

APPENDIX C - NATURAL RESOURCES REPORT

Natural Environment Study Report

Equestrian Facilities Project

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1.0 Project Introduction

1.1 Project Location

The California Department of Parks and Recreation (Department) is proposing to create new equestrian facilities in Cuyamaca Rancho State Park (CRSP), San Diego County, California. The CRSP is located ≈30 mi east northeast of the City of San Diego along State Route 78. The project sites are located in the Descanso (T-15S, R-4E, S-18) and Cuyamaca Peak (T-14S, R-4E, S-16 & 29) USGS 7.5-minute quadrangles (Figure 1) respectively.

1.2 Project Description

The proposed project would create new equestrian facilities near the community of Descanso in the southern portion of the park including a campground, day-use amenities, and staging area within CRSP. The proposed campground project (Descanso Area Development) will include approximately 16 individual campsites (including a host site), comfort station, horse corrals, round pens, arena, shade ramadas, picnic areas, hitching rails, landscape and shade tree plantings, dayuse equestrian staging, and associated amenities, utilities, and infrastructure. The proposed project would also create a day-use staging area near Paso Picacho, including space for approximately 8 truck and trailer rigs with pull-through parking and amenities. Some trees will need to be removed and thinned. New trails and/or trail connections to existing trails, including the California Riding and Hiking Trail, will be developed as part of the project. Depending on site conditions, restrooms would be on septic and/or a contained vault system, and access to water and power may need to be developed as part of the project.

1.3 Consultation and Survey Dates

Numerous surveys were conducted in 2007-2009 (Table 1) by Department Environmental Scientists to assess existing natural resources at all proposed project locations. Field studies also included reconnaissance surveys of the proposed alternative sites. Prior to conducting field surveys, a list of species and habitats potentially occurring within the CRSP was developed based on information compiled from the California Department of Fish and Game (CDFG), California Natural Diversity Database (CNDDDB), California Native Plant Society (CNPS), U.S. Geological Survey (USGS), U.S. Fish and Wildlife Service (USFWS), and CRSP records.

A special-status species list was requested from the USFWS on April 16, 2007. This list was received on May 11, 2007. Department Environmental Scientist Richard Burg met with USFWS biologist Michelle Moreno at the Descanso Development Area on Nov 19, 2009 to discuss arroyo toad (*Bufo microscaphus californicus*) issues. No breeding habitat was identified at the site and a determination that the proposed project is “not likely to adversely affect” the arroyo toad was agreed upon.

On August 20, 2007, the proposed Descanso Area Development site was reviewed by CDFG biologist Kelley Fisher and Department Environmental Scientist Richard Burg for potential drainages needing a 1602 Streambed Alteration Agreement (1602). One drainage was identified as potentially needing a 1602 if any work within the bed and bank is to be conducted as part of the project. It is anticipated that a Water Section 401 Water Quality

Certification may be needed from the San Diego Regional Water Quality Control Board for this project as well.

During all site visits, the project sites were field reviewed to identify:

- Vegetation communities;
- Potential wetlands;
- Factors indicating the potential for rare species;
- Rare species (plant/wildlife) present.

1.4 Limitations that May Influence Results

Some limitations were encountered during the surveys that may influence results, including drought conditions and funding issues requiring the discontinuance of pitfall trapping at the Descanso Area Development site. Overall, the 2006-2007 rainy season was one of the driest recorded in San Diego County since the mid-1800s. Total rainfall was approximately 16.8 cm (6.6 in), which is significantly less than the average of 70.9 cm (27.9 in).

2.0 Environmental Setting

2.1 Existing Environment/Environmental Baseline

The CRSP is located in a rural and unincorporated portion of San Diego County. The park is located in the California Floristic Province, Southwestern California Region, Penninsular Ranges Subregion (Hickman 1993). Elevations range from ≈ 1067 m (≈ 3500 ft) to ≈ 1985 m (≈ 6512 ft). The climate is considered Mediterranean and fluctuates with the seasons with hot dry summers and cold wet winters. Average annual precipitation in Descanso is ≈ 70.9 cm (≈ 27.9 in); which falls primarily as rain in the winter. Average temperatures range from lows of $\approx -2.2^\circ$ C ($\approx 28.1^\circ$ F) in winter to highs of $\approx 29.5^\circ$ C (≈ 85.2 F) in the summer. The freeze-free period is from 200 to 250 days (Miles and Goudey 1997).

2.2 Hydrology

The CRSP is located within the South Coast Hydrologic Region (Figure 2), which covers approximately 6.78 million acres (10,600 square miles) of the southern California watershed that drains to the Pacific Ocean.

More specifically, the project site is located within the Sweetwater Hydrologic Unit (HU), which consists primarily of the Sweetwater watershed, plus the smaller Telegraph Creek (Figure 2). Both watersheds drain into the wetlands of southern San Diego Bay (Mazor and Schiff 2008). The Sweetwater River watershed encompasses 230 square miles and ranges from the Cuyamaca Mountains to the Pacific Ocean. Over 86 percent of the watershed is within unincorporated jurisdictions. The dominant land uses in the Sweetwater River watershed are urban (29%), open space / agriculture (22%), and undeveloped (49%).

There are no perennial drainages flowing through any of the proposed project sites though the Sweetwater River does lie adjacent to the Green Valley Loop A project site. This reach of the Sweetwater flows year-round and is heavily vegetated. Dominant plant species include willow (*Salix* sp.), mulefat (*Baccharis salicifolia*), alder (*Alnus rhombifolia*), oak (*Quercus agrifolia*), wild rose (*Rosa californica*), and mugwort (*Artemisia douglasiana*). Three unnamed ephemeral drainages, generally running north to south, flow through the Descanso

Area Development site (Figure 2). These three drainages flow only after rain events and flows quickly disipate depending on rainfall totals.

The drainage, located within a low lying area on the western edge of the proposed Descanso Area Development site, flows south southeast to a depression on the east side of the elementary school. This drainage is vegetated primarily with non-native grasses but also has sporadic clumps of Mexican rush (*Juncus mexicanus*) and deergrass (*Muhlenbergia rigens*).

A second drainage flowing northeast to southwest lies next to the current park residence and is culverted under the Descanso Area Development fire road and onto the site. This drainage then runs across the lower portion of the property and is culverted underneath Viejas Blvd into a pasture next to a feed store where it becomes sheet flows and disappears. There appears to be no direct connection the the Sweetwater River. Sections of this drainage are vegetated with non-native grasses while other sections are unvegetated. If any activities are to take place within the bed and bank of this drainage, a CDFG 1602 Streambed Alteration Agreement would be required.

A third drainage, starting in the northeast corner (in the adjacent chaparral community) flows just west of the fire road into the center of the Descanso Area Development site and then disappears. Sections of this drainage appear to have a bed and bank and is either barren or vegetated with non-native grasses. No riparian vegetation of any kind is located along/within any drainage at the proposed Descanso Area Development site.

2.3 Jurisdictional Waters of the United States Including Wetlands

Determinations of jurisdictional limits are based on the January 9, 2001, U.S. Supreme Court decision in Solid Waste Agency of Northern Cook County (SWANCC) vs. United States Army Corps of Engineers (ACOE), [121 S.Ct. 675, 2001], which affected Corps jurisdictions over isolated waters. Guidance on waters that are non-navigable, isolated, and intrastate was published on January 19, 2001, by the Counsel for the Environmental Protection Agency and the ACOE.

All wetland assessments and delineations were conducted by a Parks Environmental Scientist trained by the Wetland Training Institute in basic wetland delineation. The Wetlands and other waters of the United States were delineated using guidelines set forth by the ACOE.

The 1987 ACOE Manual includes two methods for determining wetland boundaries: the routine method and the comprehensive method. The routine delineation method involves a field visit where existing conditions are observed and indicators of wetland vegetation, hydric soils, and wetland hydrology are noted and mapped on an aerial photograph. The comprehensive delineation method involves the analysis of vegetation, soils, and hydrology along a number of transects randomly distributed along a main transect that parallels the project site. For this project, the routine method of delineation was used. The routine method of wetland delineation was conducted by noting the presence or absence of the three ACOE wetland parameters at observation points established within the project site.

An initial visit to the Descanso Area Development site was conducted on March 01, 2007. This visit occurred immediately after (next day) a rain event (2.5 cm [0.97 in]) with snow haven fallen in the higher elevations in the park. A second visit was conducted March 14, 2007. Parks Environmental Scientists surveyed the proposed sites (both dates) looking for indications of wetlands (hydrology, vegetation, soils). Hydrology (*Section 2.3*) and

vegetation (*Section 2.4*) are present at the Descanso Area Development site but soil indicators, including sandy soils indicators (Wetland Training Institute, Inc 2001) were not identified during any visit. Soils throughout the Descanso Area Development site are very sandy and no hydric soils are present (USDA, NRCS 1995 2003).

There are no wetlands present at the Descanso Area Development, Green Valley Loop A, or Paso Picacho Day-Use Area. In addition, there are no jurisdictional “waters of the U.S.” located within any of the proposed project areas. The Sweetwater River does lie adjacent to the Green Valley Loop A site but no work is projected to occur within the ordinary high water mark for this project. There are no drainages at the Paso Picacho Day-Use Area and drainages at the Descanso Area Development site consist of either swales or erosional features which according to recent ACOE guidelines, are not tributaries or do not have significant nexus to traditional navigable waters (ACOE 2007).

2.4 Soil Series

The U.S. Natural Resource Conservation Service (NRCS) has mapped two soil series in the project vicinity, Calpine sandy loam and Crouch sandy loam (Figure 3). These soils vary widely in depth, fertility, permeability, and other important characteristics. No hydric soils are present in the proposed project vicinity (NRCS 1995). The following soil series descriptions were obtained from the NRCS website located at <http://ortho.ftw.nrcs.usda.gov/cgi-bin/osd/osdlist.cgi>.

Crouch:

The Crouch series consists of deep, well drained soils that formed in material weathered from granitic rock. Crouch soils are on mountainous uplands and have slopes of 8 and 75 percent. The mean annual precipitation is about 68.6 cm (27 in) and the mean annual air temperature is about 11.7° C (53° F) Crouch soils are on mountainous uplands. They formed in material weathered from igneous (granitic) rocks. Elevations are 914 to 2438 m (3,000 to 8,000 ft).

Crouch soils are somewhat excessively drained with medium or rapid runoff and rapid permeability. They are used for rangeland or watersheds. Wooded areas in favorable locations are used for recreation. Vegetation is mainly annual grasses and forbs with open stands of timber at higher elevations.

Calpine:

The Calpine series consists of very deep, well drained soils that formed in alluvium derived from granitic rocks. They are well drained with very low or low surface runoff and moderately rapid permeability. Calpine soils are found on alluvial fans, fan remnants, and stream terraces. Slopes are 0 to 15 percent. The mean annual precipitation is about 30.5 cm (12 in) and the mean annual temperature is about 11.1° C (52° F).

Calpine soils form in alluvium derived mainly from granitic rocks. Slopes are 0 to 15 percent. Elevations range from 914 to 1829 m (3,000 to 6,000 ft). The climate is semiarid with cool, moist winters and warm, dry summers. Calpine soils are used principally for rangeland. A few areas are used for irrigated agriculture with alfalfa hay and pasture as the main crops.

2.5 Vegetation Communities

Four vegetation communities (Figure 4) were identified at the project sites including montane hardwood-conifer, coastal oak woodland, annual grassland, and urban. In addition, mixed chaparral and coastal oak woodland was identified juxtaposed to the Descanso Area Development site. The following descriptions of major vegetation community types identified at the project sites are summaries of detailed accounts presented in *A Guide to Wildlife Habitats in California* (Mayer and Laudenslayer 1988) and *A Manual of California Vegetation* (Sawyer and Keeler-Wolf 1995).

Paso Picacho Day-Use Area

Montane-Hardwood Conifer

Montane-hardwood conifer forests include both conifers and hardwoods. This habitat often appears in a mosaic pattern with small pure stands of broad-leaved trees interspersed with small pure stands of conifers. A bilayered canopy is common with conifers forming the upper canopy with hardwoods the lower canopy. Understory can be sparse or considerable depending on local site conditions. These forests provide habitat for a variety of wildlife species and mast crops can be a very important food source. Montane hardwood habitat is found at the Paso Picacho Day-Use Area.

Common upper canopy species include Jeffery Pine (*Pinus jeffreyi*) and incense cedar (*Calocedrus decurrens*) with lower canopy species including California black oak (*Quercus kelloggii*), canyon live oak (*Q. chrysolepis*), coast live oak (*Q. agrifolia*), and interior live oak (*Q. wislizeni*). Common shrubs include creeping snowberry (*Symphoricarpos mollis*), greenbark ceanothus (*Ceanothus spinosus*), and poison oak (*Toxicodendron diversilobum*). Common forbs include penstemon (*Penstemon* spp.), miniature lupine (*Lupinus bicolor*), phacelia (*Phacelia imbricata*), and grand collomia (*Collomia grandiflora*).

Green Valley Loop A

Coastal Oak Woodland

Coastal oak woodlands occupy a variety of Mediterranean type climates and are extremely variable. The overstory consists of deciduous and evergreen hardwoods occasionally mixed with conifers. At drier sites, trees are widely spaced and form an open woodland or savannah. Understory species vary depending on habitat conditions (soil, moisture regimes, etc.) and habitats juxtaposition to oak woodlands. Understory specie composition is typically composed of grasses with scattered shrubs. Coast live oak is usually found on moisture sites and extends further inland in southern California. Developed coastal oak woodland was identified within the Green Valley Loop A site.

Within the Green Valley Loop A, coastal oak woodlands are dominated by coast live oak with Coulter pine (*P. coulteri*) as a minor overstory component. The shrub layer is poorly developed and includes poison oak (*Toxicodendron diversilobum*), creeping snowberry (*Symphoricarpos mollis*), and basket bush (*Rhus trilobata*). Common forbs species include yarrow (*Achillea millefolium*), western ragweed (*Ambrosia psilostachya*), and various non-native species including (*Hirschfeldia incana*).

Descanso Area Development

Annual Grassland

Annual grassland is a dense to sparse covered habitat composed primarily of introduced annual plant species. Many of these species also occur in the understory of other habitats. Species composition is influenced by seasonal and annual fluctuations in weather patterns. Fall and winter rains cause germination of annual plant seeds, which grow slowly and low to the ground during cool winter months. Warmer spring temperature causes rapid growth, and large amounts of standing dead plant material can be found during the summer months. Nonnative grassland is disturbance-related and usually prevails in old fields or openings in native scrub habitats. Nonnative annual grassland occurs throughout the Descanso Area Development site. This site has been used for agriculture and grazing for the past, many years and numerous non-natives species were planted as feed for livestock.

Typical grasses within the study area include slender wild oat (*Avena barbata*), wild oat (*Avena fatua*), black mustard (*Brassica nigra*), mustard (*Sisymbrium altissimum*), California brome (*Bromus carinatus*), ripgut brome (*Bromus diandrus*), brome grass (*Bromus hordeaceus*), foxtail chess (*Bromus madritensis*), cheatgrass (*Bromus tectorum*), and barley (*Hordeum murinum*).

A few native species were identified at the Descanso Area Development project site these included southern mules ear (*Wyethia ovata*), Mexican rush, deergrass, and California poppy (*Eschscholzia californica*). Native species were found primarily within the lower lying areas and one drainage running through the site.

2.6 Biocorridors

Biocorridors or linkages are interconnected tracts of land characterized by significant natural resource value through which native species can disperse. Corridors provide pathways for gene flow, seed dispersal, daily movement between habitats (home range movements), migration (seasonal or altitudinal), and dispersal habitat for juveniles. Corridors can function at various temporal and spatial scales. Temporally, it allows for both daily and seasonal movements as well as movements over many generations. Spatially, corridors function on a landscape/ecosystem scale (with there being no absolute size for a landscape) or at smaller spatial scales such as home range.

Though natural landscapes have an inherent degree of connectivity, recent (past 50 years) habitat alteration has greatly reduced this connectivity (Penrod et al. 2005). Establishing connections between isolated or fragmented habitat patches is essential for sustaining natural ecological processes, population viability, and biological diversity (Noss and Cooperrider 1994). Though Cuyamaca Rancho State Park functions as part of a regional bio-corridor complex, according to the South Coast Wildlands, there are no major dispersal linkages in the project vicinity (Penrod et al. 2001).

3.0 Biological Resources

3.1 Special-status Species

For the purposes of this document, special-status species are defined as plants and animals that are legally protected or that are otherwise considered sensitive by federal, state, or local resource conservation agencies and organizations. Explicitly, this includes species listed as

state and/or federally threatened or endangered; species identified by CDFG as Species of Special Concern; and plants considered by the California Native Plant Society (CNPS) to be rare, threatened, or endangered (i.e., plants on CNPS List 1B and 2).

3.2 Botanical Resources

Research was conducted prior to field surveys to determine the vegetation communities in the project area and the associated specific plants. This research involved querying the CNDDDB Rarefind Database Version 3.1.0 (CDFG 2003) and Inventory of Rare and Endangered Plants electronic database Version 7-06d (CNPS 2006) for sensitive plants and natural communities, reviewing published and unpublished material, and contacting CRSP Environmental Scientists. The Descanso and Cuyamaca Peak USGS 7.5-minute quadrangles were used to query all databases and other sources.

Emphasis was placed on the special-status species that may occur. Some of the plants, which were considered, though not formally listed as rare or endangered under the California Endangered Species Act, meet the definitions of Section 1901, Chapter 10 (Native Plant Protection) of the California Fish and Game Code, and are eligible for state listing. These plant species were given equal consideration during the assessment as if they were already listed species.

Field surveys to locate and identify plant species within the project study area (Table 2) followed the floristic survey protocol recommended by CDFG (CDFG 2000) and field survey schedules were determined based on the known blooming periods of these species.

3.2.1 Sensitive Botanical Resources

Though a total of 36 special-status plant species and one rare natural community were identified as occurring in Descanso and Cuyamaca Peak USGS 7.5-minute quadrangles (Table 3) (Figure 5), no special-status plant species were detected or rare natural communities identified during any survey or site visit at either project site.

3.3 Wildlife Resources

A query of the California Wildlife Habitat Relationships Program (CDFG 2002) using annual grassland, montane hardwood-conifer, coastal oak woodland, mixed chaparral, and urban habitats identified 334 wildlife species (Table 4) as potentially occurring in these habitats in San Diego County, California. This includes 216 avian species, 68 mammals, 38 reptiles, and 12 amphibians.

Additionally, the USGS conducted a habitat assessment and pre/post fire surveys for arroyo toad along the Sweetwater River in the project vicinity during 2003 and 2004 (Ervin and Fisher 2003, Mendelsohn et al. 2005). A herpetological survey (pitfall arrays) was also conducted from April to May 2008 at the Descanso Area Development site to identify species that may occur at this location. Three reptilian species [western fence lizard (*Sceloporus occidentalis*), side-blotched lizard (*Uta stansburiana*), and southern alligator lizard (*Elgaria multicarinata*)], one amphibian [western toad (*Bufo boreas*)], and one mammal [Botta's pocket gopher (*Thomomys bottae*)] species were identified (Appendix A). In addition, a western rattlesnake (*Crotalus viridis*) was observed during the removal of the pitfall arrays.

No sensitive species were observed or captured. Though the original scope of this study was for the traps to be open for nine months, this study was suspended after two months due to state budget issues.

3.3.1 Sensitive Wildlife Resources

The CNDDDB Version 3.1.0 (CDFG 2003) was queried to compile a list of known special-status wildlife and invertebrate species present in the project area (both Descanso Area Development and Paso Picacho Day-Use Area). A total of eight special-status wildlife species, two invertebrate species, and one insect were identified as occurring in the Descanso and Cuyamaca Peak USGS 7.5-minute quadrangles (Table 5) (Figure 5). Additionally, a special-status species list was requested from the USFWS on April 16, 2007. This list was received on May 11, 2007.

Department biologists compared specific habitat requirements, life history notes, elevation, species distribution, and species lists to determine if any special-status species may be present in the project vicinity. An expanded discussion is provided for those sensitive or protected species where habitat may exist within the project vicinity and for any species with a known occurrence within the CRSP boundary.

The following accounts were obtained from CWHR (Zeiner et al. 1990a, b, c) unless otherwise cited and include generalized habitat associations, food habits, cover, and reproduction requirements, seasonal movements, and any known locations in the project area. All known occurrences for any special-status wildlife species were obtained from the CNDDDB Rarefind Database and CRSP personnel.

Though only two bat species are known to occur in the project area, it is most likely that numerous other bats species could potentially be present at the two project sites. According to the USGS, 23 bat species have been documented in San Diego County with 16 species identified during inventories conducted from 2002 to 2004 (Stokes et al. 2005).

Southwestern pond turtle:

The southwestern pond turtle (*Clemmys marmorata pallida*) is a California Species of Special Concern. This subspecies of the western pond turtle frequent permanent or nearly permanent water (ponds, lakes, streams, irrigation ditches, etc.) in a wide variety of habitats from San Luis Obispo County to northern Baja California.

Pond turtles require basking sites such as rocks, partially submerged logs, and open mud banks. Western pond turtles are omnivorous and eat a variety of aquatic plants and invertebrates as well as fishes and frogs. Eggs are laid from March to August depending on location in nests constructed usually in sandy banks. Incubation ranges from 73 to 80 days.

Predators include fishes, bullfrogs, garter snakes, wading birds, and some mammals. This species has declined in southern California as a result of loss of regional aquatic and riparian habitat through development and degradation of habitat, reduction of surface water levels, and introduction of non-native predators and stream channel alterations for agriculture and flood control.

Potential Presence in Project Sites:

There are no documented occurrences within Cuyamaca Rancho State Park. There is one known occurrence (2001) \approx 5955 m (3.7 mi) northwest of Lake Cuyamaca.

Breeding and foraging habitat does not exist at the project sites. It is unlikely that this species will be impacted by this project due to lack of permanent water and necessary elements (submerged rocks, logs, and debris) at either project site.

San Diego Mountain Kingsnake:

The San Diego mountain kingsnake (*Lampropeltis zonata pulchra*) is a CDFG species of special concern. This species occurs in a variety of habitats including valley-foothill hardwood, and hardwood-conifer, mixed and montane chaparral, valley-foothill riparian, coniferous forests and wet meadows from sea level to about 2450 m (8036 ft).

Diet includes small lizards, smaller snakes, nestling birds, bird eggs, and small mammals. This species breeds from March to May and clutch size varies from 4-12, with an average of 5-6 most common. Hatching occurs from late June to early October. Predators probably include hawks, owls, and various mammals. Populations may be threatened by collecting.

Potential Presence in Project Sites:

There are two known occurrences (1952) within Cuyamaca Rancho State Park. Breeding and foraging habitat exists at both project sites but higher quality habitat (mixed hardwood-conifer forest) exists at the Green Valley Loop A and Paso Picacho sites.

Coast Range Newt

The coast range newt (*Taricha torosa torosa*) is a CDFG species of special concern. This species occurs in the coast ranges and occurs near streams in coastal sage scrub, mixed chaparral, annual grassland, valley-foothill hardwood and riparian habitats from sea level to about 1830 m (6,000 ft). Optimal habitat are in or near streams.

Diet consists of earthworms, snails, slugs, sowbugs, and insects. Adults will also consume eggs of their own species, eggs of other amphibian and trout, as well as aquatic insects. Terrestrial newts seek cover under logs and rocks, mammal burrows, rock fissures, or other man made structures. Aquatic larvae find cover under submerged rocks, logs, and debris. The species breeds from fall through late spring. Eggs are laid in small clusters on the submerged portions of emergent vegetation and rocks. A skin toxin protects both adults and aquatic larvae and eggs from most predators.

Potential Presence in Project Sites:

There are no documented occurrences within Cuyamaca Rancho State Park. There is one known occurrence (2001) ≈5955 m (3.7 mi) northwest of Lake Cuyamaca. Breeding and foraging habitat does not exist at either project site. It is unlikely that this species will be impacted by this project due to lack of permanent streams and necessary elements (submerged rocks, logs, and debris) at either project site.

Arroyo Toad:

The following account and references were obtained from the U.S. Fish and Wildlife Service, Ventura Fish and Wildlife Office website and can be found at http://www.fws.gov/pacific/ventura/es/spplists/species_amphibs.cfm. Detailed references can be found at the above website.

