. Magney	222-07	C.B. Wishner
<i>Polygonum lapathifolium</i>	D.L. Magney	228-07	D.L. Magney
<i>Ramalina subleptocarpha</i>	D.L. Magney	239-07	D.L. Magney
<i>Ulmus pumila</i>	D.L. Magney	224-07	D.L. Magney
<i>Xanthoria polycarpa</i>	D.L. Magney	251-07	D.L. Magney

3.1.3.2 Fauna

Twenty-four (24) wildlife species were observed on the Creek Road project site during the October and November 2007 surveys, including four (4) birds, two (2) mammal, three (3) fish, and fifteen (15) invertebrates. Twelve (12) terrestrial species were detected, and twelve (12) aquatic species associated with Stewart Canyon Creek were found. One special-status fish species, *Gila orcutti* (Arroyo Chub), a CDFG species of special concern (SSC), was observed in Stewart Canyon Creek adjacent to the north end of Repair Site 4 (see Figures 2 and 3 above). Table 8, Wildlife Species of the Creek Road Repair Site, lists the animal species that were observed by DMEC.



Table 8. Wildlife Species of the Creek Road Repair Site

Scientific Name ⁷	Common Name	Family (or other classification)
TERRESTRIAL SPECIES		
<i>Birds</i>		
<i>Corvus corax</i>	Common Raven	Corvidae
<i>Melanerpes formicivorus</i>	Acorn Woodpecker	Picidae
<i>Sayornis nigricens</i>	Black Phoebe	Tyrannidae
<i>Sitta sp.</i>	Nuthatch	Sittidae
<i>Mammals</i>		
<i>Odocoileus hemionus</i>	Mule Deer	Cervidae
<i>Procyon lotor</i>	Raccoon	Procyonidae
<i>Invertebrates</i>		
<i>Adelpha bredowii</i>	California Sister Butterfly	Order Lepidoptera: Family Nymphalidae
<i>Apis mellifera</i> *	European Honey Bee	Order Hymenoptera: Family Apidae
<i>Symphoromyia sp.</i>	Snipe Fly	Order Diptera: Family Rhagionidae
<i>Neoscona oxacensis</i>	Common Orb Weaver	Class Arachnida: Order Araneae: Family Araneidae
-	Mite (shiny & pale/colorless)	Class Arachnida: Order Acari
-	Mite (dull & dark red color)	Class Arachnida: Order Acari
AQUATIC SPECIES		
<i>Fish</i>		
<i>Gambusia affinis</i> *	Western Mosquitofish	Poeciliidae
<i>Gasterosteus aculeatus</i>	Threespine Stickleback	Gasterosteidae
<i>Gila orcutti</i>	Arroyo Chub	Cyprinidae
<i>Invertebrates</i>		
<i>Procambarus clarkii</i> *	Red Swamp Crayfish	Subphylum Crustacea: Family Cambaridae
<i>Gerris remigis</i>	Water Strider	Order Hemiptera: Family Gerridae
-	Toad Bug nymph	Order Hemiptera: Family Gelastocoridae
-	Predacious Diving Beetle	Order Coleoptera: Family Dytiscidae
-	Aquatic beetle larva	Order Coleoptera
-	Aquatic fly larva	Order Diptera
-	Damselfly larva	Suborder Zygoptera
-	Aquatic snail	Phylum Mollusca: Class Gastropoda: Family Physidae
-	Aquatic annelid worm	Phylum Annelida: Class Oligochaeta

3.1.3.3 Habitats

Two primary habitats, the Palustrine System (riparian) and the Riverine System (aquatic), were observed on the Creek Road project site.

3.1.3.3.1 PALUSTRINE SYSTEM (RIPARIAN HABITATS)

The Palustrine System includes all nontidal wetlands dominated by trees, shrubs, persistent emergents, emergent mosses or lichens, and all such wetlands that occur in tidal areas where salinity due to ocean-derived salts is below 0.5‰. Palustrine Forested Wetland is characterized by woody vegetation that is

⁷ **Bold type** = Special status species; * = Introduced, non-native species.

six m tall or taller. This habitat possesses an overstory of trees, an understory of young trees and shrubs, and an herbaceous layer. Moisture must be relatively abundant, and wetlands in this subclass generally occur on mineral soils or highly decomposed organic soils (Cowardin et al. 1979). Palustrine wetlands include the plant communities associated with CDFG jurisdictional riparian habitat. Palustrine habitats are used as nesting and foraging habitat for several species of birds, and as cover and foraging habitat for small and large mammals, some of which may use the riparian vegetation as a corridor for movement.

The plant communities that were observed on the Creek Road project site that make up the tree canopy primarily include Coast Live Oak Series (Alliance⁸) and California Sycamore Series, or *Quercus agrifolia-Platanus racemosa* Riparian Alliance. *Eucalyptus-Washingtonia robusta* Alliance includes introduced non-native species and escaped ornamentals that contribute to the tree canopy onsite. The understory primarily consists of *Toxicodendron diversilobum-Rubus-Vinca* Alliance, which includes both native and non-native species. These series and alliances (Sawyer and Keeler-Wolf 1995, CNPS 2004) are discussed in the following paragraphs. The later two alliances are probably more appropriately considered associations with the more conspicuous overstory alliances, with which they are closely associated with at the project site.

***Quercus agrifolia-Platanus racemosa* Riparian Alliance**

Coast Live Oak Series (Alliance) is dominated by *Quercus agrifolia* var. *agrifolia*, which is a broad-leaved, evergreen, broad-canopied tree with dark green leathery leaves. *Q. agrifolia* is the most widely distributed species of the evergreen oaks, and it is capable of achieving large size and old age. This oak typically occurs in valleys on predominantly north-facing slopes, along riparian woodland fringes, scattered in grassland or Coastal Sage Scrub communities, as an element of Mixed Evergreen Forest, or as a contributor to other oak woodlands (Zedler et al. 1997).

Coast Live Oak Series forms an intermittent, 30-m-tall tree canopy growing over an understory of occasional shrubs and a grassy/herbaceous groundlayer. It generally occurs on sandstone or shale-derived soils (Sawyer and Keeler-Wolf 1995). Coast Live Oak Series is commonly observed in many riparian zones in the vicinity of Ojai. On this site it is influenced by other plant series, particularly California Sycamore Series.

California Sycamore Series is dominated by the monoecious, wind-pollinated, broad-leaved winter-deciduous *Platanus racemosa* var. *racemosa*. This native tree has smooth, pale bark and large, densely hairy, palmate leaves. It is a common tree occurring along streamsides and in canyons (Hickman 1993). California Sycamore is listed with a wetland indicator status of FACW, or a facultative wetland species (Reed 1988).

California Sycamore Series grows in wetland soils, permanently saturated at depth, of freshwater riparian corridors, braided depositional channels of intermittent streams, gullies, springs, seeps, riverbanks, and terraces adjacent to floodplains subject to high-intensity seasonal flooding. This series also occurs on upland rocky canyon slopes, in alluvial, open cobbly, and rocky soils. A shrubby thicket

⁸ The 1995 edition of the *Manual of California Vegetation* uses the term Series, which will be replaced by the term Alliance in the next (2008) edition of the *Manual*, to be consistent with national and international usage. The two synonymous terms are used interchangeably here.

of evergreen and deciduous shrubs may grow below the 35-m, widely spaced, sycamore canopy, and the ground layer is variable. This plant community is visible on Photos 3 and 7 above, and Photo 9 below.

Other species observed onsite that are commonly associated with this community include the following: *Baccharis salicifolia*, *Fraxinus velutina*, *Heteromeles arbutifolia*, *Juglans californica* var. *californica*, *Quercus lobata*, *Rosa californica*, *Rubus discolor*, *R. ursinus*, *Salix laevigata*, *S. lasiolepis*, *S. lucida* ssp. *lasiandra*, and *Toxicodendron diversilobum*.



Photo 9 - *Quercus agrifolia*-*Platanus racemosa* Riparian Alliance

***Eucalyptus-Washingtonia robusta* Alliance**

Introduced non-native species and escaped ornamentals that contribute to the tree canopy onsite are described as *Eucalyptus-Washingtonia robusta* Alliance. Many riparian areas in the Ojai area are disturbed due to human activities or influences, such as the planting of non-native species directly in these areas for landscaping or other purposes. Residences have been constructed in many of the areas adjacent to the lower reaches of Stewart Canyon Creek in the City of Ojai, and exotic species with invasive characteristics planted in these residential areas can readily escape and have invaded the nearby native riparian plant communities.

The predominant trees contributing to this plant community onsite are *Eucalyptus polyanthemos* (Silver Dollar Gum) and *Washingtonia robusta* (Mexican Fan Palm). *Eucalyptus* species have an aggressive growth habit that displaces native trees, and produce shade and excessive litter that discourage understory plants. *W. robusta* is highly invasive and quickly spreads into natural areas, with its fruit distributed by birds and water. Other non-native trees observed onsite include the following: *Ficus*



carica, *Koelreuteria paniculata* var. *paniculata*, *Ligustrum lucidum*, *Nerium oleander*, *Phoenix canariensis*, *Pistacia chinensis*, and *Ulmus pumila*.

***Toxicodendron diversilobum*-*Rubus*-*Vinca* Alliance**

The plant community in the understory beneath the riparian canopy on the Creek Road repair site is described as *Toxicodendron diversilobum*-*Rubus*-*Vinca* Alliance and includes both native and non-native species. As described above, riparian plant communities in the Ojai area have been disturbed as a result of the introduction of exotic plant species. *Toxicodendron diversilobum*, *Rubus discolor*, *R. ursinus*, and *Vinca major* are the dominant understory species observed onsite.

Toxicodendron diversilobum (Western Poison Oak) is a native deciduous shrub or perennial vine with ternate, reddish-green leaves and cream-colored flowers and berries. This plant is one of the most hazardous plants in California because the resinous leaves, stems, roots, and fruit cause severe contact dermatitis on most humans. *T. diversilobum* occurs in canyons and on slopes, and is a typical species of chaparral and oak woodland. *Rubus discolor* (Himalayan Blackberry) is a prickly, semi-deciduous perennial vine or shrub with toothed, dark green leaves, white flowers, and edible black berries. This species is an introduced non-native and occurs in moist places, such as streamsides, often displacing the native *Rubus ursinus* (Pacific Blackberry), which is similar in appearance (Hickman 1993). Both *Rubus* species have a tentative wetland indicator status of FACW (Reed 1988).

