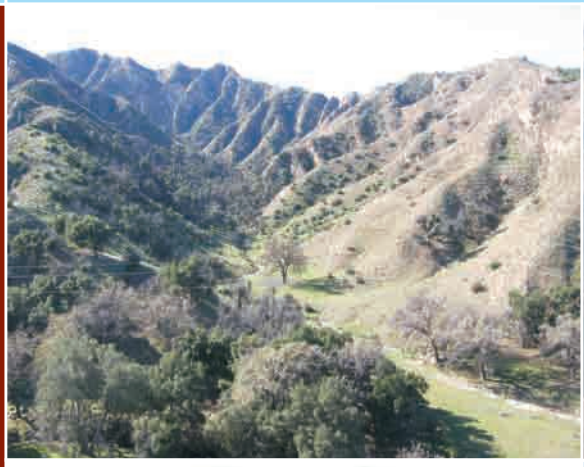
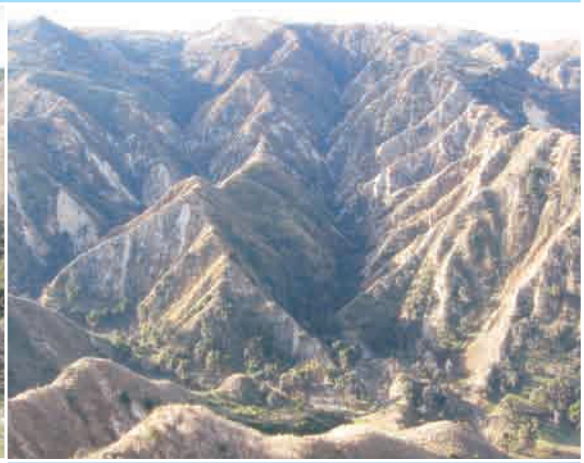
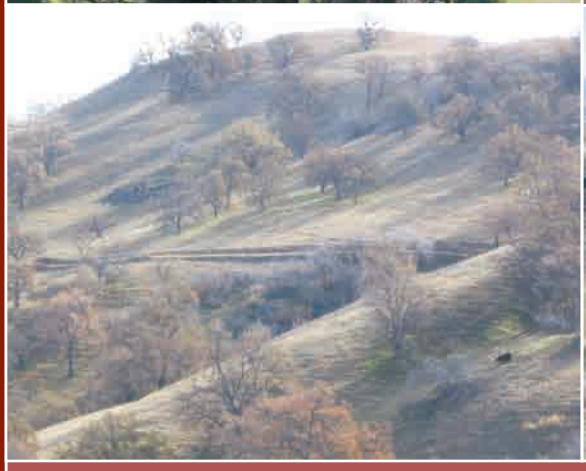
Dudek and Associates, Inc., "Biological Resources Technical Report for the Newhall Ranch High Country Specific Management Area and the Salt Creek Area" (2006; 2006B)

Biological Resources Technical Report

Newhall Ranch High Country Specific Management and Salt Creek Area


OCTOBER 2006

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BIOLOGICAL RESOURCES TECHNICAL REPORT

for the

Newhall Ranch High Country
Specific Management Area
and the
Salt Creek Area

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October 2006

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SUMMARY OF FINDINGS

Dudek conducted general biological surveys, including vegetation mapping, general wildlife surveys, and sensitive plant surveys within the approximately 4,205-acre Newhall Ranch High Country Specific Management Area (NRHC SMA) and the 1,518-acre Salt Creek area. Collectively, these areas are referred to as the study area in this report. The study area is located in an unincorporated portion of the Santa Clara River Valley on the north slopes of the Santa Susana Mountains between Potrero and Tapo canyons and straddles the Los Angeles/Ventura County Line. Site elevations range from 800 feet above mean sea level (AMSL) in the Santa Clara River bottom in Ventura County to approximately 3,500 feet AMSL on the ridgeline of the Santa Susana Mountains along the southern boundary.

Dudek conducted sensitive plant surveys between April and July, 2003 within approximately 5,133 acres of the total 5,723 acres within the study area. Dudek conducted sensitive plant surveys within the remaining 590 acres of the study area between May and July, 2006. Dudek conducted vegetation mapping and general wildlife surveys between early November and late December of 2005 and between May and August of 2006.

Sensitive plant species observed within the study area include slender mariposa lily (*Calochortus clavatus* var. *gracilis*), Plummer's mariposa lily (*Calochortus plummerae*), late-flowered mariposa lily (*Calochortus weedii* var. *vestus*), Peirson's morning glory (*Calystegia peirsonii),* island mountain-mahogany (*Cercocarpus betuloides* var. *blancheae*), Southern California black walnut (*Juglans californica*), navarretia (*Navarretia* sp. *nova*), and Parish's big sagebrush (*Artemisia tridentata* ssp. *parishii*).

A number of vegetation communities were identified within the study area during the vegetation surveys. Upland vegetation communities dominate the landscape within the study area. The dominant upland plant communities include chaparral (undifferentiated), California sagebrush scrub, California annual grassland, live oak woodland, valley oak savannah, and agriculture. Riparian and wetland vegetation communities in Salt Creek and its tributaries include riverwash, southern willow scrub, cismontane alkali marsh, elderberry scrub, bulrush–cattail wetland, southern cottonwood–willow riparian forest, arrowweed scrub and alluvial scrub.

The diversity of vegetation communities within the study area provide habitat for a number of sensitive wildlife species. Dudek conducted habitat assessments for the following sensitive species: arroyo toad (*Bufo californicus*), western pond turtle (*Clemmys marmorata pallida*), two-striped garter snake (*Thamnophis hammondii*), ringneck snake (*Diadophis punctatus*), California legless lizard (*Anniella pulchra*), coast horned lizard (*Phrynosoma coronatum*), coastal western

whiptail (*Cnemidophorus tigris multiscutatus*), coastal rosy boa (*Charina* [*Lichanura*] *trivirgata roseofusca*), coast patch-nosed snake (*Salvadora hexalepis virgultea*), San Diego desert woodrat (*Neotoma lepida intermedia*), coastal California gnatcatcher (*Polioptila californica californica*), least Bell's vireo (*Vireo bellii pusillus*), and American badger (*Taxidea taxus*). Based on the given habitat information, elevational range, biological patterns of these species, and predatory base, Dudek anticipates that the study area is likely to support the species listed above. Coastal western whiptail and coast horned lizard were observed on site.

1.0 INTRODUCTION

The purpose of this report is to document the results of general biological surveys, including vegetation mapping, general wildlife surveys, and sensitive plant species surveys within the approximately 4,205-acre Newhall Ranch High Country Specific Management Area (NRHC SMA) and the 1,518-acre Salt Creek area (*Figures 1* and *2*).

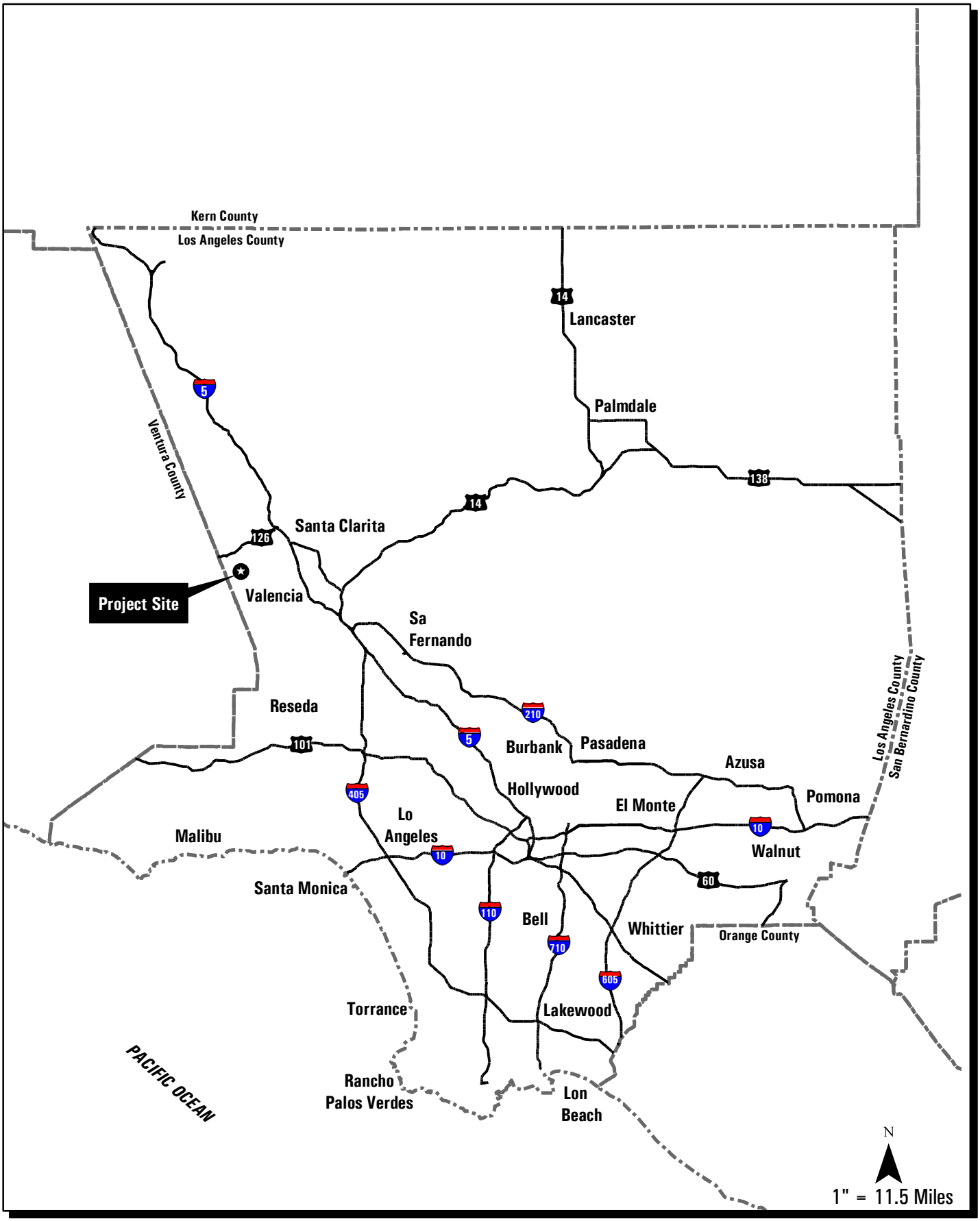
2.0 SITE DESCRIPTION

The NRHC SMA is located in the southern portion of the Newhall Ranch Specific Plan Area on the north slopes of the Santa Susana Mountains between Potrero and Tapo canyons in Los Angeles County. The Salt Creek area is adjacent to the NRHC SMA to the west in Ventura County (*Figures 1* and *2*). These two areas combined are considered the study area for this report. The study area lies roughly 6 miles west of Interstate 5 and west-southwest of the junction of I-5 and State Route 126 (SR 126). The City of Santa Clarita is located to the east of the study area. Site elevations range from 800 feet above mean sea level (AMSL) in the Santa Clara River bottom in Ventura County to approximately 3,500 feet AMSL on the ridgeline of the Santa Susana Mountains along the southern boundary (*Figure 2*).

This study area is dominated by rugged terrain with the main feature being a southeast-to-northwest drainage area for Salt Creek and its associated tributaries. Slope gradients range from moderate to very steep in most of the site to gentle within the Santa Clara River floodplain and along the lower portions of Salt Creek.

2.1 Plant Communities and Land Covers

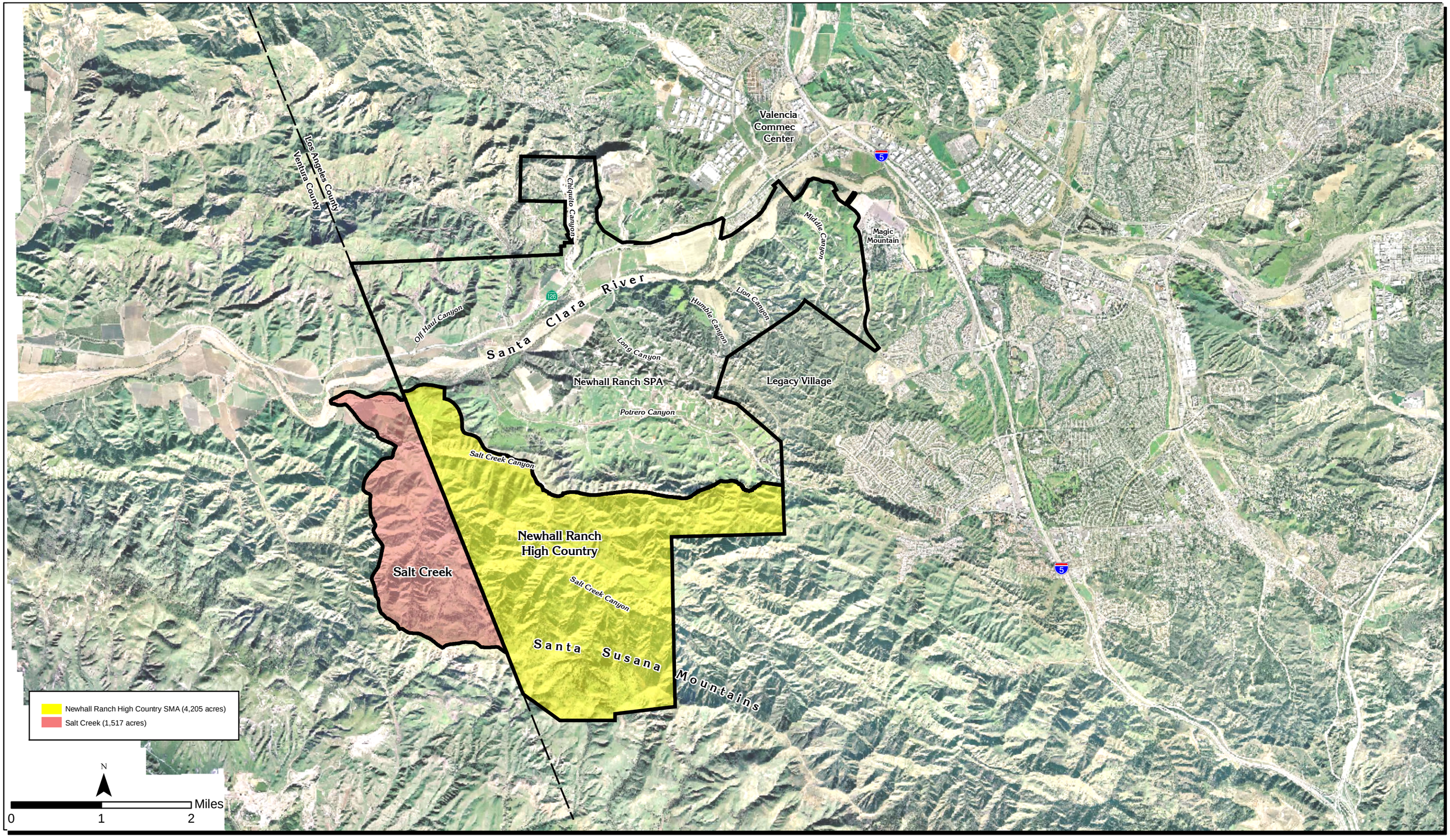
Native and naturalized vegetation communities within the study area are representative of those found in this region and provide high-quality examples of those plant communities found in the Santa Susana Mountains and the Santa Clara River ecosystems in this area. Upland vegetation communities dominate the landscape within the study area. The major upland plant communities include chaparral (undifferentiated), California sagebrush scrub, California annual grassland, live oak woodland, valley oak savannah, and agriculture. Salt Creek and its tributaries support riverwash, southern willow scrub, cismontane alkali marsh, elderberry scrub, bulrush–cattail wetland, southern cottonwood–willow riparian forest, arrowweed scrub, and alluvial scrub riparian plant communities. Newhall Land (Newhall) leases out portions of the study area for cattle grazing and agricultural operations (e.g., food crop production, dry land farming, honey farming). All such operations are currently ongoing. Grazing activities and agricultural



Newhall Ranch High Country Specific Management Area and Salt Creek Area
Biological Resources Technical Report

Regional Map

FIGURE
1



Newhall Ranch High Country Specific Management Area and Salt Creek Area Biological Resources Technical Report

Vicinity Map

FIGURE 2

operations have had a noticeable effect on much of the natural habitat on site. Some scrub vegetation communities have been displaced by non-native California annual grasslands as a result of grazing and many lowland areas have been utilized for agriculture. Southern California Edison and Southern California Gas Company have distribution lines within easements on site as well.

2.2 Geology and Soils

Geologically, the study area is located within the Transverse Ranges geomorphic province of Southern California in the eastern portion of the Ventura depositional basin. This basin was produced by tectonic downwarping in the geologic past to produce a large-scale synclinal structure in which a thick sequence of Cenozoic sediments has accumulated. These sediments have been lithified into a sequence of sedimentary rock that has subsequently been uplifted, tilted, and tectonically deformed. They are cut by segments of the Del Valle and Salt Creek faults (Allan E. Seward 2002).

Soils in the study area are mapped as Balcom–Castaic–Saugus association, 30 to 50 percent slopes, eroded (NRCS 1969). Because the mapping was done at a generalized level, there are areas within the study area with lesser slopes and other soil types that were not mapped. Balcom–Castaic–Saugus association, 15 to 30 percent slopes and small areas of San Andreas and San Benito soils may also be found within the study area.

Soils found on site are characterized generally by steep to very steep, often eroded slopes. The soils are well drained, with moderate to moderately slow subsoil permeability, and medium to very rapid runoff. The erosion hazard is moderate to very high, largely dependent on slope steepness.

3.0 METHODS AND SURVEY LIMITATIONS

Data regarding biological resources present on the project site were obtained through a review of the pertinent literature; field reconnaissance; and focused surveys for sensitive species, with varying levels of specificity; all of which are described below.

3.1 Literature Review

General floristic and sensitive botanical resources present or potentially present within the study area were identified through a literature search using the following sources: the California Natural Diversity Database (CNDDB) for the Newhall, Simi Valley West, Oat Mountain, Mint

Canyon, San Fernando, Green Valley, Warm Springs Mountain, Whitaker Peak, Cobblestone Mountain, Piru, Simi Valley East, Van Nuys, Canoga Park, Calabasas, Thousand Oaks, and Val Verde quadrangle maps (CNDDB website consulted in November 2005 and January 2006); Critical Habitat Designation for Western Los Angeles and Ventura counties (USFWS 2004); 2002, 2003, 2004 and 2005 Sensitive Plant Survey Results for Newhall Ranch Specific Plan Area (Dudek 2002, 2004a, 2005); 2003 Sensitive Plant Survey Results for Valencia Commerce Center, Castaic Mesa, Isola and Ventura Homestead Sites, Magic Mountain Entertainment Center (Entrada) Site, Castaic Junction Site, and Salt Creek (Dudek 2004b–g); 2004 Sensitive Plant Survey Results for Valencia Commerce Center, Entrada Site, Legacy, and Newhall Ranch Specific Plan Area (Dudek 2004h–k); Biological Resource Assessment of the Proposed Santa Susana Mountains/Simi Hills Significant Ecological Area (PCR, November 2000); CalFlora (University of California, Berkeley, May 2002); U.S. Fish and Wildlife Service (USFWS 1999); California Department of Fish and Game (CDFG 2002); Inventory of Rare and Endangered Plants of California (CNPS 2001); Vascular Flora of the Liebre Mountains, Western Transverse Ranges, California (Boyd 1999); Checklist of Rare Ventura County Plant Species (Magney 2002); A Flora of the Santa Barbara Region, California (Smith 1976); A Flora of the Santa Monica Mountains (Raven et al. 1986); Biology of the San Fernando Valley Spineflower, Ahmanson Ranch, Ventura County, California (Glenn Lukos Associates, Inc. and Sapphos Environmental, Inc. 2000); Report to the Fish and Game Commission on the Status of San Fernando Valley Spineflower (CDFG 2001); Biota Report, Newhall Ranch Specific Plan (RECON and Impact Sciences, Inc. 1996); and herbarium specimens from Rancho Santa Ana Botanic Garden (RSA) and the University of California, Riverside (UCR) Herbarium. General information regarding vegetation communities was obtained from Holland (1986) and Sawyer and Keeler-Wolf (1995), with vegetation mapping generally correspond with the *Vegetation Classification and Mapping Program, List of California Terrestrial Natural Communities Recognized by the California Natural Diversity Database* (CDFG 2003). Plant species nomenclature follows Hickman (1993).

3.2 Field Reconnaissance

Botanical and wildlife surveys were conducted on foot by Dudek biologists and biologists subcontracted by Dudek. Sensitive plant surveys were conducted between April and July, 2003 within the Salt Creek area and approximately on *Figure 2* and as shown in *Table 1*. Vegetation mapping and general wildlife surveys were conducted between early November and late December of 2005 and in May through August 2006 in the study area according to the schedule in *Table 2*. Focused sensitive plant surveys were conducted in May and July 2006 in the 590 acres that were not surveyed during 2003 surveys, in accordance with the schedule in *Table 2*.