The arroyo toad is endemic to the coastal plain and mountains of central and southern California and northwestern Baja California from near sea level to about 2,440 m (8005 ft) in elevation. Within these areas, arroyo toads are found in both perennial and intermittent rivers and streams that have shallow, sandy to gravelly pools adjacent to sand or fine gravel terraces. Breeding habitat requirements are highly specialized; specifically, arroyo toads require shallow slow-moving stream and riparian habitats that are disturbed naturally on a regular basis, primarily by flooding. Arroyo toad juveniles, subadults, and adults use the surrounding upland areas (up to 2 km (1.2 mi) from a stream) for foraging and wintering. The arroyo toad has evolved in a system that is inherently dynamic, with marked seasonal and annual fluctuations in rainfall and flooding.

The breeding period occurs from late January or February to early July, although it can be extended in some years, depending on weather conditions. When water temperatures reach 14° C (57 ° F), adult males advertise with a soft, high whistled trill. Receptive females seek out calling males based on the size of the male and the sound of his call. Although males may breed with several females in a season, female arroyo toads release their entire clutch of eggs as a single breeding effort and probably do not produce a second clutch during the mating season. Eggs are deposited and larvae develop in shallow pools with minimal current, little or no emergent vegetation and sand or pea gravel substrate. Embryos usually hatch in four to six days; the larval period lasts approximately 65 to 85 days. After metamorphosis from June to August, the juveniles remain on the bordering gravel bars until the pool no longer persists. Sexual maturity is reached in one to two years; arroyo toads may live for as few as five years (Sweet 1993). Little is known about movements or other behavior in the non-breeding season.

Larvae feed by inserting their heads into the substrate and ingesting loose organic material such as detritus, interstitial algae, bacteria, and diatoms. Juveniles and adults forage for insects, especially ants and small beetles, on sandy stream terraces. Juveniles spend more time exposed on these terraces during the daytime than do adults, and are thus vulnerable to diurnal predators. Once juveniles are of sufficient size to dig burrows and bury themselves in sand, they become nocturnal. All ages classes of post-metamorphic arroyo toads tend to be active on rainy nights with moderate temperatures (above 7° C [44.6°F]). Adults excavate shallow burrows for shelter during the day when the surface is damp or during longer intervals in the dry season.

Urbanization, agriculture, dam construction, water manipulation, mining, livestock grazing, and recreational activities in riparian areas have caused extensive habitat degradation leading to the decline and isolation of the remaining populations of arroyo toads. The introduction of bullfrogs and exotic fish may have severe impacts on arroyo toad populations due to predation. Exotic plant species degrade arroyo toad habitat, making it unsuitable, and may cause changes in the invertebrate fauna upon which it feeds. Changes in hydrologic regimes and loss of over-wintering habitat as streamside areas are developed are two important factors in the decline of arroyo toads.

Potential Presence in Project Sites:

Surveys conducted for CSP in 2002-2004 by the USGS observed arroyo toad in reaches of the Sweetwater River approximately 1.0 km (0.62 mi) north of the Descanso Area Development site. The USGS assessed the habitat quality along these reaches as good to high (Mendelsohn et al. 2005). No arroyo toads were observed during these surveys along the Sweetwater River adjacent to the Green Valley Loop site and the USGS assessed habitat quality as being low to marginal (Mendelsohn et al. 2005) in these reaches.

Protocol surveys (USFWS) were not conducted since these surveys were developed to determine presence/absence at potential arroyo toad breeding sites and are not intended or adequate for assessing potential upland habitat utilization. No potential arroyo toad breeding habitat is present within any of the proposed sites.

Dispersal and over-wintering habitat may exist at both the Descanso Area Development and Green Valley Loop project sites. It is unlikely that this species will be impacted by this project due to lack of breeding habitat and adjacent sandy terraces for foraging at the project sites. Proposed avoidance/minimization measures would also be implemented to prevent any effects to the arroyo toad.

San Diego County Horned Lizard:

The San Diego County horned lizard (*Phrynosoma coronatum blainvillei*) is found only in southwestern California from the coast to the foothills and valleys of the Peninsular ranges. It occurs in annual grassland, coastal sage scrub, valley-foothill hardwood, and conifer habitats. They require open areas of sandy soil within these habitats for foraging.

Diet consist primarily on ants of the genus *Pogonomyrmex* (harvester ants). Additionally, small beetles, wasps, grasshoppers, flies, and caterpillars are also eaten. It is active during early morning and late afternoon and forages by sitting and waiting, often near an ant nest. Coast horned lizards breed from late May through June. Clutch size varies from 6-16 with a mean of 13 eggs.

No seasonal movements have been noted but the species may move locally due to food resources. Predators include leopard lizards, sidewinders, loggerhead shrikes, and various hawks. Populations have been reduced by loss of habitat, and past commercial or hobby collection.

Potential Presence in Project Sites:

There are no documented occurrences within Cuyamaca Rancho State Park. There is one known occurrence outside Park boundaries ≈360 m (0.22 mi) southwest of the

proposed Descanso Area Development. Breeding and foraging habitat exists within the proposed Descanso Area Development. Low quality habitat (no sandy soils) may exist at the Paso Picacho Day Use and Green Valley Loop A sites.

Least Bell's vireo:

The following account and references were obtained from the U.S. Fish and Wildlife Service, Venture Fish and Wildlife Office website and can be found at http://www.fws.gov/ventura/sppinfo/profiles/details_birds.cfm?speciesid=56. Detailed references can be found at the above website.

The least Bell's vireo is a small, olive-gray, migratory songbird that nests and forages almost exclusively in riparian woodland habitats (Garrett and Dunn 1981; Gray and Greaves 1981; Miner 1989). All subspecies of Bell's vireo (*Vireo bellii*), including the least Bell's vireo, are almost exclusively insectivorous (Chapin 1925) and highly territorial (Barlow 1962; Fitch 1958; Salata 1982). Least Bell's vireos generally begin to establish breeding territories by mid-March to late March. Most breeding least Bell's vireos depart their breeding grounds by the third week of September, and very few are found wintering in the United States (Garrett and Dunn 1981; Pike and Hays 1992; Salata 1982, 1983). Territory sizes of nesting least Bell's vireos range from one to 4 acres (Gray and Greaves 1981). In some areas, they will also use adjacent upland habitats for foraging (Salata 1982).

Least Bell's vireo nesting habitat typically consists of well-developed overstories, understories, and low densities of aquatic and herbaceous cover (Gray and Greaves 1981; Salata 1982; RECON 1989). The understory frequently contains dense subshrub or shrub thickets. These thickets are often dominated by sandbar willow (*Salix hindsiana*), mulefat, and young individuals of other willow species such as arroyo willow (*S. lasiolepis*) or black willow (*S. goodingii*), and one or more herbaceous species. Significant overstory species include mature arroyo willows and black willows. Occasional cottonwoods (*Populus* sp.) and western sycamore (*Platanus racemosa*) occur in some least Bell's vireo habitats. Coast live oak may also make locally important contributions to the overstory.

Least Bell's vireos are sensitive to many forms of human disturbance including noise, night lighting, and consistent human presence in an area. Excessive noise can cause vireos to abandon an area. Greaves (1989) hypothesized that the lack of breeding vireos in apparently suitable habitat was due to human disturbances (e.g. Bulldozers, OHVs, and hiker travel). He further suggested that buffer zones between natural areas and surrounding degraded and disturbed areas could be used to increase the suitability of some least Bell's vireo habitat.

Historically, the least Bell's vireo ranged from Red Bluff, California in the north, to northwestern Baja California, Mexico in the south, and as far east as the Owens Valley, Death Valley, and along the Mojave River. According to Grinnell and Miller (1944) 4000 feet is the upper limit where least Bell's vireos occur in coastal southern California. Survey data collected between 1986 and 2005 shows that the vireo population in southern California has increased from an estimated 300 pairs to over 2,968 pairs (USFWS unpublished data). This increase has been attributed to habitat restoration and conservation and cowbird trapping efforts (Kus 1998; USFWS 1998).

Potential Presence in Project Sites:

There are no documented occurrences within the project vicinity. According to the CNDDDB, no individuals were detected during surveys conducted in 2002 near Descanso. Breeding habitat does not exist at any of the project sites. Foraging and dispersal habitat may exist at the Descanso Area Development and Green Valley Loop A sites. It is unlikely that this species will be impacted by this project due to lack of breeding habitat and low quality foraging habitat. In addition, direct impacts to riparian habitat are not expected during the construction or operation of the proposed project.

Cooper's Hawk:

The Cooper's hawk (*Accipiter cooperii*) is associated with woodlands and forests throughout the state from sea level to 2700 m (0 to 9000 ft). Frequently, this species is found in dense stands of oak, riparian deciduous, or other forest habitats near water. They can also be found in urban habitats with appropriate nesting and cover habitat.

Diet consists of a variety of small birds and mammals. They catch prey in air, on ground, and in vegetation. They nest in deciduous trees or conifers 6 to 15 m (20 to 50 ft) above the ground usually in a main crotch. Nest sites are in second-growth conifers or in deciduous riparian areas, usually near water. Cooper's hawks breed from March through August, with an incubation period of 35-65 days. Clutch size can vary from 2-6 with an average of 4-5. Young fledge in 42-45 days.

Potential Presence in Project Sites:

A pair of Cooper's hawks was observed during the initial site visit (03/01/2007), flying out of coastal oak woodland on the eastern side of the proposed Descanso Area Development site. Additionally, a female Cooper's hawk was heard calling (begging) during the visit. Breeding, foraging, and dispersal habitat does exist at all of the project sites. Cooper's hawks have adjusted well to human presence and with the proposed avoidance and minimization measures, (*Sect 6.0*) implemented, it is unlikely that this species will be impacted by this project.

Pallid Bat

The pallid bat (*Antrozous pallidus*) is a California Species of Special Concern. This species is considered locally common throughout most of California but range contraction is evident in portions of San Diego County (Stokes et al. 2005). It occurs in a wide variety of habitats including grasslands, shrublands, woodlands, and forests and found most often in open xeric habitats. It favors rocky outcrops, cliffs, and crevices with access to open habitat for foraging but colonies can often be found roosting in rural man made structures such as barns and other infrequently used buildings (Stokes et al. 2005).

The pallid bat is primarily a gleaner foraging close to the ground (Baker et al. 2008) but will also land and feed on the ground. Diet consist primarily of terrestrial arthropods and one of its preferred prey items in San Diego County is the Jerusalem cricket (*Stenopelmatus* spp.) (Stokes et al. 2005). Mates form October to February with delayed fertilization. Young are born from April to July with a litter size of one to three. Young are altricial, weaned in approximately seven weeks, and are observed flying in July and August. This species is very sensitive to disturbance of roosting sites.

Potential Presence in Project Sites:

There are no documented occurrences within Cuyamaca Rancho State Park. One occurrence is documented from 1946 near SR-79 and I-8. Foraging habitat does exist and night roosts may exist at all the project sites. Maternity and hibernation roosts are not likely found at any project site but may exist in the project vicinity (chaparral community north of the proposed Descanso Area Development project site). It is unlikely that this species will be impacted by this project due to lack of hibernation/maternity roost sites at any project site and the existence of additional foraging habitat juxtaposed to both sites.

Townsend's Big-eared Bat:

The Townsend's big-eared bat (*Corynorhinus townsendii*) is a California Species of Special Concern. This species was once considered common but is now considered uncommon throughout California. It occurs in all but alpine and subalpine habitats. It may be found during any season. It forages in a variety of habitats, but in California prefers oak woodland, ironwood forests, and riparian woodland while avoiding grazed grasslands (Stokes et al. 2005).

Diet consist primarily of moths taken on the fly by echolocation but will also glean from foliage (Stokes et al. 2005). They will also eat a variety of soft-bodied insects and beetles. Requires caves, mines, tunnels, buildings, or other man-made structure for roosting and breeding. Breeds from November to February. Sperm is stored until ovulation in spring. Births occur in May and June. Litter size is one and are weaned in six weeks and will fly in 2.5-3 weeks. This species is very sensitive to disturbance of roosting sites. Numbers have declined steeply in California.

Potential Presence in Project Sites:

There are two documented occurrences within Cuyamaca Rancho State Park and neither within the vicinity of either project site. There is no preferred foraging habitat at the Descanso Area Development site though oak woodlands are located juxtaposed to the site. Foraging habitat (montane hardwood conifer forest) is located within the Green Valley Loop A and Paso Picacho Day Use sites. Maternity and hibernation roosts (caves) are not likely found at any of the project site but may exist in the project vicinity (chaparral community north of the proposed Descanso Area Development project site). It is unlikely that this species will be impacted by this project due to lack of hibernation/maternity roost sites at any project site and the existence of additional foraging habitat juxtaposed to both sites.

Dulzura Pocket Mouse

The Dulzura pocket mouse (*Chaetodipus californicus femoralis*) is found in a variety of habitats including coastal sage scrub, grassland, and chaparral in San Diego County. It is attracted to grass-chaparral edges.

Diet consists primarily of the seeds of annual grasses and forbs and may compete with other granivores for food. Forages on the ground but will climb into shrubs. It is nocturnal and shows reduced activity above ground during winter months. Young are born between April and July with an average clutch size of four. Predators include coyotes, bobcats, owls, and snakes.

Potential Presence in Project Sites:

There are no documented occurrences within the Park. There is one known occurrence (1976) ≈1.5 km (0.93 mi) east-southeast of the proposed Descanso Area Development site. Breeding and foraging habitat does not exist at either the Paso Picacho Day Use Area or Green Valley Loop A but does exist in the grassland-chaparral interface juxtaposed to the Descanso Area Development project site. It is unlikely that this species will be impacted by this project due to lack of impacts at the grassland-chaparral interface and proposed avoidance/minimization measures (*Section 6.0*).

American Badger

The American badger (*Taxidea taxus*) is considered a regionally sensitive species by the USFWS and a target species by the Multiple Species Conservation Program. Badgers are found throughout the state except in the north coast area and are most abundant in drier open stages of shrub, forest, and herbaceous habitats with friable soils.

Badgers are active yearlong and are both nocturnal and diurnal. Diet consists primarily of small mammals such as rats, mice, chipmunks, and especially ground squirrels. Their diet will shift depending on prey availability. Badgers mate in summer through early fall and young are born the following spring with average litter size ranging from 2-3. Focused surveys were not conducted for the American badger due to its listing status.

Potential Presence in Project Sites:

There are no documented occurrences within Cuyamaca Rancho State Park. No badger was observed during any site visit but one burrow was identified north of the proposed campground site. Scat at the burrow entrance was identified as potentially belonging to badger. Breeding and foraging habitat does exist at the proposed Descanso Area Development project site and within the grassland-chaparral interface juxtaposed to this site. It is unlikely that this species will be impacted by this project due to lack construction activities near the burrow site. An increase of California ground squirrels (*Spermophilus beecheyi*), due to campers feeding the squirrels, at this site may be beneficial to badgers.

Hermes Copper Butterfly

The Hermes copper butterfly (*Lycaena hermes*) is a Category 2 candidate for listing as threatened or endangered by the USFWS. This small butterfly inhabits southern mixed chaparral and coastal sage scrub communities. Its larval host plant is redberry (*Rhamnus crocea*); adults are found most frequently nectaring on flat-topped buckwheat (*Eriogonum fasciculatum*). The Hermes copper is known only from western San Diego County and a small portion of northwestern Baja California, Mexico. Although there are many extant colonies in San Diego County, this species is threatened with extirpation via habitat destruction.

Potential Presence in Project Sites:

There are no documented occurrences within Cuyamaca Rancho State Park. It is unlikely that this species will be impacted by this project due to the lack of redberry shrubs at either site. Additionally, only a few buckwheat plants were observed at the

proposed Descanso Area Development and Green Valley Loop A sites (none at the Paso Picacho Day Use Area) during botanical surveys.

4.0 Regulatory Setting and Special Laws or Conditions

The following section summarizes the Department's consultation with various resource agencies to insure that the proposed project is not in conflict with any adopted habitat conservation plan, natural community conservation plan, regional or state habitat conservation plan, any local or regional ordinance or policy, or any state or federal laws.

4.1 Critical Habitat

Section 4(a)(3)(A) of the Endangered Species Act (ESA) requires that, to the extent prudent and determinable, critical habitat be designated concurrently with the listing of a species. Section 3(5) of the ESA defines critical habitat, in part, as areas within the geographical area occupied by the species "on which are found those physical and biological features (I) essential to the conservation of the species and (II) which may require special management considerations and protection." and (III) specific areas outside the geographical area occupied by a species at the time it is listed, upon determination that such areas are essential for the conservation of the species." The ESA requires the USFWS to designate critical habitat to the maximum extent prudent and determinable concurrently with listing a species as endangered or threatened. Therefore, critical habitat is the geographic area and habitat functions necessary for the recovery of the species. The USFWS has proposed revised critical habitat (Federal Register 2009) for the arroyo toad along the Sweetwater River. No critical habitat for any other sensitive wildlife or plant species is located within CRSP boundaries.

4.2 Federal Endangered Species Act

Pursuant to the Federal ESA, USFWS has regulatory authority over projects that may affect the continued existence of a federally-listed terrestrial species. Under the ESA, a permit to "take" a listed species is required for any project that may harm or harass an individual of that species. Section 10 of the ESA governs the process for take permits with strictly non-federal projects.

Take is defined under Section 9 of the ESA as killing, harming, or harassment. Under federal regulation, take is further defined to include habitat modification or degradation where it would be expected to result in death or injury to wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering.

For this project, it was determined that work within the known range of various endangered and/or threatened species would require coordination with the USFWS. A letter requesting a list of endangered and threatened species that may be present or may be affected by the proposed project was submitted on 04/16/2007. The list was received on 05/11/2007 (Appendix B).

The Department has made the determination that there will be no "take" of any federal listed species (threatened or endangered) and will "not likely to significantly affect" either the arroyo toad (*Bufo californicus*) or least Bell's vireo (*Vireo belli pusillus*). Furthermore, the proposed project will not negatively affect the continued existence of any federally-listed species.

4.3 California Endangered Species Act

Pursuant to the California Endangered Species Act (CESA), a permit from CDFG is required for projects that could result in the take of a state-listed threatened or endangered species. A take of a species, under CESA, is defined as an activity that would directly or indirectly kill an individual of a species, but does not include “harm” or “harass” as is included in the federal act. As a result, the threshold for a take under CESA is higher than under ESA (i.e., habitat modification is not necessarily considered take under CESA). The state has the authority to issue an incidental take permit under Section 2081 of the Fish and Game Code.

For species that are listed under both the ESA and CESA, a federal Section 7 “take” authorization can potentially also suffice for a CESA incidental take permit, if CDFG finds that the Section 7 consultation is consistent with the requirements of CESA. If CDFG determines that additional protective measures are needed, those conditions would be specified under a separate state take permit. CDFG recommends that the project applicant consult with them during the federal permit process to ensure that the concerns of both CDFG and the federal agency are included in the federal permit.

CDFG is also concerned with the protection of species listed as California Species of Special Concern and plants considered rare, threatened, or endangered by the California Native Plant Society (CNPS). Though these species are not legally protected by the CESA, impacts to them are generally considered significant under California Environmental Quality Act (CEQA).

The Department has made the determination that there will be no “take” of any listed species (threatened or endangered). Furthermore, the proposed project will not negatively affect the continued existence of any state-listed species.

4.4 California Environmental Quality Act

According to CEQA, impacts to biological resources (*e.g.*, native habitats, sensitive plants, sensitive wildlife species) must be analyzed to determine whether impacts are significant. CEQA Guidelines section 15064(b) states that an absolute definition of “significant” effect is not possible because the significance of an activity may vary with the setting. Appendix G of the Guidelines, provides “examples of consequences which may be deemed to be a significant effect on the environment” (Guidelines section 15064(e)). Examples of these effects are substantial effects on rare or endangered species of animals or plants or the habitat of the species. Guidelines section 15065(a) can be used to determine whether or not “a significant effect on the environment” is likely to occur. According to the guidelines section 15065(a), a project may have a significant effect on the natural environment if it has the potential to: substantially degrade the quality of the environment; substantially reduce the habitat of a fish or wildlife species; cause a fish or wildlife population to drop below self-sustaining levels; threaten to eliminate a plant or animal community; or reduce the number or restrict the range of a rare or endangered plant or animal.

4.5 Significance Criteria

The following criteria were considered in determining whether an impact on biological and water quality resources would be considered “significant” under CEQA.

- Long-term degradation of a sensitive plant community because of substantial alteration of landform or site conditions;

- Substantial loss of a native plant community and associated wildlife habitat;
- Fragmentation or isolation of wildlife habitats, especially riparian and wetland communities;
- Substantial effects to jurisdictional waters including wetlands;
- Substantial disturbance of wildlife resulting from human activities;
- Permanent disruption of natural wildlife movement corridors;
- Substantial reduction in local population size attributable to direct mortality or habitat loss, lowered reproductive success, or habitat fragmentation of;
- Any take of species qualifying as rare and endangered under CEQA;
- Any take of species that are state-listed or federally-listed as threatened or endangered;
- Results in the destruction or significant modification of critical habitat as defined by USFWS;
- Substantial reduction or elimination of species diversity or abundance of any species of animal;
- Conflict with any adopted General Plan, Habitat Conservation Plan, Natural Community Conservation Plan, or any other regional or state habitat conservation plan, local ordinance, or policy;
- Violation of any water quality standards or waste discharge requirements;
- Substantial depletion of groundwater supplies or interference with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table;
- Substantial alteration of the existing drainage pattern of site or area in a manner which would result in substantial erosion or siltation on or off site;
- Substantial alteration of the existing drainage pattern of site or area in a manner which would result in substantial flooding on or off site;
- Creation of or contribution to runoff water, which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or otherwise substantially degrade water quality.

5.0 Impact Analysis

Portions of the information and analysis in the following section was acquired from the *Curry Village and East Yosemite Valley Campground Improvements Project Environmental Assessment* (NPS 2004) unless otherwise noted. The information was modified to apply to the proposed Family Equestrian Facilities project.

Each alternative contains an analysis for each individual resource type (soils, hydrology, wildlife, etc.). Impacts are evaluated based on duration, intensity, and whether they are direct, indirect, or cumulative. Cumulative effects are based on analysis of past, present, and reasonably foreseeable future actions in CRSP in combination with potential effects of the various alternatives.

For the purposes of this analysis, local impacts would be those that occur within the immediate vicinity of the Descanso Area Development Area, Green Valley Campground, and Paso Picacho Day-Use Area, unless otherwise noted.

The duration of an impact is noted as either *short-term* (construction) or *long-term*. Short-term impacts could be restored when project construction is completed. Long-term impacts are those that would last for the life of the project. Indicators of the intensity of an impact, whether it is *negligible*, *minor*, *moderate*, or *significant*, are included in the impact analysis and specifically defined by topic area in the methodology section that follows.

The No Action Alternative describes the continuation of current management actions in RCSP and the project area. This alternative would continue to provide ongoing maintenance of existing facilities in the project area. This alternative provides a baseline from which to compare other action alternatives, to evaluate the magnitude of proposed changes, and to measure the environmental effects of these changes. Vegetation impacts for the various alternatives can be found in Table 7.

5.1 Methodologies and Assumptions

5.1.1 Soils

This document analyzes impacts to soils at both project sites. Actions prescribed in the Equestrian Facilities Project could affect soil resources through erosion, compaction, soil profile mixing, and soil removal. Activities that could result in soil impacts include the construction of buildings, campsites, parking areas, trails, other facilities (corrals etc.), and utilities.

- **Soil Erosion.** Removal of vegetation through grading activities or pedestrian use could accelerate erosion of the soil surface. Soils on steep slopes and along watercourses are especially susceptible to erosion.
- **Soil Compaction.** Soil compaction could occur as a result of construction activities or in areas of intensive use such as trails, campgrounds and picnic areas. Soil compaction could reduce infiltration rates (depending on soil type), thereby increasing surface runoff and the potential for erosion. Deep compaction of soils may impede subsurface flow. In turn, these effects could alter soil chemical processes such as nutrient transfer, biological processes such as root development and microbial patterns, and physical processes such as soil structure. Vegetation growth on compacted soils is often limited due to low infiltration and poor root penetration.
- **Soil Profile Mixing.** Soil excavation and redistribution result in removal or mixing of the soil profile and disrupt soil structural characteristics, interrupting the chemical, physical, and biological processes that naturally occur in the soil. The level of change is dependent on the level of the alteration. It may take many years to redevelop the soil profile.
- **Soil Removal.** Construction activities remove and/or cover the soil surface (paving) and can result in changes to basic soil properties. Excavation and removal of the soil surface would result in a long-term impact because the basic soil properties have taken thousands of years to develop. Covering the surface reduces water movement and interferes with normal physical and chemical processes.