Vinca major (Periwinkle) is an escaped ornamental that readily colonizes shady creeks and drainages and often dominates the riparian understory where it becomes established. *V. major* is a perennial that spreads by trailing stems that root where they are in contact with the soil, and it is also able to resprout from stem fragments, making control difficult. Other notable understory plants observed onsite include the following: *Artemisia douglasiana* (native) and *Piptatherum miliaceum* (non-native).

3.1.3.3.2 RIVERINE SYSTEM (AQUATIC HABITATS)

The Riverine system includes all wetlands and deepwater habitats contained within a channel periodically or continuously containing moving water, with two exceptions: (1) wetlands dominated by trees, shrubs, persistent emergents, emergent mosses, or lichens; and (2) habitats with water containing ocean-derived salts in excess of 0.5‰. The Riverine system is bounded on the landward side by the channel bank, or by wetland dominated by trees, shrubs, and persistent emergents. Water is usually, but not always, flowing in this system (Cowardin et al. 1979).

Riverine Lower Perennial Wetland

The Riverine Lower Perennial subsystem includes habitats where the gradient is low and water velocity is slow. No tidal influence exists, and some water flows throughout the year. The substrate consists of mainly sand and mud. Oxygen deficits may occur, the fauna is composed of species that reach their maximum abundance in still water, and true planktonic organisms are common. The gradient is lower than that of the Upper Perennial system, and the floodplain is well developed (Cowardin et al. 1979).

The reach of Stewart Canyon Creek adjacent to the Creek Road repair site is described as a pool and riffle stream with perennial flow in a defined channel. The streambed and banks are generally in a natural state except for the sections with riprap and other materials that fortify portions of the eastern bank along Creek Road (see Figure 3 and Photos 3 through 8). Instream cover consists of overhanging



vegetation, submerged boulders and bedrock, logs, root wads, and submerged vegetation. The reported average depth is 0.1 m (0.33 ft), the average width is 1.47 ms (4.83 ft), the average flow velocity is 21.6 cms (0.71 fs), and the average discharge is 65.7 ls (2.32 cfs) (DMEC 2005).

The obligate wetland species (OBL) as listed by Reed (1988) that were observed in the aquatic habitat onsite include the following: *Mentha spicata* var. *spicata*, *Mimulus cardinalis*, *Polygonum lapathifolium*, *Rorippa nasturtium-aquaticum*, *Rumex salicifolius* var. *salicifolius*, *Salix lucida* ssp. *lasiandra*, *Veronica anagallis-aquatica*, *Didymodon brachyphyllus*, and *D. vinealis*.

3.2 REGIONAL SPECIES AND HABITATS OF CONCERN

This section addresses the special-status biological resources observed, reported, or having the potential to occur on the project site. These resources include plant and wildlife species that have been afforded special-status and/or recognition by federal and state resource agencies, as well as private conservation organizations. In general, the principal reason an individual taxon (i.e. species, subspecies, or variety) is given such recognition is the documented or perceived decline or limitations of its population size, geographic range, and/or distribution resulting in most cases from habitat loss.

DMEC conducted a search of CDFG's CNDDDB RareFind3 (CDFG 2007a) for the Ojai, California USGS Quadrangle (in which the Creek Road project site is found), and for the eight surrounding quadrangles, including Wheeler Springs, Lion Canyon, Topatopa Mountains, Santa Paula Peak, Santa Paula, Saticoy, Ventura, and Matilija. DMEC conducted this database search to account for special-status species tracked by CNDDDB in the area and with potential to occur at the project site. 49 special-status elements were reported by CNDDDB, including 19 plant species, 24 wildlife species, and 6 habitats.

DMEC also conducted a literature search of CNPS's *Inventory of Rare and Endangered Plants of California* (CNPS 2001, 2007) and the *Checklist of Ventura County Rare Plants* (Magney 2007a) to account for other special-status plant species not tracked by CNDDDB with potential to occur in the vicinity of the proposed project site. The CNDDDB Special Animals List (CDFG 2007c) was also referenced.

3.2.1 Special-Status Plants

A total of 19 special-status plant species are known or reported in the vicinity of the Creek Road project site and have the potential to occur onsite. Table 9, Special-Status Plants Known or Potentially Occurring Onsite, summarizes the CNDDDB reports for the 19 plant special-status plant species tracked for the nine quads, and provides each species' scientific and common names, status, habitat requirements, and likelihood of occurrence.

No federal or state listed special-status plant species were observed onsite. DMEC observed one (1) CNPS List 4.2 plant species during the field survey. *Juglans californica* var. *californica* (Southern California Black Walnut) has a limited distribution and is fairly endangered in California. *J. californica* is the dominant species in California Walnut Woodland, a much fragmented, declining special-status habitat that is threatened by urbanization and grazing.



Three vascular plant species observed in the study area are species of local concern (Magney 2007a), including: *Fraxinus velutina*, *Lobelia dunnii* var. *serrata*, and *Polygonum lapathifolium*.

Table 9. Special Status Plants Known or Potentially Occurring Onsite

Scientific Name	Common Name	G Rank ⁹	S Rank	Fed	CA	CNPS	Habitat Requirements	Likelihood of Occurrence ¹⁰
<i>Acanthoscyphus parishii</i> var. <i>abramsii</i>	Abrams' Oxytheca	G4?T2	S2.2	-	-	1B.2	Chaparral. Shale to sandy places. 1,150-2,060 m. Nearest known occurrence is on Topatopa Mountains at 5,500 ft (Magney 2007b).	Unlikely [HA]
<i>Aphanisma blitoides</i>	Aphanisma	G2	S1.1	-	-	1B.2	Coastal bluff scrub, coastal dunes, coastal scrub. On bluffs and slopes near the ocean in sandy or clay soils. In steep decline on the islands and the mainland. 1-305 m. Nearest known occurrence is on Taylor Ranch near mouth of Ventura River (Magney 2007b).	Unlikely [HA]
<i>Astragalus didymocarpus</i> var. <i>milesianus</i>	Miles' Milkvetch	G5T2	S2.2	-	-	1B.2	Coastal scrub. Clay soils. 20-90 m. Possibly extirpated from Ojai Valley (Magney 2007b).	Unlikely [HA]
<i>Astragalus pycnostachyus</i> var. <i>lanosissimus</i>	Ventura Marsh Milkvetch	G2T1	S1.1	FE	SE	1B.1	Coastal salt marsh. Within reach of high tide or protected by barrier beaches, more rarely near seeps on sandy bluffs. 1-35 m. Nearest known occurrence is at McGrath Lake (Magney 2007b).	Unlikely [HA]
<i>Atriplex serenana</i> var. <i> davidsonii</i>	Davidson's Saltscare	G5T2?	S2?	-	-	1B.2	Coastal bluff scrub, coastal scrub. Alkaline soil. 3-250 m. Nearest known occurrence is along Ojai Valley bike path at San Antonio Road, likely extirpated (Magney 2007b).	Unlikely [HA]
<i>Calochortus palmeri</i> var. <i> palmeri</i>	Palmer's Mariposa Lily	G2T2	S2.1	-	-	1B.2	Meadows and seeps, chaparral, lower montane coniferous forest. Vernal moist places in yellow-pine forest, chaparral. 600-2,245 m. Nearest known occurrence is along Sespe Creek, NW of Lion Campground (Magney 2007b).	Unlikely [HA]
<i>Calochortus weedii</i> var. <i> vestus</i>	Late-Flowered Mariposa Lily	G3?T2	S2.2	-	-	1B.2	Chaparral, cismontane woodland. Dry, open coastal woodland, chaparral; on serpentine. 270-1,910 m. Nearest known occurrence is Stewart Canyon along the Pratt Trail at 2,686 ft on the So.-slope of Nordhoff Peak (Magney 2007b).	Unlikely [HA]
<i>Chaenactis glabriuscula</i> var. <i> orcuttiana</i>	Orcutt's Pincushion	G5T3	S2.1	-	-	1B.1	Coastal bluff scrub, coastal dunes. Sandy sites. 3-100 m. Nearest known occurrence is at Pierpont Beach in Ventura (Magney 2007b).	Unlikely [HA]

⁹ See Tables 2 through 5 in Section 2.6 above for descriptions of rank and status categories. Federal (Fed or F) and State (CA or S) status listings: E = Endangered; SC = Species of Concern.

¹⁰ Likelihood of occurrence based on species' habitat requirements, presence of required habitat onsite, and reported occurrences:
 Observed [P] = Species has been observed onsite [Present];
 Likely [HP] = Required habitat present onsite and the species has been reported in the vicinity [Habitat Present];
 Possible [HP] = Marginal habitat onsite and/or required habitat present nearby, with no reported occurrences nearby [Habitat Present];
 Unlikely [HA] = Required habitat not reported onsite, nor is it found nearby [Habitat Absent].
 Supported by locality data for Flora of Ventura County database (Magney 2007b).