TABLE 1
2003 Survey Schedule and Personnel
Salt Creek Site

Date	Biologists	Purpose	General Geographic Area
4-30-03	Anuja Parikh and Nathan Gale	Focused survey for SFVS and noting other sensitive plant species when observed	Lower Salt Canyon
5-6-03	Anuja Parikh and Nathan Gale	Focused survey for SFVS and noting other sensitive plant species when observed	Lower Eastern Salt Creek
5-7-03	Megan Enright, Cathleen Weigand, Anuja Parikh, and Nathan Gale	Focused survey for SFVS and noting other sensitive plant species when observed	Lower Western Fork Salt Creek and Lower Salt Creek
5-8-03	Mark Elvin, Anuja Parikh, and Nathan Gale	Focused survey for SFVS and noting other sensitive plant species when observed	Lower Salt Creek
5-9-03	Kim Marsden, Mark Elvin, Megan Enright, Cathleen Weigand, Kathy Rindlaub, Anuja Parikh, and Nathan Gale	Focused survey for SFVS and noting other sensitive plant species when observed	Lower Western Fork Salt Creek, Lower Salt Creek, Upper Western Fork Salt Creek, and Middle Western Fork Salt Creek
5-10-03	Kim Marsden and Kathy Rindlaub	Focused survey for SFVS and noting other sensitive plant species when observed	Lower Western Fork Salt Creek
5-11-03	Kim Marsden	Focused survey for SFVS and noting other sensitive plant species when observed	Lower Western Fork Salt Creek
5-12-03	Anuja Parikh, Nathan Gale, Mark Elvin, Megan Enright, Scott Boczkiewicz, Tricia Wotipka, and Andrew Sanders	Focused survey for SFVS and noting other sensitive plant species when observed	Upper Western Fork Salt Creek, Middle Western Fork Salt Creek, and Lower Western Fork Salt Creek
5-13-03	Anuja Parikh, Nathan Gale, Mark Elvin, Megan Enright, Scott Boczkiewicz, Tricia Wotipka, and Andrew Sanders	Focused survey for SFVS and noting other sensitive plant species when observed	Upper Western Fork Salt Creek and Middle Western Fork Salt Creek
5-14-03	Anuja Parikh, Nathan Gale, Megan Enright, Scott Boczkiewicz, Tricia Wotipka, Andrew Sanders, and Mark Elvin	Focused survey for SFVS and noting other sensitive plant species when observed	Upper Western Fork Salt Creek, Middle Western Fork Salt Creek and Lower Western Fork Salt Creek
5-15-03	Anuja Parikh, Nathan Gale, Mark Elvin, Megan Enright, Scott Boczkiewicz, Tricia Wotipka, and Andrew Sanders	Focused survey for SFVS and noting other sensitive plant species when observed	Upper Western Fork Salt Creek and Middle Western Fork Salt Creek
5-19-03	Anuja Parikh and Nathan Gale	Focused survey for SFVS and noting other sensitive plant species when observed	Middle Western Fork Salt Creek
5-20-03	Anuja Parikh, Nathan Gale, Mark Elvin, and Kathy Rindlaub	Focused survey for SFVS and noting other sensitive plant species when observed	Middle Western Fork Salt Creek
5-21-03	Anuja Parikh, Nathan Gale, Mark Elvin, Kim Marsden, and Kathy Rindlaub	Focused survey for SFVS and noting other sensitive plant species when observed	Middle Western Fork Salt Creek
5-22-03	Anuja Parikh, Nathan Gale, Mark Elvin, and Kathy Rindlaub	Focused survey for SFVS and noting other sensitive plant species when observed	Lower Eastern Fork Salt Creek, Lower Salt Creek, Upper Central Salt Canyon and Upper Western Fork Salt Creek
5-23-03	Kim Marsden, Kathy Rindlaub, Mark Elvin, Cathleen Weigand, and Darren Smith.	Focused survey for SFVS and noting other sensitive plant species when observed	Upper Central Salt Canyon, Upper Western Fork Salt Creek and Middle Eastern Fork Salt Creek
5-24-03	Kim Marsden and Darren Smith	Focused survey for SFVS and noting other sensitive plant species when observed	Middle Mesa Salt Canyon
5-26-03	Mark Elvin, Anuja Parikh, and Nathan Gale	Focused survey for SFVS and noting other sensitive plant species when observed	Lower Salt Creek and Lower Eastern Fork Salt Creek
5-27-03	Mark Elvin, Megan Enright, and Tricia Wotipka	Focused survey for SFVS and noting other sensitive plant species when observed	Upper Eastern Salt Canyon
5-28-03	Mark Elvin, Megan Enright, and Tricia Wotipka	Focused survey for SFVS and noting other sensitive plant species when observed	Middle Mesa Salt Canyon

TABLE 1
2003 Survey Schedule and Personnel
Salt Creek Site

Date	Biologists	Purpose	General Geographic Area
5-29-03	Michelle Balk, Mark Elvin, Megan Enright, and Tricia Wotipka	Focused survey for SFVS and noting other sensitive plant species when observed	Middle Eastern Fork Salt Creek
5-30-03	Michelle Balk, Megan Enright, and Tricia Wotipka	Focused survey for SFVS and noting other sensitive plant species when observed	Middle Eastern Fork Salt Creek
6-12-03	Mark Elvin, Megan Enright, Andrew Sanders, and Cathleen Weigand	Focused survey for SFVS and noting other sensitive plant species when observed	Lower Western Fork Salt Creek
7-1-03	Mark Elvin	Focused survey for SFVS and noting other sensitive plant species when observed	Upper Central Salt Canyon and Upper Eastern Salt Canyon

TABLE 2
2005-2006 Survey Schedule & Personnel
Salt Creek and High Country Sites

Date	Biologists	Purpose	Conditions
11-7-05	Andy Thomson, Scott Boczkiewicz, Kamarul Muri, Marc Doalson	Vegetation mapping, sensitive plant survey, wetlands mitigation assessment	N/A
11-8-05	Scott Boczkiewicz, Doug Gettinger, Kamarul Muri, Marc Doalson	Vegetation mapping, sensitive plant survey, wetlands mitigation assessment	N/A
11-9-05	Doug Gettinger, Marc Doalson, Colin Khoury	Vegetation mapping, sensitive plant survey	N/A
11-10-05	Mark Doalson, Colin Khoury	Vegetation mapping, sensitive plant survey	N/A
11-14-05, 11-15-05	Andy Thomson, Colin Khoury, Michelle Balk, Chris Oesch	Vegetation mapping, sensitive plant survey	N/A
11-16-05, 11-17-05	Marc Doalson, Colin Khoury, Michelle Balk, Tricia Wotipka	Vegetation mapping, sensitive plant survey	N/A
11-18-05	Marc Doalson, Tricia Wotipka	Vegetation mapping, sensitive plant survey	N/A
11-28-05	Brock Ortega, Kamarul Muri, Tricia Wotipka, Paul Lemons, Rebekah Krebs	General wildlife surveys/ Habitat assessment	Time: 0900-1600 Cloud cover: 0-15% Temp: 50-65 Wind: 0-3mph
11-29-05	Brock Ortega, Kamarul Muri, Tricia Wotipka, Paul Lemons, Rebekah Krebs	General wildlife surveys/ Habitat assessment	Time: 0800-1600 Cloud cover: 0-15% Temp: 40-65 Wind: 0-5mph
11-30-05	Brock Ortega, Kamarul Muri, Tricia Wotipka, Paul Lemons, Rebekah Krebs	General wildlife surveys/ Habitat assessment	Time: 0800-1530 Cloud cover: 0-5% Temp: 45-65 Wind: 0-15mph
12-1-05	Brock Ortega, Kamarul Muri, Tricia Wotipka, Paul Lemons, Rebekah Krebs	General wildlife surveys/ Habitat assessment	Time: 0800-1300 Cloud cover: 05-80% Temp: 45-65 Wind: 0-10mph
12-19-05	Andy Thomson, Doug Gettinger, Stuart Fraser	Vegetation mapping, sensitive plant survey, coastal sage scrub mitigation assessment	N/A
12-20-05	Andy Thomson, Doug Gettinger, Stuart Fraser	Vegetation mapping, sensitive plant survey, wetlands mitigation assessment, slender mariposa lily mitigation assessment	N/A
12-21-05	Andy Thomson, Doug Gettinger	Vegetation mapping, sensitive plant survey, wetlands mitigation assessment, slender mariposa lily mitigation assessment, oak tree mitigation assessment	N/A

TABLE 2
2005-2006 Survey Schedule & Personnel
Salt Creek and High Country Sites

Date	Biologists	Purpose	Conditions
5-31-06	Andy Thomson, Saudamini Sindhar, Jeremy Sison, Marc Doalson	Sensitive plant survey	N/A
6-1-06	Andy Thomson, Jeremy Sison, Marc Doalson	Sensitive plant survey	N/A
6-6-06	Andy Thomson, Patricia Schuyler, Marc Doalson, Chris Oesch	Sensitive plant survey	N/A
6-7-06	Andy Thomson, Patricia Schuyler, Marc Doalson, Chris Oesch	Sensitive plant survey	N/A
6-8-06	Andy Thomson, Patricia Schuyler, Marc Doalson, Makelah Mangrich	Sensitive plant survey	N/A
7-11-06	Andy Thomson, Clint Emerson, Rebekah Krebs, Chris Oesch	Sensitive plant survey	N/A
7-12-06	Andy Thomson, Clint Emerson, Rebekah Krebs, Chris Oesch	Sensitive plant survey	N/A
7-27-06	Sherri Miller	Vegetation community mapping	N/A
8-1-06	Phil Behrends, Sherri Miller	Vegetation community mapping	N/A
8-8-06	Sherri Miller	Vegetation community mapping	N/A

3.2.1 Resource Mapping

Vegetation communities were mapped in the field directly onto a 400-scale (1" = 400') color aerial photograph provided by AirPhoto USA (2005). Dudek Geographic Information Systems (GIS) technician Mark McGinnis digitized the vegetation boundaries into an ArcView file, and a GIS coverage for vegetation communities was created. Vegetation community classifications used in this report follow the *Vegetation Classification and Mapping Program, List of California Terrestrial Natural Communities Recognized by the California Natural Diversity Database* (CDFG 2003; Terrestrial Natural Communities) nomenclature, with modifications or additions to coordinate with the vegetation communities previously mapped by others within the study area and within the overall Newhall Ranch Specific Plan Area.

3.2.2 Flora

All plant species encountered during the 2003, 2005, and 2006 field surveys were identified and recorded for inclusion in *Appendix A*. Latin and common names of plants follow The Jepson Manual (Hickman 1993) or other recent published taxonomic treatments. Where not listed in Hickman (1993), common names were taken from Abrams (1923). Where not found in this reference, a variety of sources were used (e.g., Abrams 1923, Dale 1986, or Roberts 1998).

Botanical surveys of the Salt Creek site (*Figure 2*) were conducted between April and July 2003 in accordance with the schedule provided in *Table 1*. Surveys focused on the identification and location of populations of state-listed San Fernando Valley spineflower (*Chorizanthe parryi* var. *fernandina*; SFVS); incidental observations of other state- and federally-listed and California Native Plant Society (CNPS) Lists 1A, 1B, and 2 species were also noted if observed (see the list of target species in *Table 3*). Biologists were able to observe reference populations of SFVS and other sensitive species in order to develop a search-image prior to conducting surveys of the project site in 2003. During the 2005 vegetation surveys, limited sensitive plant surveys were also conducted for conspicuous species that were observable in the late fall. Additional focused sensitive plant surveys were conducted in the 590 acres of the NRHC SMA that were not surveyed in 2003 between May and July of 2006. Locations of sensitive plant species observed during the surveys are included in *Figure 3*.

TABLE 3
Sensitive Plant Species Subject to Field Surveys

Scientific Name	Common Name
Arenaria paludicola	marsh sandwort
Astragalus brauntonii	Braunton's milk-vetch
Atriplex coulteri	Coulter's saltbush
Atriplex serenana var. *davidsonii*	Davidson's saltscale
Baccharis malibuensis	Malibu baccharis
Berberis nevinii	Nevin's barberry
Brodiaea filifolia	thread-leaved brodiaea
Calochortus clavatus var. *clavatus*	club-haired mariposa lily
Calochortus clavatus var. *gracilis*	slender mariposa lily
Calochortus plummerae	Plummer's mariposa lily
Calystegia peirsonii	Peirson's morning-glory
Calystegia sepium ssp. *binghamiae*	Santa Barbara morning-glory
Centromadia [=*Hemizonia*] *parryi* ssp. *australis*	southern tarplant
Cercocarpus betuloides var. *blancheae*	island mountain-mahogany
Chorizanthe parryi var. *fernandina*	San Fernando Valley spineflower
Deinandra [=*Hemizonia*] *minthornii*	Santa Susana tarplant
Delphinium parryi ssp. *blochmaniae*	dune larkspur
Dodecahema leptoceras	slender-horned spineflower
Dudleya blochmaniae ssp. *blochmaniae*	Blochman's dudleya
Dudleya cymosa ssp. *marcescens*	marcescent dudleya
Dudleya cymosa ssp. *ovatifolia*	Santa Monica Mountains dudleya
Dudleya multicaulis	many-stemmed dudleya
Dudleya parva	Conejo dudleya
Eriogonum crocatum	Conejo buckwheat
Erodium macrophyllum	round-leaved filaree
Galium grande	San Gabriel bedstraw
Helianthus nuttallii ssp. *parishii*	Los Angeles sunflower
Horkelia cuneata var. *puberula*	mesa horkelia
Juglans californica	Southern California black walnut

TABLE 3
Sensitive Plant Species Subject to Field Surveys

Scientific Name	Common Name
Juncus acutus var. *leopoldii*	Southwestern spiny rush
Malacothamnus davidsonii	Davidson's bush mallow
Nama stenocarpum	mud nama
Navarretia fossalis	spreading navarretia
Nolina cismontane	chaparral nolina
Opuntia basilaris var. *brachyclada*	short-joint beavertail
Orcuttia californica	California Orcutt grass
Pentachaeta lyonii	Lyon's pentachaeta
Rorippa gambellii	Gambel's water cress
Senecio aphanactis	rayless ragwort
Sidalcea neomexicana	salt spring checkerbloom
Thelypteris puberula var. *sonorensis*	Sonoran maiden fern

3.2.3 Fauna

Latin and common names of animals follow Stebbins (2003) for reptiles and amphibians, American Ornithologists' Union (2003) for birds, Jones et al. (1997) for mammals, and Emmel and Emmel (1973) for butterflies.

Surveys were conducted by qualified biologists walking meandering transects throughout the project site, surveying all suitable habitat types, to ensure that sufficient visual coverage was obtained (*Figure 4*). Wildlife species detected during the field survey by sight, calls, tracks, scat, or other signs were recorded. Binoculars (7 × 50 power) were used to aid in the identification of observed wildlife. At regular intervals the biologists stopped, remained quiet, and listened for wildlife vocalizations. Most canyons and ridgelines on the project site were surveyed in an effort to get 100 percent visual coverage of the site. In addition, biologists conducted a brief crepuscular/nocturnal visit to the site along Salt Creek and the southern ridgeline in order to check on "ground owl" claims by Ranch staff and look for large mammals. A predator call was used at varying intervals to entice mammal response.

All wildlife species detected on site were recorded. All vegetation communities on site were surveyed for potential to support sensitive wildlife species. In addition, specific habitat assessments for the following wildlife species were conducted: arroyo toad (*Bufo californicus*), western pond turtle (*Clemmys marmorata*), two-striped garter snake (*Thamnophis hammondii*), western ringneck snake (*Diadophis punctatus*), California legless lizard (*Anniella pulchra*), coast horned lizard (*Phrynosoma coronatum*), coastal rosy boa (*Charina* [=*Lichanura*] *trivirgata* ssp. *roseofusca*), coastal western whiptail (*Aspidoscelis tigris multiscutatus*), coast patch-nosed snake

(*Salvadora hexalepis virgultea*), desert woodrat (*Neotoma lepida*), and American badger (*Taxidea taxus*).

A comprehensive list of wildlife species observed or detected on site is presented in *Appendix B.*

3.2.4 Sensitive/Regulated Biological Resources

Sensitive plant and wildlife species are those species that have been given special recognition by federal, state, or local conservation agencies and organizations due to limited, declining, or threatened population sizes. This includes those species listed by the state and federal government as threatened or endangered, those species proposed for state and/or federal listing or candidates, those plant species found on Lists 1A, 1B or 2 of the CNPS Inventory of Rare and Endangered Plants of California (CNPS 2001; Inventory) or CNPS online inventory (http://cnps.web.aplus. net/cgi-bin/inv/inventory.cgi), and those plant species which are found on the list of "Threatened and Endangered Species and Species of Concern, Los Angeles County" (http://www. losangelesalmanac.com/topics/Environment/ ev14b.htm). CNPS List 3 or List 4 species were included in discussions only when encountered during the field surveys.

Additional sources used for determination of sensitive biological resources are as follows: wildlife, USFWS 2004, CDFG (2004 and 2005b), vegetation communities, Holland (1986), CDFG (2005).

3.2.5 Oak Tree Estimate

Dudek conducted an oak tree estimate within the study area in 2006. The number of oak trees on site was initially estimated by utilizing high resolution aerial photography to count the number of trees within all oak vegetation communities on site. The initial oak tree estimate was field checked to determine if the estimate was accurate. A random sample of oak tree vegetation community polygons was sampled by counting the number of oaks by species within defined areas within the various oak vegetation communities. Oak trees with a diameter at breast height (DBH) greater than three inches were counted in this estimate. After field checking, it was determined that the estimates made by aerial photo interpretation in oak woodland vegetation communities were not accurate. This was due to factors such as canyon shading in the aerial image, burned trees in some portions of the site, and a merged canopy in dense areas, among other factors. In contrast, oak tree estimates by aerial photo interpretation in valley oak savannah were accurate, likely because valley oak savannah typically occurs on less steep terrain (resulting in less shading in the aerial photo) and has a much lesser density than the oak woodland vegetation communities.

After determining that the aerial photo estimate was not accurate for oak woodland vegetation communities, an alternative method of estimating the number of trees on site was utilized, wherein the density of oaks in the various oak vegetation communities on site was estimated from a series of random samples within each oak woodland vegetation community. The number of oak trees was counted in the field within several polygons and then a density calculation (trees per acre) was done for each area. The estimated polygons were treated as independent samples in order to conduct a statistical re-sampling analysis, wherein 10 polygons were randomly sampled multiple times to test the accuracy of the overall density estimate to the individual samples. After determining that the re-sampled estimate was within the confidence limits of the overall estimate in over 95 percent of the cases, the estimated densities for each oak vegetation community on site were applied to all oak woodland acreage within the study area to get a total number of oak trees by species within the study area.

3.3 Survey Limitations

The 2003 plant surveys were conducted in the spring and summer during a year with a "normal" amount of rainfall providing ideal conditions to determine the diversity of species (including sensitive plants) on site and to map their presence, abundance, and distributions more accurately (when necessary). The timing of the surveys was coincident with the blooming period for SFVS and other spring blooming annual species. Surveys continued past the peak bloom period for the SFVS into the summer when SFVS became a highly visible brick red color while many of the other plants dried and faded to pale straw colors. Surveying during these two time periods maximized the potential for detection of SFVS during the survey effort.

Riparian areas along Salt Creek, thick chaparral, and steep north facing slopes were not surveyed during the spring and summer 2003. Surveys for SFVS were concentrated in areas of suitable habitat, which was generally on south-facing slopes. Other sensitive species (particularly those identified in *Table 3*) were recorded when incidentally observed.

The focused surveys for SFVS were conducted during daylight hours under weather conditions that did not preclude observation of sensitive plant species (e.g., surveys were not conducted during heavy fog or rain).

The 2005 plant surveys were conducted in November and December for conspicuous species that were observable in the late Fall, such as Southern California black walnut (*Juglans californica*). Many annual species were not observable at this time.

The 2006 plant surveys were conducted in May, June and July when annual species were observable. Total rainfall amounts were near average for the season; however, precipitation was sporadic, with most of the rain coming late in the season, resulting in conditions that were not optimal for flowering of geophytic species (such as *Calochortus* spp.) and some annual species.

For wildlife surveys conducted in the late fall of 2005, limitations of the survey include a diurnal bias and the absence of trapping for small mammals, reptiles, and amphibians. The survey was primarily conducted during the daytime to maximize the detection of most animals. Birds represent the largest component of the vertebrate fauna, and because most birds are active in the daytime, diurnal surveys maximize the number of observations of this portion of the fauna. In contrast, daytime surveys usually result in few observations of mammals, many of which may only be active at night. In addition, many species of reptiles and amphibians are secretive in their habits and are difficult to observe using standard meandering transects.

4.0 RESULTS OF SURVEY

4.1 Botany – Plant Communities and Floral Diversity

Native and naturalized vegetation communities within the study area are representative of those found in this region and provide examples of those plant communities found in the Santa Susana Mountains and the Santa Clara River ecosystems. Riparian and wetland vegetation communities within the study area include: alluvial scrub, arrowweed scrub, cismontane alkali marsh, bulrush-cattail wetland, southern cottonwood-willow riparian forest, mule fat scrub, riverwash, southern willow scrub, and tamarisk scrub. Upland vegetation communities cover the majority of land within the study area, and consist of the following vegetation communities: agriculture, burned undifferentiated chaparral, burned California sagebrush scrub, burned California sagebrush scrub-undifferentiated chaparral, big sagebrush scrub, California annual grassland, undifferentiated chaparral, California sagebrush scrub–artemisia, California sagebrush scrub-purple sage, coyote brush scrub, elderberry scrub, coast live oak woodland, disturbed habitat, mixed oak savannah, mixed oak woodland, Valley needlegrass grassland, scrub oak chaparral, valley oak savannah, valley oak woodland and California walnut woodland (*Table 4*).

California Annual Grassland (42.040.00)

California annual grassland is characterized by a mixture of weedy, introduced annuals, primarily dominated by grasses. It may occur where disturbance by maintenance (mowing, scraping, discing, spraying, etc.), grazing, repetitive fire, agriculture, or other mechanical disruption have altered soils and removed native seed sources from areas formerly supporting native vegetation. On-site annual grassland consists of various annual non-native grasses

TABLE 4
Vegetation Communities and Land Cover Types for Newhall Ranch High Country Specific Management Area and the Salt Creek Area

VEGETATION COMMUNITY/LAND COVER TYPE	SUBCOMMUNITY	NRHC SMA ACREAGE	SALT CREEK ACREAGE
Upland Grassland			
California annual grassland		464.9	187.9
Valley needlegrass grassland		0.6	0
Upland Scrub			
Big sagebrush scrub		8.5	0
California sagebrush scrub		437.0	11.8
	Burned California sagebrush scrub	784.8	615.6
	California sagebrush scrub – Artemisia	0.3	0
	California sagebrush scrub – purple sage scrub	84.1	2.1
	Burned California sagebrush scrub-chaparral	5.2	0
Coyote brush scrub		2.2	0
Undifferentiated chaparral scrub		537.0	9.1
	Burned Undifferentiated chaparral scrub	831.2	115.6
	Scrub oak chaparral	0.2	0
Upland Woodland and Savannah			
Coast live oak woodland		446.7	148.0
Mixed oak woodland		74.2	94.6
	Mixed oak savannah	0	3.4
Valley oak woodland		47.8	23.9
	Valley oak savannah	300.3	110.0
California Walnut woodland		6.8	20.4
Riparian Waters and Herbs			
River wash		33.3	7.4
Bulrush cattail wetland		1.4	0
Cismontane alkali marsh		3.3	0
Riparian Scrub			
Alluvial scrub		0.6	0.4
Arrowweed scrub		0	0.7
Elderberry scrub		3.2	1.4
Mulefat scrub		14.1	20.1
Southern willow scrub		4.3	2.5
Tamarisk scrub			0.2
Riparian Woodland			
Southern cottonwood willow riparian forest		0.9	0
Land Covers			
Agriculture		59.8	99.1
Disturbed lands		52.7	43.9
Total		4,205.4	1,518.1

including wild oat (*Avena fatua*), slender oat (*Avena barbata*), and bromes (*Bromus diandrus, B. madritensis* ssp. *rubens, B. hordeaceus*).

Other herbaceous species found in California annual grassland include black mustard, tocalote, Russian thistle (*Salsola tragus*), and dove weed (*Eremocarpus setigerus*). Some of these grasslands include occasional California sagebrush scrub species as described below. Non-native grasslands may support special-status plant and animal species and provide foraging habitat for raptors (birds of prey).

Purple Needlegrass (41.150.00)

Valley needlegrass grassland contains at least ten percent or more of vegetative cover composed of perennial, native grasses. Species associated with this vegetation community include needlegrass (*Nassella pulchra, Nassella lepida*), leafy bentgrass (*Agrostis pallens*), Junegrass (*Koeleria macrantha*), rattail fescue (*Vulpia myuros*), bromes (*Bromus* spp.), blue-eyed grass (*Sisyrinchium bellum*), blue dicks (*Dichelostemma capitatum*), mariposa lily (*Calochortus* spp.), common goldenstar (*Bloomeria crocea*), smooth cat's-ear (*Hypochoeris glabra*), and shooting star (*Dodecatheon clevelandii*). This plant community typically intermixes with coastal sage scrub on some clay soils, often on more mesic exposures and at the bases of slopes, but also may occur in large patches.