Intensity of Impact

The evaluation of the intensity of impacts on soils focuses on resilient soils. Resilient soils are more capable of withstanding alteration without permanent deformation. These soils tend to recover more quickly from alteration. Generally, resilient soils do not have major use limitations or severely restricted physical attributes.

5.1.2 Hydrology and Water Quality

Hydrology refers to hydrologic processes such as flooding, erosion, and deposition. Particular attention was given to alterations of water flow. Water quality refers to both the suitability of surface water for recreational use and wildlife habitat and subsurface water, particularly the enhancement or degradation of water quality. The California State Park Department Operations Manual states *“It is the policy of the Department to make an early determination of a park unit’s water resources values and to avoid establishment of improper use patterns that may be damaging to the quality, quantity, or biological integrity of water features, or their interrelationship with other park system values.”*

Additionally, the Clean Water Act requires the Department to comply with federal, state, interstate, and local requirements, administrative authority, and sanctions with respect to the control and abatement of water pollution.

Intensity of Impact

Negligible impacts would be imperceptible or not detectible. Minor impacts would be slightly perceptible and localized, without the potential to expand if left alone. Moderate impacts would be apparent and have the potential to become larger. Significant impacts would be substantial, highly noticeable, and potentially permanent.

Type of Impact

Significant impacts would alter natural hydrologic conditions (e.g., impede flood flow, cause unnatural erosion or deposition, etc.) or degrade water quality (e.g., increase pollution or bacteria levels from recreational use). Beneficial impacts are those that would restore natural hydrologic conditions (e.g., stabilize riverbanks, etc.) or improve water quality (e.g., reduce nonpoint-source pollution).

Context of Impact

Localized impacts would occur in the immediate vicinity of an action or in a nearby area indirectly affected by the action (e.g., radiating impacts of concentrated visitor use). Regional impacts would occur over a large area, such as CRSP and surrounding communities. Many water quality impacts are regional because an action could potentially affect water quality downstream or local wells.

5.1.3 Vegetation

Impacts on vegetation communities were assessed in terms of duration, type, and intensity in site-specific, parkwide, and regional contexts.

Intensity of Impact

Two primary parameters were used to evaluate the intensity of impacts on vegetation: (1) the size and continuity of plant communities; and (2) the nature (native vs non-native vegetation), structure, diversity (integrity), and rarity of plant communities.

Types of Impact

Impacts are classified as significant if they would reduce the size, continuity, or integrity of a native plant community. Conversely, impacts are considered beneficial if they would increase the size, continuity, or integrity of a native plant community.

5.1.4 Wildlife

Impacts on wildlife were assessed in terms of changes in the amount and distribution of wildlife habitat, the size and connectivity of habitat, the integrity of the site (including past disturbance), the potential for habituation of wildlife to humans, and the relative importance of habitats. Actions were also assessed as to their potential for causing human/wildlife conflicts resulting from the introduction of unnatural food sources. Such impacts can lead to changes in animal behavior, increased mortality, and altered habitat use.

Duration of Impact

Short-term wildlife impacts are those that would last up to end of construction. All short-term impacts to wildlife and habitat resulting from project implementation would be associated with construction activities. These impacts would end with cessation of construction activity, or soon thereafter, and include the following:

- Noise, dust, and light emanating from construction sites could affect the use of surrounding habitats by wildlife.
- Removing, trampling, or running over vegetation during temporary use of some habitat as staging areas for machinery or materials could affect wildlife until such areas are restored after the project.
- Wildlife could be killed by traffic or machinery associated with construction.
- Pits and trenches could entrap wildlife, resulting in their death.
- Spills of fuel, oil, hydraulic fluid, antifreeze, and other toxic chemicals could affect wildlife, especially those in aquatic environments.
- Construction personnel at work sites, could provide a source of human food to wildlife, resulting in conditioning of wildlife and in human/wildlife conflicts.

Long-term impacts (e.g., permanent lighting) are those that would remain after the alternative has been implemented and last the life of the project. These impacts would not end with cessation of construction activity, or soon thereafter, and include the following:

- Noise, dust, and light emanating from the campground could affect the use of surrounding habitats by wildlife.
- Removal of vegetation providing possible foraging and sheltering habitat.
- Trash left by campers could attract predators such as corvids.
- Unleashed dogs of campers could cause injury or death to various wildlife species.

- Permanent lighting used in and around the campground could affect foraging nocturnal species.

The impact analysis focused primarily on the long-term effects of implementation during the operational lifetime of the alternatives that could result in changes in the abundance, diversity, and distribution of wildlife.

Intensity of Impact

Negligible impacts are those that would not be measurable or perceptible. Minor impacts would be measurable or perceptible and would be localized within a relatively small area; however, the overall viability of the resource would not be affected. Without further impacts, negative effects would be reversed, and the resource would recover. Moderate impacts would be sufficient to cause a change in the resource (e.g., abundance, distribution, quantity, or quality); however, the impact would remain localized. The change would be measurable and perceptible, but negative effects could be reversed. Significant impacts would be substantial, highly noticeable, and could be permanent without active management.

Type of Impact

Impacts are classified as significant if they would negatively affect the size, continuity, or integrity of wildlife habitat, or result in unnatural changes in the abundance, diversity, or distribution of wildlife species. Conversely, impacts are classified as beneficial if they would positively affect the size, continuity, or integrity of wildlife habitat.

5.1.5 Special-Status Species

This analysis includes species listed under the ESA as threatened or endangered; species listed by the State of California as threatened, endangered, or species of concern. The impact evaluation for special-status wildlife species was based on the following: (1) the known or likely occurrence of a species or its preferred habitat in the vicinity of the project area; (2) the direct physical loss of habitat; and (3) the effective loss of habitat (through avoidance or abandonment) due to construction activity or noise, or the species' sensitivity to human disturbance.

Habitat fragmentation is also a critical factor for special-status species. Restored blocks of habitat should be large enough to support viable populations, and intact habitat should not be reduced or affected to the point that it would no longer support viable populations.

Intensity of Impact

The ESA defines the terminology used to assess impacts on listed species. In this document, the terminology used for all special-status species is as follows:

- **No effect** – The appropriate conclusion when proposed actions would not affect a special-status species or designated critical habitat.
- **Not likely to significantly affect** – The appropriate conclusion when impacts on special-status species are expected to be discountable, insignificant, or completely beneficial. Beneficial impacts are contemporaneous positive effects without any significant effects on the species. Insignificant impacts relate to the size of the impact and should never reach the scale where incidental take occurs. Discountable impacts are those extremely unlikely to occur.

- **Likely to significantly affect** – The appropriate finding if any significant impact on special-status species may occur as a direct, indirect, interrelated, or interdependent action. In the event the overall impact of the proposed action is beneficial to the special-status species, but is also likely to cause some significant effects, then the action is “likely to significantly affect” the species. If incidental take is anticipated to occur as a result of the proposed action, a “likely to significantly affect” determination should be made.
- **Likely to jeopardize proposed species/significantly modify proposed critical habitat** – The appropriate conclusion when the proposed action is likely to jeopardize the continued existence of a proposed species or significantly modify the proposed critical habitat. This conclusion is also likely to indicate impairment of park resources or values.

Type of Impact

Impacts are classified as significant if they would negatively affect population size, or habitat size, continuity, or integrity of a special-status species. Conversely, impacts are classified as beneficial if they would positively affect population size, or the size, continuity, or integrity of habitat.

5.1.6 Noise

Noise impacts could result from either transportation-related actions or from nontransportation actions. Noise impacts related to the project alternatives are expected to be limited to construction-related activities and nontransportation actions. According to the traffic analysis conducted for the project, the number of vehicles traveling through the project area is not anticipated to substantially change over existing conditions, although the mix of vehicles could change. A qualitative assessment of noise impacts is presented. The action alternatives are assessed relative to the No Action Alternative.

5.1.6.1 Sound Propagation

Information and analysis in the following section was obtained from the *Technical Noise Supplement* (Caltrans 1998), which is available on the Caltrans Web site (<http://www.dot.ca.gov/hq/env/>). When sound propagates over a distance, it changes in level and frequency content. The manner in which noise reduces with distance depends on the following factors.

Geometric Spreading

Sound from a small, localized source (i.e., a point source) radiates uniformly outward as it travels away from the source in a spherical pattern. The sound level attenuates (or drops off) at a rate of 6 dBA for each doubling of distance. Highway noise is not a single, stationary point source of sound. The movement of the vehicles on a highway makes the source of the sound appear to emanate from a line (i.e., a line source) rather than a point. This line source results in cylindrical spreading rather than the spherical spreading that results from a point source. The change in sound level from a line source is 3 dBA per doubling of distance.

Ground Absorption

Noise attenuation from ground absorption and reflective-wave canceling adds to the attenuation associated with geometric spreading. Traditionally, the excess attenuation has also been expressed in terms of attenuation per doubling of distance. This approximation is

done for simplification only because prediction results based on this scheme are sufficiently accurate for distances of less than 60 m (200 ft). For acoustically hard sites (i.e., those sites with a reflective surface, such as a parking lot or a smooth body of water, between the source and the receiver), no excess ground attenuation is assumed. For acoustically absorptive or soft sites (i.e., those sites with an absorptive ground surface, such as soft dirt, grass, or scattered bushes and trees, between the source and the receiver), an excess ground-attenuation value of 1.5 dBA per doubling of distance is normally assumed. When added to the geometric spreading, the excess ground attenuation results in an overall drop-off rate of 4.5 dBA per doubling of distance for a line source and 7.5 dBA per doubling of distance for a point source.

Atmospheric Effects

Research by Caltrans and others has shown that atmospheric conditions can have a significant effect on noise levels within 60 m (200 ft) of a highway. Wind has been shown to be the most important meteorological factor within approximately 150 m (500 ft) of the source, whereas vertical air-temperature gradients are more important for greater distances. Other factors such as air temperature, humidity, and turbulence also have significant effects. Receptors located downwind from a source can be exposed to increased noise levels relative to calm conditions, whereas locations upwind can have lower noise levels. Increased sound levels can also occur as a result of temperature inversion conditions (i.e., increasing temperature with elevation).

Shielding by Natural or Human-Made Features

A large object or barrier in the path between a noise source and a receiver can substantially attenuate noise levels at the receiver. The amount of attenuation provided by this shielding depends on the size of the object and the frequency content of the noise source. Natural terrain features (e.g., hills and dense woods) and human-made features (e.g., buildings and walls) can substantially reduce noise levels. Walls are often constructed between a source and a receiver specifically to reduce noise. A barrier that breaks the line of sight between a source and a receiver will typically result in at least 5 dB of noise reduction. A taller barrier may provide as much as 20 dB of noise reduction.

When sound propagates over a distance, it changes in level and frequency content. During construction of the project, noise from construction activities may intermittently dominate the noise environment in the immediate area of construction. Possible construction equipment used at the project site (Table 6) are expected to generate noise levels up to 98 dBA at a distance of 15 m (50 ft). Noise produced by construction equipment would be reduced over distance at a rate of about 6 dBA per doubling of distance. Therefore construction equipment that registers a noise level of 88 dBA at 15 m (50 ft) would only generate 82 dBA of noise at 30 m (100 ft). The following types of noise associated with an activity or facility have been evaluated:

- Construction/demolition (voices, heavy equipment, tools, etc.)
- Parking (voices, horse trailers, service vehicles, trash removal, etc.)
- Camping (voices, radios, horse trailers, service vehicles, trash removal, etc.)
- Pedestrian and hiking trails (voices, etc.)

- In addition, the following assumptions were used:
- There are two types of sensitive receptors with respect to non-vehicle noise: visitors and residents. Sound is considered a noise impact only if it is experienced by a sensitive receptor.
- A reduction in the number of people (e.g., visitors, employees, or residents) in an area would generally result in a reduction in the amount of noise (fewer voices, fewer service vehicles, less trash removal, etc.), but not necessarily a reduction in peak noise levels.
- An increase in the number of people (e.g., visitors, employees) in an area would generally result in an increase in the amount of noise (more voices, more service vehicles, more trash removal, etc.), but not necessarily an increase in peak noise levels.
- An increase in facilities (e.g., buildings, parking areas, etc.) in an area would generally result in an increase in the amount of noise (more voices, more heavy equipment, more trash removal, etc.), but the peak noises produced would be a function of the types of facilities introduced.

Intensity of Impact

Negligible impacts are those that would not be detectible. Minor impacts would be slightly detectible in close proximity to the source, but are not expected to have an appreciable effect on ambient noise levels. Moderate impacts would be clearly detectible and could have an appreciable effect on ambient noise levels; moderate adverse impacts could include introduction of noise associated with an activity or facility into an area with little or no ambient noise. Significant impacts would be clearly audible against ambient noise levels or would have a substantial, highly noticeable effect on ambient noise levels.

Type of Impact

Beneficial impacts are those that would result in less noise, and significant impacts are those that would result in more noise.

5.2 Alternatives

5.2.1 Descanso Area Development

The proposed Descanso Area Development project site is located adjacent to the community of Descanso in eastern San Diego County. It is situated on Viejas Boulevard between River Drive and Mizpah Lane. The proposed Descanso Area Development site is located on the southwestern edge of CRSP. Adjacent to the site are the Descanso Elementary School, County Park, and a number of private residences.

The existing site is an open field consisting of nonnative annual grasses with a relatively flat topography. There is a drainage that runs north to south through the eastern side of the field. The field was historically used for agriculture and grazing, and numerous non-native species were planted as feed for livestock. Vehicles can access the site from Viejas Boulevard and there is one trail, the Merigan Fire Road, leading from the site to the interior of CRSP. This fire road is utilized by hikers, bikers, and equestrians, as well as emergency and service vehicles.

This element of the proposed project would affect up to 25 acres and provide an equestrian campground and associated amenities, as well as parking and connections to nearby existing

trail systems. Due to funding restrictions, this element of the project will be phased. The subsequent description first addresses the Descanso Area Development's future phases followed by a description of the first phase of the project.

In order to describe the proposed site work, the project description has been separated into the following subject areas:

Campsite Zones: The campground portion of the project is proposed to be located in the northeast end of the project area. The project would consist of two campground loops containing a total of up to 18 campsite zones. One campsite would be designated as a campsite site. Campsite zones would be of a size that would allow room for a buffer to be provided between campsites and provide flexibility in the arrangement of the developed components and furniture within the zone. The developed components would include the tent pad, facility pad with picnic table and barbeque pit, parking zone, pedestrian pathway, and equestrian facilities including corrals and tacking areas. The developed components would serve to control pedestrian and vehicular circulation, thus minimizing impacts. They would be delineated with environmentally sustainable or native material and have rustic characteristics. Each campsite would accommodate up to eight people, two automobiles, and one rig or trailer. Accessible pathways would be designed to create routes between accessible campsites and facilities (see Accessibility section below).

Each campsite zone would have its own equestrian facilities. Campsites would contain pipe corrals, which should be within sight of each other to retain the comfort level of the horses. Additional corrals could be located between the campsite zones to serve overflow use. Campsites would have available space for tacking areas. Horses could be tied to a hitching post or the corral design could accommodate dual use for hitching horses. Therefore, hitching posts may not be included at each campsite. Hitching posts and one accessible mounting station would be located near the restroom. (see Accessibility section below).

Amenities: The northern campground loop would contain a manure bin on its northern end, and a combination restroom/shower building and an existing monitoring well on its southwestern side. The monitoring well will be protected in place. On the inside of the southern loop are a set of corrals and a ramada in the center, a horse wash and manure bin on the northern side, another horse wash and manure bin on the eastern side, and a single manure bin on the southern side. There would be hose bibs throughout the campground to be shared among campsites. Electrical hookups would be provided at all campsites. The campsite site would have water, electrical, and telephone hookups. Manure trailers and horse racks are intended to be at a reasonable walking distance from all campsites. Design would accommodate ease of manure trailer removal and visitor use. The shade ramada and corrals have been placed centrally to allow for communal gathering. An iron ranger would be located at the campground entrance as a means for collecting fees. There would be two entrance gates which could be left open or closed at the Park staff's discretion, one at the main entrance to the Descanso Area Development, at the intersection of Viejas Blvd. and the entrance driveway, and one at the entrance to the campground loops.

Restroom: There would be one combination building in the campground area. The number of coin operated shower stalls and restrooms would depend on the final campground size and capacity. Due to high groundwater levels, a septic system may not be feasible at this site. A gray water system should be further investigated as a potential resolution to this issue. There

would be low-wattage, photovoltaic lighting and a pay telephone at the restroom location. The restroom would be compliant with ADA requirements (see Accessibility section below).

Equestrian Parking Lot and Restroom: The parking lot is proposed for the northwest corner of the project site and could hold up to 15 vehicles with trailers or 15 large rigs. One parking space would be Van Accessible to meet accessibility requirements. Near the northeast corner of the parking lot would be two 60-foot diameter round pens, corrals, and a shade ramada. Another ramada and corrals would also be located near the southeast corner of the parking lot. An accessible mounting platform and a manure bin would be in the vicinity of the parking area and accessible parking spot. There would be a restroom which would be ADA compliant and could vary in size depending on the capacity of the parking area. The restroom would be a vault or composting toilet. Landscaping would divide the parking lot from the campground area.

Descanso Day-Use Parking Area: There is an existing day-use parking lot at the southeast corner of the project site. This lot would remain for day use by hikers and bikers but would be expanded to include a turnaround area and restroom. This element would be the first phase of the proposed project.

Underground Utilities: water, electrical, phone, wifi

Landscaping Features: The campground would be landscaped with an emphasis on:
screening the campground from neighboring properties,
shading and enhancing the campsites with plant materials and shade structures,
drainage swales to capture, filter, and redirect storm water from the site for flood prevention and to protect water quality,
and fencing to delineate the site boundary and increase site security,

Plant materials would be selected from the species of native plant community in the area.

Screening: Vegetated fill berms south of the day-use parking lot and the campground area would hide the site improvements from public view to maintain an aesthetically pleasing environment. The berms would be a minimum of three feet high and would be vegetated with moderate to fast-growing trees and shrubs that will reach the height and density required to minimize views of the campground and other facilities. Berms and vegetative screening would also be used to separate the campsites and the day use area facilities. Excess soil from excavation at the Paso Picacho Area site or Descanso Area Development would be used to create these berms.

Shading and Enhancement: The campground would be planted with trees to provide shade to the campsites and other common areas in and around the site. Plantings of shrubs, grasses and ground covers would be planted along the perimeter of the campsites which would provide privacy and aesthetic treatments for the users. Additional shade would be provided in common areas by ramadas which would be constructed of natural and/or sustainable materials. The size of the ramadas may vary depending on their location in the campground and the projected need to accommodate the final size of the facility. A minimum of one ramada would be large enough to support a group event for up to approximately 50 people.

Drainage Swales: Flooding on the site and the surrounding area would be controlled by diverting storm water into vegetated swales within the property that connect into existing drainages. The vegetation in the swales would consist of native grasses and shrubs that would filter runoff from the campsites to protect water quality downstream. Additionally, these plants, trees and boulders would be incorporated into the swales to slow the flow of the water off the site reducing the discharge on the existing drainage ways. The boulders, trees, and plantings would also add aesthetic features to the campground.

Fencing: The project boundary would be delineated by a rustic post and rail or split rail fence. Additional fencing may be required on the southern edge of the site to increase security by controlling access between the County Park, school, and the project area. The fences would be constructed of native or sustainable materials.

Trail System: The proposed trail system element includes a perimeter trail around the campground as well as connections to existing trails within the Park. The proposed perimeter trail would run along the outside of the northern side of the site and then southbound along the west side of the day-use parking lot, east along the roadway, across the main road and would then connect with the existing trail. This perimeter trail would allow beginning riders, as well as riders with disabilities, to ride safely alone or with a lead while remaining in proximity to the campground.

Connecting to the perimeter trail in the northeast corner of the project site is the Merigan Fire Road, the only existing trail leading out from the proposed campground. This trail is used by hikers, bikers, equestrians, and as an emergency route for service vehicles. Approximately 0.7 miles from the proposed campground, the first trail that connects to the Merigan Fire Road is Dead Horse Trail. Just over a mile from the Dead Horse Trail connection, the road connects to additional trails, including Saddleback, Sweetwater, and Blue Ribbon. All of the trails accessible from the Merigan Fire Road lead to equestrian riding trails in the central and northern portions of the park, including the California Riding and Hiking Trail.

Roadway: Vehicles would access the campground site off of Viejas Blvd., approximately 350 feet east of Descanso Elementary School. All roads at the campground would be comprised of decomposed granite (DG). A 24-foot-wide DG road runs northbound from the day-use parking area and crosses an existing channel. Installed in the channel would be three 360-inch diameter storm drain culverts which are capable of handling a 100-year storm of 161 cubic feet per second (cfs). The road continues to run north and then splits into two 24-foot-wide roads. One road leads west into the equestrian parking lot and the other road connects to a roadway that provides access to the campsites. The looping roadway surface would be DG and 16 feet wide. It is bisected by another 16-foot wide DG roadway, creating a figure-8-style layout with a northern and southern loop. The loop is designed to be one way.

Accessibility: In compliance with the Regulatory Negotiation Committee's Accessibility Guidelines for Outdoor Developed Areas, two campsites, not including the camp host site, would be ADA accessible and all elements of the site would be accessibly designed. Each site would have a mounting platform and one hitching rail. There would be accessible routes from the campsites to accessible parking, utilities, site furnishings, equestrian facilities, and restroom. Accessible pathways would be delineated routes within the campsite zone connecting the developed components together. Accessible pathways would be a maximum

of 3 feet wide and the paving would consist of stabilized DG or compacted native material. RV hook-ups, campsite furniture, fire ring, water stations, trash receptacles, signage and other site features would be accessibly designed. Accessible sites would represent the range of sites in the rest of the campground. Restroom and shower facilities would be ADA accessible based on regulatory guidelines. Project design will be reviewed by the Accessibility Section of the Acquisition and Development Division of CDPR to ensure ADA compliance prior to project implementation.

5.2.1.1 Alternative 1 (Preferred)

This alternative would affect approximately 24.7 acres (17.0 permanently and 7.7 temporarily) and provide an equestrian campground and associated amenities, as well as parking and connections to nearby existing trail systems. In addition, approximately 17 acres of the project site would have no impacts.

Soils

Construction of the new equestrian camp and associated structures (restrooms, shade ramada, corral, etc.) would result in local, long-term, moderate impacts to soil resources through soil loss, erosion, compaction, profile mixing, and removal, in the absence of the mitigation measures presented in this report and included in this project proposal. The operation of the new campground would introduce additional visitors into the area, which could cause increased erosion potential. Construction activities would include removal of existing non-native vegetation.

New trail construction would result in a local, long-term, minor impact to soil resources, because the impacts would primarily occur in linear segments of previously disturbed soils. New trails would be constructed to accommodate surface and subsurface water flow.

Soil excavation could result in the disturbance of the soil profile, interrupting natural chemical, physical, and biological processes of the soil. The localized removal of vegetation and use of heavy equipment could increase soil erosion and result in soil compaction in these areas. Construction impacts could be mitigated by minimizing the area disturbed; salvaging the existing soils for use as backfill; and implementing Best Management Practices (BMPs), such as the use of silt fences, soil mats, and other soil retention devices, which would reduce impacts. The application of minimization and avoidance measures, with special attention to erosion control measures during construction of the campsites and associated parking, would reduce impacts to soil resources to a minor intensity.

Cumulative Impacts

Future proposed projects in CRSP are not capacity increasing (Appendix C). Unpaved areas, including trails and parking areas, are likely to experience further degradation of soil resources due to continued visitor use. The preferred alternative, in combination with cumulative future projects, would result in a local, long-term, minor cumulative impact on soil resources.

Hydrology, Floodplains, and Water Quality

Construction activities could have the potential to increase erosion and sediment discharge into drainages. The use of heavy equipment during construction and vehicles towing trailers presents a potential for accidental releases of fuels or other hazardous substances that could

affect local surface water or groundwater quality. Additionally, waste generated by horses at the campground could increase non point-source pollution. No work would occur within the drainage located in the southwestern portion of the site. This drainage may be planted with appropriate native species to slow flows and allow sediment deposition.

Removal of existing vegetation and construction of the new campsites, roadways, and parking areas would involve grading, trenching, and soil compaction, which could increase erosion and sediment discharge. New underground utility connections serving the restrooms could impede groundwater movement perpendicular to the infrastructure and create the potential for wastewater leaks.