Scientific Name	Common Name	G Rank ⁹	S Rank	Fed	CA	CNPS	Habitat Requirements	Likelihood of Occurrence ¹⁰
<i>Delphinium umbracolorum</i>	Umbrella Larkspur	G2G3	S2S3.3	-	-	1B.3	Cismontane woodland. Mesic sites. 400-1,600 m. Nearest known occurrence is lower Sisar Canyon above Camp Bartlett (Magney 2007b).	Unlikely [HA]
<i>Fritillaria ojaiensis</i>	Ojai Fritillary	G1	S1.2	-	-	1B.2	Broadleaved upland forest (mesic), chaparral, lower montane coniferous forest. Rocky sites; one reported as "moist shale talus." 300-670 m. Nearest known occurrence is on the So.-slope of Nordhoff Peak in Stewart Canyon at Valley View Campground east of Pratt Trail at 2,866 ft next to creek and in Gridley Canyon (Magney 2007b).	Unlikely [HA]
<i>Horkelia cuneata</i> ssp. <i>puberula</i>	Mesa Horkelia	G4T2	S2.1	-	-	1B.1	Chaparral, cismontane woodland, coastal scrub. Sandy or gravelly sites. 70-810 m. Nearest known occurrence is reported from the Ojai Valley in 1896, but not seen since (Magney 2007b).	Unlikely [HA]
<i>Fraxinus velutina</i>	Arizona Ash	G5	S?	-	-	VCR	Riparian woodlands. 200-1,700 m. Nearest known occurrence is onsite.	Observed [P]
<i>Imperata brevifolia</i>	California Satintail	G2	S2.1	-	-	2.1	Coastal scrub, chaparral, riparian scrub, Mojavean scrub, meadows and seeps (alkali). Mesic sites, alkali seeps, riparian areas. <500 m. Nearest known occurrence is in lower Matilija Canyon (Magney 2007b).	Possible [HP]
<i>Juglans californica</i> var. <i>californica</i>	Southern California Black Walnut	G3	S3.2	.	.	4.2	Chaparral, coastal scrub, cismontane woodland. Slopes, canyons, alluvial habitats. 50-900 m. Nearest known occurrence is onsite.	Observed [P]
<i>Lasthenia glabrata</i> ssp. <i>coulteri</i>	Coulter's Goldfields	G4T3	S2.1	-	-	1B.1	Coastal salt marshes, playas, valley and foothill grassland, vernal pools. Usually found on alkaline soils in playas, sinks, and grasslands. 1-1,400 m. Nearest known occurrence is Ormond Beach in Oxnard and Port Hueneme (Magney 2007b).	Unlikely [HA]
<i>Layia heterotricha</i>	Pale-Yellow Layia	G2G3	S2S3.1	-	-	1B.1	Cismontane woodland, pinyon-juniper woodland, valley and foothill grassland. Alkaline or clay soils; open areas. 270-1,365 (2,675) m. Nearest known occurrence is at the headwaters of Sespe Creek W of Potrero Seco (Magney 2007b).	Unlikely [HA]
<i>Nolina cismontana</i>	Chaparral Nolina	G1	S1.1	-	-	1B.2	Chaparral, coastal scrub. Primarily on sandstone and shale substrates; also known from gabbro. 140-1,275 m. Nearest known occurrence is in upper Santa Ana Creek on So.-slope of Santa Ynez Mountains (Magney 2007b).	Unlikely [HA]
<i>Orobanche valida</i> ssp. <i>valida</i>	Rock Creek Broomrape	G3T1	S1.2	-	-	1B.2	Chaparral, Pinyon-Juniper Woodland. On slopes of loose decomposed granite; parasitic on various chaparral shrubs. 1,705-1,820 m. Nearest known occurrence is on the Topatopa Mountains W of Hines Peak (Magney 2007b).	Unlikely [HA]
<i>Polygonum lapathifolium</i>	Willow Weed	G5	S?	-	-	VCU	Freshwater marsh, riparian woodlands. <1,500 m. Nearest known occurrence is onsite.	Observed [P]



Scientific Name	Common Name	G Rank ⁹	S Rank	Fed	CA	CNPS	Habitat Requirements	Likelihood of Occurrence ¹⁰
<i>Sagittaria sanfordii</i>	Sanford's Arrowhead	G3	S3.2	-	-	1B.2	Marshes and swamps. In standing or slow-moving freshwater ponds, marshes, and ditches. 0-610 m. Nearest known occurrence was at Mirror Lake in Mira Monte, now extirpated (Magney 2007b).	Possible [HP]
<i>Sidalcea neomexicana</i>	Salt Spring Checker-bloom	G4?	S2S3	-	-	2.2	Alkali playas, brackish marshes, chaparral, coastal scrub, lower montane coniferous forest, Mojavean desert scrub. Alkali springs and marshes. 0-1,500 m. Nearest known occurrence is the W-end of Lockwood Valley at 1,500 m (Magney 2007b).	Possible [HP]

3.2.2 Special-Status Wildlife

One (1) special-status wildlife species, *Gila orcutti* (Arroyo Chub), a CDFG Species of Special Concern (SSC), was observed in Stewart Canyon Creek adjacent to the north end of Repair Site 4 (see Figures 2 and 3). Table 10, Special-Status Wildlife Potentially Occurring Onsite, summarizes the CNDDDB search that identified 24 special-status wildlife species for the nine quads, and provides each species' scientific and common names, status, habitat requirements, and likelihood of occurrence.

In addition to the one special-status species observed during the Creek Road project site survey, the following special-status wildlife species are likely to occur onsite:

- *Actinemys [Emys] marmorata pallida* (Southwestern Pond Turtle);
- *Oncorhynchus mykiss irideus* (Southern Steelhead - Southern California ESU);
- *Rana aurora draytonii* (California Red-legged Frog); and
- *Thamnophis hammondi* (Two-striped Garter Snake).

These species are likely to occur onsite since their required habitats are present and they have been reported nearby. Table 11, Special-Status Animal Species Known to Occur On or Near the Project Site, provides additional details on the reported occurrences of the five (5) special-status wildlife species discussed above.

Focused protocol-level surveys for special-status and listed wildlife species were not conducted on the Creek Road project site. In addition to the species listed in Table 10, it should be noted that all raptors, raptor nests (active or inactive), and other active bird nests are protected under Fish and Game Code Section 3503.



Table 10. Special Status Wildlife Potentially Occurring Onsite

Scientific Name	Common Name	G Rank ¹¹	S Rank	Fed	CA	CDFG	Habitat Requirements	Likelihood of Occurrence ¹²
<i>Amphibians</i>								
<i>Bufo californicus</i>	Arroyo Toad	G2G3	S2S3	FE	-	SSC	Semi-arid regions near washes or intermittent streams, including valley-foothill and desert riparian, desert wash, etc. Rivers with sandy banks, willows, cottonwoods, and sycamores; loose, gravelly areas of streams in drier parts of range. Nearest occurrence along Sespe Creek.	Possible [HP]
<i>Rana aurora draytonii</i>	California Red-Legged Frog	G4T2T3	S2S3	FT	-	SSC	Lowlands & foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation. Requires 11-20 weeks of permanent water for larval development. Must have access to aestivation habitat. Nearest occurrence along San Antonio Creek near Camp Comfort.	Likely [HP] – observed nearby in San Antonio Creek
<i>Reptiles</i>								
<i>Actinemys [Emys] marmorata pallida</i>	Southwestern Pond Turtle	G3G4T2T3Q	S2	-	-	SSC	Inhabits permanent or nearly permanent bodies of water in many habitat types; below 6,000 ft. Require basking sites such as partially submerged logs, vegetation mats, or open mud banks. Need suitable nesting sites. Nearest occurrence on San Antonio Creek.	Likely [HP] – observed nearby in San Antonio Creek
<i>Anniella pulchra pulchra</i>	Silvery Legless Lizard	G3G4T3T4Q	S3	-	-	SSC	Sandy or loose loamy soils under sparse vegetation. Soil moisture is essential. They prefer soils with a high moisture content.	Possible [HP]
<i>Phrynosoma coronatum (blainvillii population)</i>	Coast (San Diego) Horned Lizard	G4G5	S3S4	-	-	SSC	Inhabits coastal sage scrub and chaparral in arid and semi-arid climate conditions. Prefers friable, rocky, or shallow sandy soils. Known in Ojai Valley.	Possible [HP]
<i>Thamnophis hammondi</i>	Two-Striped Garter Snake	G3	S2	-	-	SSC	Coastal California from vicinity of Salinas to northwest Baja California. From sea to about 7,000 ft. Highly aquatic, found in or near permanent fresh water. Often along streams with rocky beds and riparian growth. Nearest occurrence on San Antonio Creek.	Likely [HP] – observed nearby at San Antonio Creek

¹¹ See Tables 2 through 5 in Section 2.6 above for descriptions of rank and status categories. Federal (Fed or F) and State (CA or S) status listings: E = Endangered; T = Threatened; R = Rare; C = Candidate; SSC = Species of Special Concern.

¹² Likelihood of occurrence based on species' habitat requirements, presence of required habitat onsite, and reported occurrences:
 Observed [P] = Species has been observed onsite [Present];
 Likely [HP] = Required habitat present onsite and the species has been reported in the vicinity [Habitat Present];
 Possible [HP] = Marginal habitat onsite and/or required habitat present nearby, with no reported occurrences nearby [Habitat Present];
 Unlikely [HA] = Required habitat not reported onsite, nor is it found nearby [Habitat Absent].



Scientific Name	Common Name	G Rank ¹¹	S Rank	Fed	CA	CDFG	Habitat Requirements	Likelihood of Occurrence ¹²
<i>Birds</i>								
<i>Agelaius tricolor</i>	Tricolored Blackbird	G2G3	S2	-	-	SSC	Highly colonial species, most numerous in Central Valley & vicinity. Largely endemic to California. Requires open water, protected nesting substrate, & foraging area with insect prey within a few km of the colony.	Possible [HP]
<i>Charadrius alexandrinus nivosus</i>	Western Snowy Plover	G4T3	S2	FT	-	SSC	Sandy beaches, salt pond levees & shores of large alkali lakes. Needs sandy, gravelly or friable soils for nesting. Nearest occurrence on south Pierpont Beach (Ventura)	Unlikely [HA]
<i>Coccyzus americanus occidentalis</i>	Western Yellow-Billed Cuckoo	G5T3 Q	S1	FC	SE	-	Riparian forest nester, along the broad, lower flood-bottoms of larger river systems. Nests in riparian thickets of willow often mixed with cottonwoods, w/lower story of blackberry, nettles, or wild grape. Nearest occurrence along upper Santa Clara River.	Possible [HP]
<i>Elanus leucurus</i>	White-tailed Kite	G5	S3	-	-	-	Rolling foothills and valley margins with scattered oaks & river bottomlands or marshes next to deciduous woodland. Open grasslands, meadows, or marshes for foraging close to isolated, dense-topped trees for nesting and perching. Nearest occurrence So. of Foster Park. Forages in Ojai Valley.	Possible [HP]
<i>Gymnogyps californianus</i>	California Condor	G1	S1	FE	SE	-	Require vast expanses of open savannah, grasslands, and foothill chaparral in mountain ranges of moderate altitude. Deep canyons containing clefts in the rocky walls provide nesting sites. Forages up to 100 miles from roost/nest. Nearest occurrence on Topatopa Mountains/Nordhoff Ridge.	Possible [HP]
<i>Polioptila californica californica</i>	Coastal California Gnatcatcher	G3T2	S2	FT	-	SSC	Obligate, permanent resident of Coastal Sage Scrub below 2,500 ft. in southern California. Low scrub in arid washes, on mesas & slopes. Not all areas classified as Coastal Sage Scrub are occupied. Nearest historic occurrence in Fagan Canyon/So.-slope of Sulphur Mountain.	Unlikely [HA]
<i>Vireo bellii pusillus</i>	Least Bell's Vireo	G5T2	S2	FE	SE	-	Summer resident of Southern California in low riparian in vicinity of water or in dry river bottoms; below 2,000 ft. Nests placed along margins of bushes or on twigs projecting into pathways, usually willow, <i>Baccharis</i> , mesquite in areas with wide and diverse riparian forest, woodland, and scrub habitats. Nearest occurrence along lower Ventura River.	Possible [HP]