Native grassland is rare in Southern California. It typically includes non-native annual species intermixed with native perennial grasses and forbs. It has a substantial component of native species and generally occurs on intact clay substrates. Native grasslands, especially those on clay soils, provide potential habitat for a number of sensitive plant species (Roberts, pers. comm. 2000). Native grasslands provide nesting and foraging habitat for a diversity of passerine bird species and raptors (primarily foraging), many of which are special-status species.

California Sagebrush Scrub (32.010.00)

California sagebrush scrub is classified as a coastal scrub vegetation community in the Terrestrial Natural Communities (CNDDB 2003). It is a native plant community characterized by a variety of soft, low, aromatic, drought-deciduous shrubs, such as California sagebrush (*Artemisia californica*), California buckwheat (*Eriogonum fasciculatum*), California bush sunflower (*Encelia californica*), and sages (*Salvia* spp.), with scattered evergreen shrubs, including lemonadeberry (*Rhus integrifolia*), laurel sumac (*Malosma laurina*), and toyon (*Heteromeles arbutifolia*). It typically develops on south-facing slopes and other xeric situations. Coastal sage scrub is considered a sensitive vegetation community because of its depleted nature and the large number of special-status plant and wildlife species that it supports (Holland 1986).

On-site California sagebrush scrub is dominated by a mixture of California sagebrush, black sage (*Salvia mellifera*), purple sage (*Salvia leucophylla*), and California buckwheat. Other species present within this community include our lord's candle (*Yucca whipplei*), slender tarweed (*Hemizonia fasciculata*), deerweed (*Lotus scoparius*), black mustard (*Brassica nigra*), and tocalote (*Centaurea melitensis*), with scattered chaparral species including chamise (*Adenostoma fasciculatum*), sugar bush (*Rhus ovata*), toyon, and chaparral bushmallow (*Malacothamnus fasciculatus*). California sagebrush scrub occurs on site on dryer slopes, generally south or west facing.

A large majority of the California sagebrush scrub has recently burned (2003 fire) and was not classified into subcommunities. An additional large portion was also not classified into subcommunities because of the lack of single species dominance. California sagebrush scrub subcommunities mapped on site include California sagebrush scrub-Artemisia, California sagebrush scrub-purple sage, and California sagebrush scrub-undifferentiated chaparral. Each one of these subcommunities is dominated by a particular species that characterizes the community.

These subcommunities are listed below.

- California Sagebrush-Artemisia (dominated only by California sagebrush) (32.010.01).
- California Sagebrush Scrub-Purple Sage Scrub (32.010.04), including disturbed.
- Burned California Sagebrush Scrub-Undifferentiated Chaparral (equal dominance of California sagebrush scrub and chaparral species) (modified from 32.300.00).

Coyote Brush Scrub (32.060.00)

Coyote brush scrub is classified as a coastal scrub vegetation community in the Terrestrial Natural Communities (CNDDB 2003) and is dominated by coyote brush (*Baccharis pilularis*). It contains many of the same species as California sagebrush scrub (i.e. California sagebrush, California buckwheat, and sages, with scattered evergreen shrubs). Coyote brush scrub occurs mostly in uplands, but can occur along xeric drainages as well. It generally is regarded as a post-disturbance vegetation community in a successional state, with the climax community most often being California sagebrush scrub.

Because coyote brush scrub is an effective colonizer of disturbed sites it can be found in xeric to seasonally mesic areas, in heavily disturbed upland areas and flat areas or canyons and drainages that receive low seasonal flow or urban runoff.

Undifferentiated Chaparral Scrub (37.000.00)

Undifferentiated chaparral scrub is a drought- and fire-adapted community of broad-leafed shrubs, 1.5-3.0 m tall, typically forming dense impenetrable stands. It develops primarily on mesic north-facing slopes and in canyons. This association is typically a mixture of chamise, hoary leaf ceanothus (*Ceanothus crassifolius*), scrub oak (*Quercus berberidifolia*), laurel sumac, and black sage.

Dominant chaparral species on site include a mixture of chamise, hoary leaf ceanothus (*Ceanothus crassifolius*), spiny redberry (*Rhamnus crocea*), sugar bush, and toyon. Other species that occur in this community on site include chaparral bushmallow, holly-leaf redberry (*Rhamnus ilicifolia*), holly-leaf cherry (*Prunus ilicifolia*), and California sagebrush scrub species as described above.

A large portion of undifferentiated chaparral scrub within the study area burned recently (2003 fire) affecting the vegetation community presently re-establishing. Burned undifferentiated chaparral was mapped separately. Additionally, a chaparral subcommunity (Scrub Oak Chaparral (37.407.00)) was found within the study area. The community is dominated by scrub oak (*Quercus berberidifolia*) that characterizes the community.

Coast Live Oak Woodland (71.060.19)

Coast live oak woodland is dominated by coast live oak (*Quercus agrifolia*). Canopy height ranges from 10 to 25 m. The shrub layer is poorly developed, but may include toyon, gooseberry (*Ribes* spp.), laurel sumac, or Mexican elderberry (*Sambucus mexicana*). The herb component is continuous, dominated by a variety of introduced species.

Within the study area, coast live oak woodland is dominated by coast live oak, with Southern California black walnut as a co-dominant in most areas. Additionally, a few canyon live oak (*Quercus chrysolepis*) were also observed in the vegetation community on site. Common understory components include toyon, gooseberry, deerweed, Italian thistle (*Carduus pycnocephalus*), horehound (*Marrubium vulgare*), poison-oak (*Toxicodendron diversilobum*), elegant clarkia (*Clarkia unguiculata*), and non-native annual grasses (*Bromus* spp., *Avena* spp., *Lolium multiflorum*).

Mixed Oak Woodland (71.100.00)

Mixed oak woodland includes a predominance of coast live oak with valley oak (*Quercus lobata*) in sufficient numbers to constitute between 20 and 50 percent cover. The understory has a similar composition to that described for coast live oak woodland above. A subcommunity of

mixed oak woodland also exists on site, mixed oak savannah (71.100.08), which includes valley oaks or coast live oaks sparsely populated with an understory of non-native annual grasses.

Valley Oak Woodland (71.040.00)

Valley oak woodland includes a predominance of valley oak in sufficient numbers to constitute greater than 40 percent canopy cover. The understory of valley oak woodland has a similar composition to that described for coast live oak woodland above, with a greater proportion of non-native annual grasses, Italian thistle, and short-podded mustard (*Hirschfeldia incana*).

A subcommunity of valley oak woodland also exists on site, valley oak savannah (71.040.05), which includes valley oak sparsely populated (up to 40 percent canopy cover) with an understory of primarily non-native grasslands, with occasional patches of native grasslands.

California Walnut Woodland (72.100.01)

California walnut woodland is comprised of an overstory of Southern California black walnut and a very limited understory dominated by a variety of introduced species. California walnut woodland is often associated with oak woodland vegetation communities on site.

Riverwash

Riverwash occurs within stream channels that are frequently scoured by flooding, resulting in unvegetated or sparsely vegetated gravelly or rocky channel bottoms. Occasional seedlings and young plants occur within this vegetation community, including mule fat, tamarisk and Fremont cottonwood, among others. This community does not fit into a defined plant community classification in the Terrestrial Natural Communities (CNDDB 2003). On site, river wash occurs in the lower reaches of the Salt Creek drainage and some of the tributaries to Salt Creek.

Bulrush-Cattail Wetland (52.102.00)

Bulrush-cattail wetland consists of approximately equal dominance of bulrush (*Scirpus* spp.) and cattail (*Typha* spp.) species. It occurs along Salt Creek within the study area.

Cismontane Alkali Marsh (52.203.00)

Cismontane alkali marsh typically occurs in areas that are currently wet or inundated throughout most to all of the year. Dominant species include rushes (*Juncus* spp.), salt grass (*Distichlis spicata*), sedges (*Carex* spp.), yerba mansa (*Anemopsis californica*), and alkali heath (*Frankenia grandifolia*). This community occurs at lake beds and flood plains, characterized by higher levels of salts than are found in the freshwater marsh habitat. It differs from coastal saltmarsh primarily in that it is not subject to tidal inundation.

Alluvial Scrub

Alluvial scrub is a community that occurs in creeks and washes on alluvial material. Species that can usually be found in this community include wetland species that can tolerate more xeric conditions and transitional sage scrub species. This community does not fit into a defined plant community classification in the Terrestrial Natural Communities (CNDDB 2003) and was defined on site by the dominant plant species. On site this community occurs in small patches within Salt Creek. Species found on site within this community include big sagebrush, mule fat, tree tobacco, scalebroom (*Lepidospartum squamatum*), big saltbush (*Atriplex lentiformis*), and California sagebrush.

Arrowweed Scrub (63.710.00)

Arrowweed scrub occurs in moderate to dense streamside thickets strongly dominated by arrowweed (*Pluchea sericea).* It occurs in streambanks, ditches, and washes with gravelly or sandy channels in most major drainages in the drier southern parts of California. On site, arrowweed scrub occurs along the banks of the Santa Clara River or its tributaries and is dense, with a few tamarisk individuals interspersed throughout.

Big Sagebrush Scrub (35.110.00)

Big sagebrush scrub is comprised mostly of soft-woody shrubs, 0.5-2 m tall, usually with bare ground underneath and between shrubs (Holland 1986). This community is typically dominated by big sagebrush (*Artemisia tridentata*) and non-native grasses. California sagebrush scrub and chaparral scrub species also occur within this vegetation type. This community generally occurs in alluvial areas along washes and canyon bottoms.

Elderberry Scrub (63.410.00)

Elderberry scrub is an open scrub vegetation community dominated by Mexican elderberry (*Sambucus mexicana*) but with scattered laurel sumac, toyon, and lemonadeberry, as well as an understory of grasses. Elderberry scrub is found in foothill areas on the upper benches of streams, and is often associated with sycamore riparian woodland.

Mulefat Scrub (63.510.00)

Mulefat scrub is a relatively low (2- to 3-meter), dense, shrubby plant community that occurs in riparian areas, edges of catchment basins, and in canyons. It is dominated by mule fat (*Baccharis salicifolia*), and may contain a small number of arroyo willow (*Salix lasiolepis)*, upland shrubs, and facultative herbs. Mulefat scrub is a seral community that occurs mainly along major drainages and floodplains where the riparian vegetation is open or disturbed. Frequent flooding and/or scouring maintains this community in an early successional state (Holland 1986). Characteristic plant species in this community include mule fat, coyote brush (*Baccharis*

pilularis), western ragweed (*Ambrosia psilostachya*), and a few other obligate or facultative wetland species (Reed 1988).

Southern Willow Scrub (63.130.00)

According to Holland (1986), southern willow scrub has been described as a dense, broad-leafed, winter-deciduous riparian thicket dominated by several species of willow (*Salix* spp.), with scattered emergent Fremont cottonwood (*Populus fremontii*) and western sycamore (*Platanus racemosa*). Most stands are too dense to allow much understory development. This vegetation community is considered seral due to repeated disturbance/flooding and is therefore unable to develop into the taller southern cottonwood-willow riparian forest.

Tamarisk Scrub (63.810.02)

Areas dominated by tamarisk (*Tamarix* sp.) were mapped as tamarisk scrub. This invasive, non-native vegetation community is considered riparian. Tamarisk typically occurs on moist soils and in streambeds and its occurrence may be related directly to soil disturbance or introduction of propagules by grading or flooding.

Southern Cottonwood-Willow Riparian Forest (61.130.02)

Southern cottonwood-willow riparian forest is a tall, open, broad-leafed winter deciduous riparian forest dominated by Fremont cottonwood (*Populus fremontii*) and several different species of willow. It occurs in frequently overflowed lands along rivers and streams.

Agriculture

Agriculture refers to areas where irrigated row and field crops are being grown [i.e., intensive agriculture]. This area may support grass species such as barley (*Hordeum* spp.) and wild oat (*Avena* spp.). This land has little biological resource value because it provides very limited habitat value for most native species. However, this area may supply grain and water for native and migratory birds.

Disturbed Land

Disturbed land typically occurs in areas where soils have been recently or repeatedly disturbed by grading or compaction resulting in the growth of very few native perennials, and is usually dominated by bare ground or non-native dicotyledonous species including filaree (*Erodium* spp.), black mustard, thistles (e.g., *Cynara cardunculus*, *Carduus pycnocephalus*, and *Centaurea melitensis*), dove weed, and others. Within the study area, disturbed land occurs on permeable surfaces without vegetation, as well as with weedy annual non-native vegetation including Russian thistle, tocalote, dove weed, black mustard, and bull thistle (*Cirsium vulgare*).

4.1.1 Floral Diversity

A total of 462 plant species were identified within the study area during the 2003, 2005, and 2006 plant surveys. Of these, 362 plant species (78 percent) are native to the region and 100 plant species (22 percent) are non-native. The cumulative list of plant species identified on the site is provided as *Appendix A*.

4.2 Zoology – Wildlife Diversity

4.2.1 General Wildlife

The project site supports habitat for a diverse number of upland and wetland species. The wide range of vegetation communities and elevation changes found within the study area help to provide a greater number of suitable habitats for wildlife species. Vegetation communities providing habitat for wildlife found within the study area include the following: alluvial scrub, arrowweed scrub, cismontane alkali marsh, bulrush-cattail wetland, southern cottonwood-willow riparian forest, mule fat scrub, riverwash, southern willow scrub, undifferentiated chaparral, California sagebrush scrub, big sagebrush scrub, California annual grassland, coyote brush scrub, elderberry scrub, coast live oak woodland, mixed oak savannah, mixed oak woodland, valley needlegrass grassland, scrub oak chaparral, valley oak savannah, valley oak woodland and California walnut woodland. Additionally, tamarisk scrub, agriculture, and disturbed habitat may provide limited habitat value to wildlife. Eighty-four species of wildlife were observed during the surveys (*Appendix B*). *Figure 4* in the map pocket depicts the locations of sensitive wildlife species observed on site, survey travel routes, and raptor nest.

4.2.2 Birds

Fifty-six species of birds were observed during the survey. Some of the species observed within the study area include turkey vulture (*Cathartes aura*), Cooper's hawk (*Accipiter cooperii*), red-tailed hawk (*Buteo jamaicensis*), red-shouldered hawk (*Buteo lineatus*), white-tailed kite (*Elanus leucurus*), prairie falcon (*Falco mexicana*), American kestrel (*Falco sparverius*), California quail (*Callipepla californica*), killdeer (*Charadrius vociferus*), mourning dove (*Zenaida macroura*), barn owl (*Tyto alba*), long-eared owl (*Asio otus*), white-throated swift (*Aeronautes saxatalis*), Anna's hummingbird (*Calypte anna*), northern flicker (*Colaptes auratus*), acorn woodpecker (*Melanerpes formicivorus*), Nuttall's woodpecker (*Picoides nuttallii*), red-breasted sapsucker (*Sphyrapicus ruber*), Williamson’s sapsucker (*Sphyrapicus thyroideus*), western wood-pewee (*Contopus sordidulus*), black phoebe (*Sayornis nigricans*), Say's phoebe (*Sayornis saya*), western kingbird (*Tyrannus verticalis*), and cliff swallow (*Petrochelidon pyrrhonota*). For a

complete list of birds observed on the site please see *Appendix B*. In addition, stick nests were observed on the site. These nests were recorded on aerial maps.

4.2.3 Reptiles and Amphibians

Seven reptile or amphibian species were observed within the study area, including western pond turtle (*Clemmys marmorata*; observed 5/29/03), western fence lizard (*Sceloporus occidentalis*), side-blotched lizard (*Uta stansburiana*), California whipsnake (*Masticophis lateralis*), coast horned lizard (*Phrynosoma coronatum*), coastal western whiptail (*Cnemidophorus tigris multiscutatus*), and western diamondback rattlesnake (*Crotalus atrox*).

4.2.4 Mammals

Sixteen species of mammals were recorded within the study area, including brush rabbit (*Sylvilagus bachmani*), western grey squirrel (*Sciurus griseus*), California ground squirrel (*Spermophilus beecheyi*), Botta's pocket gopher (*Thomomys bottae*), California pocket mouse (*Chaetodipus californicus dispar*), woodrat (*Neotoma* sp.), coyote (*Canis latrans*), gray fox (*Urocyon cinereoargenteus*), common raccoon (*Procyon lotor*), long-tailed weasel (*Mustela frenata*), American badger (*Taxidea taxus*) (burrow), mountain lion (*Felis concolor*), bobcat (*Lynx rufus*), black bear (*Ursus americanus*), mule deer (*Odocoileus hemionus*), and domestic cattle (*Bos bovis*).

4.2.5 Butterflies and Moths

Seven species of butterflies or moths were recorded on the site, including common white (*Pontia protodice*), California dogface (*Colias eurydice*), California white (*Pontia sisymbrii*), monarch (*Danaus plexippus*), buckeye (*Junonia coenia*), west coast lady (*Vanessa annabella*), and painted lady (*Vanessa cardui*).

4.3 Sensitive Biological Resources

The following resources are discussed in this section: **(1)** plant and animal species present in the project vicinity that are given special recognition by federal, state, or local conservation agencies and organizations owing to declining, limited, or threatened populations, that are the result, in most cases, of habitat reduction; and **(2)** habitat areas that are unique, are of relatively limited distribution, or are of particular value to wildlife. Sources used for determination of sensitive biological resources are as follows: wildlife, USFWS 2002, CDFG (2004 and 2005a); plants,

CDFG (2005 b, c) and CNPS (2001); and vegetation communities, Holland (1986) and CDFG 2003.

4.3.1 Sensitive Plant Species

A total of eight sensitive plant species were identified during 2003, 2005, and 2006 surveys within the study area. These and other sensitive plant species that have the potential to occur within the study area, based on the presence of suitable habitat and soils, are listed in *Table 5*. This list is confined primarily to those species listed by the state and federal government as threatened or endangered, those species proposed for state and/or federal listing or candidates, those plant species found on Lists 1A, 1B, or 2 of the CNPS *Inventory of Rare and Endangered Plants of California* (CNPS 2001) and the County of Los Angeles. Those sensitive species that were observed during the field surveys are discussed in greater detail below. A number of species found on CNPS Lists 3 or 4 also have the potential to occur on site (e.g., *Calochortus catalinae*, *Acanthomintha obovata* ssp. *cordata*, *Mucronea californica*); however, due to their relatively low sensitivity level, they are only discussed in the following sections if observed on site.

TABLE 5
Sensitive Plant Species Observed or Potentially Occurring within the Study Area

Scientific Name	Common Name	Status Federal/ State	CNPS List	Primary Habitat Associations/ Life Form/Blooming Period	Presence or Likelihood of Occurrence On Site
Arenaria paludicola	marsh sandwort	FE/SE	1B	dense freshwater marsh/perennial herb/May-August	Not observed during 2003, 2005 or 2006 field season. No CNDDB records exist for the Newhall or Val Verde quads; nearest occurrence is in the Santa Ana River. Limited suitable habitat on site; very low likelihood of occurrence within the study area.
Artemisia tridentata ssp. *parishii*	Parish's big sagebrush scrub	None/None	None	Big sagebrush scrub on the margins of drainage channels/perennial shrub/November-August	Observed during 2003, 2005, and 2006 field seasons on the margins of the Salt Creek drainage and tributary drainages. Co-occurs with *Artemisia tridentata* ssp. *tridentata*. Observed within big sagebrush scrub within NRSP. Parish's big sagebrush is considered sensitive by the County of Los Angeles.
Astragalus brauntonii	Braunton's milk-vetch	FE/None	1B	chaparral, coastal sage scrub, grasslands; often on carbonate substrates/perennial herb/March-July	Not observed during 2003, 2005 or 2006 field season. No CNDDB records exist for the Newhall or Val Verde quads; nearest occurrence is in the Simi Hills. Suitable habitat exists on site. Moderate likelihood of occurrence within study area.
Atriplex coulteri	Coulter's saltbush	None/None	1B	coastal sage scrub and grasslands on alkaline or clay substrate/perennial herb/March-	Not observed during 2003, 2005 or 2006 field season. No CNDDB records exist for the Newhall or Val Verde quads; however,

TABLE 5
Sensitive Plant Species Observed or Potentially Occurring within the Study Area

Scientific Name	Common Name	Status Federal/ State	CNPS List	Primary Habitat Associations/ Life Form/Blooming Period	Presence or Likelihood of Occurrence On Site
				October	suitable habitat present on site. Moderate likelihood of occurrence within study area.
Atriplex serenana var. *davidsonii*	Davidson's saltscale	None/None	1B	coastal bluff scrub and coastal sage scrub on alkaline substrate/annual herb/May-October	Not observed during 2003, 2005 or 2006 field season. No CNDDB records exist for the Newhall or Val Verde quads. *Atriplex serenana var. serenana* observed on site. Low likelihood of occurrence within the study area.
Baccharis malibuensis	Malibu baccharis	None/None	1B	chaparral, coastal sage scrub, cismontane woodland/ deciduous shrub/August	Not observed during 2003, 2005 or 2006 field season. No CNDDB records exist for the Newhall or Val Verde quads; closest known populations in the western Santa Monica Mountains near Malibu. Not expected to occur within the study area.
Berberis nevinii	Nevin's barberry	FE/SE	1B	chaparral, coastal sage scrub, riparian scrub, cismontane woodland on sandy or gravelly substrate/evergreen shrub/March-April	Not observed during 2003, 2005, or 2006 field season. CNDDB records exist for San Francisquito Canyon at confluence with Santa Clara River; suitable habitat present on site. Moderate likelihood of occurrence within study area.
Brodiaea filifolia	thread-leaved brodiaea	FT/SE	1B	clay substrate openings in chaparral, sage scrub, and grasslands/perennial herb (geophyte)/March-June	Not observed during 2003, 2005 or 2006 field season. No CNDDB records exist for the Newhall or Val Verde quads; nearest occurrence is in San Dimas. Suitable habitat present on site; however, suitable soils not present. Low likelihood of occurrence within study area.
Calochortus clavatus var. *clavatus*	club-haired mariposa lily	None/None	4	chaparral and coastal sage scrub/ perennial herb (geophyte)/March-May	Not observed during 2003, 2005 or 2006 field season. No CNDDB records exist for Newhall and Val Verde quads. Very low likelihood of occurrence in study area.
Calochortus clavatus var. *gracilis*	slender mariposa lily	None/None	1B	chaparral and coastal sage scrub/perennial herb (geophyte)/March-May	Observed during the 2003, 2005, and 2006 field seasons on slopes and ridgelines throughout the study area. A total of 85 polygons were mapped with an estimation of approximately 31,370 individuals (flowering and/or fruiting) during the 2003 growing season. Observed during the 2005 field season as dried inflorescences in previously mapped areas on north tending slopes throughout the study area. One additional polygon and 34 points were mapped with an estimation of approximately 371 individuals in the additional 590 acres during the 2006 field season. This species is locally abundant. CNDDB records also exist for mouth of Pico Canyon.
Calochortus plummerae	Plummer's mariposa lily	None/None	1B	chaparral, coastal sage scrub, cismontane woodland, grasslands on rocky granitic	Observed during the 2006 field season on steep southwest-facing slopes. A total of three polygons and two point locations

TABLE 5
Sensitive Plant Species Observed or Potentially Occurring within the Study Area