The addition of new campsites and trails would not increase the amount of impervious surface in the area, but new buildings would slightly increase impervious surface, increasing the potential for non point-source pollution, which would result in local, long-term, minor impacts to water quality. Increased water use at the campground has the potential to lower the water table in the local area.

Prior to application of mitigation measures such as silt fences, sedimentation basins, bio-swales, and other erosion control measures, the preferred alternative would have a local, long-term, moderate impact on water quality. Construction impacts could be mitigated by minimizing the area disturbed, using pervious material in parking areas, salvaging existing soils for use as fill, and implementing BMPs during construction to reduce the potential for water quality impacts associated with soil erosion and construction equipment activities. Regular pickup of waste at the campground will reduce the potential for water quality impacts. Additionally, restoration with native vegetation upon completion should minimize impacts to local hydrologic processes and water quality.

With implementation of minimization and avoidance measures mentioned above along with automatic waterers, restricting activities at drainages, regular removal of manure, and restricting wash water from entering any drainage among others, water quality impacts would be reduced to being local, long-term, and minor in nature.

Cumulative Impacts

Although the preferred alternative would have a local, long-term, minor impact on water quality after the installation of temporary and permanent BMPs, reasonably foreseeable future actions within CRSP (Appendix C) are considered to have no overall net effect on hydrologic processes and water quality within CRSP.

Vegetation

Approximately 17 acres of non-native annual grassland would be permanently disturbed and another 7.7 acres would be temporarily disturbed due to construction of the campground and associated amenities. Potential construction impacts to vegetation associated with grading and excavation include the spread of dust and debris into areas adjacent to construction sites.

Development of a new campground would occur in areas that are already developed, have been previously disturbed, or contain primarily non-native vegetation. In addition, the campground would be located near existing development thus reducing habitat fragmentation and vegetation removal.

Loss of vegetation associated with development of new campsites and associated amenities would result in a local, long-term, minor to moderate impact, given the habitat (non-native

grassland) and the fact that this area had been routinely disturbed in the past (agriculture uses). All post construction plantings and seeding will be conducted using native species appropriate for the area. With implementation of measures such as monitoring, avoidance, native plant revegetation, dust abatement, controlling non-native seeds, preservation fencing, and salvaging of existing soil among others, vegetation impacts would be local, long-term, and minor in extent.

Cumulative Impacts

Past and ongoing activities include recreational use, general park maintenance, mowing for fire suppression, and various construction activities. Although the preferred alternative would have a local, long-term, minor impact on vegetation, reasonably foreseeable future actions within CRSP (Appendix C) are considered to have no overall net effect to vegetation.

Wildlife

Development of a new campground would effect wildlife resources, primarily as a result of habitat loss and disturbance. Construction activities would introduce heavy equipment and personnel, which would create noise, visual, and vibration disturbance within project areas and potentially within several hundred feet of construction limits, thus decreasing the amount of available habitat for most species of wildlife during construction. Ground-disturbing activities, including trenching, excavating, and grading, would have the potential to bury and trap organisms such as invertebrates, amphibians, reptiles, and small mammals. Sedimentation into drainages could affect wildlife species and invertebrates by degrading water quality.

These activities would result in local, short-term, moderate impacts to wildlife, in the absence of the mitigation and minimization measures presented in this report and included in the project proposal. Construction impacts would be mitigated by the incorporation of measures such as conducting preconstruction surveys, timing construction to avoid disruption of breeding, and covering excavation areas. With the implementation of mitigation measures in described above and in detail in *Section 6.0*, it is expected that impacts would be short term, local, and minor.

Permanent impacts include the loss of habitat associated with development of the new campground including parking facilities, comfort stations, and corrals, which would reduce the amount of nesting, roosting, and foraging habitat available to a wide variety of wildlife species and invertebrates. Furthermore, lighting at bathrooms, campgrounds, and parking lots could impact nocturnal foraging species and night roosting bats.

Additionally, increased foot traffic around the campground would result in vegetation trampling and create noise and sight disturbance, impeding wildlife use of those areas. However, areas in the project vicinity presently receive a moderate level of disturbance relative to other areas of the park due to visitor use and surrounding homes, a school, and businesses. Therefore, a noticeable increase in human/wildlife conflicts and conditioning of wildlife to human food sources are not anticipated. With the implementation of mitigation measures in described in *Section 6.0*, permanent impacts to wildlife would be reduced to being local, long-term, and minor.

Cumulative Impacts

Past and ongoing activities include recreational use, general park maintenance, and various construction activities. Cumulative impacts related to construction projects throughout CRSP are not likely to significantly impact wildlife through disturbance of their habitat over time, but the level of impact would be dependent upon the number of projects occurring at the same time throughout the park. Construction of some of the reasonably foreseeable projects planned or approved within CRSP (Appendix C) could result in local, short-term, minor to moderate impacts on wildlife. The impacts of these projects would be localized and short-term in nature, and primarily relate to disturbance of wildlife habitat during construction activities in the immediate project area.

Special-Status Species

Impacts to special-status species would be similar to those discussed for wildlife species. Development would affect these species primarily because of habitat loss and disturbance. Construction noise and vibration could disrupt or preclude use of this area by special-status bats or raptors that at times may roost, nest, or forage in the area. Construction activities could introduce heavy equipment and personnel, which would create noise, visual, and vibration disturbance within construction areas and potentially within several hundred feet of construction limits, thus decreasing the amount of available habitat for most species of wildlife during construction. Ground-disturbing activities, including trenching, excavating, and grading, would have the potential to bury and trap organisms such as invertebrates, amphibians, reptiles, and small mammals.

Construction impacts would be mitigated by the incorporation of measures such as limiting the work area, conducting preconstruction surveys, timing construction to avoid disruption of breeding, and covering excavation areas. With the implementation of mitigation measures described above and in detail in *Section 6.0*, it is expected that impacts would be short term, local, minor and not likely to significantly impact any special-status species.

Permanent impacts include the loss of habitat associated with development of new campsites, and associated amenities, which would reduce the amount of nesting, roosting, and foraging habitat available to a variety of birds, mammals, reptiles, and amphibians, as well as some insects. Increased foot traffic around new campsites would result in vegetation trampling and create noise and sight disturbance, impeding wildlife use of those areas. Additionally, lighting at bathrooms, campground, and parking lot could affect nocturnal foraging species and night roosting bats.

The Descanso Area Development is located in an area that has been disturbed in the past (agriculture uses), next to residential housing, a school, and businesses, and consists primarily of non-native vegetation. These conditions create noise and sight disturbance which may limit use of this area by special-status species. A noticeable increase in human/wildlife conflicts and conditioning of wildlife to human food sources are not anticipated. Though no special-status species are known to occur (or were identified) on-site, development could disturb potential habitat for various special-status wildlife and invertebrate species.

With implementation of measures identified in *Section 6.0*, including monitoring, avoidance, covering ditches, inspecting excavations before filling, surveys, use of sodium lighting pointed downward, signage, and native plant revegetation among others, permanent impacts to special-status wildlife species would be reduced to being local, long-term, and minor, and

would “not likely to significantly affect” these species since they are not known to occur, less likely to occur, would occur in very small numbers, or would occur only occasionally at this location. In addition, conservation measures recommended by the USFWS (USFWS 1999) and USGS (Ervin and Fisher 2003, Mendelsohn et al. 2005) will be implemented to further reduce impacts for special-status species.

Cumulative Impacts

Cumulative impacts to special-status species would be similar to those discussed for wildlife species (*Section 5.2.4*). Past and ongoing activities include recreational use, general park maintenance (including routine mowing for fire suppression), and various construction activities.

Cumulative impacts related to construction projects throughout CRSP are not likely to significantly affect special-status wildlife species through disturbance of their habitat over time, but the level of impact would be dependent upon the number of projects occurring at the same time throughout the park. Construction of some of the reasonably foreseeable projects planned or approved within CRSP (Appendix C) could result in local, short-term, minor to moderate impacts on special-status wildlife species. The impacts of these projects would be localized and short-term in nature, and primarily relate to disturbance of wildlife habitat during construction activities in the immediate project area.

Noise

Alternative 1 would result in minor to moderate changes to existing noise levels including changes caused by camping-related noise, as well as temporary construction-related noise. Construction equipment and transport vehicles could temporarily generate substantial noise levels (Table 6). Noise generated by construction crews also has the potential to affect existing noise levels. Construction activities would introduce heavy equipment and personnel, which would create noise, visual, and vibration disturbance within construction areas and potentially within several hundred feet of construction limits, thus decreasing the amount of available habitat for most species of birds and mammals during construction. These activities would result in a local, short-term, moderate impact to wildlife.

Noise in the area of construction activities would vary depending upon a number of factors, such as the amount and type of equipment in operation on any given day, usage rates, the level of background noise in the area, and the distance between sensitive uses and the construction site. Construction noise would be loudest immediately adjacent to the construction area.

Construction noise would be mitigated by measures such as noise abatement techniques, use of noise screening materials, and by outfitting vehicles and equipment with noise-reducing technology, along with implementing a schedule that minimizes impacts to the adjacent school wherever feasible. Construction activities would not occur during weekends, holidays, or evenings.

The new campground would increase sensitive receptors in the project area and overall would result in a local, long-term, minor to moderate impact on the noise environment due to increases in camping-related noise levels. Vehicle-related noise levels from additional traffic along Viejas Blvd and from vehicles parking would increase slightly, resulting in a local, long-term, minor impact on the noise environment.

Cumulative Impacts

Increases in overall, general sound levels associated with traffic along Viejas Blvd and SR-79 would result in a local, long-term, minor cumulative impact according to the traffic analysis conducted for this EIR. Construction of some of the reasonably foreseeable projects (Appendix C) planned or approved within CRSP could result in local, short-term, minor to moderate impacts on noise. The impacts of these projects would be localized and short-term in nature, and primarily relate to noise generated from construction activities and construction-generated traffic. The intensity of the effects from the construction-related traffic noise would range from negligible to minor, depending on which, if any, of the construction projects occurred simultaneously

5.2.1.2 Alternative 2

Alternative 2 would essentially be the same as the preferred alternative only with a different site configuration. Impacts for the various components (soils, wildlife, etc.) would also be very similar between the two alternatives. Overall, Alternative 2 would impact approximately 25.8 acres (19.4 permanently and 6.4 temporarily) of non-native vegetation, an increase of approximately 1.1 acres but, as with the preferred alternative, development of the new campground would occur in areas that are already developed, have been previously disturbed, or contain non-native vegetation.

The campground location would be in the western portion of the project site, placing it just north of the Descanso Elementary School property. There would be two campground loops which would contain up to 18 campsites. An arena could be included in one of the campground loops. In addition to the arena, there could be additional corrals and ramadas to accommodate special events or gatherings. The equestrian day-use parking area, comfort station, round pens, and other associated features would be located in the northeast corner of the project site. Utilities and amenities would remain the same as in the Preferred Alternative. Landscaping, vegetated swales, and screening would vary slightly from the Preferred Alternative as a result of the alternative configuration of the project features.

5.2.1.3 Alternative 3

The Environmentally Superior Alternative (Alternative 3) would impact approximately six acres (4.0 permanently and 1.9 temporarily) and have five camp sites, a comfort station with vault toilet, a round pen and a day-use parking lot. Approximately 35.7 acres of the project site would remain unaffected with this alternative.

Campsite sizes would vary to accommodate the topography and layout of the campground and would range in size from 60 feet by 80 feet up to 60 feet by 100 feet. The sites would contain two to four corrals, a tent pad and a facility pad, where a barbeque pit and picnic table would be located, and a parking area that would accommodate one to two rigs. Campsite features would be dependent on size. Parking could be pull-through or back-in. A vegetated berm would be placed west of the proposed campground to screen the project from the neighboring elementary school. The day-use parking lot would be mixed-use to accommodate all park visitors. There would be a gate located at entrances to both the campground and the day-use parking lot.

Soils

Construction of the new equestrian camp and associated structures (restrooms, shade ramada, corral, etc.) would result in local, long-term, minor impact to soil resources through soil loss, erosion, compaction, profile mixing, and removal in the absence of the mitigation measures presented in this report and included in this project proposal. Construction activities would include removal of existing non-native vegetation. The operation of the new campground would introduce additional visitors into the area, which could cause increased erosion potential. New utility connections would need to be provided for the new restrooms and recreational vehicle campsites.

New trail construction could result in a local, long-term, minor impact to soil resources, because the impacts would primarily occur in linear segments of previously disturbed soils. All new trails would be constructed to accommodate surface and subsurface water flow.

Soil excavation could result in the disturbance of the soil profile, interrupting natural chemical, physical, and biological processes of the soil. The localized removal of vegetation and use of heavy equipment could increase soil erosion and result in soil compaction in these areas. Construction impacts could be mitigated by minimizing the area disturbed; salvaging the existing soils for use as backfill; and implementing BMPs, such as silt fences, and other soil retention devices.

Cumulative Impacts

Future proposed projects in CRSP are not capacity increasing. However, unpaved areas, including trails and parking areas, are likely to experience further degradation of soil resources due to continued visitor use. Alternative 3, in combination with the proposed future projects (Appendix C), would result in a local, long-term, minor cumulative impact on soil resources.

Hydrology and Water Quality

The addition of new campsites and trails would not increase the amount of impervious surface in the area but the new buildings would slightly increase impervious surface, increasing the potential for non point-source pollution, which would result in local, long-term, minor impacts to water quality. Additionally, waste generated by horses at the campground could increase non point-source pollution. Increased water use at the campground has the potential to lower the water table in the local area. No work would occur within the drainage located in the southwestern portion of the site.

Prior to application of mitigation measures such as silt fences, sedimentation basins, bio-swales, erosion control measures, and other measures identified in *Section 6.0*, Alternative 3 would have a local, long-term, negligible to minor impact on water quality. Construction impacts could be mitigated by minimizing the area disturbed, using pervious material in parking areas, salvaging existing soils for use as fill, and implementing BMPs during construction to reduce the potential for water quality impacts associated with soil erosion and construction equipment releases. Regular pick up of waste at the campground will reduce the potential for water quality impacts. Additionally, restoration with native vegetation upon completion should minimize impacts to local hydrologic processes and water quality.

Cumulative Impacts

Alternative 3, in addition to the reasonably foreseeable future projects (Appendix C) would

be anticipated to have a no net negative effect on hydrologic processes and water quality within CRSP.

Vegetation

Approximately 4.0 acres of non-native annual grassland would be permanently disturbed and 1.9 acres would be temporarily disturbed due to construction activities and the creation of berms. Development of a new campground would occur in areas that are already developed, have been previously disturbed, or contain non-native vegetation. Potential construction impacts to vegetation associated with grading and excavation include the spread of dust and debris into areas adjacent to construction sites. Loss of vegetation associated with development of new campsites would result in local, long-term, minor impacts, given the habitat (non-native grassland) and the fact that this area had been routinely disturbed in the past (agriculture and pasture). The number of campsites and parking would be less than described for the preferred alternative, necessitating less vegetation removal. Measures would be implemented to reduce the occurrence of impacts, including dust abatement, controlling the spread of non-native seeds, and preservation fencing, as described in *Section 6.0*. With implementation of these measures, impacts would be local, long-term, and minor.

Cumulative Impacts

Humans have manipulated wildlife communities almost since the inception of the park through historical practices such as logging, fire suppression, grazing, mining, the introduction of non-native species, and the feeding of animals. Past and ongoing activities include recreational use, general park maintenance, and various construction activities.

Although Alternative 3 would have a local, long-term, minor impact on vegetation, reasonably foreseeable future actions within CRSP (Appendix C) are considered to have no overall, net effect to vegetation.

Wildlife

Development of a new campground would effect wildlife resources, primarily as a result of habitat loss and disturbance. Construction activities would introduce heavy equipment and personnel, which would create noise, visual, and vibration disturbance within project areas and potentially within several hundred feet of construction limits, thus decreasing the amount of available habitat for most species of wildlife during construction. Ground-disturbing activities, including trenching, excavating, and grading, would have the potential to bury and trap organisms such as invertebrates, amphibians, reptiles, and small mammals. Sedimentation into drainages could affect wildlife species and invertebrates by degrading water quality.

These activities would result in local, short-term, minor to moderate impacts to wildlife, in the absence of the mitigation and minimization measures presented in this report and included in the project proposal. Construction impacts would be mitigated by the incorporation of measures such as conducting preconstruction surveys, timing construction to avoid disruption of breeding, and covering excavation areas. With the implementation of mitigation measures in described above and in detail in *Section 6.0*, it is expected that impacts would be short term, local, and minor.

Permanent impacts include the loss of habitat associated with development of the new campground including parking facilities, comfort stations, and corrals, which would reduce

the amount of nesting, roosting, and foraging habitat available to a wide variety of wildlife species and invertebrates. Furthermore, lighting at bathrooms, campgrounds, and parking lots could impact nocturnal foraging species and night roosting bats.

Additionally, increased foot traffic around the campground would result in vegetation trampling and create noise and sight disturbance, impeding wildlife use of those areas. However, areas in the project vicinity presently receive a moderate level of disturbance relative to other areas of the park due to visitor use and surrounding homes, a school, and businesses. Therefore, a noticeable increase in human/wildlife conflicts and conditioning of wildlife to human food sources are not anticipated. With the implementation of mitigation measures as described in *Section 6.0*, permanent impacts to wildlife would be reduced to being local, long-term, and minor.

Cumulative Impacts

Humans have manipulated wildlife communities almost since the inception of the park through historical practices such as logging, fire suppression, grazing, mining, the introduction of non-native species, and the feeding of animals. Past and ongoing activities include recreational use, general park maintenance, and various construction activities. Reasonably foreseeable future actions (Appendix C) within CRSP are considered to have no net effect to wildlife.

Cumulative impacts related to construction of projects throughout CRSP are not likely to significantly affect wildlife through disturbance of their habitat over time, but the level of impact would be dependent upon the number of projects occurring at the same time throughout the park. Construction of some of the reasonably foreseeable projects planned or approved within CRSP as described in *Appendix C* could result in local, short-term, minor to moderate impacts on wildlife. The impacts of these projects would primarily relate to disturbance of wildlife habitat during construction activities in the immediate project area.

Special-Status Species

Impacts to special-status species would be similar to those discussed above for wildlife species. Development could affect special-status species primarily because of habitat loss and disturbance. Permanent impacts include the loss of habitat associated with development of new campsites, bathrooms, ramadas, corrals, and parking facilities, which would reduce the amount of nesting, roosting, overwintering, and perching sites available to a variety of birds, mammals, reptiles, and amphibians, as well as some insects. Increased foot traffic around new campsites would result in vegetation trampling and create noise and sight disturbance, impeding wildlife use of those areas. The new campgrounds would also provide a new location for the conditioning of wildlife to human food sources. Unleashed dogs could harass or cause injury or death to various wildlife species. Additionally, lighting at bathrooms, the new campground, and parking lot could affect nocturnal foraging species and night roosting bats.

The Descanso Area Development would be located primarily in an area that is already disturbed (affected by trampling) or contains non-native vegetation. These conditions create noise and sight disturbance which likely limit use of this area by special-status species. Though no special-status species are known to occur (or were identified) on-site, development could directly disturb potential habitat for special-status invertebrates, amphibians, reptiles, raptors, bats, and plants. Species with less mobility such as the arroyo

toad and coast horned lizard would be impacted proportionally greater than those, such as least Bell's vireo, which are highly mobile.

Construction noise and vibration could temporarily disrupt or preclude use of this area by special-status bats or raptors that at times may roost, nest, or forage in the area. Construction grading and excavation activities have the potential to injure or remove amphibians and invertebrates if present. With incorporation of mitigation measures such as limiting the work area, covering excavation areas, timing construction to avoid disruption of breeding activities, and conducting preconstruction surveys, construction impacts would be local, short term, and minor, and not likely to significantly impact any special-status species.

Permanent impacts associated with loss of habitat and visitor disturbance would be local, long-term, negligible to minor and would "not likely to significantly affect" any special-status species (Table 5), since these species are not known to occur, less likely to occur, would occur in very small numbers, or would occur only occasionally at this location. In addition, conservation measures recommended by the USFWS (USFWS 1999) and USGS (Ervin and Fisher 2003, Mendelsohn et al. 2005) will be implemented to further reduce impacts for special-status species.

Cumulative Impacts

Cumulative impacts to special-status species would be similar to those discussed above for wildlife species. Humans have manipulated wildlife communities almost since the inception of the park through historical practices such as logging, fire suppression, grazing, mining, the introduction of non-native species, and the feeding of animals. Past and ongoing activities include recreational use, general park maintenance, and various construction activities. Reasonably foreseeable future actions within CRSP (Appendix C) are considered to have no overall effect to special-status species.

Cumulative impacts related to construction projects throughout CRSP are "not likely to significantly affect" special-status species through disturbance of their habitat over time, but the level of impact would be dependent upon the number of projects occurring at the same time throughout the park. Construction of some of the reasonably foreseeable projects planned or approved within CRSP (Appendix C) are considered to have overall no effect to special-status species. The impacts of these projects would be localized and short-term in nature, and primarily relate to disturbance of wildlife habitat during construction activities in the immediate project area.

Noise

Alternative 3 would result in minor to moderate changes to existing noise levels including changes caused by camping-related noise, as well as temporary construction-related noise. The new campground would increase sensitive receptors in the project area and overall would result in a local, long-term, minor to moderate impact on the noise environment due to increases in camping-related noise levels. Vehicle-related noise levels from additional traffic along Viejas Blvd and from vehicles parking could slightly increase, resulting in a local, long-term, minor impact on the noise environment.

Permanent noise impacts associated with the new campground would be reduced with the placement of screening vegetation and berms. Implementation of these measures would reduce the intensity of the impact to a minor level.

Construction equipment and transport vehicles could temporarily generate substantial noise (Table 6). Noise generated by construction crews also has the potential to temporarily affect existing noise levels. Construction activities would introduce heavy equipment and personnel, which would create noise, visual, and vibration disturbance within construction areas and potentially within several hundred feet of construction limits, thus decreasing the amount of available habitat for most species of birds and mammals during construction. These activities would result in a local, short-term, moderate impact to wildlife, in the absence of the minimization measures presented in *Section 6.0*.

Noise in the area of construction activities would vary depending upon a number of factors, such as the amount and type of equipment in operation on any given day, usage rates, the level of background noise in the area, and the distance between sensitive uses and the construction site. Construction noise would be loudest immediately adjacent to the construction area. Construction activities would not occur during weekends, holidays, or evenings.

Construction noise would be mitigated by measures such as noise abatement techniques, use of noise screening materials, and by outfitting vehicles and equipment with noise-reducing technology, along with implementing a schedule that minimizes impacts to adjacent noise sensitive areas and use of the best available noise control techniques, wherever feasible. Implementation of these measures would reduce the intensity of the impact to a local, short-term, minor impact on the noise environment.

Cumulative Impacts

Increases in overall, general sound levels associated with traffic along Viejas Blvd would result in a local, long-term, minor impact. Construction of some of the reasonably foreseeable projects planned or approved within CRSP (Appendix C) could result in a local, short-term, minor to moderate impact on noise. The impacts of these projects would be localized and short-term in nature, and primarily relate to noise generated from construction activities and construction-generated traffic. The intensity of the effects from the construction-related traffic noise would range from negligible to minor, depending on which, if any, of the construction projects occurred simultaneously.

Construction mitigation measures, such as noise-abatement and noise-reducing measures, scheduling of construction during standard daylight working hours, a traffic control plan, and avoidance of idling vehicles would reduce construction noise levels and minimize the likelihood of simultaneous construction activity in a heavily used area.

5.2.1.4 Alternative 4 (No Project)

The No Action Alternative maintains the status quo in the project area. It provides a baseline from which to compare other alternatives, to evaluate the magnitude of proposed changes, and to measure the environmental effects of those changes. Under this alternative, no dramatic or comprehensive changes would take place in the management of the project area.

Soils

The No Action Alternative would continue to generate soil impacts primarily related to erosion, and compaction at existing roads, trails, and parking facilities on the project site. These activities would result in a continued local, long-term, minor impact to soil resources.

Hydrology and Water Quality

Under this alternative, there would be no change in the water flow or flood regime. Existing parking areas would continue to be sources of non point-source pollution and would therefore continue to affect water quality. However, since no development or redevelopment would occur under this alternative, water quality conditions would remain the same, and water quality would not decline. Alternative 4 would continue to have a local, long-term, negligible impact on water quality.

Vegetation

Existing impacts to the vegetation at the Descanso Area Development would include alterations due to ecological processes such as fire, trampling of understory vegetation, and reduced habitat value from non-native vegetation. Trampling of understory vegetation through current and future foot and vehicular traffic would result in a continued local, long-term, negligible impact on existing resources.