Scientific Name	Common Name	G Rank ¹¹	S Rank	Fed	CA	CDFG	Habitat Requirements	Likelihood of Occurrence ¹²
Mammals								
<i>Antrozous pallidus</i>	Pallid Bat	G5	S3	-	-	SSC	Deserts, grasslands, shrublands, woodlands & forests. Most common in open, dry habitats with rocky areas for roosting. Roosts must protect bats from high temperatures. Very sensitive to disturbance of roosting sites.	Unlikely [HA]
<i>Chaetodipus californicus femoralis</i>	Dulzura Pocket Mouse	G5T3	S2?	-	-	SSC	Variety of habitats including coastal scrub, chaparral & grassland in San Diego Co. Attracted to grass-chaparral edges.	Unlikely [HA]
<i>Choeronycteris mexicana</i>	Mexican Long-Tongued Bat	G4	S1	-	-	SSC	Occasionally found in San Diego Co., which is on the periphery of their range. Feeds on nectar & pollen of night-blooming succulents. Roosts in relatively well-lit caves, & in & around buildings.	Unlikely [HA]
<i>Eumops perotis californicus</i>	Western Mastiff Bat	G5T4	S3?	-	-	SSC	Many open, semi-arid to arid habitats, including conifer & deciduous woodlands, coastal scrub, grasslands, chaparral etc. Roosts in crevices in cliff faces, high buildings, trees & tunnels.	Possible [HP]
<i>Lasiurus cinereus</i>	Hoary Bat	G5	S4?	-	-	SSC	Prefers open habitats or habitat mosaics, with access to trees for cover & open areas or habitat edges for feeding. Roosts in dense foliage of medium to large trees. Feeds primarily on moths. Requires water.	Possible [HP]
Fish								
<i>Catostomus santaanae</i>	Santa Ana Sucker	G1	S1	FT	-	SSC	Endemic to Los Angeles Basin south coastal streams. Habitat generalists, but prefer sand-rubble-boulder bottoms, cool, clear water, & algae. Nearest occurrence in Santa Paula Creek watershed.	Possible [HP]
<i>Eucyclogobius newberryi</i>	Tidewater Goby	G3	S2S3	FE	-	SSC	Brackish water habitats along the Calif. coast from Agua Hedionda Lagoon, San Diego Co., to the mouth of the Smith River. Found in shallow lagoons and lower stream reaches, they need fairly still but not stagnant water & high oxygen levels. Nearest occurrence at mouth of Ventura River.	Unlikely [HA]
<i>Gila orcutti</i>	Arroyo Chub	G2	S2	-	-	SSC	Los Angeles basin south coastal streams. Slow water stream sections with mud or sand bottoms. Feeds heavily on aquatic vegetation & associated invertebrates. Present onsite.	Observed [P] – 31 October 2007 at Repair Site 4
<i>Oncorhynchus mykiss irideus</i>	Southern Steelhead - Southern California ESU	G5T2 Q	S2	FE	-	SSC	Fed listing refers to populations from Santa Maria River south to southern extent of range (San Mateo Creek in San Diego Co.). Southern Steelhead likely have greater physiological tolerances to warmer water & more variable conditions. Seasonally present in small numbers.	Very Likely [HP] – prior reports in Stewart Canyon & San Antonio Creeks



Scientific Name	Common Name	G Rank ¹¹	S Rank	Fed	CA	CDFG	Habitat Requirements	Likelihood of Occurrence ¹²
<i>Invertebrates</i>								
<i>Coelus globosus</i>	Globose Dune Beetle	G1	S1	-	-	-	Inhabitant of coastal sand dune habitat, from Bodega Head in Sonoma County south to Ensenada, Mexico. Inhabits foredunes and sand hummocks; it burrows beneath the sand surface and is most common beneath dune vegetation. Nearest occurrence in sand dunes in Ventura.	Unlikely [HA]
<i>Danaus plexippus</i>	Monarch Butterfly	G5	S3	-	-	-	Winter roost sites extend along the coast from northern Mendocino to Baja California, Mexico. Roosts located in wind-protected tree groves (eucalyptus, Monterey pine, cypress), with nectar and water sources nearby. Nearest occurrence in Ventura.	Unlikely [HA]

Table 11. Special-Status Animal Species Known to Occur On or Near the Project Site

Scientific Name	Common Name	Reported Occurrences
<i>Actinemys [Emys] marmorata pallida</i>	Southwestern Pond Turtle	Observed just downstream of the project site on the Whitman property in San Antonio Creek (DMEC 2005b).
<i>Gila orcuttii</i>	Arroyo Chub	Observed at Creek Road Repair Site 4 (31 October 2007) and just downstream of the project site on the Whitman property in San Antonio Creek (DMEC 2005b).
<i>Oncorhynchus mykiss irideus</i>	Southern Steelhead Trout	Observed in Stewart Canyon Creek (2004) just below Creek Road bridge, and at the Soule Golf Course Arizona Crossing in San Antonio Creek (1998) (DMEC 2005a).
<i>Rana aurora draytonii</i>	California Red-legged Frog	Observed in San Antonio Creek just downstream from Camp Comfort (DMEC 2005c).
<i>Thamnophis hammondi</i>	Two-striped Garter Snake	Observed San Antonio Creek just downstream from Camp Comfort (DMEC 2005c).

3.2.3 Special-Status Habitats

Six (6) sensitive habitats are reported in the vicinity of the Creek Road project site. Of the six sensitive habitats tracked by CNDDDB within the vicinity of the project site, DMEC observed the following two (2) sensitive habitats onsite:

- Southern California Steelhead Stream (Southern California Steelhead have been previously observed in Stewart Canyon Creek and nearby in San Antonio Creek); and
- Southern Coast Live Oak Riparian Forest (*Quercus agrifolia* var. *agrifolia* is a co-dominant tree in the canopy and several characteristic riparian species are present).



Table 12, Special-Status Habitats Observed or Potentially Occurring Onsite, summarizes the CNDDDB search for sensitive habitat types reported for the nine quads surrounding and including the project site. Table 12 provides the habitat’s name, status, and whether it was observed onsite.

Table 12. Special-Status Habitats Observed or Potentially Occurring Onsite

CNDDDB Sensitive Habitats (Holland 1986, CDFG 2007) (Alliances: Sawyer and Keeler-Wolf 1995)	G Rank¹³	S Rank	Fed	CA	Presence Onsite¹⁴
California Walnut Woodland (<i>Juglans californica</i> var. <i>californica</i> Alliance)	G2	S2.1	-	-	Not Observed (<i>J. californica</i> var. <i>californica</i> is present)
Southern California Coastal Lagoon	G?	SNR	-	-	Not Observed
Southern California Steelhead Stream	G?	SNR	-	-	Observed [P] [CH] (Prior reports of steelhead in Stewart Canyon Creek)
Southern Coast Live Oak Riparian Forest (<i>Quercus agrifolia</i> Riparian Alliance)	G4	S4	-	-	Observed [P] [CH] (<i>Quercus agrifolia</i> var. <i>agrifolia</i> is co-dominant)
Southern Riparian Scrub (<i>Salix lasiolepis</i> Alliance and <i>Baccharis salicifolia</i> Alliance)	G3	S3.2	-	-	Not Observed (<i>Salix lasiolepis</i> and <i>Baccharis salicifolia</i> are present)
Southern Sycamore Alder Riparian Woodland (<i>Platanus racemosa</i> - <i>Alnus rhombifolia</i> Alliance)	G4	S4	-	-	Not Observed (<i>Platanus racemosa</i> is present)

¹³ See Tables 2 through 5 in Section 2.6 above for descriptions of rank and status categories. Federal (Fed or F) and State (CA or S) status listings: E = Endangered; T = Threatened; R = Rare; C = Candidate; SC = Species of Concern; [CH] = Critical Habitat.

¹⁴ Observed [P] = Habitat present onsite [Present]; Not Observed = Habitat not present onsite though some constituents of the habitat may be present as noted; [CH] = Project footprint is within a Critical Habitat unit.

CHAPTER 4 - BIOLOGICAL RESOURCES AND DISCUSSION OF IMPACTS AND MITIGATION

4.1 NATURAL COMMUNITIES OF SPECIAL CONCERN

Two natural communities of special concern occur on the Creek Road project site. They are *Quercus agrifolia*-*Platanus racemosa* Riparian Alliance and Riverine Wetland/Southern California Steelhead Stream. Each of these communities is discussed in the following sections.

4.1.1 *Quercus agrifolia*-*Platanus racemosa* Riparian Alliance

Quercus agrifolia var. *agrifolia* (Coast Live Oak) and *Platanus racemosa* (California Sycamore) are the co-dominant species in this plant community. It occurs in riparian habitats and is characterized by a tree canopy growing over an understory of shrubs and herbs. *Q. agrifolia* is an evergreen tree with a broad canopy that has not been assigned a wetland indicator status by Reed (1988). *P. racemosa* is a large winter-deciduous tree that is a facultative wetland species (FACW).

4.1.1.1. Survey Results

Q. agrifolia and *P. racemosa* were observed by DMEC to be the co-dominant species on the Creek Road project site in surveys conducted for this project in 2007. Other species observed onsite that are commonly associated with this community include the following: *Baccharis salicifolia*, *Fraxinus velutina*, *Heteromeles arbutifolia*, *Juglans californica* var. *californica*, *Quercus lobata*, *Rosa californica*, *Rubus discolor*, *R. ursinus*, *Salix laevigata*, *S. lasiolepis*, *S. lucida* ssp. *lasiandra*, and *Toxicodendron diversilobum*. The co-dominant and associated species representative of this community occur throughout the project site.