Scientific Name	Common Name	Status Federal/ State	CNPS List	Primary Habitat Associations/ Life Form/Blooming Period	Presence or Likelihood of Occurrence On Site
				substrate/perennial herb (geophyte)/May-July	were mapped with an estimation of approximately 78 individuals (flowering and/or fruiting) during the 2006 growing season.
Calochortus weedii var. *vestus*	late-flowered mariposa lily	None/None	1B	chaparral, cismontane & riparian woodland/perennial herb (geophyte)/ June-August	Observed during the 2003 field season in chaparral and walnut woodlands. This species was also observed at the head of the Salt Creek drainage on the crest of the Santa Susana Mountains in the study area. Approximately 250 individuals were recorded in the three polygons. Not observed during 2005 or 2006 field seasons. No CNDDB records exist for the Newhall or Val Verde quads; however, habitat similar to where species occurs in eastern Ventura County is present on site.
Calystegia peirsonii	Peirson's morning-glory	None/None	4	chaparral, coastal sage scrub, cismontane woodland, grassland/ perennial herb/May-June	Observed during the 2003 and 2006 field season in chaparral and California sagebrush throughout the survey area. Not observed during 2005 field season.
Calystegia sepium ssp. *binghamiae*	Santa Barbara morning-glory	None/None	1A	marshes and swamps/perennial herb/ April-May	Not observed during 2003, 2005 or 2006 field season. No CNDDB records exist for the Newhall or Val Verde quads; however, limited suitable habitat present on site. Low likelihood of occurrence within study area.
Centromadia [=*Hemizonia*] *parryi* ssp. *australis*	southern tarplant	None/None	1B	mesic edges of marshes in grasslands/ annual herb/May-November	Not observed during 2003, 2005 or 2006 field season. No CNDDB records exist for the Newhall or Val Verde quads; however, suitable habitat present on site. Low likelihood of occurrence within study area.
Cercocarpus betuloides var. *blancheae*	island mountain-mahogany	None/None	4	chaparral, closed-cone coniferous forest/evergreen shrub/February-May	Observed during the 2003, 2005, and 2006 field seasons in mixed chaparral at lower elevations in the study area.
Chorizanthe parryi var. *fernandina*	San Fernando Valley spineflower	FC/SE	1B	Coastal sage scrub, sandy soils/annual herb/April-June	Not observed during 2003, 2005 or 2006 field season. Documented just offsite to the east in Potrero Canyon. Limited suitable habitat on site. Low likelihood of occurrence.
Deinandra [=*Hemizonia*] *minthornii*	Santa Susana tarplant	None/SR	1B	chaparral and coastal sage scrub on rocky substrate/deciduous shrub/July-November	Not observed during 2003, 2005 or 2006 field season. No CNDDB records exist for the Newhall or Val Verde quads; however, records exist for the Simi Hills and Oat Mountain. Suitable habitat exists on site. Moderate likelihood of occurrence within study area.
Delphinium parryi ssp. *blochmaniae*	dune larkspur	None/None	1B	maritime chaparral, coastal dunes/ perennial herb/ April-may	Not observed during 2003, 2005 or 2006 field season. No likelihood of occurrence due to lack of appropriate habitat.
Dodecahema leptoceras	slender-horned spineflower	FE/SE	1B	Alluvial scrub on sandy substrate/annual herb/April-June	Not observed during 2003, 2005 or 2006 field season; however, Santa Clara River bottom excluded from survey area. Historic

TABLE 5
Sensitive Plant Species Observed or Potentially Occurring within the Study Area

Scientific Name	Common Name	Status Federal/ State	CNPS List	Primary Habitat Associations/ Life Form/Blooming Period	Presence or Likelihood of Occurrence On Site
					CNDDB records exist for the Newhall or Val Verde quads in alluvial habitat similar to those present on site. Moderate likelihood of occurrence within study area.
Dudleya blochmaniae ssp. *blochmaniae*	Blochman's dudleya	None/None	1B	clay openings in chaparral and coastal sage scrub, grasslands/perennial herb/April-June	Not observed during 2003, 2005 or 2006 field season. No CNDDB records exist for the Newhall or Val Verde quads. Suitable habitat present on site; however, suitable soils not present. Low likelihood of occurrence within study area.
Dudleya cymosa ssp. *marcescens*	marcescent dudleya	FT/CR	1B	chaparral, often on volcanic substrate/perennial herb (geophyte)/ April-June	Not observed during 2003, 2005 or 2006 field season. No CNDDB records exist for Newhall and Val Verde quads. Low likelihood of occurrence within study area.
Dudleya cymosa ssp. *ovatifolia*	Santa Monica Mountains dudleya	FT/None	1B	chaparral and coastal sage scrub, often on volcanic substrate/perennial herb (geophyte)/March-June	Not observed during 2003, 2005 or 2006 field season. No CNDDB records exist for Newhall and Val Verde quads. Low likelihood of occurrence within study area.
Dudleya multicaulis	many-stemmed dudleya	None/None	1B	coastal bluff scrub, coastal sage scrub, valley and foothill grassland, rocky, often clay substrate/perennial herb/ April-June	Not observed during 2003, 2005 or 2006 field season. No CNDDB records exist for the Newhall or Val Verde quads; closest known occurrences are in Calabasas and San Dimas. Suitable habitat exists on site. Moderate likelihood of occurrence within study area.
Dudleya parva	Conejo dudleya	FT/None	1B	coastal sage scrub and grassland on rocky, gravelly clays/perennial herb/May-June	Not observed during 2003, 2005 or 2006 field season. No CNDDB records exist for the Newhall or Val Verde quads. Suitable habitat exists on site. Low likelihood of occurrence within study area.
Erodium macrophyllum	round-leaved filaree	None/None	2	cismontane woodland and grasslands on clay substrate/annual herb/March-May	Not observed during 2003, 2005 or 2006 field season. No CNDDB records exist for the Newhall or Val Verde quads; however, records exist for Simi Valley, and this plant was observed in the hills east of Castaic Lake in 2003. Suitable habitat present on site; moderate likelihood of occurrence in study area.
Helianthus nuttallii ssp. *parishii*	Los Angeles sunflower	None/None	1A	marshes and swamps/perennial herb/ August-October	Not observed within study area during 2003, 2005, or 2006 field season. A *Helianthus* population, discovered in 2002 at Castaic Spring, on the south side of the Santa Clara River between Middle Canyon and San Jose Flats, was determined by some experts to be this species, but determined by other experts not to be this species. Based on pollen electron microscopy and chromosome counts, it is likely that the Newhall *Helianthus* species is a hybrid between *H. nuttallii* and *H. californicus* or an intermediate evolutionary

TABLE 5
Sensitive Plant Species Observed or Potentially Occurring within the Study Area

Scientific Name	Common Name	Status Federal/ State	CNPS List	Primary Habitat Associations/ Life Form/Blooming Period	Presence or Likelihood of Occurrence On Site
					step between the two species (Porter and Fraga 2004). No suitable habitat observed in study area.
Horkelia cuneata var. *puberula*	mesa horkelia	None/None	1B	chaparral, cismontane woodland, coastal sage scrub on sandy or gravelly substrate/ perennial herb/February-December	Not observed during 2003, 2005 or 2006 field season. No CNDDB records exist for the Newhall or Val Verde quads. Suitable habitat present on site. Low likelihood of occurrence within study area.
Juglans californica	Southern California black walnut	None/None	4	chaparral, cismontane woodland, coastal sage scrub, alluvial scrub/ deciduous tree/March-May	Observed during 2003, 2005 and 2006 field season in walnut woodlands, oak woodlands, California sagebrush scrub, and chaparral on site. Focused surveys for this species were not conducted; however 2,288 individuals were mapped on site.
Juncus acutus ssp. *leopoldii*	southwestern spiny rush	None/None	4	coastal dunes, meadows, seeps, marshes, and swamps/ perennial herb/May-June	Not observed during 2003, 2005 or 2006 field season. Moderate likelihood of occurrence within the study area.
Malacothamnus davidsonii	Davidson's bush mallow	None/None	1B	chaparral, coastal sage scrub, riparian woodland/ deciduous scrub/June-January	Not observed during 2003, 2005 or 2006 field season. Nearest occurrences are in San Fernando and Sunland. Suitable habitat present on site. Moderate likelihood of occurrence within study area.
Nama stenocarpum	mud nama	None/None	2	edges of lakes, rivers, ponds, vernal pools/annual/January-July	Not observed during 2003, 2005 or 2006 field season. Moderate likelihood of occurrence on banks of Santa Clara River and other mesic areas on site. No CNDDB records exist for the Newhall or Val Verde quads. Limited suitable habitat present on site. Low likelihood of occurrence within study area.
Navarretia sp. *nova*	Navarretia	None/None	None	Grasslands on clay soils	Observed during the 2003 field season on gentle to moderate north-facing slopes. An estimated 60,000 individuals were observed within the study area.
Nemophila parviflora var. *quercifolia*	oak-leaved nemophila	None/None	4	cismontane woodland, lower montane coniferous forest/annual herb/may-June	Not observed on site during 2003, 2005 or 2006 field season. Has been observed in oak woodland east of Grapevine Mesa. High likelihood of occurrence in study area.
Nolina cismontana	chaparral nolina	None/None	1B	chaparral, coastal sage scrub on sandstone or gabbro substrate/ perennial shrub April-July	Not observed during 2003, 2005 or 2006 field season. No CNDDB records exist for the Newhall or Val Verde quads. Suitable habitat present on site. Low likelihood of occurrence within study area.
Opuntia basilaris var. *brachyclada*	short-joint beavertail	None/None	1B	chaparral, Joshua tree woodland, Mojavean desert scrub/succulent shrub/ April-June	Not observed during 2003, 2005 or 2006 field season. Outside range of species. Low likelihood of occurrence within study area.
Pentachaeta lyonii	Lyon's pentachaeta	FE/SE	1B	openings in chaparral and coastal sage scrub, grasslands/annual herb/March-August	Not observed during 2003, 2005 or 2006 field season. No CNDDB records exist for the Newhall or Val Verde quads; nearest occurrences are in the Simi Valley.

TABLE 5
Sensitive Plant Species Observed or Potentially Occurring within the Study Area

Scientific Name	Common Name	Status Federal/ State	CNPS List	Primary Habitat Associations/ Life Form/Blooming Period	Presence or Likelihood of Occurrence On Site
					Suitable habitat present on site. Moderate likelihood of occurrence within study area.
Rorippa gambelii	Gambel's watercress	FE/ST	1B	Marsh and swamps (freshwater and brackish)/ perennial herb/April-September	Not observed during 2003, 2005, or 2006 field season. No CNDDB records exist for the Newhall or Val Verde quads. Limited suitable habitat present on site. Very low likelihood of occurrence within study area.
Senecio aphanactis	Rayless ragwort	None/None	2	chaparral, coastal sage scrub, cismontane woodland on alkaline substrate/annual herb/January-April	Not observed during 2003, 2005 or 2006 field season. Historic CNDDB record for Saugus, south of Santa Clara River. Suitable habitat on site. Moderate likelihood of occurrence within study area.
Sidalcea neomexicana	salt spring checkerbloom	None/None	2	chaparral, coastal sage scrub, and playas on alkaline substrate/perennial herb/March-June	Not observed during 2003, 2005 or 2006 field season. No CNDDB records exist for the Newhall or Val Verde quads; suitable habitat present on site. Moderate likelihood of occurrence within study area.
Thelypteris puberula var. *sonorensis*	Sonoran maiden fern	None/None	2	meadows and seeps/perennial herb/ fertile January-September	Not observed during 2003, 2005 or 2006 field season. No CNDDB records exist for the Newhall or Val Verde quads; nearest occurrence at Point Dume. Limited suitable habitat present on site. Low likelihood of occurrence within study area.

Legend

FE:	Federally-listed as endangered	CNPS List 1A:	Plants presumed extinct in California
FT:	Federally-listed as threatened	CNPS List 1B:	Plants rare, threatened, or endangered in California and elsewhere
FC:	Federal candidate for listing	CNPS List 2:	Plants rare, threatened, or endangered in California but more common elsewhere
SC:	State candidate for listing	CNPS List 3:	Plants about which we need more information – a review list
SE:	State-listed as endangered	CNPS List 4:	Plants of limited distribution – a watch list
ST:	State-listed as threatened	SR:	State-listed as rare

Figure 3 depicts the locations of sensitive plant species within the study area. Additional information regarding the mapping for each sensitive species is included in the sections below (*Sections 4.3.1.1* through *4.3.1.8*).

4.3.1.1 Slender mariposa lily (*Calochortus clavatus* var. *gracilis*)

Slender mariposa lily has no state or federal status but is a CNPS List 1B.2 plant. It is typically found in chaparral, California sagebrush scrub, and grasslands. It has been documented to occur at the mouth of Pico Canyon and on Entrada, Legacy and Newhall Ranch project sites (Newhall Quad; CNDDB 2005). Other varieties of this species documented from Southern California include club-haired mariposa lily (*C. clavatus* var. *clavatus*) and pale mariposa lily (*C. clavatus* var. *pallidus*). The club-haired mariposa lily differs in that it is virtually a serpentine endemic (restricted to serpentine soils) and a very robust species, generally attaining a height of one

meter. Pale mariposa lily differs in that the petals are a paler yellow, the anthers are paler (yellow to pale purple), and the hairs on the petals are not as knobby or club shaped. Neither the club-haired mariposa lily nor pale mariposa have a prominent red line above the nectary on the petal, as is the case with the slender mariposa lily.

Multiple polygons of mariposa lily were mapped by Dudek within the study area (*Figure 3*) by drawing boundaries on aerial photograph field maps around the areas that contained the mariposa lily. Surveys within the study area were conducted during and after the blooming season for the slender mariposa lily. The majority of the surveys were conducted during the blooming period for this species, but the plants were beginning to senesce during the surveys making observations less likely. The fruiting individuals were much more cryptic than the flowering plants, therefore it is expected that only a portion of the plants that were in flower earlier were observed. Moreover, geophytes like *Calochortus* generally only have a percentage of the plants flower in any given year and the non-flowering individuals are generally not as visible.

Within the study area, the slender mariposa lily was found primarily on east-, northeast-, and southwest-facing ridges and slopes in California sagebrush scrub and grasslands. The plants were generally mapped in areas of high vegetative cover and a variety of soil types (e.g., gravelly loam, sandy loam, rocky clay). A total of 85 polygons were mapped within the study area during the 2003 surveys, with an estimated number of individuals of approximately 31,500. Additionally, one polygon and 34 point locations supporting 371 individuals were mapped on site during the 2006 surveys for the additional 590 acres.

4.3.1.2 Plummer's mariposa lily (*Calochortus plummerae*)

Plummer's mariposa lily has no state or federal status but is a CNPS List 1B.2 plant. It is typically found in chaparral, California sagebrush scrub, and grasslands. Surveys within the study area were conducted during and after the blooming season for Plummer's mariposa lily. Similar to slender mariposa lily, the fruiting individuals were much more cryptic than the flowering plants; therefore it is expected that only a portion of the plants that were in flower earlier were observed. Moreover, geophytes like *Calochortus* generally only have a percentage of the plants flower in any given year and the non-flowering individuals are generally not as visible.

Within the study area, Plummer's mariposa lily was found primarily on steep southwest-facing ridges and slopes in California sagebrush scrub and grasslands. The plants were generally mapped in areas of high vegetative cover and a variety of soil types (e.g., gravelly loam, sandy loam, rocky clay). A total of three polygons and two point locations of Plummer's mariposa lily

was mapped by Dudek within the study area during the 2006 surveys (*Figure 3*), with an estimated number of approximately 78 individuals.

4.3.1.3 Late-flowered mariposa lily (*Calochortus weedii* var. *vestus*)

Late-flowered mariposa lily has no state or federal status, but is found on List 1B.2 of the CNPS Inventory. This geophytic perennial has been documented from the Santa Susana Mountains in Ventura County to the west and also occurs in Ventura, Santa Barbara, San Luis Obispo, and Monterey counties. It typically grows in chaparral and cismontane woodland vegetation communities between 900 and 3,000 feet AMSL. Three polygons were mapped in 2003 by Dudek with a polygon size ranging from 12,801 to 72,903 square feet. The estimated number of individuals within each polygon ranges from 50 to 100, with a total of approximately 250 individuals observed within the project site during the 2003 field season. This species was not observed during the 2005 or 2006 field seasons.

4.3.1.4 Peirson's morning glory (*Calystegia peirsonii)*

Peirson's morning-glory has no state or federal status, but is found on List 4.2 of the CNPS Inventory. This morning-glory is a rhizomatous perennial that is typically found in more desert-like areas (e.g., creosote bush scrub, Joshua tree woodland) at elevations which exceed 3,000 feet AMSL, although there are records in the CNDDB for lower elevations in the local area.

While never abundant, Peirson's morning-glory is widespread on site and was observed on virtually all ridges and slopes by Dudek in 2003, weakly climbing over mixed chaparral, California sagebrush, and in grasslands throughout the study area. It was not the subject of focused surveys. It was also observed during the 2006 field season, with a similar abundance and distribution.

4.3.1.5 Island mountain-mahogany (*Cercocarpus betuloides* var. *blancheae*)

Island mountain-mahogany has no state or federal status, but is found on List 4.3 of the CNPS Inventory. It is an evergreen shrub that occurs as part of the chaparral in Los Angeles and Ventura counties, as well as on several of the Channel Islands (CNPS 2001).

On site, island mountain-mahogany occurs as an occasional component of chaparral at the base of north-facing slopes in survey area. This species was observed during the 2003, 2005, and 2006 field seasons.

4.3.1.6 Southern California black walnut (*Juglans californica*)

Southern California black walnut has no state or federal status, but is found on List 4.2 of the CNPS Inventory. Within its distributional range in Southern California, this species is found as scattered occurrences throughout chaparral, cismontane woodlands, and coastal and alluvial scrub vegetation communities (CNPS 2001).

This large shrub to tree was incidentally observed throughout the study area by Dudek in 2003, 2005, and 2006 (*Figure 3*). It is a dominant component at the upper elevations, forming stands of California walnut woodland, and is common in oak woodlands. It is an occasional component of mixed chaparral, California sagebrush, and alluvial scrub at the lower elevations. Approximately 2,288 individuals were observed during the 2005 and 2006 plant surveys.

4.3.1.7 Navarretia (*Navarretia* sp. *nova*)

An undescribed species of Navarretia was documented within the study area during the 2003 field season by Dudek. This plant is undoubtedly closely related to *Navarretia jaredii*, *N. pubescens*, and *N. setiloba*; but is also distinct from each of these taxa. Several previous collections of this unnamed navarretia have been made in the Santa Clara River Valley between the Los Angeles County line and Ojai. Plants of the unnamed Navarretia differ from *N. jaredii* in that it has a purple spot on the edge of the corolla tube, there are papillae in the tube, and the stems are not white hairy. It differs from *N. pubescens* in the presence of the purple spot and papillae in the tube, the bracts are slightly wider, and the flowers are smaller and whitish as opposed to larger and purple. It differs from *N. setiloba* by the presence of the purple spot, having narrower bracts, and a smaller flower.

Two polygons consisting of an estimated 60,000 individuals were observed during the 2003 (*Figure 3*). The navarretia was observed growing on clay lenses with a gentle to moderate north-facing slope. The vegetation around these plants consisted of valley needlegrass grasslands that were sparsely vegetated.

4.3.1.8 Parish's big sagebrush (*Artemisia tridentata* ssp. *parishii*)

Parish's big sagebrush has no state or federal status, and is not considered sensitive by CNPS, however this species is considered sensitive by the County of Los Angeles. According to Hickman (1993) the distribution for this subspecies includes San Benito, Monterey, Fresno, Kings, Los Angeles, Ventura, Orange, San Diego, Santa Barbara, Mono, Inyo, San Bernardino,

and Riverside Counties. On site this subspecies is found in big sagebrush scrub on the margins of Salt Creek and is found growing alongside *A. t.* ssp. *tridentata*.

There are big sagebrush plants with drooping inflorescence branches (*A. t.* ssp. *parishii*) and erect inflorescence branches (*A. t.* ssp. *tridentata*) that co-occur on site. After analyzing the characteristics of numerous samples, including examining the fruits under a microscope, it was determined that both subspecies probably occur on site. However, it appears as though these two subspecies may hybridize, as the full range of characteristics (drooping and erect inflorescence branches and hairy and glandular fruit) were found among the collected specimens on site.

The shape of the inflorescence branches (drooping or erect) was not consistently tied to the fruit surface having hairs or being glandular (i.e., plants with drooping inflorescence branches were found to have flowers with glandular fruit, and plants with drooping inflorescence branches were found to have flowers with hairy fruit). Therefore it is not possible to determine the subspecies from looking at whether or not the inflorescence branches are drooping or not. An analysis with a microscope of the fruit surface of flowers on each individual plant would be needed to determine which subspecies it is.

The conclusion made by Dudek was that the plants could be grouped into three categories, those that appeared to be consistent with *A. t.* ssp. *tridentata* (erect inflorescence branches and glandular fruit), those that appeared to be consistent with *A. t.* ssp. *parishii* (drooping inflorescence branches and hairy fruit), and those that had mixed characters (presumed hybrids).

4.3.2 Sensitive Wildlife Species

A total of 18 sensitive wildlife species was identified during the late fall of 2005. These and other sensitive species that have the potential to occur within the study area, based on the presence of suitable habitat and distribution, are listed in *Table 6*. This list is confined primarily to those species listed by the state and federal government as threatened or endangered, those species proposed for state and/or federal listing or candidates, those wildlife species generally considered to be rare or declining, and the County of Los Angeles. Wildlife species subject to existing mitigation measures are discussed in greater detail below.