Wildlife

Ongoing impacts to wildlife at the Descanso Area Development include reduced habitat value due to non-native vegetation, fire suppression, availability of human food and trash, and noise and visual disturbance associated with human activities and vehicles. These impacts reduce the amount and quality of areas available to wildlife species that require undisturbed habitat for essential activities such as nesting, roosting/resting, and foraging. Other species tolerant of human disturbance may benefit from these impacts, which provide foraging opportunities and human structures for nesting or resting areas. Given the relatively moderate intensity of use, impacts to wildlife under Alternative 4 would continue to be local, long-term, and negligible.

Special-Status Species

Ongoing impacts to special-status wildlife species at the Descanso Area Development include reduced habitat value due to non-native vegetation, fire suppression, availability of human food and trash, and noise and visual disturbance associated with human activities and vehicles. These impacts ultimately serve to restrict use of the project areas by special-status species. Given the relatively low to moderate intensity of use impacts to special-status species would continue to be local, long-term, and negligible.

Noise

The No Action Alternative would result in no changes to existing noise levels. Vehicle-related noise levels from traffic along Viejas Blvd and SR-79 and from vehicles parking would remain the same, resulting in a local, long-term, negligible impact on the noise environment.

5.2.2 Descanso Area Development Interim Use Project

Impacts would be equivalent for both alternative one and two.

5.2.2.1 Alternative 1 (Preferred Alternative)

The Preferred Alternative would affect approximately 0.93 acres, with 0.06 acres being newly planted native vegetation used as screening and 0.33 acres consisting of existing parking lot. The Day-Use Parking Area would be separated into two portions, one for

equestrian parking and another for small vehicles belonging to hikers and bike riders. The vehicular parking would be located in the existing parking lot while the equestrian parking portion would be future expansion.

The equestrian parking area would be approximately 0.93 acres and surfaced with DG or gravel. Hitching rails and an accessible mounting platform would be provided and would be separate from the parking area. A trail connection would be created to link the equestrian parking portion with the existing Merigan Fire Road. The boundaries of the parking area would be delineated by a new split rail fence and screened with vegetation. The vehicular parking portion would be approximately 0.33 acres and surfaced with DG

A restroom would be centrally placed between the equestrian and vehicular parking and there would be an accessible path of travel to the restroom from the mounting platform and other ADA accessible amenities. The restroom would have two unisex stalls and be on a vault system. An Iron Ranger would be placed within the parking area to allow Park visitors to pay the appropriate day-use fee. A gate would be placed at the entrance to the project site at Viejas Blvd.

Soils

Construction of new day use parking would result in a local, long-term, minor impact to soil resources through soil loss, erosion, compaction, profile mixing, and removal, in the absence of the minimization measures presented in this report and included in this project proposal. Construction activities would include removal of existing non-native vegetation.

New trail construction could result in a local, short-term, minor impact to soil resources because the impacts would primarily occur in linear segments of previously disturbed soils. All new trails would be constructed to accommodate surface and subsurface water flow.

Soil excavation could result in the disturbance of the soil profile, interrupting natural chemical, physical, and biological processes of the soil. The localized removal of vegetation and use of heavy equipment could increase soil erosion and result in soil compaction in these areas. Construction impacts could be mitigated by minimizing the area disturbed; salvaging the existing soils for use as backfill; and implementing BMPs, such as silt fences, and other soil retention devices.

Cumulative Impacts

Future proposed projects in CRSP are not capacity increasing. Unpaved areas, including trails and parking areas, are likely to experience further degradation of soil resources due to continued visitor use. Both alternatives, in combination with the proposed future projects (Appendix C), would result in a local, long-term, minor cumulative impact on soil resources.

Hydrology and Water Quality

The addition of new day use parking would not increase the amount of impervious surface in the area, but the new facilities may slightly increase the potential for non point-source pollution, which would result in local, long-term, minor impacts to water quality. No construction would occur within the drainage located in the southwestern portion of the site.

Prior to application of mitigation measures such as silt fences, sedimentation basins, bio-swales, and other erosion control measures, both alternatives would have a local, long-term, negligible impact on water quality. Construction impacts would be mitigated by minimizing

the area disturbed, using pervious material in parking areas, salvaging existing soils for use as fill, and implementing BMPs during construction to reduce the potential for water quality impacts associated with soil erosion and construction equipment releases. Additionally, restoration with native vegetation upon completion should minimize impacts to local hydrologic processes and water quality.

Cumulative Impacts

Both alternatives, in addition to the reasonably foreseeable future projects (Appendix C) would be anticipated to have no net, negative effect on hydrologic processes and water quality within CRSP.

Vegetation

Approximately 0.93 acres of non-native annual grassland would be permanently disturbed for the preferred alternative and alternative 2, respectively. Development of the day use parking would occur in areas that are already developed, have been previously disturbed, or contain non-native vegetation. Potential construction impacts to vegetation associated with grading and excavation include the spread of dust and debris into areas adjacent to construction sites. Loss of vegetation associated with development of new campsites would result in local, long-term, minor impacts, given the habitat (non-native grassland), the fact that the area had been routinely disturbed in the past (agriculture and pasture), and the small amount of vegetation affected.

Cumulative Impacts

Humans have manipulated wildlife communities almost since the inception of the park through historical practices such as logging, fire suppression, grazing, mining, the introduction of non-native species, and the feeding of animals. Past and ongoing activities include recreational use, general park maintenance, and various construction activities.

Both alternatives would have a local, long-term, minor impact on vegetation and reasonably foreseeable future actions within CRSP (Appendix C) are considered to have no overall, net effect to vegetation.

Wildlife

Development would affect wildlife resources, primarily because of habitat loss and disturbance. Permanent impacts include the loss of habitat associated with development of the day use facility, which would reduce the amount of nesting, roosting, and perching sites available to a variety of birds, mammals, reptiles, and amphibians, as well as some insects. A slight increase in foot traffic may result in vegetation trampling and create noise and sight disturbance, impeding wildlife use of those areas. Unleashed dogs could harass or cause injury or death to various wildlife species. Additionally, lighting at the bathroom and in the parking lot could affect nocturnal foraging species and night roosting bats.

Construction activities would introduce heavy equipment and personnel, which would create noise, sight, and vibration disturbance within project areas and potentially within several hundred feet of construction limits, thus decreasing the amount of available habitat for wildlife during construction. Ground-disturbing activities, including excavating and grading, would have the potential to bury and trap organisms such as invertebrates, amphibians, reptiles, and small mammals.

Although there would be removal and disturbance of vegetation, configuration of the site would preserve the overall size and connectivity of habitats. Furthermore, the site and areas in the vicinity presently receive a moderate level of disturbance relative to other areas due to current uses, an adjacent school, private housing, and businesses. Therefore, a noticeable increase in human/wildlife conflicts and conditioning of wildlife to human food sources is not anticipated. Additionally, lighting would be very limited at the site and pointed downward.

The above activities would result in a local, long-term, minor impact to wildlife in the absence of the mitigation measures presented in this report and included in the project proposal. Application of minimization measures such as design criteria, preconstruction surveys, timing of construction to avoid disruption of breeding, and covering excavation areas would reduce the intensity of construction impacts.

Cumulative Impacts

Cumulative impacts related to construction of projects throughout CRSP are not likely to significantly affect wildlife through disturbance of their habitat over time, but the level of impact would be dependent upon the number of projects occurring at the same time throughout the park. Construction of some of the reasonably foreseeable projects planned or approved within CRSP (Appendix C) could result in local, short-term, moderate, impacts on wildlife. The impacts of these projects would be localized and short-term in nature, and primarily relate to disturbance of wildlife habitat during construction in the immediate project area.

Special-Status Species

Impacts to special-status species would be similar to those discussed for wildlife species. Development could affect special-status species primarily because of habitat loss and disturbance. Permanent impacts include the loss of habitat associated with development of the day use facility, which would reduce the amount of nesting, roosting, overwintering, and perching sites available to a variety of birds, mammals, reptiles, and amphibians, as well as some insects. Increased foot traffic may result in vegetation trampling and create noise and sight disturbance, impeding wildlife use of those areas. Unleashed dogs could harass or cause injury or death to various wildlife species. Additionally, lighting at the bathroom and in the parking lot could affect nocturnal foraging species and night roosting bats.

The day use parking would be located in an area that is already disturbed or contains non-native vegetation. These conditions create noise and sight disturbance which likely limit use of this area by special-status species. Though no special-status species are known to occur (or were identified) on-site, development could directly disturb potential habitat for special-status invertebrates, amphibians, reptiles, raptors, bats, and plants. Species with less mobility such as the arroyo toad and coast horned lizard would be impacted proportionally greater than those, such as least Bell's vireo, which are highly mobile.

Construction noise and vibration could temporarily disrupt or preclude use of this area by special-status bats or raptors that at times may roost, nest, or forage in the area. Construction grading and excavation activities have the potential to injure or remove amphibians and invertebrates if present. With incorporation of mitigation measures such as limiting the work area, covering excavation areas, timing construction to avoid disruption of breeding activities,

and conducting preconstruction surveys, construction impacts would be local, short term, and minor, and not likely to significantly impact any special-status species.

Permanent impacts associated with loss of habitat and visitor disturbance would be local, long-term, negligible, and would “not likely to significantly affect” special-status species (Table 5), since these species are not known to occur, less likely to occur, would occur in very small numbers, or would occur only occasionally at this location.

Cumulative Impacts

Cumulative impacts related to construction projects throughout CRSP are not likely to significantly affect special-status species through disturbance of their habitat over time, but the level of impact would be dependent upon the number of projects occurring at the same time throughout the park. Construction of some of the reasonably foreseeable projects planned or approved within CRSP (Appendix C) could result in local, short-term, moderate impacts on wildlife. The impacts of these projects would be localized and short-term in nature, and primarily relate to disturbance of wildlife habitat during construction in the immediate project area.

Noise

Development of day use parking would result in minor changes to existing noise levels including changes caused by construction related activities. The new facility would increase sensitive receptors in the project area and overall would result in a local, long-term, negligible impact on the noise environment. Vehicle-related noise levels from additional traffic along Viejas Blvd and from vehicles parking could slightly increase, resulting in a local, long-term, minor impact on the noise environment.

Construction equipment and transport vehicles could temporarily generate substantial noise (Table 6). Noise generated by construction crews also has the potential to affect existing noise levels. Construction activities would introduce heavy equipment and personnel, which would create noise, visual, and vibration disturbance within construction areas and potentially within several hundred feet of construction limits, thus decreasing the amount of available habitat for most species of birds and mammals during construction. These activities would result in a local, short-term, moderate impact to wildlife, in the absence of the mitigation measures presented in this report.

Construction noise would be loudest immediately adjacent to the construction area.

Construction activities would not occur during weekends, holidays, or evenings.

Construction noise would be mitigated by measures such as noise abatement techniques, use of noise screening materials, and by outfitting vehicles and equipment with noise-reducing technology, along with implementing a schedule that minimizes impacts to adjacent noise sensitive areas and use of the best available noise control techniques, wherever feasible. Implementation of these measures would reduce the intensity of the impact to a minor level.

Cumulative Impacts

Increases in overall, general sound levels associated with traffic along Viejas Blvd and SR-79 would result in a local, long-term, negligible impact. Construction of some of the reasonably foreseeable projects planned or approved within CRSP (Appendix C) could result in a local, short-term, minor to moderate impact on noise. The impacts of these projects would be localized and short-term in nature, and primarily relate to noise generated from construction

activities and construction-generated traffic. The intensity of the effects from the construction-related traffic noise would range from negligible to minor, depending on which, if any, of the construction projects occurred simultaneously.

5.2.2.2 Alternative 2

Alternative 2 would essentially be the same as the preferred alternative only with a different site configuration. Alternative 2 would affect approximately 0.93 acres. As in the Preferred Alternative, the Day-Use Parking Area would be separated into two portions, one for equestrian parking and another for small vehicles belonging to hikers and bike riders. The vehicular parking would be located in the existing parking lot while the equestrian parking portion would be future expansion.

The equestrian parking area would be surfaced with DG or gravel. The boundaries of the parking area would be delineated by a new split rail fence. The current vehicular parking portion is approximately 0.33 acres and this area may or not be resurfaced with DG.

A restroom would be placed near the vehicular parking area, adjacent to the Merigan Fire Road trailhead. There would be an accessible path of travel to the restroom from the mounting platform and other ADA accessible amenities. The restroom would have two unisex stalls and be on a vault system. An Iron Ranger would be placed within the parking area to allow Park visitors to pay the appropriate day-use fee. A gate would be placed at the entrance to the project site at Viejas Blvd.

5.2.3 Green Valley Loop

The proposed Green Valley Loop alternative (Loop A) would affect up to 3 acres and provide an equestrian campground and associated amenities, as well as parking and connections to nearby existing trail systems. This site is located within the Green Valley Campground and consists of an isolated loop with a comfort station with showers.

The existing loop consists of 22 sites suitable for tent or small RV camping. Existing amenities include a comfort station on a leach field, hose bibs scattered throughout the campground, and site furnishings (picnic table and fire ring). On one side of campground is on a slope, which influenced the use of stone retaining walls (ranging from 1' to 4' heights) to provide level surfaces for campsites.

Two existing sites (#1 and #19) may be eliminated and converted to trailhead access. In addition, a future bridge may be constructed to cross the Sweetwater River on the Northwest side of the campground to allow direct trail access.

The camp host site will remain in its current location and the host site will be the only site to have electrical power. The remainder of the existing sites will be combined in groups of 2-3 to create the larger areas required for up to 15 equestrian sites. Construction work to convert the campsites include moderate grading, reconfiguring campsites, demolishing and reconstructing the stone retaining walls (for historical context), installing and repairing asphalt, installing DG surfacing, and constructing pipe corrals and an Americans with Disabilities Act (ADA) mounting ramp.

Two sites are proposed to be made ADA accessible with a firm surface and compliant furnishings. A route of travel will be constructed from these campsites to the comfort station. The comfort station may be remodeled to meet compliance under a separate ADA project.

5.2.3.1 Alternative 1

Soils

The Loop A alternative would continue to generate soil impacts primarily related to erosion, and compaction on existing roads, trails, and parking facilities throughout the project area. Soils that are coarse textured (e.g., sand) and have little organic matter provide less structural integrity and are more apt to erode than soils with a finer-grained matrix (e.g., silt or clay). These activities would continue to result in local, long-term, minor impact to soil resources.

Cumulative Impacts

Unpaved areas, including trails and parking areas, are likely to experience further degradation of soil resources due to continued visitor use. Future proposed projects in CRSP are not capacity increasing projects and, though quantifiable habitat losses are not yet known, appear to be very limited in scope. The contribution of the current activities to these other proposed actions is negligible.

Hydrology and Water Quality

The Loop A alternative would not increase the amount of impervious surface at the site, which would result in continued local, long-term, minor impacts to water quality. Waste generated by horses at the campground could increase non point-source pollution, which could result in regional, long-term, minor to moderate impacts to water quality. Under this alternative, there would be no change in water flow or flood regime.

Construction impacts could be mitigated by minimizing the area disturbed, using pervious material in parking areas, salvaging existing soils for use as fill, and implementing BMPs during construction to reduce the potential for water quality impacts associated with soil erosion and construction equipment releases.

Regular pick up of waste at the campground and placement of corrals away from any swale and/or the Sweetwater River would reduce the potential for water quality impacts. Additional measures to prevent/minimize water quality impacts are identified in *Section 6.0*.

Though very little development or redevelopment would occur under this alternative, water quality conditions could potentially decrease due to the addition of equestrian resources at the site which could result in regional, long-term, minor to moderate impacts on water quality.

Cumulative Impacts

Future proposed projects in CRSP (Appendix C) include rehabilitating current water systems which would benefit water quality. These proposed projects in CRSP are not capacity increasing projects and though quantifiable habitat losses are not yet known, appear to be very limited in scope. The contribution of the current activities to these other proposed actions is negligible.

Vegetation

Very little vegetation shall be removed/disturbed under this alternative. The potential for 3-4 small live oak (3-6 dbh) and a few shrubs and non-native grasses are proposed to be removed to accommodate horse trailers at a few campsites. In addition, some shrubs may need to be trimmed and a small amount (approx 0.05 acre) of California rose and creeping snowberry

(*Symphoricarpos mollis*) may be removed to allow for an arena. Approximately 0.5 acres of developed coastal oak woodland would be permanently impacted.

Existing impacts to the vegetation in the project area include alteration of ecological processes through fire, trampling of understory vegetation, and fragmentation of vegetation by existing roads and development. Trampling of understory vegetation through current and future foot and vehicular traffic would result in continued local, long-term, minor impacts on existing vegetation resources.

Cumulative Impacts

Regional vegetation has been historically affected by logging, fire regimes (including suppression), mining, and the introduction of non-native species. These changes have negatively influenced the size, form, and function of vegetation communities, and the plants and wildlife that inhabit them. Future proposed projects in CRSP (Appendix C) are not capacity increasing projects and though quantifiable habitat losses are not yet known, appear to be very limited in scope. The contribution of current activities to these other proposed actions is negligible.

Wildlife

Given the current level of use and the presence of contiguous habitat juxtaposed, impacts would continue to be local, long-term, and negligible. Ongoing impacts to wildlife in the project area including human access, fire suppression, availability of human food and trash, noise and visual disturbance associated with human activities, and a reduction in the amount and quality of areas available to wildlife species requiring undisturbed habitat for essential activities such as nesting, roosting/resting, and foraging. Other species tolerant of human disturbance may benefit from these impacts, which provide foraging opportunities and human structures for nesting or resting.

Cumulative Impacts

Regional wildlife has been historically affected by logging, fire regimes (including suppression), mining, draining, damming, diversions, and the introduction of non-native species. Future proposed projects in CRSP (Appendix C) are not capacity increasing projects and though quantifiable habitat losses are not yet known, appear to be very limited in scope. The contribution of current activities to these other proposed actions is negligible.

Special-Status Species

A variety of special-status species have the potential to occur in the project area and impacts to these species would be the same as those described for wildlife species. Ongoing impacts to wildlife in the project area including human access, fire suppression, availability of human food and trash, noise and visual disturbance associated with human activities, and a reduction in the amount and quality of areas available to wildlife species requiring undisturbed habitat for essential activities such as nesting, roosting/resting, and foraging.

The above mentioned impacts could ultimately serve to exclude or restrict use of the project areas by special-status species. Given the current level of use and the presence of contiguous habitat juxtaposed, the impact to special-status species would continue to be local, long-term, and negligible.

Cumulative Impacts

Regional wildlife has been historically affected by logging, fire regimes (including suppression), mining, draining, damming, diversions, and the introduction of non-native species. Future proposed projects in CRSP (Appendix C) are not capacity increasing. Quantifiable habitat losses are not yet known, but appear to be very limited in scope. The contribution of current activities to these other proposed actions is negligible.

Noise

This alternative would result in modest changes to existing noise levels. Vehicle-related noise from traffic along SR-79 and from vehicles parking would remain the same, resulting in a local, long-term, negligible impact on the noise environment.

Cumulative Impacts

Future proposed projects in CRSP are not capacity increasing. Quantifiable habitat losses are not yet known, but appear to be very limited in scope. The contribution of current activities to these other proposed actions is negligible.

5.2.3.2 Alternative 2 / Environmentally Superior Alternative

This Alternative is similar to Alternative 1 with the following exclusions: (1) the trail spur crossing the Sweetwater River and connecting to the West Side Trail would be eliminated and (2) the central portion of the loop would remain undisturbed; no corrals or other equestrian amenities such as an arena would be constructed. Impacts for this alternative would be the same as for Alternative 1.

5.2.3.3 No Project Alternative

Implementation of the No Project Alternative would result in Loop A remaining a tent camping site. This alternative was determined to be infeasible because it does not meet the core objective of the project, increasing the amount of equestrian use areas within the Park. As stated in the Project Needs Section, the Park has limited equestrian facilities. Given the predicted population increase within Southern California and the increased demand for recreational resources near urban areas, it is anticipated that the proposed campground will be in even higher demand in the future, especially with San Diego County having such a large equestrian contingent.

5.2.4 Paso Picacho Day-Use

The Paso Picacho Day-Use Area is located in the northern portion of the Park on the east side of State Route 79. The existing Paso Picacho Family Campground and day-use picnic area lies on the west side of SR-79, just across from the proposed project site. The project would affect up to 1.7 acres and provide a day-use parking lot, restroom, picnic area, trailhead, and associated facilities for equestrian park visitors. Impacts would be equivalent for Alternative 1 and Alternative 2.

Parking Lot: The equestrian day-use parking facility would accommodate up to eight rigs, no larger than a 40-foot trailer and tow vehicle. An accessible parking space and path of travel would be established for ADA access. The lot is designed to be one-way, with vehicles entering from the site's southern end and exiting at the northern end. There would be one gate at the entry point and one at the exit point, which could be locked or left open at Park staff's discretion. Additionally, an iron ranger would be installed to allow visitors to pay day-use fees by self-registration. Hose bibs would be provided for use by equestrians

and Park maintenance staff. One manure bin would be located near the northern end of the parking lot. The bin would be approximately 8 feet by 10 feet and would require a 10-foot by 20-foot cleared area. The entrance and exit driveways would be constructed of Portland Cement Concrete and approximately 200 and 100 feet long, respectively. A 6-inch curb and gutter would run along the south side of the entrance driveway and along the north side of the exit. The parking lot surface would be made of DG and approximately 360 feet in length covering an area of 28,000 square feet. The parking lot would be sloped 5% in a westerly direction and the driveways would be sloped 8-10% toward the highway. The turning radii of the entrance and exit would be designed to allow adequate turning for vehicles with horse trailers.

A tree survey was conducted at the site. The locations of the trees were surveyed and the approximate locations of the drip lines were drawn in the plans; however, the eastern side of the project area was not surveyed and the exact number of trees affected in this portion of the project site is unknown. Grading was designed to avoid as many trees and their respective drip lines as possible. It is estimated that up to sixteen pine trees and five oak trees would need to be removed to accommodate the day-use facility.

Access: Access to the project site is provided directly from SR-79. The entrance driveway is directly across the highway from the Paso Picacho campground entrance. The sight distance of the project's exit driveway was analyzed and determined to have adequate sight distance, as required by the Caltrans Highway Design Manual (HDM). The HDM specifies a driver's eye height of 3.5 feet and the minimum height of the object in the road as 4.25 feet. At a distance of 770 feet, the line of sight from the entrance driveway looking north at oncoming traffic was found to be higher than the road surface elevation at the point of the crest using the contour lines found by the survey.

Retaining Wall and Boundary Fence: The day-use parking facility was designed to minimize impacts to the surroundings. This was done by constructing a plantable retaining wall to reduce grading on the eastern boundary of the parking lot. The height of the retaining wall varies but maintains a maximum height of 7 feet. A split-rail fence, approximately 500 feet long, is proposed along the western side. This fence is intended to prevent a loose horse from inadvertently entering the highway.

Drainage: A vegetated swale on the eastern side of the project would convey stormwater northwesterly and southwesterly to the entrance and exit driveways. This proposed swale would be approximately 2.2 feet deep, 1 foot wide at the bottom, and 9.7 feet wide at the top with 2:1 side slopes, affecting approximately 0.69 acres of the project site. The purpose of the swale is to divert stormwater away from the site for up to a 10-year storm event. This prevents stormwater upstream of the site from picking up pollutants within the site and requiring treatment by post construction stormwater BMPs. The swale is designed to minimize impact to existing runoff patterns. The swale discharges into the curb and gutters of the driveways, which in turn drains into the existing roadway swales. The area between the roadway and the parking lot will be used as a natural biofilter to treat pollutants from the day-use facility before these pollutants enter the existing roadway swale.

Restroom: There would be one restroom on the east side of the parking lot. The restroom would operate with double vault waste collection, which requires no water and sewer

connections. The restroom has a 5-foot setback from the retaining wall. It would be ADA compliant and would have up to two unisex stalls.

Picnic Area: A picnic area would be placed on the southwest end of the project site. There would be up to two picnic tables and the picnic area would be made accessible according to CDPR Accessibility Guidelines.

Trails: The existing Cold Stream Trail, which runs along the eastern side of the project site, will be realigned to accommodate the proposed project. Signage would be installed to instruct equestrians to ride north along Cold Stream Trail to the Azalea Glen Trail, where there is an existing crossing, so they may access trails on the other side of the highway. A “no horse crossing” sign will be placed near the day-use parking entrance. Pedestrians from Paso Picacho Campground currently cross here to access the Cold Stream Trail. On the southeastern corner of the parking lot, the entrance driveway and the parking lot connect to the Stonewall Peak Trail and maintenance road.