In particular, *Q. agrifolia*, *P. racemosa*, and *S. lasiolepis* were found near Repair Site #1; *Q. agrifolia* was found near Repair Site #3; *P. racemosa* and *S. lasiolepis* were found near Repair Site #4; and *Q. agrifolia* and *P. racemosa* were found near Repair Site #5. *R. discolor* and *T. diversilobum* are abundant throughout the project site but are not of special concern.

4.1.1.2 Avoidance and Minimization Efforts

To minimize impacts to *Quercus agrifolia*-*Platanus racemosa* Riparian Alliance, the following measures are recommended:

- Conduct pre-construction surveys for *Quercus agrifolia*-*Platanus racemosa* Riparian Alliance species by qualified biologists/consulting arborist within the proposed work area and the immediate vicinity and in the vicinity of any invasive exotic species that are to be removed;



- Exercise caution within the work area and immediate vicinity to avoid impacts to any *Quercus agrifolia*-*Platanus racemosa* Riparian Alliance species that may be present near the repair sites or the invasive exotic species that are to be removed;
- Install any necessary exclusionary fencing or signage and markers to prevent intrusion into sensitive habitat areas during construction;
- Install erosion and siltation controls (i.e. silt fencing, desilting basins, coir rolls and blankets);
- Remove all vehicles, equipment, and loose fill materials from the stream bank should rain be forecast within 48 hours; and
- Use designated staging and storage areas in uplands isolated from the project site.

4.1.1.3 Project Impacts

Individual *Q. agrifolia*, *P. racemosa*, and *S. lasiolepis* are located near repair sites and could be impacted by the repair work. These and other riparian species could be impacted by the removal of invasive exotic species. Impacts could be in the form of direct physical damage to the trees, or indirect damage due to erosion, soil compaction, or disturbance of the soil profile in the root zone. Various understory species could be similarly damaged.

4.1.1.4 Compensatory Mitigation

After repair work is complete and the extent of any impacts to the riparian vegetation is known, affected species are to be replanted and/or supplemented by additional planting of the species. Invasive exotic species are proposed to be removed along the entire reach of Stewart Canyon Creek from Repair Sites #1 to #5 to enhance native plant communities and wildlife habitats.

4.1.1.5 Cumulative Impacts

No cumulative negative impacts are expected. Stabilization of the stream bank and road shoulder and the removal of invasive exotic species can be expected to enhance conditions for the survival of native riparian vegetation in this location.

4.1.2 Riverine Wetland/Southern California Steelhead Stream

The reach of Stewart Canyon Creek adjacent to the Creek Road repair site is described as a pool and riffle stream with perennial flow in a defined channel. The streambed and banks are generally in a natural state except for the sections with riprap and other materials that fortify portions of the eastern bank along Creek Road (see Figure 3). Instream cover consists of overhanging vegetation, submerged boulders and bedrock, logs, root wads, and submerged vegetation (DMEC 2005a).

4.1.2.1. Survey Results

Southern Steelhead have been observed previously by DMEC in Stewart Canyon Creek (2004) and nearby in San Antonio Creek (1998) (DMEC 2005a). CNDDDB RareFind3 (CDFG 2007) reports

occurrences in San Antonio Creek. Suitable habitat occurs on the project site. For the purposes of this project it will be assumed that this species is present onsite.

The obligate wetland species (OBL) as listed by Reed (1988) that were observed in the aquatic habitat onsite include the following: *Mentha spicata* var. *spicata*, *Mimulus cardinalis*, *Polygonum lapathifolium*, *Rorippa nasturtium-aquaticum*, *Rumex salicifolius* var. *salicifolius*, *Salix lucida* ssp. *lasiandra*, *Veronica anagallis-aquatica*, *Didymodon brachyphyllus*, and *D. vinealis*. All except *P. lapathifolium* are common native plant species.

4.1.2.2 Avoidance and Minimization Efforts

To minimize impacts to Riverine Wetland/Southern California Steelhead Stream, the following measures are recommended:

- Conduct work outside of the November to July period for Southern Steelhead and California Red-legged Frog breeding, spawning/egg laying, and early development;
- Conduct pre-construction surveys for sensitive plant and animal species by qualified biologists, as well as periodic monitoring during construction, within the proposed work area and the immediate vicinity and in the vicinity of any invasive exotic species that are to be removed;
- Prior to diversion and dewatering conduct focused monitoring for sensitive animal species in the three stream reaches directly adjacent to the six repair sites so that any that remain present after dewatering can be relocated by qualified biologists to another suitable location nearby in Stewart Canyon Creek;
- Notify the appropriate regulatory agencies (e.g. Corps, USFWS, NMFS, CDFG) prior to any performing any activities that could impact sensitive species;
- During construction avoid any surface water (pools or flowing water) in the stream channel throughout the duration of the project;
- Install any necessary exclusionary fencing or signage and markers to prevent intrusion into sensitive habitat areas during construction;
- Install erosion and siltation controls (i.e. silt fencing, desilting basins, coir rolls and blankets) and monitor turbidity levels in the stream;
- Remove all vehicles, equipment, and loose fill materials from the stream bank should rain be forecast within 48 hours; and
- Use designated staging and storage areas in uplands isolated from the project site.

4.1.2.3 Project Impacts

Aquatic resources could be impacted by the diversion and dewatering of the creek and by erosion and siltation resulting from disturbance at the repair sites and removal of invasive exotic species. Impacts to aquatic resources, including special-status species, could be in the form of direct mortality, temporary displacement from or loss of favored habitat niches, diminished food supply, and possible temporary disruption of water quality due to occasionally higher levels of suspended materials or other contaminants.

4.1.2.4 Compensatory Mitigation

After repair work is complete and the extent of any impacts to aquatic resources is known, affected species and habitats are to be replenished and restored to pre-project levels. Invasive exotic species are proposed to be removed along the entire reach of Stewart Canyon Creek from Repair Sites #1 to #5 to enhance native plant communities and wildlife habitats.

4.1.2.5 Cumulative Impacts

No cumulative negative impacts are expected. Stabilization of the stream bank and road shoulder and the removal of invasive exotic species can be expected to enhance conditions for the survival of aquatic resources in this location.

SPECIAL-STATUS PLANT SPECIES

There are four (4) special-status plant species present on the Creek Road project site. They are: *Juglans californica* var. *californica*, (Southern California Black Walnut), *Fraxinus velutina* (Velvet or Arizona Ash), *Lobelia dunnii* var. *serrata* (Dunn’s Lobelia), and *Polygonum lapathifolium* (Willow Weed). Each of these species is discussed in the following sections.

4.2.1 *Juglans californica* var. *californica*

Juglans californica var. *californica*, (Southern California Black Walnut) is a CNPS List 4.2 species that has a fairly limited distribution and is at risk in many parts of its natural range in California. Ventura County populations represent the highest concentration and densities of this southern California endemic. *J. californica* is the dominant species in California Walnut Woodland, a much fragmented, declining special-status habitat that is threatened by urbanization and grazing. It is a low or shrubby deciduous tree with a wetland indicator status of facultative (FAC).



Photos 10-12 - *Juglans californica* var. *californica* tree, leaves, and fruit (walnut), left to right, respectively.



4.2.1.1 Survey Results

J. californica was observed by DMEC on the Creek Road project site in surveys conducted for this project in 2007. The trees are scattered onsite and none were noted as being present at any of the six repair sites.

4.2.1.2 Avoidance and Minimization Efforts

To avoid take of and minimize impacts to *Juglans californica* var. *californica*, the following measures are recommended:

- Conduct pre-construction surveys for *J. californica* by qualified biologists/consulting arborist within the proposed work area and the immediate vicinity and in the vicinity of any invasive exotic species that are to be removed;
- Exercise caution within the work area and immediate vicinity to avoid impacts to any *J. californica* that may be present near the repair sites or the invasive exotic species that are to be removed;
- Install any necessary exclusionary fencing or signage and markers to prevent intrusion into sensitive habitat areas during construction;
- Install erosion and siltation controls (i.e. silt fencing, desilting basins, coir rolls and blankets);
- Remove all vehicles, equipment, and loose fill materials from the stream bank should rain be forecast within 48 hours; and
- Use designated staging and storage areas in uplands isolated from the project site.

4.2.1.3 Project Impacts

No *J. californica* were noted at the repair sites and no direct impacts from the project in these areas are expected. Indirect impacts due to erosion or stream diversion and dewatering activities are possible but not likely. *J. californica* could be impacted by the removal of invasive exotic species.

4.2.1.4 Compensatory Mitigation

After repair work is complete and the extent of any impacts to *J. californica* is known, affected areas are to be replanted and/or supplemented by additional planting of the species. Invasive exotic species are proposed to be removed along the entire reach of Stewart Canyon Creek from Repair Sites #1 to #5 to enhance native plant communities and wildlife habitats.

4.2.1.4 Cumulative Impacts

No cumulative negative impacts are expected. Stabilization of the stream bank and road shoulder and the removal of invasive exotic species can be expected to enhance conditions for the survival of *J. californica* in this location.

4.2.2 *Fraxinus velutina*

Fraxinus velutina (Velvet or Arizona Ash) is a Ventura County Locally Rare Species and is listed as Rare, with five or fewer occurrences known in the County. It is a small to medium size winter-deciduous tree that is a facultative wetland species (FACW).



Photos 13 and 14 - *Fraxinus velutina* young tree (left) and leaves (right).

4.2.2.1 Survey Results

F. velutina was observed by DMEC on the Creek Road project site in surveys conducted for this project in 2007. The trees are scattered onsite and none were noted as being present at any of the six repair sites.

4.2.2.2 Avoidance and Minimization Efforts

To avoid take of and minimize impacts to *Fraxinus velutina*, the following measures are recommended:

- Conduct pre-construction surveys for *F. velutina* by qualified biologists within the proposed work area and the immediate vicinity and in the vicinity of any invasive exotic species that are to be removed;
- Exercise caution within the work area and immediate vicinity to avoid impacts to any *F. velutina* that may be present near the repair sites or the invasive exotic species that are to be removed;
- Install any necessary exclusionary fencing or signage and markers to prevent intrusion into sensitive habitat areas during construction;
- Install erosion and siltation controls (i.e. silt fencing, desilting basins, coir rolls and blankets);

- Remove all vehicles, equipment, and loose fill materials from the stream bank should rain be forecast within 48 hours; and
- Use designated staging and storage areas in uplands isolated from the project site.