TABLE 6
Sensitive Wildlife Species Detected or Potentially Occurring in Project Area

Scientific Name	Common Name	Status Federal/State[1]	Primary Habitat Associations	Status On Site Or Potential To Occur
INVERTEBRATES				
Branchinecta lynchi	Vernal pool fairy shrimp	FT/ None	Vernal pools; cool-water pools with low to moderate dissolved solids	Low potential to occur based on habitats present, suitable pools not located
Danaus plexippus (wintering sites)	Monarch butterfly	None/ None	Overwinters in eucalyptus groves	Species observed on site during fall 2005 survey period
Plebulina emigdionis	San Emigdio blue butterfly	None/None	Often near streambeds, washes, or alkaline areas. Associated with four-wing saltbush (*Atriplex canescens)* and quail bush (*Atriplex lentiformis*).	A colony was observed in Potrero Canyon in NRSP in association with *Atriplex lentiformis* plants (Compliance Biology 2004). Suitable habitat occurs within Salt Creek area, VCC and Entrada.
FISH				
Catostomus santaanae	Santa Ana sucker	FT/ CSC	Small, shallow, cool, clear streams less than 7 meters in width and a few centimeters to more than a meter in depth; substrates are generally coarse gravel, rubble and boulder	Low potential to occur based on habitats present, habitat may occur in Salt Creek. Populations in the Santa Clara River were introduced (Swift et al. 1993)
Gasterosteus aculeatus williamsoni	Unarmored threespine stickleback	FE/CE, CFP	Slow-moving and backwater areas.	This species is known to occur in the Santa Clara River and has been observed in the portion of the river within NRSP (ENTRIX 2005).
Gila orcuttii	Arroyo chub	None/ CSC	Warm, fluctuating streams with slow-moving or backwater sections of warm to cool streams at depths > 40 centimeters; substrates of sand or mud	Low potential to occur based on habitats present
AMPHIBIANS				
Bufo californicus	Arroyo toad	FE/CSC	Stream channels for breeding(typically 3rd order); adjacent stream terraces and uplands for foraging and wintering	Moderate potential to occur along Salt Creek and some supporting forks
Ensatina klauberi	Large-blotched salamander	None/CSC	Oak woodland, chaparral, coastal sage scrub, coastal dunes, conifer forest	High potential to occur based on habitat present
Rana aurora draytoni	California red-legged frog	FT/CSC	Lowland streams, wetlands, riparian woodlands, livestock ponds; dense, shrubby or emergent vegetation associated with deep, still or slow-moving water; uses adjacent uplands	Low potential to occur based on habitats present

TABLE 6
Sensitive Wildlife Species Detected or Potentially Occurring in Project Area

Scientific Name	Common Name	Status Federal/State[1]	Primary Habitat Associations	Status On Site Or Potential To Occur
Rana mucosa	Mountain yellow-legged frog	FE, FC/CSC	Meadow streams, isolated pools, lake borders, rocky stream courses within ponderosa pine, montane hardwood-conifer and montane riparian habitat types	Low potential to occur based on habitats present
Spea [=*Scaphiopus*] *hammondi*	Western spadefoot	None/CSC	Most common in grasslands, coastal sage scrub near rain pools or vernal pools; riparian habitats	High potential to occur based on habitat present
REPTILES				
Anniella pulchra pulchra	Silvery legless lizard	None/CSC	Loose soils (sand, loam, humus) in coastal dune, coastal sage scrub, woodlands, and riparian habitats	High potential to occur based on habitat present
Aspidoscelis tigris stejnegeri	Coastal western whiptail	None/None	Coastal sage scrub, chaparral	Present on site
Charina [=*Lichanura*] *trivirgata* ssp. *roseofusca*	Coastal rosy boa	None/ None	Rocky chaparral, coastal sage scrub, oak woodlands, desert and semi-desert scrub	High potential to occur based on habitat present
Diadophis punctatus modestus	San Bernardino ringneck snake	None/None	Open, rocky and somewhat moist areas near intermittent streams: grasslands, sage scrub	High potential to occur based on habitat present
Emys [=*Clemmys*] *marmorata pallida*	Southwestern pond turtle	None/ CSC	Slow-moving permanent or intermittent streams, ponds, small lakes, reservoirs with emergent basking sites; adjacent uplands used during winter	Species observed on site on 5/29/03. Some potential to still occur on site
Lampropeltis zonata (San Bernardino population)	San Bernardino mountain kingsnake	None/ CSC	Valley-foothill hardwood, hardwood-conifer, chaparral, coniferous forest, wet meadow	Low potential to occur based on habitats present
Phrynosoma coronatum (blainvillei population)	Coast (San Diego) horned lizard	None/ CSC	Coastal sage scrub, annual grassland, chaparral, oak and riparian woodland, coniferous forest	Present on site
Salvadora hexalepis virgultea	Coast patch-nosed snake	None/CSC	Chaparral, washes, sandy flats, rocky areas	High potential to occur based on habitat present
Thamnophis hammondii	Two-striped garter snake	None/ CSC	Streams, creeks, pools, streams with rocky beds, ponds, lakes, vernal pools	High potential to occur based on habitat present
Thamnophis sirtalis ssp.	South Coast garter snake	None/ CSC	Marshes, meadows, sloughs, ponds, slow-moving water courses	Low potential to occur based on habitats present
BIRDS				
Accipiter cooperii (nesting)	Cooper's hawk	None/ CSC	Riparian and oak woodlands, montane canyons	Species observed on site during fall 2005 survey period

TABLE 6
Sensitive Wildlife Species Detected or Potentially Occurring in Project Area

Scientific Name	Common Name	Status Federal/State[1]	Primary Habitat Associations	Status On Site Or Potential To Occur
Accipiter striatus (nesting)	Sharp-shinned hawk	None/ CSC	Nests in coniferous forests, ponderosa pine, black oak, riparian deciduous, mixed conifer, Jeffrey pine; winters in lowland woodlands and other habitats	High potential to occur during winter months
Agelaius tricolor (nesting colony)	Tricolored blackbird	BCC, USBC/ CSC/ Aud	Nests near fresh water, emergent wetland with cattails or tules; forages in grasslands, woodland, agriculture	Low potential to occur based on habitats present
Aimophila ruficeps canescens	Southern California rufous-crowned sparrow	None/ CSC	Grass-covered hillsides, coastal sage scrub, chaparral with boulders and outcrops	High potential to occur based on habitat present
Ammodramus savannarum	Grasshopper sparrow	SMC/ None	Open grassland and prairie, especially native grassland with a mix of grasses and forbs	High potential to occur based on habitat present
Amphispiza belli belli	Bell's sage sparrow	BCC, SMC/ CSC	Coastal sage scrub and dry chaparral along coastal lowlands and inland valleys	High potential to occur based on habitat present
Aquila chrysaetos (nesting and wintering)	Golden eagle	BCC/ CSC, P	Open country, especially hilly and mountainous regions; grassland, coastal sage scrub, chaparral, oak savannas, open coniferous forest	High potential to occur based on habitat present, breeding resources available
Ardea alba (rookery)	Great egret	None/None	Nests colonially in large trees. Rookery sites are typically located near marshes, tide-flats, irrigated pastures, and margins of rivers and lakes.	Individuals commonly observed foraging within the Santa Clara River in NRSP and within VCC; moderate potential for foraging within Salt Creek area and Entrada. No rookery sites have been observed on the Project site during annual bird surveys.
Ardea herodias	Great blue heron	None/None	Variety of habitats, but primarily wetlands; lakes, rivers, marshes, mudflats, estuaries, saltmarsh, riparian habitats	High potential to occur based on habitat present, breeding resources available
Asio flammeus (nesting)	Short-eared owl	USBC/ CSC/ Aud	Grassland, prairies, dunes, meadows, irrigated lands, saline and freshwater emergent wetlands	Species observed on site during fall 2005 survey period
Asio otus (nesting)	Long-eared owl	None/ CSC	Riparian, live oak thickets, other dense stands of trees, edges of coniferous forest	Species observed on site during fall 2005 survey period
Athene cunicularia (burrow sites)	Burrowing owl	BCC/ CSC	Grassland, lowland scrub, agriculture, coastal dunes and other artificial open areas	Moderate potential. "Groundowls" as referred by Ranch staff may be short-eared owl
Botaurus lentiginosus	American bittern	USBC, SMC/ None	Emergent habitat of freshwater marsh and vegetation borders of ponds and lakes	Low potential to occur based on habitats present
Buteo lineatus	Red-shouldered hawk	None/ None	Riparian and woodland habitats, eucalyptus	Species observed on site during fall 2005 survey period

TABLE 6
Sensitive Wildlife Species Detected or Potentially Occurring in Project Area

Scientific Name	Common Name	Status Federal/State[1]	Primary Habitat Associations	Status On Site Or Potential To Occur
Buteo regalis (wintering)	Ferruginous hawk	BCC, SMC/ CSC Aud	Open, dry country, grasslands, open fields, agriculture	High potential to occur based on habitat present
Buteo swainsoni (nesting)	Swainson's hawk	BCC, USBC/ ST/ Aud	Open grassland, shrublands, croplands	Low potential to occur based on habitats present
Campylorhynchus brunneicapillus sandiegensis	Coastal (San Diego) cactus wren	BCC/ CSC	Southern cactus scrub, maritime succulent scrub, cactus thickets in coastal sage scrub	Low potential to occur based on habitats present
Carduelis lawrencei	Lawrence's goldfinch	BCC/None	Valley foothill hardwood, valley foothill hardwood-conifer; and, in S. CA., desert riparian, palm oasis, pinyon-juniper and lower montane habitats.	Observed within the riparian habitats within NRSP during annual bird surveys; suitable nesting and foraging habitat is present within NRSP, Salt Creek area, VCC and Entrada.
Cathartes aura	Turkey vulture	None/ None	Rangeland, agriculture, grassland; uses cliffs and large trees for roosting, nesting and resting	Species observed on site during fall 2005 survey period, nesting opportunities are also present
Catharus ustulatus	Swainson's thrush	None/ None	Riparian habitat with dense understory and dense shrubs	Low potential to occur based on habitats present
Circus cyaneus (nesting)	Northern harrier	None/ CSC	Open wetlands (nesting), pasture, old fields, dry uplands, grasslands, rangelands, coastal sage scrub	High potential to occur based on habitat present
Coccyzus americanus occidentalis (nesting)	Western yellow-billed cuckoo	FC, BCC, SMC/ SE	Dense, wide riparian woodlands and forest with well-developed understories	Low potential to occur based on habitats present
Dendroica petechia brewsteri (nesting)	Yellow warbler	None/ CSC	Nests in lowland and foothill riparian woodlands dominated by cottonwoods, alders and willows; winters in a variety of habitats	High potential to occur based on habitat present
Elanus leucurus (nesting)	White-tailed kite	MNBMC/ P	Open grasslands, savanna-like habitats, agriculture, wetlands, oak woodlands, riparian	Species observed on site during fall 2005 survey period
Empidonax traillii extimus (nesting)	Southwestern willow flycatcher	FE, USBC/ SE/ Aud	Riparian woodlands along streams and rivers with mature, dense stands of willows or alders; may nest in thickets dominated by tamarisk	Low potential to occur based on habitats present
Eremophila alpestris actia	California horned lark	None/ CSC	Open habitats, grassland, rangeland, shortgrass prairie, montane meadows, coastal plains, fallow grain fields	High potential to occur based on habitat present
Falco columbarius (wintering)	Merlin	None/ CSC	Nests in open country, open coniferous forest, prairie; winters in open woodlands, grasslands, cultivated fields, marshes, estuaries and sea coasts	High potential to occur based on habitat present

TABLE 6
Sensitive Wildlife Species Detected or Potentially Occurring in Project Area

Scientific Name	Common Name	Status Federal/State[1]	Primary Habitat Associations	Status On Site Or Potential To Occur
Falco mexicanus (nesting)	Prairie falcon	BCC/ CSC	Grassland, savannas, rangeland, agriculture, desert scrub, alpine meadows; nest on cliffs or bluffs	Species observed on site during fall 2005 survey period
Falco peregrinus anatum	American peregrine falcon	BCC, (FD) / SE, P	Nests on cliffs, buildings, bridges; forages in wetlands, riparian, meadows, croplands, especially where waterfowl are present	High potential to occur based on habitat present
Haliaeetus leucocephalus (nesting & wintering)	Bald eagle	FT/ SE, P	Seacoasts, rivers, swamps, large lakes; winters at large bodies of water in lowlands and mountains	Very low potential to occur based on habitats present
Icteria virens (nesting)	Yellow-breasted chat	None/ CSC	Dense, relatively wide riparian woodlands and thickets of willows, vine tangles, and dense brush.	Low potential to occur based on habitats present
Lanius ludovicianus (nesting)	Loggerhead shrike	BCC/ CSC	Open ground including grassland, coastal sage scrub, broken chaparral, agriculture, riparian, open woodland	Species observed on site during fall 2005 survey period
Melospiza lincolnii	Lincoln's sparrow	None/None	Nests in wet montane meadows of corn lily, sedges, and low willows; winters in thickets of shrubs, tall forbs interspersed with grassy areas; usually on damp ground or near water	Low potential to occur based on habitats present
Numenius americanus (nesting)	Long-billed curlew	BCC, USBC/ CSC/ Aud	Nests in upland shortgrass prairies and wet meadows in northeast California; winters in coastal estuaries, open grasslands and croplands	Low potential to occur based on habitats present
Nycticorax nycticorax (rookery)	Black-crowned night heron	None/ None	Marshes, ponds, reservoirs, estuaries; nests in dense-foliaged trees and dense fresh or brackish emergent wetlands	Low potential to occur based on habitats present
Pandion haliaetus (nesting)	Osprey	None/CSC	Large waters (lakes, reservoirs, rivers) supporting fish; usually near forest habitats, but widely observed along the coast	Low potential to occur based on habitats present
Picoides pubescens	Downy woodpecker	None/None	Nests in deciduous (often willow) woodlands, oak woodlands, orchards, suburban plantings and occasionally conifers	High potential to occur based on habitat present
Piranga rubra (nesting)	Summer tanager	None/CSC	Nests in riparian woodland; winter habitats include parks and residential areas	High potential to occur based on habitat present

TABLE 6
Sensitive Wildlife Species Detected or Potentially Occurring in Project Area

Scientific Name	Common Name	Status Federal/State[1]	Primary Habitat Associations	Status On Site Or Potential To Occur
Plegadis chihi (rookery site)	White-faced ibis	SMC/CSC	Nests in marsh; winter foraging in shallow lacustrine waters, muddy ground of wet meadows, marshes, ponds, lakes, rivers, flooded fields and estuaries	Low potential to occur based on habitats present
Polioptila caerulea	Blue-gray gnatcatcher	None/None	Chaparral, brushland	Species observed on site during fall 2005 survey period
Polioptila californica californica	Coastal California gnatcatcher	FT, USBC/ CSC/ Aud	Coastal sage scrub, coastal sage scrub-chaparral mix, coastal sage scrub-grassland ecotone, riparian in late summer	Low potential due to elevation and habitat disturbance
Progne subis (nesting)	Purple martin	None/ CSC	Nests in tall sycamores, pines, oak woodlands, coniferous forest; forages over riparian, forest and woodland	Low potential to occur based on habitats present
Pyrocephalus rubinus flammeus (nesting)	Vermillion flycatcher	None/CSC	Breeding habitat includes riparian woodlands, riparian scrub, and freshwater marshes	A single individual was observed along the Santa Clara River in 1993; suitable breeding and foraging habitat present.
Riparia riparia (nesting)	Bank swallow	None/ ST	Nests in lowland country with soft banks or bluffs; open country and water during migration	Low potential to occur based on habitats present
Sialia mexicana	Western bluebird	None/None	Open forests of deciduous, coniferous or mixed trees, savanna, edges of riparian woodland	Species observed on site during fall 2005 survey period
Sphyrapicus thyroideus	Williamson's sapsucker	None/None	Nests in montane spruce-fir, Douglas-fir, lodgepole pine, ponderosa pine, mixed deciduous-coniferous forest; inhabits broader variety of conifers during non-breeding season	Species observed on site during fall 2005 survey period
Tachycineta bicolor	Tree swallow	None/ None	Nests in cavity-containing trees or snags near or in water; riparian forest and woodland, lodgepole pine belt; forages over water	Low potential to occur based on habitats present
Vireo bellii pusillus (nesting)	Least Bell's vireo	FE, BCC, USBC/ SE/ Aud	Nests in southern willow scrub with dense cover within 1-2 meters of the ground; habitat includes willows, cottonwoods, baccharis, wild blackberry or mesquite on desert areas	Low potential to occur based on habitats present
Wilsonia pusilla	Wilson's warbler	None/None	Nests in montane meadows and low, dense willow thickets; in migration occurs in chaparral, woodlands and forests with shrubs	Species observed on site during fall 2005 survey period

TABLE 6
Sensitive Wildlife Species Detected or Potentially Occurring in Project Area

Scientific Name	Common Name	Status Federal/State[1]	Primary Habitat Associations	Status On Site Or Potential To Occur
MAMMALS				
Antrozous pallidus	Pallid bat	CSC/ WBWG	Rocky outcrops, cliffs, and crevices with access to open habitats for foraging	This species was detected on the project site during ANABAT surveys (Impact Sciences 2004)
Choeronycteris mexicana	Mexican long-tongued bat	None/ CSC/WBWG	Desert and montane riparian, desert succulent scrub, desert scrub, and pinyon-juniper woodland. Roosts in caves, mines, and buildings.	Low potential to occur based on habitats present
Corynorhinus townsendii	Townsend's big-eared bat	CSC/ WBWG	Mesic habitats, gleans from brush or trees or feeds along habitat edges	High potential to occur based on habitat present
Eumops perotis californicus	Western mastiff bat	CSC/ WBWG	Roosts in small colonies in cracks and small holes, seeming to prefer man-made structures	Low potential to occur based on habitats present
Euderma maculatum	*Spotted bat*	None/ CSC	Occupies a wide variety of habitats from arid deserts and grasslands, to mixed conifer forests. Feeds over water and along washes. Needs rock crevices in cliffs or caves for roosting. VERIFY INFO	High potential to occur based on habitat present
Lasiurus xanthinus	Western yellow bat	None//None	Desert and montane riparian, desert succulent scrub, desert scrub, and pinyon-juniper woodland.	Low potential to occur based on habitats present
Lepus californicus bennettii	San Diego black-tailed jackrabbit	None/ CSC	Arid habitats with open ground; grasslands, coastal sage scrub, agriculture, disturbed areas, rangelands	High potential to occur based on habitat present
Myotis leibii (=ciliolabrum)	Small-footed myotis	None/None	Caves, old mines, abandoned buildings	Low potential to occur based on habitats present
Myotis thysanodes	Fringed myotis	None/ None/ WBWG	Open habitats, early successional stages, streams, lakes, and ponds are foraging areas	High potential to occur based on habitat present
Myotis volans	Long-legged myotis	None/ None/ WBWG	Feeds over open water and over open habitats, using denser woodlands and forests for cover and reproduction	High potential to occur based on habitat present
Myotis yumanensis	Yuma myotis	None/ None	Closely tied to open water which is used for foraging; open forests and woodlands are optimal habitat	Low potential to occur based on habitats present
Neotoma lepida intermedia	San Diego desert woodrat	None/ CSC	Coastal sage scrub, chaparral, pinyon-juniper woodland with rock outcrops, cactus thickets, dense undergrowth	A single woodrat midden was located – probably occurs at low densities

TABLE 6
Sensitive Wildlife Species Detected or Potentially Occurring in Project Area

Scientific Name	Common Name	Status Federal/State[1]	Primary Habitat Associations	Status On Site Or Potential To Occur
Nyctinomops femorosaccus	Pocketed free-tailed bat	None/ CSC	Rocky desert areas with high cliffs or rock outcrops	High potential to occur based on habitat present
Nyctinomops macrotis	Big free-tailed bat	None/ CSC	Rugged, rocky canyons	High potential to occur based on habitat present.
Odocoileus hemionus	Mule deer	None/ Regulated	Coastal sage scrub, chaparral, riparian, woodlands, forest; often browses in open areas adjacent to cover	Species observed on site during fall 2005 survey period
Onychomys torridus ramona	Southern grasshopper mouse	None/ CSC	Grassland, sparse coastal sage scrub	Low potential to occur based on habitats present
Puma concolor	Mountain lion	None/Regulated	Coastal sage scrub, chaparral, riparian, woodlands, forest; rests in rocky areas, and on cliffs and ledges that provide cover	Species tracks observed on site during fall 2005 survey period
Taxidea taxus	American badger	None/ CSC	Dry, open treeless areas, grasslands, coastal sage scrub	Species burrow observed on site during fall 2005 survey period

[1]The federal and state status of species primarily is based on the Special Animals List (July 2005), California Department of Fish and Game.

Federal Designations:

BCC	Fish and Wildlife Service: Birds of Conservation Concern
FC	Candidate for federal listing as threatened or endangered
(FD)	Federally-delisted; monitored for five years
FE	Federally-listed Endangered
FT	Federally-listed as Threatened
MNBMC	Fish and Wildlife Service Migratory Nongame Birds of Management Concern
PFT	Proposed for listing as Federally Threatened
USBC	United States Bird Conservation Watch List
SMC	Fish and Wildlife Service Region 1 Species of Management Concern

State Designations:

CSC	California Special Concern Species
P	California Department of Fish and Game Protected and Fully Protected Species
SE	State-listed as Endangered
ST	State-listed as Threatened

Other:

AFS E	American Fisheries Society Endangered classification
Aud	Audubon Society Watch list
WBWG	Western Bat Working Group High Priority species

4.3.2.1 Arroyo toad (*Bufo californicus*)

The arroyo toad is federally-listed as endangered (FE) and is considered a species of special concern by the State of California. Arroyo toads are found in foothill canyons and inter-mountain valleys where the river is bordered by low hills and the stream gradient is low (Miller and Miller 1936, Sweet 1992). The arroyo toad is an extreme habitat specialist, restricted to riparian environments in the middle reaches of third order streams (Sweet 1989). Arroyo toads are known to either breed, forage, and/or aestivate in aquatic habitats, riparian, coastal sage scrub, oak, and chaparral habitats. Holland (2001) found that on Camp Pendleton, California, large numbers of arroyo toads even utilized non-native exotic patches within otherwise suitable habitat. The species is currently thought to be restricted to the headwaters of large streams with persistent water from March to mid-June that have shallow, gravely pools less than 18 inches deep, and adjacent sandy terraces. Upland burrows have been noted for this species. Patterns of habitat use by sub-adults and non-breeding adults is not well understood (Sweet 1992).

Breeding pools must be open and shallow with minimal current, and with a sand or pea gravel substrate overlain with sand or flocculent silt (Sweet 1989). Adjacent banks must provide open, sandy or gravely terraces with very little herbaceous cover for adult and juvenile foraging areas, within a moderate riparian canopy of cottonwood, willow, or oak. Heavily shaded pools are unsuitable for larvae and juvenile toads due to lower water and soil temperatures and poor algal mat development (Sweet 1992). Episodic flooding is critical to keep the low terraces relatively vegetation free. Juveniles favor areas which remain damp and contain less than 10 percent cover, as these sites possess the thermal and refuge characteristics required for juvenile survival and rapid growth (Sweet 1992). Larval growth appears to be more rapid in pools with low silt loads (Jennings and Hayes 1994). Adults use terraces in the 100-year flood zone, which may extend up to 100 m from the stream (Campbell et al. 1996); however, more recent data suggest that they may move between 1 and 2 km into adjacent upland habitats to estivate. Most terraces are not immediately adjacent to the stream, but are separated by a dynamic, channel margin zone of mixed sediments which is reworked as storm waters flood the primary channel (Campbell et al. 1996). Drainages with straighter courses will have broader marginal zones and fewer terraces but may have associated oak flats that provide suitable adult habitat (Campbell et al. 1996). Adults excavate shallow burrows on the terraces where they shelter during the day when the surface is damp or during longer intervals in the dry season.

Based on the given habitat information, elevational range, biological patterns of this species, and predatory base, it is concluded that study area does have potential to support arroyo toad. This species was not observed during the late Fall 2005 wildlife surveys; however, based on the surveys conducted by Dudek biologists, it is anticipated that this species potentially occurs on

site. Suitable habitat is generally confined to Salt Creek and its immediate side-channels and East Fork. One potential factor which may prohibit the arroyo toad is the apparently high salt content of the areas near water.

4.3.2.2 Western pond turtle (*Clemmys marmorata pallida*)

The western pond turtle is a California species of special concern. This species inhabits slow moving permanent or intermittent streams, small ponds, small lakes, reservoirs, abandoned gravel pits, permanent and ephemeral shallow wetlands, stock ponds, and sewage treatment lagoons (Rathbun et al., 1992; Holland, 1994). Pools are the preferred habitat within streams (Bury, 1972). Abundant logs, rocks, submerged vegetation, mud, undercut banks, and ledges are necessary habitat components for cover as well as a water depth greater than 2 meters (Brattstrom and Messer, 1988; Holland, 1994). Additionally, emergent basking sites, emergent vegetation, and the availability of suitable terrestrial shelter and nesting sites seem to characterize optimal habitat. Adjacent upland areas typically provide overwintering and estivation sites.