Accessibility: There would be a delineated accessible path of travel between accessible parking, utilities, site furnishings, equestrian facilities, and the restroom. Accessible pathways would be no more than 3 feet wide and consist of stabilized DG or compacted native material. An accessible mounting ramp would be placed near the accessible parking spot on the western side of the project site. Due to site constraints, it has been determined that an alternative to the more traditional style mounting ramp should be used. Ramp dimensions and specifications were determined after a consultation with the local North American Riding for the Handicapped Association representative in August of 2008, as well as with the CDPR Accessibility Unit. To use the mounting ramp, the horse would be lead down a ramp that measures 46 feet long and 8 feet wide to a level 8-foot by 8-foot landing at the base of a 24-inch-high retaining wall. The rider would mount the horse from a 5-foot by 5-foot upper landing located at the top of the retaining wall. The approach to this mounting area would be no less than 4 feet wide with a slope no greater than 5% from the designated ADA parking space. The edge of the mounting area at the retaining wall will have a raised lip, no greater than 2 inches high, to act as a ‘stop’ for wheelchairs. In addition to the mounting area at the top of the wall, there will be a mounting block on the lower landing. This block will have an approximately 4-foot by 4-foot top surface and stand 16 inches tall with two 8-inch steps leading up to the surface. The block will be transportable, allowing it to be placed as needed for mounting a horse from the lower level or for assisting a disabled rider mounting from the upper landing. Informational signage will be placed near the mounting ramp to explain that the mounting ramp may be creating a confined and stressful situation for the horse and that it is recommended that riders do a walk-through with their horse prior to using the ramp. Project design will be reviewed by the Accessibility Section of the Acquisition and Development Division of CDPR to ensure ADA compliance prior to project implementation.

5.2.4.1 Alternative 1 (Preferred)

Alternative 1 can be considered the Environmentally Superior Alternative for the Paso Picacho Area element because it would result in the fewest resource impacts, including grading and tree removal, required to meet the goal of the project.

Soils

Development of a new day-use area would result in a local, long-term, minor impact to soil resources through soil erosion, compaction, profile mixing, and removal, in the absence of the mitigation measures presented in this report and included in this project proposal. The localized removal of vegetation and use of heavy equipment could increase soil erosion and result in soil compaction in these areas. However, the actual soil disturbance area would be less extensive, because the new development would occur partially within currently disturbed areas (trailhead). Construction activities would include removal of existing vegetation although the design will allow for numerous trees to remain on site.

Cumulative Impacts

Future proposed projects in CRSP are not capacity increasing (Appendix C). Unpaved areas, including trails and parking areas, are likely to experience further degradation of soil resources due to continued visitor use. The various alternatives, in combination with cumulative projects, would result in a local, long-term, minor cumulative impact on soil resources.

Hydrology, Floodplains, and Water Quality

There are no drainages at the Paso Picacho day-use site. Removal of existing vegetation and construction of the new parking area would involve grading and soil compaction, which could temporarily increase erosion and sediment discharge. Proposed grading at the site will serve to direct water/flows to a vegetated belt downslope of the project. Impacts to hydrology and water quality would result in local, long-term, minor impacts. The application of construction BMPs and other mitigation measures as discussed in *Section 6.0* would further reduce the potential impacts to hydrology and water quality.

Cumulative Impacts

Although the preferred alternative would have a local, long-term, minor impact on water quality after the installation of temporary and permanent BMPs, reasonably foreseeable future actions within CRSP (Appendix C) are considered to have no overall, net effect, to on hydrologic processes and water quality within CRSP.

Vegetation

Approximately 1.12 acres of mixed hardwood conifer forest will be permanently disturbed. Permanent impacts would include direct loss of trees and understory vegetation. Construction of the day-use area and access road would result in the removal of approximately 16 Jeffrey pines and three black oak and two interior live oak trees. However, the day-use area has been configured to allow for the retention of numerous trees throughout the development area.

The removal of oaks would represent a minor to moderate impact to the species, when considered in the context of the number of black and interior live oaks in the project and immediate area and the threat of the gold-spotted oak borer (*Agrilus coxalis*). The loss of 16 Jeffrey pines represents a moderate impact due to the lack of reestablishment and survival of pine seedlings since the 2003 Cedar fire (Spears 2005). Long-term use of the day-use area would increase foot traffic into areas surrounding the site, potentially causing trampling of understory vegetation.

Potential adverse construction impacts to vegetation associated with grading, excavation, and tree removal include trampling of understory vegetation and the spread of dust and debris into

areas adjacent to construction sites. Mitigation and minimization measures would be implemented to reduce the occurrence of impacts, including dust abatement, controlling the spread of non-native seeds, and preservation fencing. Given the extent of vegetation removal as well as a likely increase in vegetation trampling due to visitor access, impacts would be local, long-term, and minor with the initiation of measures presented in *Section 6.0*.

Cumulative Impacts

Humans have manipulated wildlife communities almost since the inception of the park through historical practices such as logging, fire suppression, grazing, mining, the introduction of non-native species, and the feeding of animals. Past and ongoing activities include recreational use, general park maintenance, and various construction activities.

Although the above mentioned alternative would have a local, long-term, minor impact on vegetation, reasonably foreseeable future actions within CRSP (Appendix C) are considered to have no overall, net effect to vegetation.

Wildlife

Development of a new day-use area would affect wildlife resources, primarily as a result of habitat loss and disturbance. Permanent impacts include the loss of habitat associated with development of the new parking facility, which would reduce the amount of nesting, roosting, and foraging sites available to a wide variety of wildlife species and invertebrates. Additionally, increased foot traffic around the day-use area would result in vegetation trampling and create noise and sight disturbance, impeding wildlife use of those areas. The day-use area would be located partially in an area that is already developed (trailhead).

Although there would be removal and disturbance of vegetation, configuration of the day-use area would preserve the overall size and connectivity of habitats. Furthermore, areas in the vicinity presently receive a moderate level of disturbance due to surrounding facilities such as a CDF fire station, Paso Picacho Campground and Day-Use Area, Park maintenance yard, and SR-79 (located adjacent to the day-use area). Therefore, a noticeable increase in human/wildlife conflicts and conditioning of wildlife to human food sources is not anticipated.

Construction activities would introduce heavy equipment and personnel, which would create noise, visual, and vibration disturbance within construction areas and potentially within several hundred feet of construction limits, thus decreasing the amount of available habitat for most species of wildlife during construction. Ground-disturbing activities, including trenching, excavating, and grading, would have the potential to bury and trap organisms such as invertebrates, amphibians, reptiles, and small mammals.

Construction impacts could be mitigated by the incorporation of measures such as preconstruction surveys, timing construction to avoid disruption of breeding, and covering of excavation areas. The application of construction BMPs and other mitigation measures as discussed in *Section 6.0* would further reduce the potential impacts to wildlife. Given implementation of these measures and the fact that part of construction would occur within an area already disturbed, impacts would be local, long-term, and minor in nature.

Cumulative Impacts

Humans have manipulated wildlife communities almost since the inception of the park through historical practices such as logging, fire suppression, grazing, mining, the

introduction of non-native species, and the feeding of animals. Past and ongoing activities include recreational use, general park maintenance, and various construction activities. Reasonably foreseeable future actions within CRSP are considered to have no overall, net negative effect to wildlife. The impacts of these projects would be localized and short-term in nature, and primarily relate to disturbance of wildlife habitat during construction activities in the immediate project area.

Special-Status Species

Impacts to special-status species would be similar to those discussed for wildlife species. Development could affect special-status species, primarily because of habitat loss and disturbance. Permanent impacts include loss of understory and overstory vegetation that has the potential to provide roosting, foraging, and nesting habitat for various special-status wildlife species. Indirect impacts from the day-use area could occur with visitor access to surrounding habitat. Visitor access could cause trampling of vegetation, as well as an increase in the level of noise disturbance, which could in turn degrade the quality and suitability of habitat for various special-status species.

Construction activities would introduce heavy equipment and personnel, which would create noise, visual, and vibration disturbance within construction areas and potentially within several hundred feet of construction limits, thus decreasing the amount of available habitat for most special-status wildlife species during construction. Ground-disturbing activities, including trenching, excavating, and grading, would have the potential to bury and trap organisms such as invertebrates, amphibians, reptiles, and small mammals.

Construction impacts could be mitigated by the incorporation of measures such as preconstruction surveys, timing construction to avoid disruption of breeding, and covering of excavation areas. The application of construction BMPs and other mitigation measures as discussed in *Section 6.0* would further reduce the potential impacts to wildlife. Given implementation of these measures and the fact that part of construction would occur within an area already disturbed, impacts would be local, long-term, and minor in extent.

Permanent impacts associated with loss of habitat and visitor disturbance would be local, long-term, negligible, and would “not likely to significantly affect” special-status species, since these species are not known to occur, less likely to occur, would occur in very small numbers, or would occur only occasionally at this location.

Cumulative Impacts

Humans have manipulated wildlife communities almost since the inception of the park through historical practices such as logging, fire suppression, grazing, mining, the introduction of non-native species, and the feeding of animals. Past and ongoing activities include recreational use, general park maintenance, and various construction activities. Cumulative impacts related to construction projects throughout CRSP are not likely to significantly affect wildlife through disturbance of their habitat over time, but the level of impact would be dependent upon the number of projects occurring at the same time throughout the park. Impacts of these projects would be localized and short-term in nature, and primarily relate to disturbance of wildlife habitat during construction activities in the immediate project area.

Noise

Construction activities would result in a local, short-term, minor to moderate impact on noise levels in the immediate area. During construction, visitor use closest to the construction area would be limited. Construction would not occur on weekends, holidays, or during the evening.

Noise in the area of construction activities would vary depending upon a number of factors, such as the amount and type of equipment in operation on any given day, usage rates, the level of background noise in the area, and the distance between sensitive uses and the construction site. Construction noise would be loudest immediately adjacent to the construction area.

Construction noise would be mitigated by measures such as noise abatement techniques, use of noise screening materials, and by outfitting vehicles and equipment with noise-reducing technology wherever feasible. Construction activities would result in a local, short-term, moderate impact to the noise environment.

The preferred alternative would result in minor changes to existing noise levels in the project vicinity including changes caused by equestrian users and their vehicles. The new day use facility would increase sensitive receptors in the project area and overall would result in a local long-term minor impact on the noise environment due to increases in noise levels. Vehicle-related noise levels from additional traffic along SR-79 and from vehicles parking could increase slightly, resulting in a local, long-term, minor impact on the noise environment.

Cumulative Impacts

Increases in overall, general sound levels associated with traffic along SR-79 would result in a local, long-term, minor impact. Construction of some of the reasonably foreseeable projects planned or approved within CRSP (Appendix C) could result in local, short-term, minor to moderate impact on noise. The impacts of these projects would be localized and short-term in nature, and primarily relate to noise generated from construction activities and construction-generated traffic. The intensity of the effects from the construction-related traffic noise would range from negligible to minor, depending on which, if any, of the construction projects occurred simultaneously.

Construction mitigation measures, such as noise-abatement and noise-reducing measures, scheduling of construction during standard daylight working hours, a traffic control plan, and avoidance of idling vehicles would reduce construction noise levels and minimize the likelihood of simultaneous construction activity in a heavily used area.

5.2.4.2 Alternative 2

Alternative 2 would essentially be the same as the preferred alternative only with a different site configuration. Alternative 2 would affect 1.12 acres of the project site and up to 21 trees (see *Section 5.2.4.1*) would be removed depending on final design. As in the preferred, this alternative would also accommodate up to eight rigs. This design would place the restroom in the southwestern corner of the parking lot in the vicinity of the picnic area and mounting ramp. This would potentially only allow enough space for one picnic table, which would be ADA compliant and a smaller buffer around the accessible mounting ramp. The ADA accessible parking space would be the parking spot nearest to these amenities and an accessible path of travel would be established between these features. The size and shape of

the parking lot would be essentially the same as the preferred alternative; however, the restroom's placement would allow for the retaining wall along the eastern edge of the parking lot to remain approximately the same height along its length, as it does not have to compensate for the restroom being placed along the lot's edge.

5.2.4.3 Alternative 3

Alternative 3 would affect approximately 1.68 acres of the project site and at least 18 trees (14 pines and 4 oaks) would need to be removed. The tree survey conducted for the project did not cover the entire limit of work; therefore it can be assumed that additional trees may need to be removed. Additionally, the acreage calculated for this alternative does not include the drainage swale east of the parking lot, as it has not yet been designed. This alternative, like the others, would accommodate up to eight rigs, however it would be considerably wider. This design would place the restroom in the southwest corner of the parking lot in the vicinity of both the picnic area and mounting ramp. This would potentially allow only enough space for one picnic table, which would be ADA compliant, and leave a smaller buffer around the accessible mounting ramp. The ADA accessible parking space would be the parking spot nearest to these amenities and an accessible path of travel would be established between these features. The size of the parking lot is approximately twice as wide as the preferred alternative with an island in the middle that consists of existing trees.

Impacts associated with this alternative would be very similar as in the first two alternatives other than a slight increase (0.54 acres) in vegetation loss. This includes an approximately equal number of trees that may be removed with this alternative.

5.2.5 Alternative 4 (No Project)

The No Action Alternative maintains the status quo in the project area. It provides a baseline from which to compare other alternatives, to evaluate the magnitude of proposed changes, and to measure the environmental effects of those changes. Under this alternative, no dramatic or comprehensive changes would take place in the management of the project area.

Soils

The No Action Alternative would continue to generate soil impacts primarily related to erosion, and compaction at existing roads, trails, and parking facilities throughout the project area. Soils that are coarse textured (e.g., sand) and have little organic matter provide less structural integrity and are more apt to erode than soils with a finer-grained matrix (e.g., silt or clay). These activities would result in a local, long-term, minor impacts to soil resources.

Cumulative Impacts

Unpaved areas, including trails and parking areas, are likely to experience further degradation of soil resources due to continued visitor use. Future proposed projects in CRSP are not capacity increasing projects and, though quantifiable habitat losses are not yet known, appear to be very limited in scope. The contribution of the current activities to these other proposed actions is negligible.

Hydrology and Water Quality

Under this alternative, there would be no change in the water flow or flood regime. Since no development or redevelopment would occur under this alternative, water quality conditions

would remain the same, water quality would not decline, and continued use at current levels would have a local, long-term, negligible impact on water quality.

Cumulative Impacts

Future proposed projects in CRSP (Appendix C) include rehabilitating current water systems which would benefit water quality. These proposed projects in CRSP are not capacity increasing projects and though quantifiable habitat losses are not yet known, appear to be very limited in scope. The contribution of the current activities to these other proposed actions is negligible.

Vegetation

Existing impacts to the vegetation in the project area include alteration of ecological processes through fire, trampling of understory vegetation, and fragmentation of vegetation by existing roads and development. Trampling of understory vegetation through current and future foot and vehicular traffic would result in a continued local, long-term, minor impact on existing vegetation resources.

Cumulative Impacts

Regional vegetation has been historically affected by logging, fire regimes (including suppression), mining, and the introduction of non-native species. These changes have negatively influenced the size, form, and function of vegetation communities, and the plants and wildlife that inhabit them. Future proposed projects in CRSP (Appendix C) are not capacity increasing projects and though quantifiable habitat losses are not yet known, appear to be very limited in scope. The contribution of current activities to these other proposed actions is negligible.

Wildlife

Ongoing impacts to wildlife in the project area including human access, fire suppression, availability of human food and trash, noise and visual disturbance associated with human activities, and a reduction in the amount and quality of areas available to wildlife species requiring undisturbed habitat for essential activities such as nesting, roosting/resting, and foraging. Other species tolerant of human disturbance may benefit from these impacts, which provide foraging opportunities and human structures for nesting or resting areas. Given the relatively low intensity of use and the presence of contiguous habitat juxtaposed impacts would continue to be local, long-term, and negligible.

Cumulative Impacts

Regional wildlife has been historically affected by logging, fire regimes (including suppression), mining, draining, damming, diversions, and the introduction of non-native species. Future proposed projects in CRSP (Appendix C) are not capacity increasing projects and though quantifiable habitat losses are not yet known, appear to be very limited in scope. The contribution of current activities to these other proposed actions is negligible.

Special-Status Species

A variety of special-status species have the potential to occur in the Paso Picacho project area and impacts to these species would be the same as those described for wildlife species.

These impacts could ultimately serve to exclude or restrict use of the project areas by special-status species.

The no project alternative would continue to result in local, long-term, minor impacts to special-status species due to habitat degradation from human use. Given the relatively low intensity of use and the presence of contiguous juxtaposed, the impact to special-status species would continue to be local, long-term, and negligible.

Cumulative Impacts

Regional wildlife has been historically affected by logging, fire regimes (including suppression), mining, draining, damming, diversions, and the introduction of non-native species. Future proposed projects in CRSP (Appendix C) are not capacity increasing. Quantifiable habitat losses are not yet known, but appear to be very limited in scope. The contribution of current activities to these other proposed actions is negligible.

Noise

The No Action Alternative would result in no changes to existing noise levels. Vehicle-related noise from traffic along SR-79 and from vehicles parking would remain the same, resulting in a local, long-term, negligible impact on the noise environment.

Cumulative Impacts

Future proposed projects in CRSP are not capacity increasing. Quantifiable habitat losses are not yet known, but appear to be very limited in scope. The contribution of current activities to these other proposed actions is negligible.

6.0 Avoidance, Minimization, and Conservation Measures

Portions of the following section were obtained from the *Curry Village and East Yosemite Valley Campground Improvements Project Environmental Assessment* (NPS 2004) unless otherwise noted. The information was then modified to apply to the proposed Family Equestrian Facilities project.

#	Mitigation Measure	Responsibility	Timing
Construction			
1	Preconstruction briefings will be required to educate construction crews on the measures required to protect natural and cultural resources, including species listed by CDFG and USFWS as threatened or endangered.	California State Parks	Preconstruction During Construction
2	Construction area boundaries, including staging areas, will be clearly marked to ensure that construction activities do not affect resources outside of the construction areas. All construction activity and storage of construction materials will occur within these marked areas. Construction and staging areas will be confined to the smallest area necessary.	Construction Contractor	Preconstruction During Construction
3	Natural resources will be protected through biological monitoring, erosion and sediment control, use of fencing or other means to protect sensitive resources adjacent to construction, removal of all food-related items or rubbish, topsoil salvage, and revegetation. Fencing will be used to mark the limits of allowed construction disturbance and to mark specific high-value vegetation to be salvaged or preserved. Food shall be stored in accordance with park regulations.	California State Parks Construction Contractor	Preconstruction During Construction
4	All clearing and grubbing shall take place outside the avian breeding season (Feb 15 th – Sept 15 th) to the extent feasible (see <i>Measure 64</i>). If work other than clearing or grubbing is to take place during the breeding season surveys shall be conducted by a qualified biologist within three days prior to start of work.	California State Parks Construction Contractor	Pre Construction
5	Water quality will be protected through the use of silt fences, sedimentation basins, and other control measures to reduce erosion, surface scouring, and discharge to water bodies. Excavated material will be stored in upland areas and stabilized to prevent discharge into drainages.	Construction Contractor	Preconstruction During Construction

#	Mitigation Measure	Responsibility	Timing
6	<p>All materials and procedures required to execute the installation and maintenance of BMPs for erosion and sediment control, and for spill prevention, containment, and cleanup of any non-sediment pollutants shall meet the minimum criteria defined in the <i>California Stormwater Best Management Practices Handbook</i>, 2004 (the handbook). This handbook is available at the following website: www.cabmphandbooks.com/construction.asp</p>	Construction Contractor	Preconstruction During Construction
7	<p>If rain is forecast during construction, Contractor shall, at a minimum, stabilize all active (disturbed) soil areas (secure all soil stockpiles by covering and/or installing a perimeter silt barrier) to prevent erosion prior to the onset of precipitation and throughout each day for which precipitation is forecasted.</p> <p>All non-active soil disturbed areas (defined as disturbed site areas that will be idle for 21 days) shall be stabilized, in accordance with an approved erosion control plan, within 14 days of exposure or one day prior to the onset of precipitation, whichever occurs first;</p>	Construction Contractor	During Construction
8	<p>All erosion control devices shall be inspected during construction to ensure that they are working adequately. Erosion control devices shall be inspected daily during the rainy season, and weekly during the dry season. If inspection shows that the erosion controls are ineffective, work crews shall be mobilized immediately, during working and off-hours, to make repairs, install replacements, or install additional controls as necessary.</p>	Construction Contractor	During Construction
9	<p>A dust abatement program will be implemented during construction. Clearing of vegetation will be minimized to the greatest extent possible. Water will be applied to reduce dust during construction; trucks hauling soil will be required to cover the soils during transport; and disturbed areas will be revegetated with native species after construction. Excavated soils will be stockpiled and covered.</p>	Construction Contractor	During Construction

#	Mitigation Measure	Responsibility	Timing
10	Construction noise will be minimized through the use of best-available noise control techniques wherever feasible. Standard noise abatement measures could include the following elements: a schedule that minimizes impacts to adjacent noise-sensitive uses, use of the best-available noise control techniques wherever feasible, use of hydraulically or electrically powered impact tools when feasible, and location of stationary noise sources as far from sensitive uses as possible.	Construction Contractor	During Construction
11	An Oil and Hazardous Substances Spill Prevention, Control, and Countermeasures Plan will be implemented. The program will emphasize proper materials storage and handling procedures, and will outline measures intended to prevent pollution associated with the spillage of fuels, lubricants, coolants, and other potentially hazardous materials. This plan will address spill containment, cleanup, and reporting procedures; and will limit refueling and other hazardous activities to designated upland areas. Signs prohibiting refueling will be posted in sensitive areas. Equipment will be inspected prior to use each day to ensure that hydraulic hoses are tight and in good condition.	Construction Contractor	Preconstruction During Construction
12	When applicable, a traffic control plan will be implemented to ensure that safe and efficient traffic and pedestrian flow is maintained during construction.	Construction Contractor	During Construction
13	Signage will be provided at the entrance, along the roadways, and at critical intersections noting where construction activities are taking place.	Construction Contractor	During Construction
14	A revegetation plan will be developed using native plants appropriate to the area. Monitoring will occur during the revegetation period to ensure the success of the revegetation plan.	Revegetation Contractor	During Construction Post Construction
15	All tools, equipment, barricades, signs, surplus materials, and rubbish will be removed from the project area upon project completion and revegetation of disturbed areas. The project manager will assure that mitigation measures are followed.	Construction Contractor	During Construction

#	Mitigation Measure	Responsibility	Timing
16	The State's Representative will approve the construction schedule and working hours for individual projects. Construction activities will occur only during standard daylight working hours.	California State Parks	Preconstruction During Construction
17	Unnecessary emissions will be avoided (e.g., engines of trucks and vehicles in loading and unloading areas will be turned off when not in use).	Construction Contractor	During Construction
18	Disturbed or developed areas will be used for staging whenever possible.	California State Parks Construction Contractor	During Construction
19	An emergency notification program will be established. Standard measures include notification of utilities and emergency response units prior to construction activities. Locations of existing utilities will be identified prior to construction activity to prevent damage to utilities, particularly the water supply lines that pass through the work limits. The contractor will call Underground Services Alert prior to any ground disturbance. Construction will not proceed until the process of locating existing utilities is completed.	Construction Contractor	Preconstruction During Construction
20	Damage to natural surroundings in and around the work limits will be avoided. Temporary barriers to protect existing trees, plants, and root zone will be provided, if necessary. Trees and other vegetation will not be removed, injured, or destroyed without prior written approval from the State's Representative. Ropes, cables, or fencing will not be fastened to trees. All existing resource protection fencing (post and rope) will be left in place and protected from heavy equipment.	Construction Contractor	Preconstruction During Construction
Soils			
21	Perform site-specific geologic and geotechnical investigations of proposed buildings, facilities, and infrastructure requiring foundation design criteria to assess local liquefaction and cyclic densification potential, surficial expansive soil, and strength of soil. Document consideration of these issues in final design and address as appropriate in construction documents.	Design Contractor	Preconstruction