4.2.2.3 Project Impacts

No *F. velutina* were noted at the repair sites and no direct impacts from the project in these areas are expected. Indirect impacts due to erosion or stream diversion and dewatering activities are possible but not likely. *F. velutina* could be impacted by the removal of invasive exotic species.

4.2.2.4 Compensatory Mitigation

After repair work is complete and the extent of any impacts to *F. velutina* is known, affected areas are to be replanted and/or supplemented by additional planting of the species. Invasive exotic species are proposed to be removed along the entire reach of Stewart Canyon Creek from Repair Sites #1 to #5 to enhance native plant communities and wildlife habitats.

4.2.2.5 Cumulative Impacts

No cumulative negative impacts are expected. Stabilization of the stream bank and road shoulder and the removal of invasive exotic species can be expected to enhance conditions for the survival of *F. velutina* in this location.

4.2.3 *Lobelia dunnii* var. *serrata*

Lobelia dunnii var. *serrata* (Dunn's Lobelia) is a Ventura County Locally Rare Species and is listed as Uncommon/Type Locality, with six to ten known occurrences in the County. The project site location is likely the Type Locality (the place where the species was first collected and formally described from). Environmental information present at the Type Locality is of scientific, educational, and historical value and should be preserved to protect these qualities. It is a perennial herb and a facultative wetland species (FACW-).



Photo 15 - *Lobelia dunnii* var. *serrata*.

4.2.3.1 Survey Results

Lobelia dunnii var. *serrata* was observed by DMEC on the Creek Road project site in surveys conducted for this project in 2007. It was found growing on bedrock in the stream channel and none were noted as being present at any of the six repair sites.

4.2.3.2 Avoidance and Minimization Efforts

The following measures are recommended to avoid take of and minimize impacts to *Lobelia dunnii* var. *serrata*:

- Conduct pre-construction surveys for *L. dunnii* var. *serrata* by qualified botanists within the proposed work area and the immediate vicinity and in the vicinity of any invasive exotic species that are to be removed;
- Exercise caution within the work area and immediate vicinity to avoid impacts to any *L. dunnii* var. *serrata* that may be present near the repair sites or the invasive exotic species that are to be removed;
- Install any necessary exclusionary fencing or signage and markers to prevent intrusion into sensitive habitat areas during construction;
- Install erosion and siltation controls (i.e. silt fencing, desilting basins, coir rolls and blankets);
- Remove all vehicles, equipment, and loose fill materials from the stream bank should rain be forecast within 48 hours; and
- Use designated staging and storage areas in uplands isolated from the project site.

4.2.3.3 Project Impacts

No *L. dunnii* var. *serrata* were noted at the repair sites and no direct impacts from the project in these areas are expected. Indirect impacts due to erosion or stream diversion and dewatering activities are possible but not likely. *L. dunnii* var. *serrata* could be impacted by the removal of invasive exotic species.

4.2.3.4 Compensatory Mitigation

After repair work is complete and the extent of any impacts to *L. dunnii* var. *serrata* is known, affected areas are to be replanted and/or supplemented by additional planting of the species. Invasive non-native invasive exotic species are proposed to be removed along the entire reach of Stewart Canyon Creek from Repair Sites #1 to #5 to enhance native plant communities and wildlife habitats.

4.2.3.5 Cumulative Impacts

No cumulative negative impacts are expected. Stabilization of the stream bank and road shoulder and the removal of invasive exotic species can be expected to enhance conditions for the survival of *L. dunnii* var. *serrata* in this location.

4.2.4 *Polygonum lapathifolium*

Polygonum lapathifolium (Willow Weed) is a Ventura County Locally Rare Species and is listed as Uncommon, with six to ten known occurrences in the County. It is an annual herb that flowers from June to October and is an obligate wetland species (OBL).



Photo 16 - *Polygonum lapathifolium*.

4.2.4.1 Survey Results

Polygonum lapathifolium was observed by DMEC on the Creek Road project site in surveys conducted for this project in 2007. It was found growing in the stream channel.

4.2.4.2 Avoidance and Minimization Efforts

To avoid take of and minimize impacts to *Polygonum lapathifolium*, the following measures are recommended:

- Conduct pre-construction surveys for *P. lapathifolium* by qualified botanists within the proposed work area and the immediate vicinity and in the vicinity of any invasive exotic species that are to be removed;
- Exercise caution within the work area and immediate vicinity to avoid impacts to any *P. lapathifolium* that may be present near the repair sites or the invasive exotic species that are to be removed;
- Install any necessary exclusionary fencing or signage and markers to prevent intrusion into sensitive habitat areas during construction;
- Install erosion and siltation controls (i.e. silt fencing, desilting basins, coir rolls and blankets);

- Remove all vehicles, equipment, and loose fill materials from the stream bank should rain be forecast within 48 hours; and
- Use designated staging and storage areas in uplands isolated from the project site.

4.2.4.3 Project Impacts

No *Polygonum lapathifolium* were noted at the repair sites and no direct impacts from the project in these areas are expected. Indirect impacts due to erosion or stream diversion and dewatering activities are possible but not likely. *P. lapathifolium* could be impacted by the removal of invasive exotic species.

4.2.4.4 Compensatory Mitigation

After repair work is complete and the extent of any impacts to *Polygonum lapathifolium* is known, affected areas are to be replanted and/or supplemented by additional planting of the species. Invasive exotic species are proposed to be removed along the entire reach of Stewart Canyon Creek from Repair Sites #1 to #5 to enhance native plant communities and wildlife habitats.

4.2.4.5 Cumulative Impacts

No cumulative negative impacts are expected. Stabilization of the stream bank and road shoulder and the removal of invasive exotic species can be expected to enhance conditions for the survival of *Polygonum lapathifolium* in this location.

4.3 SPECIAL-STATUS ANIMAL SPECIES

Five (5) special-status animal species are of concern with regard to the Creek Road repair project. They are: Arroyo Chub (*Gila orcutti*), Southern Steelhead Trout – Southern California ESU (*Oncorhynchus mykiss irideus*), California Red-legged Frog (*Rana aurora draytonii*), Southwestern Pond Turtle (*Actinemys [Emys] marmorata pallida*), and Two-striped Garter Snake (*Thamnophis hammondi*). Each of these species is discussed in the following sections.

4.3.1 Arroyo Chub

Arroyo Chub (*Gila orcutti*) is a State Species of Special Concern (SSC). Their occurrence in the Ventura River watershed is probably a result of introductions from their native range further south. They breed and lay eggs from February through August, with a peak in June and July. Eggs are laid on sand or mud substrates in slow-moving portions of the stream and hatch within a week. Arroyo Chub feeds on algae, Mosquito Fern (*Azolla*), insects, and crustaceans (CDFG 2007b).



Photos 17 and 18 - Arroyo Chub.

4.3.1.1 Survey Results

Arroyo Chub was observed by DMEC at the Creek Road project site near the location of Repair #4 in October 2007, and a few miles downstream of the project site on the Whitman property in San Antonio Creek in 2005. This species is present onsite.

4.3.1.2 Avoidance and Minimization Efforts

To avoid take of and minimize impacts to Arroyo Chub, the following measures are recommended:

- Conduct work outside of the February to September period for Arroyo Chub breeding, spawning, and early development;
- Conduct pre-construction surveys for Arroyo Chub by qualified biologists, as well as periodic monitoring during construction, within the proposed work area and the immediate vicinity and in the vicinity of any invasive exotic species that are to be removed;
- Prior to diversion and dewatering conduct focused monitoring for Arroyo Chub in the three stream reaches directly adjacent to the six repair sites so that any fish remaining after dewatering can be relocated by qualified biologists to another suitable location nearby in Stewart Canyon Creek;
- Notify CDFG prior to any performing any activities involving Arroyo Chub;
- During construction avoid any surface water (pools or flowing water) in the stream channel throughout the duration of the project;
- Install any necessary exclusionary fencing or signage and markers to prevent intrusion into sensitive habitat areas during construction;
- Install erosion and siltation controls (i.e. silt fencing, desilting basins, coir rolls and blankets) and monitor turbidity levels in the stream;
- Remove all vehicles, equipment, and loose fill materials from the stream bank should rain be forecast within 48 hours; and
- Use designated staging and storage areas in uplands isolated from the project site.

4.3.1.3 Project Impacts

Arroyo Chub could be impacted by the diversion and dewatering of the creek and by erosion and siltation resulting from disturbance at the repair sites and removal of invasive exotic species. Impacts could be in the form of direct mortality, temporary displacement from or loss of favored habitat niches, diminished food supply, and possible temporary disruption of water quality due to occasionally higher levels of suspended materials or other contaminants.

4.3.1.4 Compensatory Mitigation

After repair work is complete and the extent of any impacts to Arroyo Chub is known, affected habitats are to be restored and the species replenished to pre-project levels. Invasive exotic species are proposed to be removed along the entire reach of Stewart Canyon Creek from Repair Sites #1 to #5 to enhance native plant communities and wildlife habitats.

4.3.1.5 Cumulative Impacts

No cumulative negative impacts are expected. Stabilization of the stream bank and road shoulder and the removal of invasive exotic species can be expected to enhance conditions for the survival of Arroyo Chub in this location.

4.3.2 Southern Steelhead Trout

Southern Steelhead Trout – Southern California ESU (*Oncorhynchus mykiss irideus*) is Federally Endangered (FE) and a State Species of Special Concern (SSC). Southern Steelhead hatch in fresh water, migrate to the ocean, and return to their stream of origin to spawn. Spawning occurs from January to May where the streambed is composed of gravelly substrate, usually in riffles or pool tails. After spawning the adult fish return to the ocean, and the eggs hatch after three to four weeks. The newly hatched trout spend another two to three weeks under the cover of the gravel before emerging as fry. Juveniles may migrate directly to estuaries or the ocean, or continue developing in fresh water for up to three years depending on the water supply and conditions. Southern Steelhead primarily feed on invertebrates, and may also feed on other fish (CDFG 2007b).