The elevational range for the species is from brackish estuarine waters at sea level to over 2,000 meters, but it is uncommon over 1,529 meters (Stebbins, 1954; Bury, 1963; Holland, 1994).

The western pond turtle's daily activity revolves around thermoregulation and foraging patterns. It often suns itself at the edge of water, or on branches or stones above water. It is secretive and will seek refuge at the bottom of a pond or stream at the slightest disturbance. In the early morning and evening, pond turtles may move up or downstream, moving from one pool to the next in search of basking sites, mates or foraging. Northern populations tend to forage early in the morning, then usually begin basking between 0900¬ and 1000, and continue basking intermittently throughout the day. They usually terminate basking at around 90-95 degrees Fahrenheit (F.), maintaining a body temperature of 75-90 degrees F. for most activities (Bury 1972). Foraging may occur during the late afternoon or early evening during the warmth of summer. Often they will remain quietly on the bottom of pools to avoid a critical thermal maximum of 104 degrees F.

Geographical variation occurs in the seasonal activity of the pond turtle, although in warmer portions of its range, it may be active in every month (Holland, 1994). The primary activity period is February-November for the northern portion of its range (Evenden, 1948; Bury, 1972).

This species was observed within the study area on May 29, 2003 in an area that supported a deep pond along Salt Creek. Survey conditions for that day at 9am were: temp 67 degrees,

marine layer, winds 0–1 mph. Over the last two years this area has been subjected to an intense fire event, and subsequent succession. With rain events, this area has silted in, and is no longer ponded. This area now supports a large meadow with Salt Creek running through it. This area no longer has the capacity to support the western pond turtle. It is possible that in the future this area may wash out and once again have the suitable habitat conditions needed to support the western pond turtle. Smaller, but apparently stagnant pools occur at intervals along the East Fork of Salt Creek and a source population occurs within the Santa Clara River. Therefore, it is concluded that this species has a low potential to currently use the site, but having utilized the site in the past, has a moderate potential to utilize the site in the future.

4.3.2.3 Two-striped garter snake (*Thamnophis hammondii*)

The two-striped garter snake is a California species of special concern. This species is considered one of the most aquatic of garter snakes and is typically associated with wetland habitats such as streams, creeks and pools (Fitch, 1940; Rossman et al., 1996). It is closely associated with streams with rocky beds and bordered by willows (Stebbins, 1985); also ponds, lakes, wetlands and vernal pools. It also occurs in mixed oak, oak woodlands and chaparral on coastal slopes of mountains and foothills to sea level.

The Upper Sonoran Zone is its primary range, but it also extends into the Lower Sonoran and Transition zones. It is common west of the deserts in Southern California. It occurs from Monterey County southward (including Santa Barbara, Ventura, Los Angeles, San Bernardino, Riverside and San Diego counties) along the coast and drainages within the coast and peninsular ranges to Mission San Fernando Velicata in northwestern Baja California, Mexico (Stebbins, 1985; McGuire, 1989). This snake may follow streams that run down into the desert from the western mountains, as to Victorville on the Mohave River, and Palm Canyon at the eastern base of the San Jacinto Mountains (Van Denburgh and Slevin, 1918). It also occurs in isolated populations in northern Baja California Sur as well as Catalina Island, off the California coast (Rossman, Ford, and Seigel, 1996). The most northern locality reported by Van Denburgh and Slevin (1918) of a typical specimen is Oceano, San Luis Obispo County. Elevational range for the species is at least from sea level to 8,000 feet (Van Denburgh and Slevin, 1918; Stebbins, 1985).

Based on the given habitat information, elevational range, biological patterns of this species, and predatory base, it is concluded that the study area does have the potential to support the two-striped garter snake. This species was not observed during the late Fall 2005 wildlife surveys; however, based on the surveys conducted by Dudek biologists, it is anticipated that this species

potentially occurs on site. Most of Salt Creek and many of its feeding side-canyons support the appropriate combination of water and cover to support this species.

4.3.2.4 Ringneck snake (*Diadophis punctatus*)

The ringneck snake is a California species of special concern. According to Stebbins (1985), Diadophis punctatus is a snake of moist habitats including woodlands, forest, grassland, chaparral, farms, and gardens. At Camp Pendleton, San Diego County, California, D. punctatus is found in most habitats, including coastal sage scrub, chaparral, oak woodland, riparian areas, and grassland (Holland and Goodman 1998). During a 26 year study in Kansas, Fitch (1975) found that while D. punctatus used a wide variety of habitats, terrain and vegetation, some chief requirements became apparent. These include soil that is slightly damp but not wet or soggy, abundant shelter in the form of a surface mat of dead vegetation and/or loose objects such as flat rocks, boards, or trash and screening shrubs or trees with open canopies sparse enough to permit abundant sunshine to reach the ground. Regardless, ringneck snakes appear to be most common in open, relatively rocky areas within valley-foothill, mixed chaparral, and annual grass habitats (Zeiner et al. 1988). Holland and Goodman (1998) thought that it may be more common in grasslands and scarce in riparian areas where sandy soils are extensive or not bordered by areas with heavier soils.

Though D. *punctatus* utilize a wide variety of habitats, they are usually found on the ground under bark, beneath and inside rotting logs, and under stones and boards (Stebbins 1985) within those habitats. Ringneck snake utilize surface litter and cover extensively, and rely on rotting logs, woodpiles, stable talus, and small holes in the ground (Zeiner et al. 1988), and usually encountered during the day under boards or flat rocks.

The species is usually tied to riparian habitats and canyon bottoms, however they are not aquatic (Rosen et al. 1996; Hammerson 1982). Henderson (1970) appears to support this position by maintaining that captive snakes maintained on moist substrates develop blisters, thus supporting the notion that while ringneck snakes occur near wet habitats, they do not depend on the wet areas of that habitat.

Thirteen subspecies (Pinou et al. 1995) of D. punctatus range from southern Washington and Idaho to northern Baja California, Mexico from Atlantic coast to Pacific coast (Stebbins 1985; Stoltz 1993; USDA Forest Service 1995; Hinojosa 1996). Diadophis punctatus is widespread in California, absent only from large portions of the Central Valley, high mountains, desert and areas east of the Sierra-Cascade crest (Zeiner et al. 1988). The six Californian subspecies occur at elevations ranging from sea level to 2150 m (Zeiner et al. 1988; Stebbins 1985).

Based on Stebbins (1985), it appears that D. p. similis is nearly restricted to San Diego County and northern Baja California, Mexico, while D. p. modestus occurs in northern San Diego County north through Ventura County. Undoubtedly a zone of overlap occurs. D. punctatus are most typically found diurnally under surface objects (Zeiner et al. 1988) during the spring and fall (Holland and Goodman 1998), with crepuscular and some nocturnal activity noted during the summer (Zeiner et al. 1988, Holland and Goodman 1998).

Based on the given habitat information, elevational range, biological patterns of this species, and predatory base, it is concluded that the study area is highly likely to support ringneck snake. This species was not observed during the late Fall 2005 wildlife surveys; however, based on abundant suitable habitat and microhabitat resources on the site, it is anticipated that this species potentially occurs on site.

4.3.2.5 California legless lizard (*Anniella pulchra*)

The California legless lizard is a California species of special concern. Anniella pulchra has been described as a sand-swimmer (Gans et al. 1992) that is common in several habitats but especially in coastal dune, valley-foothill, chaparral, and coastal sage scrub (Zeiner et al. 1988). Holland and Goodman (1998) state that it may be found in a variety of habitats, including coastal sage scrub, chaparral, oak woodland, and pine forests. Stebbins (1985) and Miller (1944) go on to say that it frequents the sparse vegetation of beaches, pine-oak woodland, streamside growth of sycamores, cottonwoods, and oaks alluvial fans, oak-grass covered sandy hills, and grape vineyards. It may occasionally enter desert scrub habitats (Stebbins 1985).

A fossorial animal (Holland and Goodman 1998), it is found primarily in areas with sandy or loose organic soil or where there is plenty of leaf litter (Zeiner et al. 1988). Gans et al. (1992) claims that it is a burrower in shallow sand, and its habitats are characterized by loose soils (sand, loam, humus) suitable for burrowing (Holland and Goodman 1998) can be found (Stebbins 1985). *Anniella pulchra* may sometimes seek cover under flat boards or rocks where they lie barely covered in loose soil Zeiner et al. 1988), but more typically they occur in the leaf litter under the overhang of trees and bushes on sunny slopes (Stebbins 1985). They usually burrow in washes, dune sand of beaches, and loose soil near the bases of slopes and near permanent or temporary streams (Stebbins 1985), but Klauber (1932) found them occasionally in dense soil or amongst rocks.

Burt (1931) states that a key habitat feature is moist sandy soils. Miller goes on to say that soil moisture is an essential habitat requirement, and Stebbins (1985) agrees that it needs moisture, warmth, and plant cover. However, Klauber (1932) disagreed with the notion that they require

moist soil based on their presence in very dry desert situations. Regardless, it is evident that they are usually associated with friable soils with some moisture content and some vegetative cover. It has also been noted that they may sometimes occur in the twig base of woodrat nests (Stebbins 1985). Germano and Mrafka (1996) found them at the surface in hillside alkali scrub habitat with no sandy soils present. While Cunningham (1953) collected specimens from the foothill region of Los Angeles with scattered live oaks, elderberries, and buckwheat in loose and sandy soil under a log and boulder; in Santa Barbara with juniper, willow, and mule fat habitat under a boulder in damp sandy soil near a stream; beneath a boulder on an alluvial fan with fine and hard packed soil; and under logs or tin in sandy soil.

Key population areas probably occur in sandy and loose soil areas within a variety of habitats up to rocky and brush-covered areas within the study area, below 1830 m. This would include alluvial areas, sandy washes, a variety of woodland habitats, and potentially some agricultural areas.

Zeiner et al. (1988) states that all habitat requirements are probably met within their normal activity area, therefore seasonal movements probably do not occur. Due to their fossorial nature, little is nothing is known of their movement ecology. They are likely to move is certain resources are not available to them or to reach suitable hibernacula if used. Miller (1944) thought that there were four limiting factors affecting movement or dispersal in the slowly emigrating *Annilella*, these include: **1)** limited by too much or too little soil moisture; **2)** limited by extreme soil temperatures, **3)** limited to friable loamy or sandy material; and **4)** limited by vegetation communities that form dense root mats like perennial grasslands.

Based on the given habitat information, elevational range, biological patterns of this species, and predatory base, it is concluded that the study area is highly likely to support this species. The project site supports abundant loose soils on both hillsides and within canyon bottoms. Further, the site has abundant wet or moist resources available. This species was not observed during the late fall 2005 wildlife surveys; however, it is highly likely to occur on site.

4.3.2.6 Coast horned lizard (*Phrynosoma coronatum*)

The coast horned lizard is federal species of concern (FSC). The state of California considers the coast horned lizard to be a state-protected species and a species of special concern. P. c. *blainvillei* is found in a wide variety of vegetation types including coastal sage scrub, annual grassland, chaparral, oak woodland, riparian woodland and coniferous forest (Klauber, 1939; Stebbins, 1954). In inland areas, this species is restricted to areas with pockets of open

microhabitat, created by disturbance (e.g., floods, fire, roads, grazed areas, fire breaks) (Jennings and Hayes, 1994). The horned lizard occurs primarily in scrub, chaparral, and grassland habitats.

Historically, *Phrynosoma c. blainvillei* was distributed from the Transverse Ranges in Kern, Los Angeles, Santa Barbara, and Ventura counties southward through the Peninsular Ranges of Southern California to Baja California (Jennings, 1988). P. c. *blainvillei* seems to have disappeared from about 45 percent of its former range in Southern California, in particular on the coastal plain where it was once common (Hayes and Guyer, 1981) and in riparian and coastal sage scrub habitats on the old alluvial fans of the Southern California coastal plain (Bryant, 1911, Van Denburgh, 1922). In California, *Phrynosoma c. blainvillei* ranges from the Transverse Ranges south to the Mexican border west of the deserts, although the taxon occurs on scattered sites along the extreme western desert slope of the Peninsular Ranges (Jennings, 1988). The known elevation range of this species is from 10 meters at the El Segundo dunes (Los Angeles County) to approximately 2,130 meters at Tahquitz Meadow, on San Jacinto Mountain, in Riverside County. *Phrynosoma c. blainvillei* is thought to intergrade with *P. c. frontale* in extreme southern Kern County and northern Santa Barbara, Ventura, and Los Angeles Counties (Reeve, 1952; Montanucci, 1968; Jennings, 1988).

Coast horned lizard was observed within the study area during surveys conducted in summer 2006.

4.3.2.7 Coastal western whiptail (*Cnemidophorus tigris multiscutatus*)

The coastal western whiptail is a California species of special concern. This species occurs in a wide variety of habitats including coastal sage scrub, desert scrub, alluvial fan scrub, woodlands, grasslands, playas, and respective ecotones between these habitats.

The western whiptail can be found in open, often rocky areas with little vegetation or sunny microhabitats within shrub or grassland associations (Benes, 1969). *Cnemidophorus* is commonly found on the eastern and western slopes of the San Gabriel Mountains in all habitats except yellow pine forest (Schoenherr, 1976). Schoenherr (1976) also indicates that the western whiptail probably occurs in oak woodland (although none have been taken in this habitat type) because they have been detected in riparian areas.

The western whiptail ranges through the semi-arid and arid desert lowlands of Southern California, southern Arizona, adjacent areas of Mexico and western Baja California, Mexico (Lowe, et al., 1970). It is the third most common lizard in the San Gabriel Mountains after *Sceloporus occidentalis* and *Uta stansburiana* (Schoenherr, 1976). .

The daily activity period of C. *tigris* individuals consists of nearly continuous movement associated with the search for prey with activity peaks in the morning and afternoon. They can be characterized as terrestrial, fusiform, diurnal, and actively foraging lizards (Anderson, 1993).

Coastal western whiptail was observed within the study area during surveys conducted in summer 2006.

4.3.2.8 Coastal rosy boa (Charina [Lichanura] trivirgata roseofusca)

The coastal rosy boa is a California species of special concern. According to Zeiner et al. (1988), in coastal areas, the rosy boa occurs in rocky chaparral-covered hillsides and canyons, while in the desert it occurs on scrub flats with good cover. Holland and Goodman (1998) add that it is known from a variety of desert and semi-desert habitats, however it is absent from grasslands but may occur in oak woodlands if it interdigitates with scrub or chaparral habitats. A majority of the specimens found on Camp Pendleton (San Diego County, California), were in coastal sage scrub, chaparral, or mixed habitats; however, it was also found in riparian areas (Holland and Goodman 1998). Yingling (1982) states that the coastal rosy boa occurs in chaparral and desert-edge foothills. Within these habitats, it appears to prefer moderate to dense vegetative cover with rocks (Stebbins 1985; Zeiner et al. 1988; Holland and Goodman 1998). Holland and Goodman (1998) state that rock outcrops are commonly found in habitats used by the rosy boa and according to Zeiner et al. (1988), they have been found under rocks, in boulder piles, and along rock outcrops and vertical canyon walls (Zeiner et al. 1988). Additionally, woodrat nests are often used as refugia (Holland and Goodman 1998).

The species' range extends from Southern California and southwestern Arizona, south throughout Baja California, Mexico and northwestern mainland Mexico, avoiding the lowest deserts which are mainly in agricultural production or open dunes (Yingling 1982; Stebbins 1985, Zeiner et al. 1988). *Charina (Lichanura) trivirgata roseofusca* only occurs west of the desert below approximately 1200 m in elevation. Its range extends from Los Angeles and southwestern San Bernardino Counties, south through western Riverside County (easternmost range is around the San Jacinto Mountains), through San Diego County (up to the western 1370 m elevation on the Peninsular Ranges) and south approximately 150 miles into northern Baja California, Mexico (Cope 1889; Stejneger 1889; Yingling 1982; Stebbins 1985, Spiteri 1986; Zeiner et al. 1988).

Charina trivirgata roseofusca is a slow moving, robust, and placid (Klauber 1931) snake which lives in relatively dense rocky scrub and chaparral habitats up to 1350 m in elevation. The coastal rosy boa is not particularly well adapted to high temperatures and aridity and therefore,

the presence of rocky areas and outcrops are essential for thermal insulation and predator avoidance (Miller and Stebbins 1964).

Based on the given habitat information, elevational range, biological patterns of this species, and predatory base, it is concluded that the study area is highly likely to support this species. The rugged heterogenous terrain, combined with large patches of dense vegetation, makes this site particularly suitable.

4.3.2.9 Coast patch-nosed snake (*Salvadora hexalepis virgultea*)

The coast patch-nosed snake is a California species of special concern. S. hexalepis is a broad generalist in its habitat requirements. It seems to make use of whatever cover is available and thrives in most environments (Stebbins 1954). It occupies desert scrub, coastal chaparral, washes, sandy flats, and rocky areas. Additionally, Bogert (1939) noted a predilection in *S. hexalepis virgultea* (coastal patch-nosed snake) for brush or chaparral. He deduced that each form in the genus *Salvadora* occupies different habitats that are segregated based on natural physiographic and climatic factors, or combinations of the two.

The patch-nosed snake ranges from west-central Nevada south to the tip of Baja California and northwestern Sonora, and from coastal Southern California to southwestern Utah and central Arizona, occurring from below sea level to around 2,130 meters (Goldberg 1995).

This species is diurnal (Stebbins 1985) and can be found throughout the day during the milder months of spring. Activity is restricted to the mornings and late afternoons during the summer months. May and June are the typical months of peak activity; however, in the southern part of its range, activity may extend all year during mild to warm weather.

Climatic environmental factors are unquestionably involved in the distribution of the genus *Salvadora* (Bogert 1939). Humidity is apparently a factor in the dispersal of the genus to the east; *Salvadora ranges* little, if at all, east of longitude 96 degrees in Texas (Brown 1903). Expansion to the north seems to be limited by temperature. *Salvadora* extends slightly farther north than regions in which the mean average daily temperature is permanently above 32 degrees Fahrenheit (Bogert 1939). Burt (1932) concludes that mean annual temperature, rather than moisture content of the soil, appears to be the prime factor in controlling the northward expansion of the genus.

Based on the given habitat information, elevational range, biological patterns of this species, and predatory base, it is concluded that the study area is likely to support this species. Abundant suitable habitat, canyons and washes, occurs throughout the property.

4.3.2.10 San Diego desert woodrat (*Neotoma lepida intermedia*)

The San Diego desert woodrat is a California species of special concern. Desert woodrats are found in a variety of shrub and desert habitats, primarily associated with rock outcroppings, boulders, cacti, or areas of dense undergrowth (Bleich 1973; Bleich and Schwartz 1975; Brown et al. 1972; Cameron and Rainy 1972; Thompson 1982). Bleich and Schwartz (1975) recorded 81 percent of captures of woodrats in rocky areas on the Naval Weapons Station, Fallbrook Annex in northern San Diego County, substantiating other work on habitat selection by this species (Cameron and Rainey 1972; Thompson 1982). Desert woodrats are noted for their flexibility or plasticity in utilizing various materials, such as twigs and other debris (sticks, rocks, dung), to build elaborate dens or "middens," which typically include several chambers for nesting and food, as well as several entrances. Middens may be used by several generations of woodrats (Cameron and Rainey 1972). Woodrats often are associated with cholla cactus which they use for water and dens or boulders and boulder piles (Thompson 1982). Thus, their distribution is a consequence of habitat structure and heterogeneity (i.e., patchiness). Thompson (1982) found that woodrats at Joshua Tree in the Mojave Desert actively avoid open areas. They also inhabit pinyon-juniper hillsides at lower elevations and juniper woodland (MWD and RCHCA 1995). The desert woodrat often is associated with large cactus patches (Montgomery 1998), and within coastal sage scrub communities, it almost is invariably associated with prickly pear (*Opuntia occidentalis*). It also is found in rocky outcroppings and boulder-covered hillsides in chaparral or oak woodlands (MWD and RCHCA 1995). In chaparral, rock dens usually are located near primary food sources to minimize travel time and exposure to predators. In the Mojave Desert, dens comprised of cholla were preferentially inhabited compared to yucca, and were occupied for longer periods (4.1 months versus 2.5 months, respectively) (Smith 1995). Smith (1995) suggests that cholla provides better protection from predators than yucca.
The most common natural habitats for records are chaparral, coastal sage scrub, and grassland. Where substantial patches of these habitats are still intact, desert woodrats should still occur

The only information on dispersal by desert woodrats reviewed was the study discussed above by Smith (1995) where males apparently dispersed more than females. A study of "dispersal capacity" by the dusky-footed woodrat (*N. fuscipes*) in the Mission Valley of San Diego County demonstrated that this species can travel at least 1,600 meters, or about one mile in a five-day period (Smith 1965). However, this study was highly artificial because woodrats were trapped and released a location distant from the original capture site; i.e., the study did not address

natural dispersal behavior but rather movements after being artificially displaced. Nonetheless the study shows that a closely related woodrat in a similar habitat has the capacity to move relatively long distances over a short period of time.

Although desert woodrats are adapted to extremely arid environments, they cannot rely on metabolic water alone, as do many sympatric heteromyids (kangaroo rats, kangaroo mice, and pocket mice), and require fresh vegetation to meet their daily water requirements (Cameron and Rainey 1972). Cactus may be important source of free water (Cameron and Rainey 1972). Lee (1963) showed experimentally that desert woodrats cannot stand direct exposure to the high diurnal temperatures of the Mojave Desert and have developed behavioral adaptations such as microhabitat selection and insulation of dens with vegetation to survive in extreme environments (cited in Cameron and Rainey 1972). Woodrats also create conditions within dens where water vapor pressure is greater inside the den than outside, resulting in less evaporative water loss in hot conditions. There is field evidence that woodrats indeed suffer from extreme drought in hot environments. Smith (1995) found that den occupancy rates dropped from approximately 50 percent to 5-10 percent during a severe drought in the eastern Mojave Desert. However, mortality was not due to starvation, but lack of reproduction. There was complete reproductive failure in 1989 and from August 1988 to April 1990 no woodrats in reproductive condition or juveniles were trapped. Smith concluded that woodrats did not survive long enough to reproduce.

Woodrats have been shown to have a minimum requirement of dense shrub cover, cacti, or rock outcrops to persist in a habitat (MWD and RCHCA 1995). Cactus patches are a favorite den site for woodrats because they provide protection from predators and may reduce evaporative water loss. Woodrat middens are a resource that may be used by generations of woodrats, but the use of middens depends on the habitat conditions and availability of materials (i.e., sticks and rocks, and other debris).

A few middens were observed within the study area, but not in high densities. While individuals were not observed, it is presumed that they are present on site, based on the presence of middens.

4.3.2.11 Coastal California gnatcatcher (*Polioptila californica californica*)

The coastal California gnatcatcher is federally-listed threatened (FT) and is a California species of special concern. The coastal California gnatcatcher (gnatcatcher), a subspecies of the California gnatcatcher, is a small member of the thrush family (Muscicapidae). The gnatcatcher typically occurs in or near sage scrub habitat, which is a broad category of vegetation that includes the following plant communities as classified by Holland (1986): Venturan coastal sage scrub, Diegan coastal sage scrub, maritime succulent scrub, Riversidean sage scrub, Riversidean

alluvial fan sage scrub, southern coastal bluff scrub, and coastal sage-chaparral scrub. Coastal sage scrub is composed of relatively low-growing, dry-season deciduous, and succulent plants. Characteristic plants of this community include California sagebrush, various species of sage, California buckwheat, lemonadeberry, California encelia, and Opuntia spp. Ninety-nine percent of all gnatcatcher locality records occur at or below an elevation of 984 feet (Atwood 1990).