#	Mitigation Measure	Responsibility	Timing
22	Incorporate appropriate engineering design for areas comprised of liquefiable soils, weak or expansive soils, or soils above the base of frost zone.	Design Contractor	Preconstruction
23	Incorporate appropriate landscape design for areas with the potential for erosion.	California State Parks Design Contractor	Preconstruction
24	If on-site soil meets criteria for engineered fill, use soil from foundation excavations (drilled pier and/or shallow spread footing) to reduce the need to transport material off site or import material for fill. Any imported fill material is required to be free of exotic and noxious weed species. Verification of compliance with this requirement will be accomplished as directed by the Contracting Officer in accordance with Division 1 Specifications. This requirement is not intended to apply to fill to be placed 12 inches or more below grade or beneath an impermeable surface.	Construction Contractor	Preconstruction During Construction
25	Use semi permeable materials as much as possible to allow for water infiltration through the soil column and aeration of any compacted soils at the completion of construction.	Construction Contractor	During Construction
Hydrology and Water Quality			
26	Direct roof runoff away from high-use, bare, un-vegetated areas and manure storage areas. This could include the use of gutters and downspouts, subsurface drains, to collect standing water and divert from buildings, or any other available technology.	California State Parks Construction Contractor	Design During Construction
27	Locate new buildings and confinement areas away from drainages.	California State Parks Construction Contractor	Design During Construction
28	Separate wash stations, paddocks, and manure storage areas from any waterways with buffer strips of vegetation to filter sediments and absorb nutrients in runoff.	California State Parks Construction Contractor	Design During Construction

#	Mitigation Measure	Responsibility	Timing
29	Divert clean water around areas with pollutants by building berms, ditches, underground pipelines or other methods.	California State Parks Construction Contractor	Design During Construction
30	Control potential runoff from water troughs with automatic waterers or other means.	California State Parks Construction Contractor	During Construction
31	Restrict horse access and human activities at horse facilities in drainages, swales, and creek banks.	California State Parks	Post construction
32	Keep ditches vegetated with grass to help maintain stability. Keep ditches cleared of sediments. Vegetated ditches with a gentle slope of 2 to 6 percent will prevent sediment deposit and allow rapid drainage. For chronic sediment problems, address the erosion source.	Contractor (pre and during construction) California State Parks	Design During Construction Post Construction
33	Remove manure regularly, daily is best, or keep manure under cover such that runoff does not come into contact with manure stockpiles.	California State Parks	Post Construction
34	Develop and implement a stormwater pollution prevention plan to control erosion and sedimentation, both during and after construction, thereby reducing water pollution.	Contractor (pre and during construction) California State Parks (post construction)	Preconstruction During Construction Post Construction
35	Place construction debris in refuse containers daily. Dispose of refuse at least weekly. Do not burn or bury refuse inside the park.	Construction Contractor	During Construction
36	Schedule construction activities, particularly those resulting in substantial soil disturbance, during periods of low precipitation and low groundwater, when feasible, to reduce the risk of accidental hydrocarbon leaks or spills reaching surface and/or groundwater, to reduce the potential for soil contamination, and to minimize erosion of loose materials in construction areas.	Construction Contractor	Preconstruction During Construction

#	Mitigation Measure	Responsibility	Timing
37	Dispose of volatile wastes and oils in approved containers for removal from construction sites to avoid contamination of soils, drainages, and watercourses.	Construction Contractor	During Construction
38	Inspect equipment for hydraulic and oil leaks prior to use on construction sites, and implement inspection schedules to prevent contamination of soil and water.	Construction Contractor	During Construction
39	When using heavy equipment, keep absorbent pads, booms, and other materials on-site, so as to contain oil, hydraulic fluid, and solvents.	Construction Contractor	During Construction
40	Corrals, paddocks and wash areas should be cleaned and manure removed on a daily basis.	California State Parks	Post Construction
41	Grade the area surrounding the manure storage area to prevent surface water from reaching the storage area.	Contractor	During Construction
42	Keep paddocks and corrals as dry as possible during the winter rainy season.	California State Parks	Post Construction
43	Store horse waste on an impervious surface (a concrete pad or plastic tarp) and under cover (a roof or tarp) during rains to prevent leaching or runoff of pollutants.	California State Parks	Post Construction
44	Locate manure storage areas away from waterways so that floods or runoff will not wash away waste.	Contractor	Design During Construction
45	No dumping of horse waste on the edge of, or directly into waterways.	California State Parks	Post Construction
46	The wash area shall be elevated above the surrounding ground.	Construction Contractor	During Construction
47	All wash water shall be drained away from the wash area to a filter strip or other vegetated area.	Construction Contractor California State Parks	During/Post Construction

#	Mitigation Measure	Responsibility	Timing
48	Do not allow water from horse wash areas to flow into storm drains, creeks, ponds or seasonal drainages.	Construction Contractor California State Parks	Post Construction
49	Shut-off nozzle or low-flow nozzles shall be used at the end of all hoses.	California State Parks	During/Post Construction
50	Signage shall be placed encouraging the proper use of horse grooming and health products.	California State Parks	Post Construction
51	Signage shall be placed recommending using plain water to rinse horses and to avoid using soap as much as possible.	California State Parks	Post Construction
Drainages			
52	Plant native shrubs, grasses, and other groundcover along and within the drainages to reduce sedimentation.	California State Parks	Design During Construction
53	To the extent feasible, construct bridges and/or install culverts when there is no water in the watercourses. Revegetate disturbed areas, as appropriate, and minimize erosion.	California State Parks	Design During Construction
54	Restrict horse access and human activities at horse facilities in drainages, creeks, creek banks, meadows, and steep hillsides.	California State Parks	Post Construction
Vegetation			
55	Develop revegetation plans for any disturbed area, requiring the use of native species from the same gene pool if possible. Specify soil preparation, native seed/plant mixes, and mulching for all areas disturbed by construction activities.	California State Parks	Design Post Construction
56	Develop and implement a monitoring plan to ensure successful revegetation, maintain plantings, and replace unsuccessful plant materials.	California State Parks	Post Construction

#	Mitigation Measure	Responsibility	Timing
57	Salvage vegetation to the extent possible for use in revegetating disturbed areas.	Revegetation Contractor	During Construction
58	Enforce construction specifications regarding soil salvage and reuse, trenching, plant protection, and finished grading.	California State Parks	During Construction
59	Site buildings, trails, parking, and campsites to minimize impacts to vegetation, and avoid large trees to the extent feasible.	California State Parks	Design
60	Confine all construction operations to specified project work limits. Install temporary barriers to protect natural surroundings (including trees, plants, and root zones) from damage. Repair or replace damaged trees and plants.	Construction Contractor	During Construction Post Construction
61	Install signs as needed to direct use to more appropriate areas. Placement of fencing and signs would be developed in consultation with cultural resources and natural resources staff.	Construction Contractor	Post Construction
62	Use native or weed-free mulch to minimize surface erosion and introduction of non-native plants.	Revegetation Contractor	During Construction Post Construction
Special-Status Species			
63	Preconstruction briefings will be required to educate construction crews on the measures required to protect natural resources, including species listed by CDFG and USFWS as threatened or endangered. The training shall include a description of the arroyo toad and its habitats, the general provisions of the Endangered Species Act (Act), and the need to adhere to the provisions of the Act.	California State Parks	Preconstruction During Construction
64	Grading and other ground disturbance activities at the Descanso Development Area shall be timed to avoid the overwintering season of the arroyo toad (generally September through March).	Construction Contractor	During Construction

#	Mitigation Measure	Responsibility	Timing
65	To avoid attracting predators of the arroyo toad, the project site shall be kept as clean of debris as possible. All food related trash items shall be enclosed in sealed containers and regularly removed from the site(s). Pets of project personnel shall not be allowed on-site where they may come into contact with any listed species.	Construction Contractor	During Construction
66	Equipment storage, fueling, and staging areas shall be located on upland sites with minimal risks of direct drainage into riparian areas or other sensitive habitats. All necessary precautions shall be taken to prevent the release of cement or other toxic substances into surface waters. All project related spills of hazardous materials shall be cleaned up immediately and contaminated soils removed to approved disposal areas.	Construction Contractor	During Construction
67	A qualified biologist will be available to inspect all excavations before refilling occurs, ensuring that any trapped special-status species are passively relocated to avoid incidental take.	Construction Contractor California State Parks	During Construction
68	Birds – Trees, structures, and understory that contain unoccupied nests shall be removed prior to February 15 th or after Sept 15 th . If project activities occur during the breeding season, preconstruction surveys will be conducted for special-status birds within 500 feet of new development. If construction could affect an active nest, construction will be delayed until a qualified biologist determines that adults are no longer caring for young and that juvenile birds have fledged.	California State Parks	Preconstruction During Construction
69	Bats - A qualified biologist shall perform a bat survey three days prior to construction, to determine whether affected structures or trees provide hibernacula, nursery colony, or roosting habitat. If bats are not detected during preconstruction surveys, work must be initiated within three days of the survey. Work is not to occur within 50 feet of an active roost. No clearing and grubbing is to occur adjacent to any roost structure. Combustion equipment, such as generators, pumps, and vehicles, are not to be parked nor operated under or adjacent to any roost structure.	Construction Contractor California State Parks	Preconstruction During Construction

#	Mitigation Measure	Responsibility	Timing
70	Continue to discourage off-trail horse riding, biking, and hiking; restrict public access to the Sweetwater Rivers reaches identified as suitable arroyo toad breeding habitat and associated uplands. Install unobtrusive informational signs to make the public aware of the restrictions and justifications. The signs, shall be designed so that they do not provide perches from which corvids search out and prey on arroyo toads. These displays shall provide information regarding the ramifications of disturbing, collecting, or killing protected species. Outreach shall also involve working with Park Rangers that patrol areas with known arroyo toad populations.	California State Parks	Post Construction Post construction
71	Develop a protocol with maps delineating safe zones (outside of arroyo toad breeding and upland habitat) within which heavy machinery can be brought on site and operated when fire conditions or post-fire management actions (e.g., creation of roads for firefighting, dead tree removal) require them. Arroyo toads would be at greatest risk of being crushed in the riparian zone between the start of the first warm rains of winter through late summer (roughly January through September), and in upland habitat during the fall and early winter (September through December) (Sweet 1992).	California State Parks	Post construction
72	A barrier of large logs shall be placed along the southern and western edge of the Descanso Area Development to direct arroyo toad around the new campground.	Construction Contractor	During Construction
Wildlife			
73	Prior to construction, evaluate habitat for species and take steps to minimize impacts on those species determined to be especially vulnerable.	California State Parks	Preconstruction
74	Limit the effects of noise on adjacent habitat through control of sources during construction, and through site design of facilities, to limit long-term effects of development.	California State Parks Design Contractor Construction Contractor	Preconstruction During Construction

#	Mitigation Measure	Responsibility	Timing
75	New lighting shall be limited to the comfort station(s) and at the parking lot entrance off of Viejas Blvd. at the Descanso Development Area. No additional lighting shall be placed at the Green Valley Loop site. All lighting shall be low sodium and directed downward.	Design Contractor Construction Contractor	During Construction
76	Install fencing and signs to direct visitor use away from sensitive habitats.	California State Parks Construction Contractor	Preconstruction During Construction
77	Provide adequate education and enforcement to limit visitor activities that are destructive to wildlife and habitats.	California State Parks	Post Construction
78	Maintain routes of escape from excavated pits and trenches for animals that might fall in. Cover post holes and other narrow pits and trenches with boards. During construction, maintain vigilance for animals caught in excavations and take appropriate actions to free them.	Construction Contractor	During Construction
79	Provide procedures to limit the chance of pollution spills, both during construction and during subsequent use of completed facilities.	Construction Contractor	During Construction Post Construction
80	Remove any trees or structures containing unoccupied nests (stick nests or tree cavities) prior to February 15 th or after Sept 15 th . Also remove unoccupied nests where they occur in trees that are not to be removed, but that are within areas expected to be subjected to disturbance during the breeding season.	California State Parks	Preconstruction Post Construction

#	Mitigation Measure	Responsibility	Timing
81	Should construction activities take place during the breeding season (March 1 st to Sept 15 th), a qualified biologist will conduct a preconstruction survey no more than one week prior to construction. If it is determined that construction, would affect an active nest or disrupt reproductive behavior, then avoidance strategies would be implemented. Construction could be delayed within 500 feet of such a nest, until a qualified biologist determines that the subject birds are no longer nesting or until any juvenile birds are no longer using the nest as their primary day and night roost. These measures should apply to all species of birds that are afforded protection from take, as defined by the federal Migratory Bird Treaty Act.	California State Parks	Preconstruction During Construction
Human/Wildlife Conflicts			
82	Take measures to reduce the potential for human/wildlife conflicts. Require construction personnel to adhere to park regulations concerning food storage and refuse management. Also see #65 above.	California State Parks Construction Contractor	Preconstruction During Construction
83	Install unobtrusive informational signs to make the public aware of the restrictions of pets in State Parks. Outreach shall also involve working with Park Rangers to inform the public of these restrictions.	California State Parks	Post Construction
Noise			
84	All equipment shall have sound-control devices that are no less effective than those provided on the original equipment. No equipment shall have an unmuffled exhaust.	California State Parks Construction Contractor	Preconstruction During Construction
85	As directed by the Department, the contractor shall implement appropriate additional noise mitigation measures, including (but not limited to) changing the location of stationary construction equipment, turning off idling equipment, rescheduling construction activity, notifying adjacent residents in advance of construction work, and installing acoustic barriers around stationary construction noise sources.	California State Parks Construction Contractor	Preconstruction During Construction

#	Mitigation Measure	Responsibility	Timing
86	Implement standard noise abatement measures, such as developing a construction schedule that minimizes impacts to adjacent noise-sensitive uses; using best-available noise control techniques wherever feasible; using hydraulically or electrically powered impact tools when feasible; locating stationary noise sources as far from sensitive uses as possible; erecting temporary noise barriers between construction areas and lodging units, or temporarily vacating lodging units located adjacent to construction areas.	Construction Contractor	Preconstruction During Construction
87	Consider privacy and noise screening in the design and layout of new and relocated campsites and lodging.	California State Parks Design Contractor	Design During Construction

7.0 Conclusions

Based on the information contained in this report, and information supplied by conversations with regulatory agencies and local experts, California Department of Parks and Recreation has determined the action is “not likely to significantly impact” either the endangered arroyo toad or least Bell’s vireo.

With appropriate avoidance, minimization, and conservation measures (*Section 6.0*) implemented into the proposed project, no listed (State or Federal) endangered or threatened species, or other biological resources considered as sensitive are expected to be significantly affected. The proposed project will be designed with appropriate features to reduce potential impacts (campground design, construction season, etc.) and will not result in impacts considered “significant” under CEQA. The proposed project is not expected to encounter impacts that would result in a trend towards state or federal listing or loss of species viability for any species or other biological resource.

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9.0 Tables

Table1. List of surveys, dates, conditions, and personnel for the Equestrian Facilities Project at Rancho Cuyamaca State Park, San Diego County, California

SURVEY DATE	SURVEY TIME	SURVEY FOCUS	SURVEY CONDITIONS	PERSONNEL
03/01/2007	0920-1110	Initial site visit to Descanso Area Development and wetland surveys	Clear, no wind, $\approx 45^\circ$	Richard Burg Britta Dahlke
03/15/2007	0800 – 1020	Descanso Area Development wetland surveys and general survey of site	Clear, no wind, $\approx 55^\circ$	Richard Burg
06/05/2007	0730 – 1500	Floristic surveys at Descanso Area Development and Paso Picacho	Clear, no wind, $\approx 77^\circ$	Richard Burg, Debbie Waldecker, Larry Hendrickson
08/20/2007	0800-1100	CDFG Streambed Alteration Agreement review	Clear, light winds, $\approx 80^\circ$	Richard Burg, Kelly Fisher
02/20/2008	0900-1200	Descanso Area Development herpetological survey site review	Overcast/drizzle, light winds, $\approx 48^\circ$	Richard Burg, Ruben Ramirez, Bruce Campbell
06/05/2008	0900-1130	Review Descanso Area Development with District staff and remove pitfall arrays	Clear, light winds, $\approx 77^\circ$	Richard Burg, Suzy Lahitte, Brina Carey, Tina Robinson, Alex Bevil, Marla Mealey, Penny Clews, Mike Wells, Chris Ruiz, Nedra Martinez
10/22/2009	0830-1200	Floristic surveys at Green Valley	Clear, light winds, $\approx 70^\circ$	Richard Burg, Debbie Waldecker
11/19/2009	1030-1130	Meet with USFWS to discuss arroyo toad issues at Descanso Area Development site.	Clear, light winds, $\approx 62^\circ$	Richard Burg, Michelle Moreno

Table 2. Plant species identified within the vicinity of the Equestrian Facilities Project, Cuyamaca Rancho State Park, San Diego County, California.

COMMON NAME	SCIENTIFIC NAME
yarrow	<i>Achillea millefolium</i>
chamise	<i>Adenostoma fasciculatum</i>
white alder	<i>Alnus rhombifolia</i>
western ragweed	<i>Ambrosia psilostachya</i>
	<i>Ambrosia</i> sp.
snapdragon	<i>Antirrhinum</i> sp.
manzanita	<i>Arctostaphylos</i> sp.
mugwort	<i>Artemisia douglasiana</i>
tarragon	<i>Artemisia dracunculus</i>
California milkweed	<i>Asclepias californica</i>
milkweed	<i>Asclepias eriocarpa</i>
slender wild oat	<i>Avena barbata</i>
wild oat	<i>Avena fatua</i>
black mustard	<i>Brassica nigra</i>
mustard	<i>Brassica</i> sp.
California brome	<i>Bromus carinatus</i>
ripcut brome	<i>Bromus diandrus</i>
bromegrass	<i>Bromus hordeaceus</i>
reb foxtail brome	<i>Bromus madritensis</i>
cheatgrass	<i>Bromus tectorum</i>
incense cedar	<i>Calocedrus decurrens</i>
sandy-soil suncup	<i>Camissonia strigulosa</i>
greenbark ceanothus	<i>Ceanothus spinosus</i>
pineapple weed	<i>Chamonilla suaveolens</i>
common lambsquarter	<i>Chenopodium album</i>
crown daisy	<i>Chrysanthemum coronarium</i>
elk thistle	<i>Cirsium scariosum</i>
winecup fairyfan	<i>Clarkia purpurea</i>
minor's lettuce	<i>Claytonia perfoliata</i>
virgin's bower	<i>Clematis ligusticifolia</i>
common cryptantha	<i>Cryptantha intermedia</i>
bermuda grass	<i>Cynodon dactylon</i>
larkspur	<i>Delphinium parryi</i>
elm	<i>Elmus</i> sp.
california buckwheat	<i>Eriogonum fasciculatum</i> var. <i>foliolosum</i>
redstem storksbill/filaree	<i>Erodium cicutarium</i>
California poppy	<i>Eschscholzia californica</i>
sweet fennel	<i>Foeniculum vulgare</i>

bedstraw	<i>Galium</i> sp.
cudweed	<i>Gnaphalium canescens</i> spp. <i>microcephalum</i>
hirschfeldia	<i>Hirschfeldia incana</i>
barley	<i>Hordeum murinum</i>
barley	<i>Hordeum</i> sp.
mexican rush	<i>Juncus mexicanus</i>
rush	<i>Juncus</i> sp.
prickly lettuce	<i>Lactuca serriola</i>
dead nettle	<i>Lamium amplexicaule</i>
duckweed	<i>Lemna</i> sp.
peppergrass	<i>Lepidium campestre</i>
common sandaster	<i>Lessingia filaginifolia</i>
	<i>Lolium</i> sp.
Spanish clover	<i>Lotus purshianus</i> var. <i>purshianus</i>
	<i>Lotus</i> sp.
minature lupine	<i>Lupinus bicolor</i>
wild cucumber	<i>Marah macrocarpus</i> var. <i>macrocarpus</i>
horehound	<i>Marrubium vulgare</i>
monkeyflower	<i>Mimulus cardinalis</i>
deergrass	<i>Muhlenbergia rigens</i>
	<i>Nasella</i> sp.
oenanthe	<i>Oenanthe sarmentosa</i>
scarlet bugler	<i>Penstemon centranthifolius</i>
showy penstemon	<i>Penstemon spectabilis</i>
imbricate scorpionweed	<i>Phacelia imbricata</i>
phacelia	<i>Phacelia</i> sp.
Culter pine	<i>Pinus coulteri</i>
Jeffery pine	<i>Pinus jefferrii</i>
Arizona popcornflower	<i>Plagiobothrys arizonicus</i>
ribgrass	<i>Plantago lanceolata</i>
interior live oak	<i>Quercus agrifolia</i>
black oak	<i>Quercus kelloggii</i>
canyon live oak	<i>Quercus chrysolepis</i>
hoary coffeeberry	<i>Rhamnus tormentella</i>
basket bush	<i>Rhus trilobata</i>
	<i>Ribes</i> sp.
California wild rose	<i>Rosa californica</i>
California blackberry	<i>Rubus ursinus</i>
curly dock	<i>Rumex crispis</i>
willow dock	<i>Rumex salicifolius</i>
red willow	<i>Salix laevigata</i>
arroyo willow	<i>Salix lasiolepis</i>
blue elderberry	<i>Sambucus mexicana</i>

panicked bulrush	<i>Scirpus microcarpus</i>
bulrush	<i>Scirpus</i> sp.
California figwort	<i>Scrophularia californica</i>
checkerbloom	<i>Sidalcea malvaflora</i>
mustard	<i>Sisymbrium altissimum</i>
California goldenrod	<i>Solidago californica</i>
creeping snowberry	<i>Symphoricarpos mollis</i>
poison oak	<i>Toxicodendron diversilobum</i>
clover	<i>Trifolium</i> sp.
broad-leaved cattail	<i>Typha latifolia</i>
hoary nettle	<i>Urtica dioica</i> ssp. <i>holosericea</i>
southern mules ear	<i>Wyethia ovata</i>

Table 3. List of special-status plant species and vegetation communities and their status identified in the Cuyamaca Peak and Descanso USGS 7.5-minute quadrangles from the CDFG CNDDDB Rarefind Database and the CNPS.

SCIENTIFIC NAME	COMMON NAME	Federal Status	State Status	CNPS Status	Life Form	Elevation (m)	Blooming Period	General Habitat/Microhabitat
<i>Arabis hirshbergiae</i>	Hirshberg's rock cress			1B.2	Per herb	1400	March-May	Pebble (or pavement) plains. 1400m.
<i>Arctostaphylos otayensis</i>	Otay manzanita			1B.2	Evergreen shrub	275-1700	January-March	Chaparral, cismontane woodland. Metavolcanic soils with other chaparral associates. 275-1700m.
<i>Astragalus oocarpus</i>	San Diego milk-vetch			1B.2	Per herb	305-1500	May-August	Chaparral, cismontane woodland, meadows. Openings in chaparral or on gravelly flats and slopes in thin oak woodland. 305-1500m.
<i>Brodiaea orcuttii</i>	Orcutt's brodiaea			1B.1	Per herb	30-1615	May-July	Vernal pools, valley and foothill grassland, closed-cone coniferous forest, cismontane woodland, chaparral, meadows. Mesic, clay habitats; sometimes serpentine; usually in vernal pools and small drainages. 30-1615m.
<i>Calochortus dunnii</i>	Dunn's mariposa lily		Rare	1B.2	Per herb	380-1830	April-June	Closed-cone coniferous forest, chaparral. On gabbro or metavolcanic soils; also known from sandstone; often assoc with chaparral. 375-1830m.
<i>Ceanothus cyaneus</i>	Lakeside ceanothus			1B.2	Evergreen shrub	235-755	April-June	Closed-cone coniferous forest, chaparral. 100-1515m.
<i>Chaenactis parishii</i>	Parish's chaenactis			1B.3	Per herb	1200-2500	May-July	Chaparral. Rocky sites. 1300-2500m.
<i>Chorizanthe polygonoides</i> <i>var. longispina</i>	long-spined spineflower			1B.2	Ann herb	30-1450	April-July	Chaparral, coastal scrub, meadows, valley, and foothill grassland. Gabbroic clay. 30-1450m.
<i>Clarkia delicata</i>	delicate clarkia			1B.2	Ann herb	235-1000	April-June	Cismontane woodland, chaparral. 235-1000m.
<i>Cupressus forbesii</i>	Tecate cypress			1B.1	Tree	255-1500		Closed-cone coniferous forest, chaparral. Primarily on north-facing slopes; groves often associated with chaparral. 250-1500m.
<i>Cupressus stephensonii</i>	Cuyamaca cypress			1B.1	Tree	1035-1705		Closed-cone coniferous forest, chaparral, riparian forest. Restricted to the southwest slopes of Cuyamaca Peak, on gabbroic rock. 1030-1420m.
<i>Delphinium hesperium</i> ssp. <i>cuyamaca</i>	Cuyamaca larkspur		Rare	1B.2	Per herb	1220-1630	June-July	Lower montane coniferous forest, meadows. On dried edge of grassy meadows, also described as in mesic sites. 1210-1630m.
<i>Downingia concolor</i> var. <i>brevior</i>	Cuyamaca Lake downingia		SE	1B.1	Ann herb	1400-1500	May-July	Meadows (mesic), vernal pools. In vernal seeps, lakes and pools, and on mudflats, with orthocarpus, limnanthes, collinsia. 1400-1500m.
<i>Ericameria cuneata</i> var. <i>macrocephala</i>	Laguna Mountains goldenbush			1B.3	Shrub	1195-1850	Sept-Dec	Chaparral. Endemic to the Laguna mountains. Among boulders; in crevices in granitic outcrops and in rocky soil. 1185-1850m.
<i>Eriogonum foliosum</i>	leafy buckwheat			1B.2	Ann herb	1200-2200	July- Oct	Chaparral, lower montane coniferous forest, pinyon and juniper woodland. Sandy sites. 970-2200m.
<i>Geraea viscida</i>	Sticky geraea			2.3	Per herb	450-1700	May-June	Chaparral. Loamy coarse sand to gravelly sand soils; often in post-burned areas and in bulldozed areas. 450-1700m.
<i>Grindelia hirsutula</i> var. <i>hallii</i>	San Diego gumplant			1B.2	Per herb	185-1745	July-Oct	Meadows, valley and foothill grassland, chaparral, lower montane coniferous forest. Frequently occurs in low moist areas in meadows; assoc spp commonly including Wyethia, ranunculus, Sidalcea. 180-1660m.
<i>Heuchera brevistaminea</i>	Laguna Mountains alumroot			1B.3	Per herb	1370-2000	April-Sept	Broadleaved upland forest, chaparral, cismontane woodland, riparian forest. Steep, rocky slopes. 1360-2000m.
<i>Heuchera rubescens</i> var. <i>versicolor</i>	San Diego County alumroot			2.3	Per herb	1500-4000	May-June	Chaparral, lower montane coniferous forest. Rocky outcrops. 1500-4000m.
<i>Hulsea californica</i>	San Diego sunflower			1B.3	Per herb	915-2915	April-June	Lower montane coniferous forest, upper montane coniferous forest, and chaparral. Coarse to fine sandy loam in disturbed chaparral openings at high elevations. 1000-2915m.
<i>Lewisia brachycalyx</i>	short-sepaled lewisia			2.2	Per herb	1370-2300	Feb-June	Lower montane coniferous forest, meadows. Dry to moist meadows in rich loam.