Photo 19 - Southern Steelhead Trout.



4.3.2.1 Survey Results

Southern Steelhead have been observed previously by DMFC in Stewart Canyon Creek (2004) and nearby in San Antonio Creek (1998). CNDDDB RareFind3 (CDFG 2007a) reports occurrences in San Antonio Creek. Suitable habitat occurs on the project site. For the purposes of this project it will be assumed that this species is present onsite.

4.3.2.2 Avoidance and Minimization Efforts

To avoid take of and minimize impacts to Southern Steelhead, the following measures are recommended:

- Conduct work outside of the January to July period for Southern Steelhead breeding, spawning, and early development;
- Conduct pre-construction surveys for Southern Steelhead by qualified biologists, as well as periodic monitoring during construction, within the proposed work area and the immediate vicinity and in the vicinity of any invasive exotic species that are to be removed;
- Prior to diversion and dewatering conduct focused monitoring for Southern Steelhead in the three stream reaches directly adjacent to the six repair sites so that any fish remaining after dewatering can be relocated by qualified biologists to another suitable location nearby in Stewart Canyon Creek;
- Notify regulatory agencies (Corps, NMFS, CDFG) should Southern Steelhead be observed within the vicinity of the project prior to any performing any activities that could impact the fish;
- During construction avoid any surface water (pools or flowing water) in the stream channel throughout the duration of the project;
- Install any necessary exclusionary fencing or signage and markers to prevent intrusion into sensitive habitat areas during construction;
- Install erosion and siltation controls (i.e. silt fencing, desilting basins, coir rolls and blankets) and monitor turbidity levels in the stream;
- Remove all vehicles, equipment, and loose fill materials from the stream bank should rain be forecast within 48 hours; and
- Use designated staging and storage areas in uplands isolated from the project site.

4.3.2.3 Project Impacts

Southern Steelhead could be impacted by the diversion and dewatering of the creek and by erosion and siltation resulting from disturbance at the repair sites and removal of invasive exotic species. Impacts could be in the form of direct mortality, temporary displacement from or loss of favored habitat niches, diminished food supply, and possible temporary disruption of water quality due to occasionally higher levels of suspended materials or other contaminants.

4.3.2.4 Compensatory Mitigation

After repair work is complete and the extent of any impacts to Southern Steelhead is known, affected habitats are to be restored and the species replenished to pre-project levels. Invasive exotic species are

proposed to be removed along the entire reach of Stewart Canyon Creek from Repair Sites #1 to #5 to enhance native plant communities and wildlife habitats.

4.3.2.5 Cumulative Impacts

No cumulative negative impacts are expected. Stabilization of the stream bank and road shoulder and the removal of invasive exotic species can be expected to enhance conditions for the survival of Southern Steelhead in this location.

4.3.3 California Red-legged Frog

California Red-legged Frog (CRLF) (*Rana aurora draytonii*) is Federally Threatened (FT) and a State Species of Special Concern (SSC). CRLF is nocturnal, highly aquatic, and shows little movement away from streamside habitats. This amphibian breeds and lays eggs on emergent aquatic vegetation from November to April. Adults feed on aquatic and terrestrial invertebrates, as well as fish, tadpoles, smaller frogs, and small mammals. Larvae are entirely aquatic and feed on vegetation. CRLF is active all year in coastal areas and has periods of inactivity in late summer and winter in other areas (CDFG 2007b).



David L. Magney ©2005

Photo 20 - California Red-legged Frog.

4.3.3.1 Survey Results

California Red-legged Frog was observed by DMEC just downstream of the project site on the Archer property in San Antonio Creek in 2005. CNDDDB RareFind3 (CDFG 2007a) reports occurrences in San Antonio Creek. Suitable habitat occurs on the project site. For the purposes of this project it will be assumed that this species is present onsite.



4.3.3.2 Avoidance and Minimization Efforts

To avoid take of and minimize impacts to CRLF, the following measures are recommended:

- Conduct work outside of the November to April period for CRLF breeding, egg laying, and early development;
- Conduct pre-construction surveys for CRLF by qualified biologists, as well as periodic monitoring during construction, within the proposed work area and the immediate vicinity and in the vicinity of any invasive exotic species that are to be removed;
- Prior to diversion and dewatering conduct focused monitoring for in the three stream reaches directly adjacent to the six repair sites so that any frogs remaining after dewatering can be relocated by qualified biologists to another suitable location nearby in Stewart Canyon Creek;
- Notify regulatory agencies (USFWS, CDFG) should CRLF be observed within the vicinity of the project prior to any performing any activities that could impact the frog;
- Exercise extreme caution within the work area and immediate vicinity to avoid impacts to any CRLF that may be in the streambed or nearby;
- During construction avoid any surface water (pools or flowing water) in the stream channel throughout the duration of the project;
- Install any necessary exclusionary fencing or signage and markers to prevent intrusion into sensitive habitat areas during construction;
- Install erosion and siltation controls (i.e. silt fencing, desilting basins, coir rolls and blankets) and monitor turbidity levels in the stream;
- Remove all vehicles, equipment, and loose fill materials from the stream bank should rain be forecast within 48 hours; and
- Use designated staging and storage areas in uplands isolated from the project site.

4.3.3.3 Project Impacts

California Red-legged Frog could be impacted by the diversion and dewatering of the creek and by erosion and siltation resulting from disturbance at the repair sites and removal of invasive exotic species. Impacts could be in the form of direct mortality, temporary displacement from or loss of favored habitat niches, diminished food supply, and possible temporary disruption of water quality due to occasionally higher levels of suspended materials or other contaminants.

4.3.3.4 Compensatory Mitigation

After repair work is complete and the extent of any impacts to California Red-legged Frog is known, affected habitats are to be restored and the species replenished to pre-project levels. Invasive exotic species are proposed to be removed along the entire reach of Stewart Canyon Creek from Repair Sites #1 to #5 to enhance native plant communities and wildlife habitats.

4.3.3.5 Cumulative Impacts

No cumulative negative impacts are expected. Stabilization of the stream bank and road shoulder and the removal of invasive exotic species can be expected to enhance conditions for the survival of California Red-legged Frog in this location.

4.3.4 Southwestern Pond Turtle

Southwestern Pond Turtle (*Actinemys [Emys] marmorata pallida*) is a State Species of Special Concern (SSC). This species is aquatic and typically becomes active in March or April, mates in late April or early May, lays eggs in May or June, and begins over-wintering in October or November. They are diurnal and usually leave the aquatic zone for upland areas to mate, lay eggs, aestivate, or overwinter. They may remain active year-round in central and southern coastal areas. Most hatchling turtles are thought to emerge from the nest in the spring and move to the aquatic zone at that time. Southwestern Pond Turtles have a generalist diet that includes aquatic vegetation and almost anything that they are able to catch and overpower (CDFG 2007b).



Photo 21 - Southwestern Pond Turtle.

4.3.4.1 Survey Results

Southwestern Pond Turtle was observed by DMEC just downstream of the project site on the Whitman property in San Antonio Creek in 2005. CNDDDB RareFind3 (CDFG 2007a) reports occurrences in San Antonio Creek. Suitable habitat occurs on the project site. For the purposes of this project it will be assumed that this species is present onsite.

4.3.4.2 Avoidance and Minimization Efforts

To avoid take of and minimize impacts to Southwestern Pond Turtle, the following measures are recommended:



- Conduct pre-construction surveys for Southwestern Pond Turtle by qualified biologists, as well as periodic monitoring during construction, within the proposed work area and the immediate vicinity and in the vicinity of any invasive exotic species that are to be removed;
- Prior to diversion and dewatering conduct focused monitoring for Southwestern Pond Turtle in the three stream reaches directly adjacent to the six repair sites so that any turtles remaining after dewatering can be relocated by qualified biologists to another suitable location nearby in Stewart Canyon Creek;
- Notify CDFG should Southwestern Pond Turtle be observed within the vicinity of the project prior to any performing any activities that could impact the turtle;
- Exercise extreme caution within the work area and immediate vicinity to avoid impacts to any turtles that may be in the streambed or adjacent uplands;
- During construction avoid any surface water (pools or flowing water) in the stream channel throughout the duration of the project;
- Install any necessary exclusionary fencing or signage and markers to prevent intrusion into sensitive habitat areas during construction;
- Install erosion and siltation controls (i.e. silt fencing, desilting basins, coir rolls and blankets) and monitor turbidity levels in the stream;
- Remove all vehicles, equipment, and loose fill materials from the stream bank should rain be forecast within 48 hours; and
- Use designated staging and storage areas in uplands isolated from the project site.

4.3.4.3 Project Impacts

Southwestern Pond Turtle could be impacted by the diversion and dewatering of the creek and by erosion and siltation resulting from disturbance at the repair sites and removal of *Washingtonia robusta* (Mexican Fan Palm). Impacts could be in the form of direct mortality, temporary displacement from favored habitat niches, diminished food supply, and possible temporary disruption of water quality due to occasionally higher levels of suspended materials or other contaminants.

4.3.4.4 Compensatory Mitigation

After repair work is complete and the extent of any impacts to Southwestern Pond Turtle is known, affected habitats are to be restored and the species replenished to pre-project levels. Invasive exotic species are proposed to be removed along the entire reach of Stewart Canyon Creek from Repair Sites #1 to #5 to enhance native plant communities and wildlife habitats.

4.3.4.5 Cumulative Impacts

No cumulative negative impacts are expected. Stabilization of the stream bank and road shoulder and the removal of invasive exotic species can be expected to enhance conditions for the survival of Southwestern Pond Turtle in this location.

4.3.5 Two-striped Garter Snake

Two-striped Garter Snake (*Thamnophis hammondi*) is a State Species of Special Concern (SSC). This species is diurnal and forages in and along streams for fish and fish eggs and amphibians and their larvae. Though dependent on aquatic resources, Two-striped Garter Snake may show seasonal habitat preferences and occupy adjacent uplands in the winter. At night it retreats into burrows or crevices, or beneath objects on the ground. Two-striped Garter Snake mates in the spring (March) and bears live young in late summer and fall (CDFG 2007b).



Photo 22 - Two-striped Garter Snake¹⁵.

4.3.5.1 Survey Results

Two-striped Garter Snake was observed by DMEC just downstream of the project site on the Archer property along San Antonio Creek in 2005. Suitable habitat occurs on the project site. For the purposes of this project it will be assumed that this species is present onsite.