Coastal sage scrub is patchily distributed throughout the range of the gnatcatcher, and the gnatcatcher is not uniformly distributed within the structurally and floristically variable coastal sage scrub community. Rather, the subspecies tends to occur most frequently within the California sagebrush-dominated stands on mesas, gently sloping areas, and along the lower slopes of the coast ranges (Atwood 1990). An analysis of the percent gap in shrub canopy supports the general impression that gnatcatchers prefer relatively open stands of coastal sage scrub (Bontrager 1991). The gnatcatcher occurs in high frequencies and densities in scrub with an open or broken canopy, while it is absent from scrub dominated by tall shrubs, and occurs in low frequencies and densities in low scrub with a closed canopy (Weaver 1998). The territory size increases as vegetation density decreases and with distance from the coast, probably due to food resource availability. Thus, gnatcatchers will use even sparsely vegetated coastal sage scrub for shelter and to forage for insects as long as perennial shrubs are available (ERCE 1990).

Gnatcatchers also use chaparral, grassland, and riparian or alluvial habitats where they occur adjacent to sage scrub (Bontrager 1991). The use of these habitats appears to be most frequent during late summer, autumn, and winter, with smaller numbers of birds using such areas during the breeding season. These non-sage scrub habitats are used for dispersal, but data on dispersal use are largely anecdotal (Bowler 1995; Campbell et al. 1995). Although existing quantitative data may reveal relatively little about gnatcatcher use of these other habitats, these areas may be critical during certain times of the year for dispersal or as foraging areas during drought conditions (Campbell et al. 1998). Breeding territories have also been documented in non-sage scrub habitat. Campbell et al. (1998) discuss likely hypotheses explaining why non-CSS habitat is used by gnatcatchers including food source availability, dispersal areas for juveniles, temperature extremes, fire avoidance, and lowered predation rate for fledglings.

A large portion of the project site falls in proposed critical habitat for the USFWS Critical Habitat Designation for 'Western Los Angeles and Ventura counties' (USFWS 2004). This species was not detected during the late fall 2005 wildlife surveys. Based on the elevations present on site, steep slopes and present level of disturbance of the California sagebrush scrub vegetation community within the study area, there is a low potential for this species to occur on site.

4.3.2.12 Least Bell's vireo (*Vireo bellii pusillus*)

The least Bell's vireo is federally-listed endangered (FE) and is state-listed as endangered (SE). The least Bell's vireo occupies a more restricted nesting habitat than the other subspecies of Bell's vireo as summarized in USFWS (1986). Least Bell's vireos primarily occupy riverine riparian habitats that typically feature dense cover within 1-2 meters of the ground and a dense, stratified canopy. It inhabits low, dense riparian growth along water or along dry parts of intermittent streams. Typically it is associated with southern willow scrub, cottonwood forest, mule fat scrub, sycamore alluvial woodland, coast live oak riparian forest, arroyo willow riparian forest, wild blackberry, or mesquite in desert localities. It uses habitat which is limited to the immediate vicinity of water courses below 1,500 feet elevation in the interior (USFWS 1986; Small 1994). In the coastal portions of Southern California, the least Bell's vireo occurs in willows and other low, dense valley foothill riparian habitat and lower portions of canyons and along the western edge of the deserts in desert riparian habitat.

The least Bell's vireo primarily nests in small, remnant segments of vegetation typically dominated by willows and mule fat but may also use a variety of shrubs, trees, and vines. The birds forage in riparian and adjoining chaparral or scrub habitat (Salata 1983). Nests are typically built within one meter of the ground in the fork of willows, wild rose (*Rosa californica*), mule fat, or other understory vegetation (Franzreb 1989). Cover surrounding nests is moderately open midstory with an overstory of willow, cottonwood, sycamore, or oak. Crown cover is usually more than 50 percent and contains occasional small openings. The most critical structural component to least Bell's vireo breeding habitat is a dense shrub layer at 2 to 10 feet above the ground (Goldwasser 1981; Franzreb 1989). Quantitative measures for least Bell's vireo habitat have been used to developed standards for occupied habitat in coastal San Diego County. These standards are currently used in evaluating habitat restoration projects (e.g., RECON 1989; Dudek 1999).

During the spring and fall migration, the Bell's vireo occupies a wider range of habitats including coastal sage scrub, riparian and woodland habitats. The winter range of habitats of the Bell's vireo includes thornscrub vegetation adjacent to watercourses or in riparian gallery forests along the west coast of north and central Mexico. In southern Mexico and Honduras, tropical deciduous forest and arid tropical scrub along the coast is used (Brown 1993).

Least Bell's vireos are nearly obligate riparian breeders. They appear to be especially dependent on the presence of willows within occupied habitat, although the structure is extremely important, and they are characterized as preferring early successional habitat (USFWS 1998). The vireo tends to establish territories in sites with a particular habitat configuration, including

small amounts of aquatic and herbaceous cover, large amounts of shrub and tree cover, and a large proportion of tree cover with shrub understory. In addition, the width of the vegetation belt appears to be important for establishing vireo territories. Two features appear to be essential for a vireo territory: the presence of dense cover within 1 to 2 meters of the ground and a dense, stratified canopy for foraging. Native upland buffers are particularly important in narrow drainages. Those pairs that select areas bordered by coastal sage scrub and grasslands tended to be more successful than those bordered by agricultural and urban areas. Those territories adjoining golf courses, campgrounds, and sand mines had significantly fewer successful pairs than those next to chaparral, coastal scrub oak or grasslands (Franzreb 1989). Least Bell's vireo is known to forage in upland vegetation up to 300 yards from the nest (USFWS 1986).

The north portion of the project site falls in modeled, final critical habitat for the USFWS Critical Habitat Designation for 'Western Los Angeles and Ventura counties' (USFWS 2004). This species was not detected during the late fall 2005 wildlife surveys. Based on their habitat needs, there is a moderate potential for this species to occur on site, particularly within Salt Creek and its tributaries.

4.3.2.13 American Badger (*Taxidea taxus*)

The American badger is a California species of special concern. The current range of the badger extends from the Northern part of Alberta, Canada, to central Mexico and eastward from the Pacific coast to a line running roughly from east Texas to the central lake states. Badgers are generally associated with treeless regions, prairies, parklands, and cold desert areas. Altitudinally, their range extends from below sea level to over 3,600m. The Rocky Mountains and Grand Canyon are geographic features associated with the distribution of western subspecies (Long 1973 as cited in Chapman and Feldhamer 1982). Badgers are an uncommon, permanent resident found throughout most of the state (California), except in the northern North Coast area (Grinnel et al. 1937 as cited in Zeiner et al. 1990). Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils (Zeiner et al. 1990).

Badgers are carnivorous. They eat fossorial rodents: rats, mice, chipmunks, and especially ground squirrels and pocket gophers. Also eat some reptiles, insects, earthworms, eggs, birds, and carrion. Diet shifts seasonally and yearly in response to yearly availability to prey (Zeiner et al. 1990).

Badgers dig burrows in friable soil for cover. They frequently reuse old burrows, although some may dig a new den in each night especially in the summer.

Home range estimates vary geographically and seasonally. In Utah, Lindzey (1978 as cited in Zeiner et al. 1990) found fall and winter home ranges of 5 females varied from 137-304 ha (338-751 ac). Those of two males varied from 537-627 ha (1327-1549 ac). In Idaho, Messic and Hornocker (1981 as cited in Zeiner et al. 1990) found that home ranges of 7 adult females and 3 males averaged 160 ha (400 ac) and 240 ha (600 ha), respectively. (Zeiner et al. 1990.)

Based on the given habitat information, elevational range, biological patterns of this species, and predatory base, it is concluded that the study area does have the capacity to support the American badger. This species was not observed during the late fall 2005 wildlife surveys. However, one badger burrow was observed during the surveys indicating that this species has in the past or is continuing to utilize the study area as habitat.

4.3.3 Wildlife Corridors and Habitat Linkages

Wildlife corridors are linear features that connect large patches of natural open space and provide avenues for the migration of animals. Wildlife corridors contribute to population viability by assuring continual exchange of genes between populations, providing access to adjacent habitat areas for foraging and mating, and providing routes for recolonization of habitat after local extirpation or ecological catastrophes (e.g., fires).

Habitat linkages are small patches that join larger blocks of habitat and help reduce the adverse effects of habitat fragmentation. Habitat linkages provide a potential route for gene flow and long-term dispersal of plants and animals and may also serve as primary habitat for smaller animals, such as reptiles and amphibians. Habitat linkages may be continuous habitat or discrete habitat islands that function as stepping stones for dispersal.

The study area will be connected to various wildlife corridors and habitat linkages. The Santa Clarita woodlands park to the east connects directly up to the study area. To the south and west the study area is directly adjacent to the Santa Susana Mountains. These mountains are managed by the Bureau of Land Management and possibly others. Salt Creek runs in a southeast to northwest direction in the northern portion of the study area. This creek is a tributary to the Santa Clara River, located offsite to the north. The Santa Clara River is connected to the Los Padres National Forest to the north. Through the use of these river beds as wildlife corridors, this preserve could serve as a wildlife corridor to the Angeles National Forest to the east and to the Los Padres National Forest to the northwest.

Habitat linkages are present within a 2.5 to 25 mile radius of the study area. These areas include Rocky Peak Park, Santa Susana Park, Chatsworth Reservoir, Sage Ranch, Whiteface Open

Space, and Happy Camp Canyon Regional Park. In addition, the study area is adjacent to lands managed by the Bureau of Land Management and several smaller ranch preserves and parks. The site itself currently functions as live-in habitat for many species including Southern California's largest land mammals, black bear, mountain lion, mule deer, bobcat, and coyote. Numerous ridges and washes funnel wildlife generally to the north via Salt Creek and to the east via Salt Creek's East Fork.

4.4 Oak Tree Estimate

Based on the results of the analysis described in *Section 3.2.4* above, live oak woodland has an average density of 17.63 coast live oak trees per acre and 0.59 valley oak trees per acre, for a combined total average density of 18.22 oak trees per acre within the study area. Similarly, mixed oak woodland has an average density of 12.38 coast live oak trees per acre and 5.73 valley oak trees per acre, for a combined total average density of 18.12 oak trees per acre. Valley oak woodland has a lesser density average than live oak woodland and mixed oak woodland, with an average density of 1.71 coast live oak trees per acre and 13.48 valley oak trees per acre, for a combined total average density of 15.19 oak trees per acre. The total number of oak trees within oak woodland vegetation communities was estimated by extrapolating these calculated densities across all oak woodland vegetation communities within the study area.

Using the density estimates for oak woodlands described above in combination with the aerial photo estimate of oaks in valley oak savannah and individual oak trees mapped in non-oak vegetation communities, the estimated number of coast live oak in NRHC SMA is 8,886 and in the Salt Creek area, 3,827, for a total of 12,713. The estimated number of valley oak in the NRHC SMA is 2,535 and in the Salt Creek area is 1,235 for total of 3,770. Coast live oak and valley oak combined totals 11,422 for the NRHC SMA and 5,062 in the Salt Creek area for a grand total of approximately 16,484 oak trees within the study area.

5.0 ACKNOWLEDGMENTS

Andy Thomson, Marc Doalson, Colin Khoury, Doug Gettinger, Chris Oesch, and Rebekah Krebs contributed to the preparation of this report, with review by Sherri Miller and Brock Ortega, and staff at Newhall. Mark McGinnis provided graphics and GIS mapping analyses. Tonette Foster provided word processing.

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APPENDIX A

Vascular Plant Species Observed

2003–2005 Combined Plant List

APPENDIX A
Vascular Plant Species Observed – 2003–2006 Combined Plant List

LYCOPODIAE

SELAGINELLACEAE – SPIKE-MOSS FAMILY

Selaginella bigelovii – Bigelow's spike-moss

EQUISETAE

EQUISETACEAE – HORSETAIL FAMILY

Equisetum hyemale – common scouring-rush
Equisetum laevigatum – smooth scouring-rush

FILACEAE

DENNSTAEDTIACEAE – BRAKEN FAMILY

Adiantum jordanii – California maiden-hair
Pellaea andromedifolia – coffee fern
Pellaea mucronata var. *mucronata* – bird's-foot fern
Pentagramma triangularis – goldenback fern

DRYOPTERIDACEAE – WOOD FERN FAMILY

Dryopteris arguta – coastal wood fern

POLYPODIACEAE – POLYPODY FAMILY

Polypodium californicum – California polypody

ANGIOSPERMAE (DICOTYLEDONES)

AMARANTHACEAE – AMARANTH FAMILY

* *Amaranthus albus* – tumbleweed
Amaranthus blitoides – prostrate amaranth
* *Amaranthus retroflexus* – rough pigweed

ANACARDIACEAE – SUMAC FAMILY

Malosma laurina – laurel sumac
Rhus ovata – sugar-bush
Rhus trilobata – squaw bush
* *Schinus molle* – Peruvian pepper tree
Toxicodendron diversilobum – poison-oak

APIACEAE – CARROT FAMILY

Apiastrum angustifolium – wild celery
* *Apium graveolens* – celery
Berula erecta – cutleaf water-parsnip
Bowlesia incana – American bowlesia
* *Conium maculatum* – poison hemlock
* *Coriandrum sativum* – cilantro
* *Daucus carota* – Queen Anne's lace
Daucus pusillus – rattlesnake weed
Lomatium caruifolium – alkali parsnip
Lomatium utriculatum – common lomatium
Osmorhiza brachypoda – California sweet-cicely
* *Petroselinum crispum* – parsley
Sanicula bipinnata – poison sanicle
Sanicula crassicaulis – Pacific sanicle
* *Torilis arvensis* – Japanese hedge-parsley
* *Torilis nodosa* – knot hedge-parsley
Yabea microcarpa – California hedge parsley

ASCLEPIADACEAE – MILKWEED FAMILY

Asclepias fascicularis – narrow-leaf milkweed

ASTERACEAE – SUNFLOWER FAMILY

Achillea millefolium – yarrow
Achyrachaena mollis – blow-wives
Acourtia microcephala – sacapellote
Agoseris grandiflora – large-flowered agoseris
Agoseris retrorsa – spear-leaf agoseris
Ambrosia acanthicarpa – annual burweed
Ambrosia confertifolia – weak-leaved burweed
Ambrosia psilostachya – western ragweed
Artemisia californica – coastal sagebrush
Artemisia douglasiana – California mugwort
Artemisia dracunculus – tarragon
Artemisia tridentata – Great Basin sagebrush
Baccharis douglasii – marsh baccharis
Baccharis pilularis – coyote brush
Baccharis salicifolia – mule fat
Brickellia californica – California brickellbush

Brickellia nevinii – Nevin's brickellbush
* *Carduus pycnocephalus* – Italian thistle
* *Centaurea melitensis* – star thistle
Chaenactis artemisiifolia – artemisia pincushion
Chaenactis glabriuscula – yellow pincushion
Cirsium occidentale var. *californicum* – California thistle
Cirsium occidentale var. *occidentale* – cobwebby thistle
* *Cirsium vulgare* – bull thistle
* *Cnicus benedictus* – blessed thistle
Conyza canadensis – horseweed
Conyza coulteri – Coulter's conyza
Coreopsis bigelovii – Bigelow's coreopsis
Corethrogyne filaginifolia – virgate cudweed aster
* *Cotula australis* – Australian brass-buttons
Deinandra increscens ssp. *increscens* – no common name
Encelia californica – California bush sunflower
Ericameria palmeri var. *pachylepis* – goldenbush
Ericameria pinifolia – pine-bush
Erigeron foliosus – leafy daisy
Eriophyllum confertiflorum – long-stem golden yarrow
Filago californica – California fluffweed
Filago gallica – narrow-leaf filago
Gnaphalium bicolor – bicolor cudweed
Gnaphalium californicum – California everlasting
Gnaphalium canescens ssp. *microcephalum* – white everlasting
* *Gnaphalium luteo-album* – white cudweed
* *Gnaphalium palustre* – lowland cudweed
Gnaphalium stramineum – cotton-batting plant
Grindelia sp. – gumplant
Hazardia squarrosa ssp. *grindelioides* – saw-toothed goldenbush
Helianthus annuus – common sunflower
Hemizonia fasciculata – fascicled tarweed
Heterotheca grandiflora – telegraph weed
Heterotheca sessiliflora – golden aster
* *Hypochaeris glabra* – smooth cat's ear
* *Hypochaeris radicata* – hairy cat's ear
Isocoma menziesii – goldenbush
Isocoma menziesii var. *menziesii* [*Haplopappus venetus*] – Menzies' goldenbush

* *Lactuca serriola* – prickly lettuce
Lagophylla ramosissima – common hareleaf
Lasthenia californica – coast goldfields
Layia glandulosa – white layia
Layia platyglossa – tidy tips
Lepidospartum squamatum – scale-broom
Lessingia filaginifolia – California aster
Madia exigua – small tarweed
Madia gracilis – slender madia
Malacothrix clevelandii – Cleveland's malacothrix
Malacothrix saxatilis – cliff malacothrix
* *Matricaria matricarioides* – pineapple weed
Micropus californicus – slender cottonweed
* *Picris echioides* – bristly ox-tongue
Pluchea odorata – marsh-fleabane
Pluchea sericea – arrow weed
Psilocarphus tenellus – slender woolly-heads
Rafinesquia californica – California chicory
Senecio flaccidus var. *douglasii* – butterweed
* *Senecio vulgaris* – common groundsel
* *Silybum marianum* – milk thistle
Solidago californica – California goldenrod
* *Sonchus asper* – prickly sow-thistle
* *Sonchus oleraceus* – common sow-thistle
* *Spartium junceum* – Spanish broom
Stebbinsoseris heterocarpa [*Microseris heterocarpa*] – brown puffs
Stephanomeria cichoriacea – chicory-leaved stephanomeria
Stephanomeria exigua – small wreathplant
Stephanomeria pauciflora – wire-lettuce
Stephanomeria virgata – twiggy wreathplant
Stylocline gnaphaloides – everlasting nest-straw
Uropappus lindleyi [*Microseris lindleyi*] – silver puffs
Xanthium spinosum – spiny cocklebur
Xanthium strumarium – cocklebur

BORAGINACEAE – BORAGE FAMILY

Amsinckia menziesii var. *intermedia* – yellow fiddleneck
Amsinckia menziesii var. *menziesii* – yellow fiddleneck
Amsinckia tessellata – devil's lettuce

Cryptantha decipiens – gravel cryptantha
Cryptantha intermedia – common forget-me-not
Cryptantha micrantha – redroot cryptantha
Cryptantha microstachys – tejon cryptantha
Cryptantha muricata – prickly cryptantha
Heliotropium curassavicum – wild heliotrope
Pectocarya linearis – slender pectocarya
Pectocarya penicillata – pectocarya
Plagiobothrys arizonicus – Arizona popcorn flower
Plagiobothrys canescens – rusty popcorn flower
Plagiobothrys nothofulvus – popcorn flower

BRASSICACEAE – MUSTARD FAMILY

Arabis sparsiflora – no common name
Athysanus pusillus – dwarf athysanus
* *Brassica nigra* – black mustard
* *Capsella bursa-pastoris* – shepherd's purse
Caulanthus lasiophyllus – California mustard
Erysimum capitatum – wall flower
* *Hirschfeldia incana* – short-podded mustard
Lepidium oblongum – peppergrass
Lepidium virginicum – wild peppergrass
* *Raphanus sativus* – radish
* *Rorippa nasturtium-aquaticum* – water cress
* *Sisymbrium altissimum* – tumble mustard
* *Sisymbrium irio* – London rocket
* *Sisymbrium officinale* – hedge mustard
* *Sisymbrium orientale* – Oriental mustard
Stanleya pinnata var. *pinnata* – Prince's plume
Thysanocarpus curvipes – fringepod
Thysanocarpus laciniatus – lacepod
Tropidocarpum gracile – slender dobie-pod

CACTACEAE – CACTUS FAMILY

Opuntia californica var. *parkeri* – cane cholla
Opuntia littoralis – coastal prickly-pear
Opuntia x vaseyi – prickly-pear cactus

CAMPANULACEAE – BELLFLOWER FAMILY

Nemacladus ramosissimus – Nuttall's threadplant

CAPPARACEAE – CAPER FAMILY

Isomeris arborea – bladderpod

CAPRIFOLIACEAE – HONEYSUCKLE FAMILY

Lonicera interrupta – chaparral honeysuckle
Lonicera subspicata – southern honeysuckle
Sambucus mexicana – Mexican elderberry

CARYOPHYLLACEAE – PINK FAMILY

* *Cerastium glomeratum* – sticky mouse-ear
* *Herniaria hirsute* ssp. *cinerea* – gray herniaria
Loeflingia squarrosa – no common name
* *Silene gallica* – common catchfly
* *Stellaria media* – common chickweed
Stellaria nitens – shining chickweed

CHENOPODIACEAE – GOOSEFOOT FAMILY

Atriplex canescens – four-winged saltbush
* *Atriplex heterosperma* – weedy orache
Atriplex lentiformis – big saltbush, quail brush
* *Atriplex semibaccata* – Australian saltbush
Atriplex serenana var. *serenana* – bractscale
* *Atriplex suberecta* – Australian saltbush
* *Bassia hyssopifolia* – five-hooked bassia
* *Chenopodium album* – lamb's-quarters
Chenopodium berlandieri – pitseed goosefoot
Chenopodium californicum – California goosefoot
* *Chenopodium murale* – nettle-leaved goosefoot
* *Salsola tragus* – Russian-thistle

CONVOLVULACEAE – MORNING-GLORY FAMILY

Calystegia macrostegia – morning-glory
Calystegia peirsonii – Peirson's morning-glory
* *Convolvulus arvensis* – bindweed

CRASSULACEAE – STONECROP FAMILY

Crassula connata – dwarf stonecrop
Dudleya lanceolata – lanceleaf dudleya

CUCURBITACEAE – GOURD FAMILY

Cucurbita foetidissima – coyote-melon, calabazilla
Marah fabaceus – California Manroot
Marah macrocarpus – wild cucumber

CUSCUTACEAE – DODDER FAMILY

Cuscuta californica – California dodder

ERICACEAE – HEATH FAMILY

Arctostaphylos glandulosa ssp. *mollis* – manzanita
Arctostaphylos glauca – bigberry manzanita

EUPHORBIACEAE – SPURGE FAMILY

Chamaesyce albomarginata – rattlesnake spurge
Chamaesyce polycarpa – small-seed sand mat
Eremocarpus setigerus – doveweed
Euphorbia spathulata – reticulate-seed spurge

FABACEAE – PEA FAMILY

Amorpha californica var. *californica* – false indigo
Astragalus didymocarpus – white dwarf locoweed
Astragalus gambelianus – Gambel's locoweed
Astragalus trichopodus – Santa Barbara locoweed
Lathyrus vestitus – wild pea
Lotus hamatus – grab lotus
Lotus humistratus – lotus
Lotus purshianus – Spanish-clover
Lotus salsuginosus – coastal lotus
Lotus scoparius var. *scoparius* – deerweed
Lotus strigosus – strigose deerweed
Lupinus bicolor – Lindley's annual lupine
Lupinus excubitus var. *excubitus* – grape soda lupine
Lupinus excubitus var. *hallii* – grape soda lupine
Lupinus hirsutissimus – stinging lupine

Lupinus microcarpus var. *densiflorus* – chick lupine
Lupinus microcarpus var. *microcarpus* – chick lupine
Lupinus sparsiflorus – Coulter's lupine
Lupinus succulentis – arroyo lupine
Lupinus truncatus – collar lupine
* *Medicago polymorpha* – California burclover
* *Melilotus alba* – white sweet-clover
* *Melilotus indica* – yellow sweet-clover
Trifolium albopurpureum – rancheria clover
Trifolium ciliolatum – tree clover
Trifolium fucatum – bull clover
Trifolium gracilentum – pin-point clover
* *Trifolium hirtum* – rose clover
Trifolium microcephalum – maiden clover
Trifolium willdenovii – valley clover
Vicia americana – American vetch
Vicia exigua – slender vetch
Vicia hassei – Hesse's vetch
* *Vicia vilosa* – hairy vetch

FAGACEAE – BEECH FAMILY

Quercus agrifolia – coast live oak
Quercus berberidifolia – scrub oak
Quercus chrysolepis – canyon live oak
Quercus douglasii × *lobata* – oak
Quercus lobata – valley oak

GERANIACEAE – GERANIUM FAMILY

* *Erodium cicutarium* – red-stemmed filaree
* *Erodium botrys* – long-beaked filaree
* *Erodium moschatum* – white-stemmed filaree

GROSSULARIACEAE – CURRANT FAMILY

Ribes aureum – golden currant
Ribes californicum – California gooseberry
Ribes malvaceum – chaparral currant

HYDROPHYLLACEAE – WATERLEAF FAMILY

Emmenanthe penduliflora – whispering bells

Eriodictyon crassifolium var. *nigrescens* – yerba santa
Eucrypta chrysanthemifolia – common eucrypta
Nemophila menziesii var. *integrifolia* – baby blue eyes
Nemophila pedunculata – littlefoot nemophila
Phacelia cicutaria var. *hispida* – caterpillar phacelia
Phacelia cicutaria var. *hubbyi* – caterpillar scorpionweed
Phacelia distans – blue fiddleneck
Phacelia imbricata ssp. *imbricata* – imbricate phacelia
Phacelia minor – wild canterbury-bell
Phacelia ramosissima – shrubby phacelia
Phacelia viscida – sticky phacelia
Pholistoma auritum – fiesta flower

JUGLANDACEAE – WALNUT FAMILY

Juglans californica – Southern California black walnut

LAMIACEAE – MINT FAMILY

* *Lamium amplexicaule* – henbit
* *Marrubium vulgare* – horehound
Monardella lanceolata – mustang mint
Salvia apiana – white sage
Salvia columbariae – chia
Salvia leucophylla – purple sage
Salvia mellifera – black sage
Salvia x bernardina – no common name
Scutellaria tuberosa – Danny's skullcap
Stachys ajugoides var. *rigida* – rigid hedge-nettle
Stachys albens – white hedge-nettle
Trichostema lanatum – woolly bluecurls
Trichostema lanceolatum – vinegar weed

LAURACEAE – LAUREL FAMILY

Umbellularia californica – California laurel

LOASACEAE – STICK-LEAF FAMILY

Mentzelia sp. – no common name
Mentzelia laevicaulis – blazing star

MALVACEAE – MALLOW FAMILY

Malacothamnus fasciculatus ssp. *laxiflorus* – chaparral bush mallow
* *Malva parviflora* – cheeseweed

NYCTAGINACEAE – FOUR O'CLOCK FAMILY

Mirabilis laevis var. *crassifolia* [*M. californica*] – California wishbone-bush

OLEACEAE – OLIVE FAMILY

Fraxinus dipetala – California ash
* *Fraxinus uhdei* – tropical ash
* *Olea europaea* – mission olive

ONAGRACEAE – EVENING-PRIMROSE FAMILY

Camissonia bistorta – southern sun cup
Camissonia bistorta × *hirtella* – sun cup
Camissonia boothii ssp. *decorticans* – shredding evening primrose
Camissonia californica – mustard primrose
Camissonia hirtella – sun cup
Clarkia cylindrica – speckled clarkia
Clarkia purpurea – winecup clarkia
Clarkia unguiculata – elegant clarkia
Epilobium brachycarpum – willow herb
Epilobium canum ssp. *canum* – California fuchsia
Epilobium ciliatum – California cottonweed

OROBANCHACEAE – BROOM-RAPE FAMILY

Orobanche fasciculata – clustered broom-rape

PAEONIACEAE – PEONY FAMILY

Paeonia californica – California peony

PAPAVERACEAE – POPPY FAMILY

Dendromecon rigida – tree poppy
Dicentra chrysantha – golden ear-drops
Dicentra ochroleuca – yellow bleeding heart
Eschscholzia californica – California poppy
Meconella denticulata – small-flower meconella
Papaver californicum – fire poppy

PLANTAGINACEAE – PLANTAIN FAMILY

Plantago erecta – dot-seed plantain
Plantago major – common plantain
Plantago c.f. *ovata* – woolly plantain

PLATANACEAE – SYCAMORE FAMILY

Platanus racemosa – western sycamore

POLEMONIACEAE – PHLOX FAMILY

Allophyllum divaricatum – purple false gilyflower
Eriastrum densifolium ssp. *densifolium* – woollystar
Eriastrum sapphirinum – sapphire eriastrum
Gilia angelensis – angel gilia
Gilia capitata – globe gilia
Gilia splendens – splendid gilia
Leptodactylon californicum – prickly phlox
Linanthus androsaceus – common linanthus
Navarretia atractyloides – holly-leaf skunkweed
Phlox gracilis – slender phlox

POLYGONACEAE – BUCKWHEAT FAMILY

Chorizanthe staticoides – turkish rugging
Eriogonum sp. – buckwheat
Eriogonum sp. – buckwheat
Eriogonum elongatum – long-stemmed buckwheat
Eriogonum fasciculatum ssp. *foliolosum* – California buckwheat
Eriogonum c.f. *gracile* – slender woolly buckwheat
Eriogonum c.f. *viridescens* – buckwheat
Eriogonum nudum – naked buckwheat
Lastarriaea coriacea – lastarriaea
* *Polygonum arenastrum* – common knotweed
Pterostegia drymarioides – granny's hairnet
* *Rumex conglomeratus* – whorled dock
* *Rumex crispus* – curly dock
Rumex hymenosepalus – wild rhubarb
Rumex salicifolius – willow dock

PORTULACACEAE – PURSLANE FAMILY

Calandrinia ciliata – redmaids
Claytonia parviflora – small-leaved montia
Claytonia perfoliata – miner's lettuce

PRIMULACEAE – PRIMROSE FAMILY

* *Anagallis arvensis* – scarlet pimpernel

RANUNCULACEAE – BUTTERCUP FAMILY

Clematis ligusticifolia – yerba de chiva
Clematis pauciflora – ropevine
Delphinium cardinale – scarlet larkspur
Delphinium parryi spp. *parryi* – Parry's larkspur

RHAMNACEAE – BUCKTHORN FAMILY

Ceanothus crassifolius – hoary-leaved ceanothus
Ceanothus foliosus – southern blue lilac
Ceanothus leucodermis – white-bark ceanothus
Ceanothus tomentosus – Ramona-lilac
Rhamnus crocea – redberry
Rhamnus ilicifolia – holly-leaf redberry

ROSACEAE – ROSE FAMILY

Adenostoma fasciculatum – chamise
Cercocarpus betuloides var. *betuloides* – birch-leaf mountain-mahogany
Cercocarpus betuloides var. *blancheae* – island mountain-mahogany
Heteromeles arbutifolia – toyon
Prunus ilicifolia – holly-leaf cherry
Prunus virginiana var. *demissa* – western choke-cherry
Rosa californica – California rose
Rubus ursinus – California blackberry

RUBIACEAE – MADDER FAMILY

Galium angustifolium – narrow-leaved bedstraw
* *Galium aparine* – goose grass
Galium nuttallii – Nuttall's bedstraw
Galium porrigens – climbing bedstraw

SALICACEAE – WILLOW FAMILY

Populus fremontii – Fremont's cottonwood
Salix exigua – narrow-leaved willow
Salix gooddingii – black willow
Salix laevigata – red willow
Salix lasiolepis – arroyo willow
Salix lucida – shining willow

SAURURACEAE – LIZARD'S-TAIL FAMILY

Anemopsis californica – yerba mansa

SAXIFRAGACEAE – SAXIFRAGE FAMILY

Lithophragma bolanderi – Bolander's woodland star
Saxifraga californica – California saxifrage

SCROPHULARIACEAE – FIGWORT FAMILY

Antirrhinum coulterianum – white snapdragon
Antirrhinum multiflorum – withered snapdragon
Castilleja affinis – coast paintbrush
Castilleja exserta – common owl's-clover
Castilleja foliolosa – woolly Indian paintbrush
Collinsia heterophylla – purple Chinese houses
Collinsia parviflora – maiden blue-eyed Mary
Cordylanthus rigidus – bird's beak
Keckiella cordifolia – heart-leaf penstemon
Mimulus aurantiacus – bush monkeyflower
Mimulus aurantiacus var. *pubescens* – bush monkeyflower
Mimulus brevipes – yellow monkeyflower
Mimulus guttatus – seep monkeyflower
Penstemon centranthifolius – scarlet bugler
Scrophularia californica – California figwort
* *Veronica anagallis-aquatica* – water speedwell
* *Veronica persica* – Persian speedwell

SOLANACEAE – NIGHTSHADE FAMILY

Datura wrightii – western jimsonweed
* *Nicotiana glauca* – tree tobacco
* *Solanum americanum* – small-flowered nightshade

Solanum douglasii – white nightshade
Solanum xanti – chaparral nightshade

TAMARICACEAE – TAMARISK FAMILY
* *Tamarix* sp. – tamarisk

URTICACEAE – NETTLE FAMILY
Hesperocnide tenella – western nettle
Parietaria hespera – western pellitory
Urtica dioica – giant creek nettle
* *Urtica urens* – dwarf nettle

VERBENACEAE – VERVAIN FAMILY
Verbena lasiostachys – western verbena

VIOLACEAE – VIOLET FAMILY
Viola pedunculata – Johnny jump-ups

VISCACEAE – MISTLETOE FAMILY
Phoradendron macrophyllum – big leaf mistletoe
Phoradendron villosum – oak mistletoe

ZYGOPHYLLACEAE – CALTROP FAMILY
* *Tribulus terrestris* – puncture vine

ANGIOSPERMAE (MONOCOTYLEDONES)

CYPERACEAE – SEDGE FAMILY
Carex sp. – sedge
Cyperus eragrostis – tall cyperus
Eleocharis montevidensis – slender creeping spike-rush
Scirpus americanus – winged three-square
Scirpus maritimus – alkali bulrush
Scirpus robustus – Pacific coast bulrush

IRIDACEAE – IRIS FAMILY
Sisyrinchium bellum – blue-eyed grass

JUNCACEAE – RUSH FAMILY

Juncus sp. – rush
Juncus balticus – wire rush
Juncus bufonius – toad rush
Juncus mexicanus – Mexican rush
Juncus xiphioides – iris-leaved rush

LILIACEAE – LILY FAMILY

Bloomeria crocea – common goldenstar
Calochortus clavatus var. *gracilis* – slender mariposa lily
Calochortus venustus – mariposa lily
Calochortus weedii var. *vestus* – late-flowered mariposa lily
Chlorogalum pomeridianum – soap plant
Dichelostemma capitatum – blue dicks
Yucca whipplei – Our Lord's candle

POACEAE – GRASS FAMILY

Achnatherum coronatum – giant needlegrass
* *Agrostis viridis* – water bent
Aristida adscensionis – six-weeks three-awn
* *Arundo donax* – giant reed
* *Avena barbata* – slender oat
* *Avena fatua* – wild oat
* *Avena sativa* – cultivated oat
* *Bromus arenarius* – Australian brome
Bromus carinatus – California brome
* *Bromus diandrus* – ripgut grass
Bromus grandis – tall brome
* *Bromus hordeaceus* – soft chess
* *Bromus madritensis* ssp. *rubens* – foxtail chess
* *Bromus sterilis* – sterile brome
* *Bromus tectorum* – cheat grass
* *Cynodon dactylon* – Bermuda grass
Distichlis spicata – salt grass
* *Echinochloa crus-galli* – barnyard grass
Elymus elymoides – bottlebrush squirreltail
Elymus glaucus – western wild-rye
Eragrostis mexicana – lovegrass

* *Hordeum marinum* – Mediterranean barley
* *Hordeum murinum* – glaucous foxtail barley
Koeleria macrantha – Junegrass
* *Lamarckia aurea* – goldentop
* *Leptochloa uninerva* – Mexican sprangletop
Leymus condensatus – giant ryegrass
Leymus triticoides – beardless wild rye
* *Lolium multiflorum* – Italian ryegrass
* *Lolium perenne* – perennial ryegrass
* *Lolium temulentum* – darnel
Melica imperfecta – California melic
Muhlenbergia microsperma – littleseed muhly
Nassella cernua – nodding needlegrass
Nassella lepida – foothill needlegrass
Nassella pulchra – purple needlegrass
Paspalum distichum – knotgrass
* *Phalaris minor* – Mediterranean canary grass
* *Piptatherum miliaceum* – smilo grass
* *Poa annua* – annual bluegrass
Poa secunda – Malpais bluegrass
* *Polypogon monspeliensis* – rabbit's-foot grass
* *Schismus barbatus* – abumashi
* *Triticum aestivum* – cereal wheat
Vulpia microstachys – fescue
* *Vulpia myuros* – rattail fescue
Vulpia octoflora – six-weeks fescue

TYPHACEAE – CATTAIL FAMILY

Typha angustifolia – narrow-leaved cattail
Typha dominigensis – southern cattail
Typha latifolia – broad-leaved cattail

* signifies introduced (non-native) species

APPENDIX B

Master Faunal Compendium

APPENDIX B
Master Floral and Faunal Compendium

WILDLIFE SPECIES – VERTEBRATES

REPTILES

EMYDIDAE – BOX AND WATER TURTLE

Clemmys marmorata – western pond turtle (Observed 5/29/03)

IGUANIDAE – IGUANID LIZARDS

Cnemidophorus tigris multiscutatus – coastal western whiptail
Sceloporus occidentalis – western fence lizard
Uta stansburiana – side-blotched lizard

COLUBRIDAE – COLUBRID SNAKES

Masticophis lateralis – California whipsnake

VIPERIDAE – VIPERS

Crotalus atrox – western diamondback rattlesnake

BIRDS

CATHARTIDAE – NEW WORLD VULTURES

Cathartes aura – turkey vulture

ACCIPITRIDAE – HAWKS

Accipiter cooperii – Cooper's hawk
Buteo jamaicensis – red-tailed hawk
Buteo lineatus – red-shouldered hawk
Elanus leucurus – white-tailed kite

FALCONIDAE – FALCONS

Falco mexicana – prairie falcon
Falco sparverius – American kestrel

PHASIANIDAE – PHEASANTS & QUAILS

Callipepla californica – California quail

CHARADRIIDAE – PLOVERS

Charadrius vociferus – killdeer

COLUMBIDAE – PIGEONS & DOVES

Zenaida macroura – mourning dove

TYTONIDAE – BARN OWLS

Tyto alba – barn owl

STRIGIDAE – TRUE OWLS

Asio otus – long-eared owl

APODIDAE – SWIFTS

Aeronautes saxatalis – white-throated swift

TROCHILIDAE – HUMMINGBIRDS

Calypte anna – Anna's hummingbird

PICIDAE – WOODPECKERS

Colaptes auratus – northern flicker
Melanerpes formicivorus – acorn woodpecker
Picoides nuttallii – Nuttall's woodpecker
Sphyrapicus ruber – red-breasted sapsucker
Sphyrapicus sp. – sapsucker
Sphyrapicus thyroideus – Williamson's sapsucker

TYRANNIDAE – TYRANT FLYCATCHERS

Contopus sordidulus – western wood-pewee
Sayornis nigricans – black phoebe
Sayornis saya – Say's phoebe
Tyrannus verticalis – western kingbird

HIRUNDINIDAE – SWALLOWS

Petrochelidon pyrrhonota – cliff swallow

CORVIDAE – JAYS & CROWS

Aphelocoma californica – western scrub-jay
Corvus brachyrhynchos – American crow
Corvus corax – common raven

PARIDAE – TITMICE

Baeolophus inornatus – oak titmouse

AEGITHALIDAE – BUSHTITS

Psaltriparus minimus – bushtit

SITTIDAE – NUTHATCHES

Sitta carolinensis – white-breasted nuthatch

TROGLODYTIDAE – WRENS

Salpinctes obsoletus – rock wren
Thryomanes bewickii – Bewick's wren
Troglodytes aedon – house wren

REGULIDAE – KINGLETS

Regulus calendula – ruby-crowned kinglet

SYLVIIDAE – GNATCATCHERS

Polioptila caerulea – blue-gray gnatcatcher

TURDIDAE – THRUSHES & BABBLERS

Sialia currucoides – mountain bluebird
Sialia mexicana – western bluebird

TIMALIIDAE – LAUGHINGTHRUSH AND WRENTIT

Chamaea fasciata – wrentit

MIMIDAE – THRASHERS

Mimus polyglottos – northern mockingbird

LANIIDAE – SHRIKES

Lanius ludovicianus – loggerhead shrike

STURNIDAE – STARLINGS

* *Sturnus vulgaris* – European starling

PARULIDAE – WOOD WARBLERS

Dendroica coronata – yellow-rumped warbler
Dendroica towndsendi – Townsend's warbler
Geothlypis trichas – common yellowthroat
Wilsonia pusilla – Wilson's warbler

EMBERIZIDAE – BUNTINGS & SPARROWS

Aimophila ruficeps – rufous-crowned sparrow
Junco hyemalis – dark-eyed junco
Melospiza melodia – song sparrow
Pipilo crissalis – California towhee
Pipilo maculatus – spotted towhee
Zonotrichia leucophrys – white-crowned sparrow

ICTERIDAE – BLACKBIRDS & ORIOLES

Sturnella neglecta – western meadowlark

FRINGILLIDAE – FINCHES

Carpodacus mexicanus – house finch
Carduelis psaltria – lesser goldfinch
Carduelis tristis – American goldfinch

MAMMALS

LEPORIDAE – HARES & RABBITS

Sylvilagus bachmani – brush rabbit

SCIURIDAE – SQUIRRELS

Sciurus griseus – western gray squirrel
Spermophilus beecheyi – California ground squirrel

GEOMYIDAE – POCKET GOPHERS

Thomomys bottae – Botta's pocket gopher

HETEROMYIDAE – POCKET MICE & KANGAROO RATS

Chaetodipus californicus dispar – California pocket mouse

MURIDAE – RATS & MICE

Neotoma sp. – woodrat

CANIDAE – WOLVES & FOXES

Canis latrans – coyote
Urocyon cinereoargenteus – gray fox

PROCYONIDAE – RACCOONS & RELATIVES

Procyon lotor – common raccoon

MUSTELIDAE – WEASELS, SKUNKS, & OTTERS

Mustela frenata – long-tailed weasel
Taxidea taxus – American badger (burrow)

FELIDAE – CATS

Felis concolor – mountain lion
Lynx rufus – bobcat

URSIDAE – BEARS

Ursus americanus – Black Bear

CERVIDAE – DEERS

Odocoileus hemionus – mule deer

BOVIDAE – BISON, GOATS & SHEEP

* *Bos bovis* – domestic cattle

WILDLIFE SPECIES – INVERTEBRATES

BUTTERFLIES AND MOTHS

PIERIDAE – WHITES AND SULFURS

Pontia protodice – common white
Colias Eurydice – California dogface
Pontia sisymbrii – California white

NYMPHALIDAE – BRUSH-FOOTED BUTTERFLIES

Danaus plexippus – monarch
Junonia coenia – buckeye
Vanessa annabella – west coast lady
Vanessa cardui – painted lady

* signifies introduced (non-native) species

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Figure 3

NEWHALL RANCH HIGH COUNTRY
- Vegetation Communities and Sensitive Plant Locations

Newhall Ranch SPA

Vegetation Types:

- AGR = Agriculture
- DL = Disturbed land
- AS = Alluvial Scrub
- AWS = Arrowweed scrub
- BCW = Bulrush-cattail wetland
- CAM = Cismontane alkali marsh
- CWRF = Cottonwood willow riparian forest
- ES = Elderberry scrub
- MFS = Mulefat
- RW = River wash
- SWS = Southern willow scrub
- TS = Tamarisk scrub
- CSB = California sagebrush
- CSB-A = California sagebrush-artemisia
- CSB-PS = California sagebrush-purple sage
- BSS = Big sagebrush scrub
- CYS = Coyote brush scrub
- bCSB = burned California sagebrush
- bCSB-CHP = burned California sagebrush-undifferentiated chaparral
- LOW = Live oak woodland
- MOW = Mixed oak woodland
- VOS = Valley oak savannah
- VOW = Valley oak woodland
- WW = Walnut Woodland
- CGL = California annual grassland
- VGL = Purple needlegrass
- SOC = Scrub oak chaparral
- CHP = Undifferentiated chaparral
- bCHP = burned Undifferentiated chaparral

2003 Plant Species:

- Navarretia
- late-flowered mariposa lily
- slender mariposa lily

2006 Plant Species:

- slender mariposa lily
- Plummer's mariposa lily

2005 - 2006 Plant Species:

- slender mariposa lily
- Plummer's mariposa lily
- California Black Walnut
- Coast Live Oak
- Valley Oak

N

0 600 1,200 Feet

Figure 4

NEWHALL RANCH HIGH COUNTRY
- Wildlife Survey

Newhall Ranch SPA

Wildlife Point Location

Wildlife Survey Routes

Vegetation Types:

- AGR = Agriculture
- DL = Disturbed land
- AS = Alluvial Scrub
- AWS = Arrowweed scrub
- BCW = Bulrush-cattail wetland
- CAM = Cismontane alkali marsh
- CWRF = Cottonwood willow riparian forest
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- LOW = Live oak woodland
- MOW = Mixed oak woodland
- VOS = Valley oak savannah
- VOW = Valley oak woodland
- WW = Walnut Woodland
- CGL = California annual grassland
- VGL = Purple needlegrass
- SOC = Scrub oak chaparral
- CHP = Undifferentiated chaparral
- bCHP = burned Undifferentiated chaparral

Wildlife Species

AMBA = American Badger Burrow
AMKE = American Kestrel
BOCT = Bobcat
COHA = Cooper's Hawk
CYTE = Coyote Burrow
LEOW = Long Eared Owl
LOSH = Loggerhead Shrike
HOLI = Coast Horned Lizard
MOLI = Mountain Lion (scat & tracks)
POTU = Southwestern Pond Turtle (2003)
PRFA = Prarie Falcon
RCSP = Rufus-crowned Sparrow
RTHA = Red-tailed Hawk
SEOW = Short Eared Owl
WEWT = Western Whiptail
WTKI = White-tailed Kite

N

Feet
0 600 1,200