4.3.5.2 Avoidance and Minimization Efforts

To avoid take of and minimize impacts to Two-striped Garter Snake, the following measures are recommended:

- Conduct pre-construction surveys for Two-striped Garter Snake by qualified biologists, as well as periodic monitoring during construction, within the proposed work area and the immediate vicinity and in the vicinity of any invasive exotic species that are to be removed;
- Prior to diversion and dewatering conduct focused monitoring for Two-striped Garter Snake in the three stream reaches directly adjacent to the six repair sites so that any snakes remaining after dewatering can be relocated by qualified biologists to another suitable location nearby in Stewart Canyon Creek;

¹⁵ Photograph by Chris Brown, USGS.



- Notify CDFG should Two-striped Garter Snake be observed within the vicinity of the project prior to any performing any activities that could impact the snake;
- Exercise extreme caution within the work area and immediate vicinity in the late summer and fall when young may be present, and at other times when adults may be in the streambed or adjacent uplands;
- During construction avoid any surface water (pools or flowing water) in the stream channel throughout the duration of the project;
- Install any necessary exclusionary fencing or signage and markers to prevent intrusion into sensitive habitat areas during construction;
- Install erosion and siltation controls (i.e. silt fencing, desilting basins, coir rolls and blankets) and monitor turbidity levels in the stream;
- Remove all vehicles, equipment, and loose fill materials from the stream bank should rain be forecast within 48 hours; and
- Use designated staging and storage areas in uplands isolated from the project site.

4.3.5.3 Project Impacts

Two-striped Garter Snake could be impacted by the diversion and dewatering of the creek and by erosion and siltation resulting from disturbance at the repair sites and removal of invasive exotic species. Impacts could be in the form of direct mortality, temporary displacement from or loss of favored habitat niches, diminished food supply, and possible temporary disruption of water quality due to occasionally higher levels of suspended materials or other contaminants.

4.3.5.4 Compensatory Mitigation

After repair work is complete and the extent of any impacts to Two-striped Garter Snake is known, affected habitats are to be restored and the species replenished to pre-project levels. Invasive exotic species are proposed to be removed along the entire reach of Stewart Canyon Creek from Repair Sites #1 to #5 to enhance native plant communities and wildlife habitats.

4.3.5.5 Cumulative Impacts

No cumulative negative impacts are expected. Stabilization of the stream bank and road shoulder and the removal of invasive exotic species can be expected to enhance conditions for the survival of Two-striped Garter Snake in this location.



CHAPTER 5 - RESULTS: PERMITS AND TECHNICAL STUDIES FOR SPECIAL LAWS AND CONDITIONS

This section provides information about permits required by state and federal regulatory agencies, and recommended or required project conditions.

5.1 FEDERAL ENDANGERED SPECIES ACT CONSULTATION SUMMARY

Since a permit is required from the Corps pursuant to Section 404 of the Clean Water Act, Federal Endangered Species Act (ESA) consultations are conducted through the Corps pursuant to Section 10 of the ESA. Two federally listed species are under consideration by the Corps, California Red-legged Frog (Threatened) and Southern Steelhead Trout (Endangered).

5.2 FEDERAL FISHERIES AND ESSENTIAL FISH HABITAT CONSULTATION SUMMARY

Since a permit is required from the Corps pursuant to Section 404 of the Clean Water Act, Federal Endangered Species Act (ESA) consultations are conducted through the Corps pursuant to Section 10 of the ESA. One federally listed fish species is under consideration by the Corps, Southern Steelhead Trout (Endangered).

5.3 CALIFORNIA ENDANGERED SPECIES ACT CONSULTATION SUMMARY

Since no state-listed species are known or likely to occur at the project site, no consultation with the CDFG is required.

5.4 WETLANDS AND OTHER WATERS COORDINATION SUMMARY

A permit from the Corps is required for work within Stewart Canyon Creek. A Nationwide Permit is available for the road repair project, and has been applied for. The contact for the Corps is John Markham, his phone number is 805/585-2150. The permit application number is 200700766-JWM.



5.5 INVASIVE AND NON-NATIVE SPECIES

Since invasive non-native species are detrimental to native species, primarily through competition and modification of habitats for native species, eradication and control of them is recommended. Table 13, Invasive and Non-native Plant Species Observed at Creek Road Project Site, lists all invasive non-native and other non-native plant species present onsite. Table 14, Invasive and Non-native Animal Species Observed at Creek Road Project Site, lists all known invasive and non-native wildlife species present onsite. Those plant and wildlife taxa that are considered invasive are indicated by **bold** text in Tables 13 and 14 above, respectively.

Table 13. Invasive and Non-native Plant Species Observed at Creek Road Project Site

Scientific Name ¹⁶	Common Name	Habit ¹⁷	WIS ¹⁸	Family
<i>Arundo donax</i> *	Giant Reed	PG	FACW	Poaceae
<i>Echinochloa crus-galli</i> *	Barnyard Grass	AG	FACW	Poaceae
<i>Erucastrum [Hirschfeldia] incanum</i> *	Summer Mustard	PH	-	Brassicaceae
<i>Eucalyptus polyanthemos</i> *+	Silver Dollar Gum	T	-	Myrtaceae
<i>Ficus carica</i> *+	Edible Fig	T	-	Moraceae
<i>Geranium molle</i> *	Annual Cranesbill	AH	-	Geraniaceae
<i>Hedera canariensis</i> *+	Canary Ivy	PV	-	Araliaceae
<i>Koelreuteria paniculata</i> var. <i>paniculata</i> *+	Goldenrain Tree	T	-	Sapindaceae
<i>Ligustrum lucidum</i> *+	Glossy Privet	T/S	-	Oleaceae
<i>Malva nicaeensis</i> *	Bull Mallow	AH	-	Malvaceae
<i>Medicago polymorpha</i> *	Common Burclover	AH	-	Fabaceae
<i>Mentha spicata</i> var. <i>spicata</i> *	Spearmint	PH	OBL	Lamiaceae
<i>Nerium oleander</i> *+	Oleander	S	-	Apocynaceae
<i>Phoenix canariensis</i> *+	Canary Island Date Palm	T	(FAC)	Areaceae
<i>Picris echioides</i> *	Bristly Ox-tongue	A/PH	FAC*	Asteraceae
<i>Piptatherum miliaceum</i> *	Smilo Grass	PG	(FACU-)	Poaceae
<i>Pistacia chinensis</i> *	Chinese Pistache	T	-	Anacardiaceae
<i>Plantago major</i> *	Common Plantain	PH	FACW-	Plantaginaceae
<i>Rubus discolor</i> *	Himalayan Blackberry	PV	FACW*	Rosaceae
<i>Rumex crispus</i> *	Curly Dock	PH	FACW-	Polygonaceae

¹⁶ * = Introduced/naturalized non-native plant species. + = Planted, exotic ornamental species that have persisted and escaped locally into natural plant communities. **Bold** = Invasive non-native plants that threaten wildlands listed by Cal-IPC (California Invasive Plant Council 2007). Scientific and common names follow Hickman (1993) and Flora of North America (Flora of North America Editorial Committee 1993-2007).

¹⁷ Habit definitions: AG = annual grass or graminoid; PG = perennial grass or graminoid; AH = annual herb; PH = perennial herb; PV = perennial vine; S = shrub; T = tree.

¹⁸ WIS = Wetland Indicator Status. The following code definitions are according to Reed (1988):

OBL = obligate wetland species, occurs almost always in wetlands (>99% probability).

FACW = facultative wetland species, usually found in wetlands (67-99% probability).

FAC = facultative species, equally likely to occur in wetlands or nonwetlands (34-66% probability).

FACU = facultative upland species, usually found in nonwetlands (67-99% probability).

+ or - symbols are modifiers that indicate greater or lesser affinity for wetland habitats.

NI = no indicator has been assigned due to a lack of information to determine indicator status.

* = a tentative assignment to that indicator status by Reed (1988).

Parentheses indicate a wetland status as suggested by David L. Magney based on extensive field observations.



Scientific Name ¹⁶	Common Name	Habit ¹⁷	WIS ¹⁸	Family
<i>Sonchus asper</i> *	Prickly Sow-thistle	AH	FAC	Asteraceae
<i>Sonchus oleraceus</i> *	Common Sow-thistle	AH	NI*	Asteraceae
<i>Ulmus pumila</i> *+	Siberian Elm	T	-	Ulmaceae
<i>Urtica urens</i> *	Dwarf Nettle	AH	-	Urticaceae
<i>Vinca major</i> *+	Periwinkle	PH	-	Apocynaceae
<i>Washingtonia robusta</i> *+	Mexican Fan Palm	T	-	Areaceae

Twenty-six (26) plant species onsite are not native; however, only ten (10) are considered invasive that warrant eradication. Three invasive plant species are prevalent in the area of the project site: *Rubus discolor*, *Vinca major* and *Washingtonia robusta*. In addition to these, a significant eradication program is currently underway in the Ventura River watershed to control *Arundo donax*, which is present onsite but very limited.

Due to the environmental harm these plant species have on the natural environment, eradication of them onsite would greatly improve habitat conditions of lower Stewart Canyon Creek, as determined at another project site in the Ojai Valley (DMEC 2006). Eradication of these taxa recommended from between the Creek Road bridge over Stewart Canyon Creek upstream to 100 linear feet upstream of the northernmost worksite.

Table 14. Invasive and Non-native Animal Species Observed at Creek Road Project Site

Scientific Name	Common Name	Family (or other classification)
<i>Fish</i>		
<i>Gambusia affinis</i> *	Western Mosquitofish	Poeciliidae
<i>Invertebrates</i>		
<i>Procambarus clarkii</i> *	Red Swamp Crayfish	Subphylum Crustacea: Family Cambaridae
<i>Apis mellifera</i> *	European Honey Bee	Order Hymenoptera: Family Apidae

There are only three (3) species of wildlife onsite that are not native; however, none of them is considered invasive species that warrant eradication. In fact, two of them are actively cultivated, Mosquitofish for controlling mosquitoes, and European Honey Bee for crop pollination and commercial honey production.

CHAPTER 6 - CITATIONS

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6.2 PERSONAL COMMUNICATIONS

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