<i>Lilium parryi</i>	lemon lily		1B.2	Per herb	1300-2620	July-August	1400-2300m. Lower montane coniferous forest, meadows and seeps, riparian forest, upper montane coniferous forest. Wet, mountainous terrain; generally in forested areas; on shady edges of streams, in open boggy meadows & seeps. 1300-2790m.
<i>Limnanthes gracilis ssp. parishii</i>	Parish's meadowfoam	SE	1B.2	Ann herb	600-2000	April-June	Meadows and seeps, vernal pools. Vernal moist areas and temporary seeps of highland meadows and plateaus; often bordering lakes and streams. 600-1760m.
<i>Linanthus orcuttii</i>	Orcutt's linanthus		1B.3	Ann herb	915-2145	May-June	Chaparral, lower montane coniferous forest. Sometimes in disturbed areas; often in gravelly clearings. 1060-2000m.
<i>Monardella hypoleuca ssp. lanata</i>	felt-leaved monardella		1B.2	Per herb	300-1190	June-August	Chaparral, cismontane woodland. Occurs in understory in mixed chaparral, chamise chaparral, and southern oak woodland; sandy soil. 300-1575m.
<i>Monardella nana ssp. leptosiphon</i>	San Felipe monardella		1B.2	Per herb	1200-1855	June-July	Chaparral, lower montane coniferous forest. Sometimes in openings and fuelbreaks or in the understory of forest or chaparral. 1200-1855m.
<i>Navarretia peninsularis</i>	Baja navarretia		1B.2	Ann herb	1500-2300	June-August	Lower montane coniferous forest, chaparral. Wet areas in open forest. 1500-2425m.
<i>Poa atropurpurea</i>	San Bernardino blue grass	FE	1B.2	Per herb	1360-2455	April-August	Meadows and seeps. Mesic meadows of open pine forests and grassy slopes, loamy alluvial to sandy loam soil. 1350-2455m.
<i>Ribes canthariforme</i>	Moreno currant		1B.3	Deciduous shrub	340-1200	Feb-April	Chaparral. Among boulders in oak-manzanita thickets; shaded or partially shaded sites. 340-1200m.
<i>Rubus glaucifolius var. ganderi</i>	Cuyamaca raspberry		1B.3	Evergreen shrub	1200-1675	May-June	Lower montane coniferous forest. Open, moist forest; gabbro soils. 1200-1730m.
<i>Scutellaria bolanderi ssp. austromontana</i>	southern skullcap		1B.2	Per herb	600-2000	June-August	Chaparral, cismontane woodland, lower montane coniferous forest. In gravelly soils on streambanks or in mesic sites in oak or pine woodland. 425-2000m.
<i>Selaginella eremophila</i>	desert spike-moss		2.2	Per herb	200-900	May-July	Sonoran desert scrub. Shaded sites, gravelly soils; crevices or among rocks. 300-2425m.
<i>Sidalcea neomexicana</i>	Salt Spring checkerbloom		2.2	Per herb	15-1530	March-June	Alkali playas, brackish marshes, chaparral, coastal scrub, lower montane coniferous forest, mojavean desert scrub. Alkali springs and marshes. 0-1500m.
<i>Streptanthus campestris</i>	southern jewel-flower		1B.3	Per herb	900-2300	May-July	Chaparral, lower montane coniferous forest, pinyon-juniper woodland. Open, rocky areas. 600-2790m.
<i>Symphotrichum defoliatum</i>	San Bernardino aster		1B.2	Per herb		July -Nov	Meadows and seeps, marshes and swamps, coastal scrub, cismontane woodland, lower montane coniferous forest, grassland. Vernal mesic grassland or near ditches, streams and springs; disturbed areas. 2-2040m.
<i>Thermopsis californica var. semota</i>	velvety false lupine		1B.2	Per herb	1035-1870	March-June	Lower montane coniferous forest, meadows and seeps, cismontane woodland, valley and foothill grassland. Pine forests and meadow edges, on rocky slopes and outcrops, and along roadsides. 1030-1870m.
Southern Interior Cypress Forest	Southern interior cypress forest						

FE	Listed as endangered under the Federal Endangered Species Act.
SE	Listed as endangered under the California Endangered Species Act.
Rare	Listed as rare by the California Department of Fish and Game.
1B.1	CNPS List 1B: Rare, threatened, or endangered in California and elsewhere: Seriously threatened in California (high degree/immediacy of threat)
1B.2	CNPS List 1B: Rare, threatened, or endangered in California and elsewhere: Fairly threatened in California (moderate degree/immediacy of threat).
1B.3	CNPS List 1B: Rare, threatened, or endangered in California and elsewhere: Fairly threatened in California (low degree/immediacy of threat).
2.2	CNPS List 2: rare, threatened, or endangered in California, but more common elsewhere: Fairly threatened in California (moderate degree/immediacy of threat).
2.3	CNPS List 2: rare, threatened, or endangered in California, but more common elsewhere: Fairly threatened in California (low degree/immediacy of threat).

Table 4. List of wildlife species predicted to occur in montane hardwood-conifer, coastal oak woodland, mixed chaparral, annual grassland, and urban habitats in San Diego County, California.

COMMON NAME	SCIENTIFIC NAME
California newt	<i>Taricha torosa</i>
Ensatina	<i>Ensatina eschscholtzii</i>
Pacific slender salamander	<i>Batrachoseps pacificus</i>
Arboreal salamander	<i>Aneides lugubris</i>
Western spadefoot	<i>Spea hammondi</i>
Western toad	<i>Bufo boreas</i>
Southwestern toad	<i>Bufo microscaphus</i>
Red-spotted toad	<i>Bufo punctatus</i>
California chorus frog	<i>Pseudacris cadaverina</i>
Pacific chorus frog	<i>Pseudacris regilla</i>
Red-legged frog	<i>Rana aurora</i>
Bullfrog	<i>Rana catesbeiana</i>
Brown pelican	<i>Pelecanus occidentalis</i>
Great blue heron	<i>Ardea herodias</i>
Great egret	<i>Ardea alba</i>
Snowy egret	<i>Egretta thula</i>
Cattle egret	<i>Bubulcus ibis</i>
Green heron	<i>Butorides virescens</i>
Black-crowned night heron	<i>Nycticorax nycticorax</i>
White-faced ibis	<i>Plegadis chihi</i>
Greater white-fronted goose	<i>Anser albifrons</i>
Snow goose	<i>Chen caerulescens</i>
Brant	<i>Branta bernicla</i>
Canada goose	<i>Branta canadensis</i>
Wood duck	<i>Aix sponsa</i>
Green-winged teal	<i>Anas crecca</i>
Mallard	<i>Anas platyrhynchos</i>
Northern pintail	<i>Anas acuta</i>
Blue-winged teal	<i>Anas discors</i>
Cinnamon teal	<i>Anas cyanoptera</i>
Northern shoveler	<i>Anas clypeata</i>
Gadwall	<i>Anas strepera</i>
Eurasian wigeon	<i>Anas penelope</i>

COMMON NAME	SCIENTIFIC NAME
American wigeon	<i>Anas americana</i>
Lesser scaup	<i>Aythya affinis</i>
Hooded merganser	<i>Lophodytes cucullatus</i>
Common merganser	<i>Mergus merganser</i>
Turkey vulture	<i>Cathartes aura</i>
Osprey	<i>Pandion haliaetus</i>
White-tailed kite	<i>Elanus leucurus</i>
Bald eagle	<i>Haliaeetus leucocephalus</i>
Northern harrier	<i>Circus cyaneus</i>
Sharp-shinned hawk	<i>Accipiter striatus</i>
Cooper's hawk	<i>Accipiter cooperii</i>
Northern goshawk	<i>Accipiter gentilis</i>
Red-shouldered hawk	<i>Buteo lineatus</i>
Red-tailed hawk	<i>Buteo jamaicensis</i>
Ferruginous hawk	<i>Buteo regalis</i>
Rough-legged hawk	<i>Buteo lagopus</i>
Golden eagle	<i>Aquila chrysaetos</i>
American kestrel	<i>Falco sparverius</i>
Merlin	<i>Falco columbarius</i>
Peregrine falcon	<i>Falco peregrinus</i>
Prairie falcon	<i>Falco mexicanus</i>
Ring-necked pheasant	<i>Phasianus colchicus</i>
Wild turkey	<i>Meleagris gallopavo</i>
Gambel's quail	<i>Callipepla gambelii</i>
California quail	<i>Callipepla californica</i>
Mountain quail	<i>Oreortyx pictus</i>
Common moorhen	<i>Gallinula chloropus</i>
American coot	<i>Fulica americana</i>
Black-bellied plover	<i>Pluvialis squatarola</i>
Semipalmated plover	<i>Charadrius semipalmatus</i>
Killdeer	<i>Charadrius vociferus</i>
Mountain plover	<i>Charadrius montanus</i>
Willet	<i>Catoptrophorus semipalmatus</i>
Spotted sandpiper	<i>Actitis macularia</i>
Whimbrel	<i>Numenius phaeopus</i>
Long-billed curlew	<i>Numenius americanus</i>
Marbled godwit	<i>Limosa fedoa</i>

COMMON NAME	SCIENTIFIC NAME
Wilson's phalarope	<i>Phalaropus tricolor</i>
Mew gull	<i>Larus canus</i>
Ring-billed gull	<i>Larus delawarensis</i>
California gull	<i>Larus californicus</i>
Western gull	<i>Larus occidentalis</i>
Rock dove	<i>Columba livia</i>
Band-tailed pigeon	<i>Columba fasciata</i>
Ringed turtle-dove	<i>Streptopelia risoria</i>
Spotted dove	<i>Streptopelia chinensis</i>
White-winged dove	<i>Zenaida asiatica</i>
Mourning dove	<i>Zenaida macroura</i>
Common ground-dove	<i>Columbina passerina</i>
Greater roadrunner	<i>Geococcyx californianus</i>
Barn owl	<i>Tyto alba</i>
Flammulated owl	<i>Otus flammeolus</i>
Western screech owl	<i>Otus kennicottii</i>
Great horned owl	<i>Bubo virginianus</i>
Northern pygmy owl	<i>Glaucidium gnoma</i>
Burrowing owl	<i>Athene cunicularia</i>
Spotted owl	<i>Strix occidentalis</i>
Long-eared owl	<i>Asio otus</i>
Short-eared owl	<i>Asio flammeus</i>
Northern saw-whet owl	<i>Aegolius acadicus</i>
Lesser nighthawk	<i>Chordeiles acutipennis</i>
Common poorwill	<i>Phalaenoptilus nuttallii</i>
White-throated swift	<i>Aeronautes saxatalis</i>
Black-chinned hummingbird	<i>Archilochus alexandri</i>
Anna's hummingbird	<i>Calypte anna</i>
Costa's hummingbird	<i>Calypte costae</i>
Calliope hummingbird	<i>Stellula calliope</i>
Rufous hummingbird	<i>Selasphorus rufus</i>
Lewis' woodpecker	<i>Melanerpes lewis</i>
Acorn woodpecker	<i>Melanerpes formicivorus</i>
Red-naped sapsucker	<i>Sphyrapicus nuchalis</i>
Red-breasted sapsucker	<i>Sphyrapicus ruber</i>
Williamson's sapsucker	<i>Sphyrapicus thyroideus</i>
Ladder-backed woodpecker	<i>Picoides scalaris</i>

COMMON NAME	SCIENTIFIC NAME
Nuttall's woodpecker	<i>Picoides nuttallii</i>
Downy woodpecker	<i>Picoides pubescens</i>
Hairy woodpecker	<i>Picoides villosus</i>
White-headed woodpecker	<i>Picoides albolarvatus</i>
Northern flicker	<i>Colaptes auratus</i>
Olive-sided flycatcher	<i>Contopus cooperi</i>
Western wood-pewee	<i>Contopus sordidulus</i>
Dusky flycatcher	<i>Empidonax oberholseri</i>
Pacific-slope flycatcher	<i>Empidonax difficilis</i>
Black phoebe	<i>Sayornis nigricans</i>
Say's phoebe	<i>Sayornis saya</i>
Ash-throated flycatcher	<i>Myiarchus cinerascens</i>
Cassin's kingbird	<i>Tyrannus vociferans</i>
Western kingbird	<i>Tyrannus verticalis</i>
Horned lark	<i>Eremophila alpestris</i>
Purple martin	<i>Progne subis</i>
Tree swallow	<i>Tachycineta bicolor</i>
Violet-green swallow	<i>Tachycineta thalassina</i>
Northern rough-winged swallow	<i>Stelgidopteryx serripennis</i>
Bank swallow	<i>Riparia riparia</i>
Cliff swallow	<i>Petrochelidon pyrrhonota</i>
Barn swallow	<i>Hirundo rustica</i>
Steller's jay	<i>Cyanocitta stelleri</i>
Western scrub-jay	<i>Aphelocoma californica</i>
American crow	<i>Corvus brachyrhynchos</i>
Common raven	<i>Corvus corax</i>
Mountain chickadee	<i>Poecile gambeli</i>
Oak titmouse	<i>Baeolophus inornatus</i>
Verdin	<i>Auriparus flaviceps</i>
Bushtit	<i>Psaltriparus minimus</i>
Red-breasted nuthatch	<i>Sitta canadensis</i>
White-breasted nuthatch	<i>Sitta carolinensis</i>
Pygmy nuthatch	<i>Sitta pygmaea</i>
Brown creeper	<i>Certhia americana</i>
Cactus wren	<i>Campylorhynchus brunneicapillus</i>
Rock wren	<i>Salpinctes obsoletus</i>
Canyon wren	<i>Catherpes mexicanus</i>

COMMON NAME	SCIENTIFIC NAME
Bewick's wren	<i>Thryomanes bewickii</i>
House wren	<i>Troglodytes aedon</i>
American dipper	<i>Cinclus mexicanus</i>
Golden-crowned kinglet	<i>Regulus satrapa</i>
Ruby-crowned kinglet	<i>Regulus calendula</i>
Blue-gray gnatcatcher	<i>Poliophtila caerulea</i>
Western bluebird	<i>Sialia mexicana</i>
Mountain bluebird	<i>Sialia currucoides</i>
Townsend's solitaire	<i>Myadestes townsendi</i>
Swainson's thrush	<i>Catharus ustulatus</i>
Hermit thrush	<i>Catharus guttatus</i>
American robin	<i>Turdus migratorius</i>
Varied thrush	<i>Ixoreus naevius</i>
Wrentit	<i>Chamaea fasciata</i>
Northern mockingbird	<i>Mimus polyglottos</i>
California thrasher	<i>Toxostoma redivivum</i>
American pipit	<i>Anthus rubescens</i>
Cedar waxwing	<i>Bombycilla cedrorum</i>
Phainopepla	<i>Phainopepla nitens</i>
Loggerhead shrike	<i>Lanius ludovicianus</i>
European starling	<i>Sturnus vulgaris</i>
Gray vireo	<i>Vireo vicinior</i>
Cassin's vireo	<i>Vireo cassinii</i>
Hutton's vireo	<i>Vireo huttoni</i>
Warbling vireo	<i>Vireo gilvus</i>
Orange-crowned warbler	<i>Vermivora celata</i>
Lucy's warbler	<i>Vermivora luciae</i>
Yellow warbler	<i>Dendroica petechia</i>
Yellow-rumped warbler	<i>Dendroica coronata</i>
Black-throated gray warbler	<i>Dendroica nigrescens</i>
Townsend's warbler	<i>Dendroica townsendi</i>
Hermit warbler	<i>Dendroica occidentalis</i>
Common yellowthroat	<i>Geothlypis trichas</i>
Wilson's warbler	<i>Wilsonia pusilla</i>
Western tanager	<i>Piranga ludoviciana</i>
Black-headed grosbeak	<i>Pheucticus melanocephalus</i>
Blue grosbeak	<i>Guiraca caerulea</i>

COMMON NAME	SCIENTIFIC NAME
Lazuli bunting	<i>Passerina amoena</i>
Green-tailed towhee	<i>Pipilo chlorurus</i>
Spotted towhee	<i>Pipilo maculatus</i>
California towhee	<i>Pipilo crissalis</i>
Rufous-crowned sparrow	<i>Aimophila ruficeps</i>
Chipping sparrow	<i>Spizella passerina</i>
Brewer's sparrow	<i>Spizella breweri</i>
Black-chinned sparrow	<i>Spizella atrogularis</i>
Vesper sparrow	<i>Pooecetes gramineus</i>
Lark sparrow	<i>Chondestes grammacus</i>
Black-throated sparrow	<i>Amphispiza bilineata</i>
Sage sparrow	<i>Amphispiza belli</i>
Savannah sparrow	<i>Passerculus sandwichensis</i>
Grasshopper sparrow	<i>Ammodramus savannarum</i>
Fox sparrow	<i>Passerella iliaca</i>
Song sparrow	<i>Melospiza melodia</i>
Lincoln's sparrow	<i>Melospiza lincolnii</i>
Golden-crowned sparrow	<i>Zonotrichia atricapilla</i>
White-crowned sparrow	<i>Zonotrichia leucophrys</i>
Dark-eyed junco	<i>Junco hyemalis</i>
Lapland longspur	<i>Calcarius lapponicus</i>
Red-winged blackbird	<i>Agelaius phoeniceus</i>
Tricolored blackbird	<i>Agelaius tricolor</i>
Western meadowlark	<i>Sturnella neglecta</i>
Yellow-headed blackbird	<i>Xanthocephalus xanthocephalus</i>
Brewer's blackbird	<i>Euphagus cyanocephalus</i>
Great-tailed grackle	<i>Quiscalus mexicanus</i>
Brown-headed cowbird	<i>Molothrus ater</i>
Hooded oriole	<i>Icterus cucullatus</i>
Bullock's oriole	<i>Icterus bullockii</i>
Scott's oriole	<i>Icterus parisorum</i>
Purple finch	<i>Carpodacus purpureus</i>
House finch	<i>Carpodacus mexicanus</i>
Pine siskin	<i>Carduelis pinus</i>
Lesser goldfinch	<i>Carduelis psaltria</i>
Lawrence's goldfinch	<i>Carduelis lawrencei</i>
American goldfinch	<i>Carduelis tristis</i>

COMMON NAME	SCIENTIFIC NAME
Evening grosbeak	<i>Coccothraustes vespertinus</i>
House sparrow	<i>Passer domesticus</i>
California gnatcatcher	<i>Polioptila californica</i>
Plumbeous vireo	<i>Vireo plumbeus</i>
Pacific golden-plover	<i>Pluvialis fulva</i>
Chimney swift	<i>Chaetura pelagica</i>
American redstart	<i>Setophaga ruticilla</i>
White-throated sparrow	<i>Zonotrichia albicollis</i>
Harris's sparrow	<i>Zonotrichia querula</i>
Indigo bunting	<i>Passerina cyanea</i>
Virginia opossum	<i>Didelphis virginiana</i>
Ornate shrew	<i>Sorex ornatus</i>
Desert shrew	<i>Notiosorex crawfordi</i>
Broad-footed mole	<i>Scapanus latimanus</i>
California leaf-nosed bat	<i>Macrotus californicus</i>
Mexican long-tongued bat	<i>Choeronycteris mexicana</i>
Yuma myotis	<i>Myotis yumanensis</i>
Long-eared myotis	<i>Myotis evotis</i>
Fringed myotis	<i>Myotis thysanodes</i>
Long-legged myotis	<i>Myotis volans</i>
California myotis	<i>Myotis californicus</i>
Western small-footed myotis	<i>Myotis ciliolabrum</i>
Western pipistrelle	<i>Pipistrellus hesperus</i>
Big brown bat	<i>Eptesicus fuscus</i>
Western red bat	<i>Lasiurus blossevillii</i>
Hoary bat	<i>Lasiurus cinereus</i>
Southwestern yellow bat	<i>Lasiurus xanthinus</i>
Spotted bat	<i>Euderma maculatum</i>
Townsend's big-eared bat	<i>Corynorhinus townsendii</i>
Pallid bat	<i>Antrozous pallidus</i>
Brazilian free-tailed bat	<i>Tadarida brasiliensis</i>
Pocketed free-tailed bat	<i>Nyctinomops femorosaccus</i>
Big free-tailed bat	<i>Nyctinomops macrotis</i>
Western mastiff bat	<i>Eumops perotis</i>
Brush rabbit	<i>Sylvilagus bachmani</i>
Desert cottontail	<i>Sylvilagus audubonii</i>
Black-tailed jackrabbit	<i>Lepus californicus</i>

COMMON NAME	SCIENTIFIC NAME
Merriam's chipmunk	<i>Tamias merriami</i>
California chipmunk	<i>Tamias obscurus</i>
White-tailed antelope squirrel	<i>Ammospermophilus leucurus</i>
California ground squirrel	<i>Spermophilus beecheyi</i>
Western gray squirrel	<i>Sciurus griseus</i>
Botta's pocket gopher	<i>Thomomys bottae</i>
Little pocket mouse	<i>Perognathus longimembris</i>
San diego pocket mouse	<i>Chaetodipus fallax</i>
California pocket mouse	<i>Chaetodipus californicus</i>
Pacific kangaroo rat	<i>Dipodomys agilis</i>
Stephens' kangaroo rat	<i>Dipodomys stephensi</i>
Merriam's kangaroo rat	<i>Dipodomys merriami</i>
American beaver	<i>Castor canadensis</i>
Western harvest mouse	<i>Reithrodontomys megalotis</i>
Cactus mouse	<i>Peromyscus eremicus</i>
California mouse	<i>Peromyscus californicus</i>
Deer mouse	<i>Peromyscus maniculatus</i>
Canyon mouse	<i>Peromyscus crinitus</i>
Brush mouse	<i>Peromyscus boylii</i>
Pinon mouse	<i>Peromyscus truei</i>
Southern grasshopper mouse	<i>Onychomys torridus</i>
Desert woodrat	<i>Neotoma lepida</i>
Dusky-footed woodrat	<i>Neotoma fuscipes</i>
California vole	<i>Microtus californicus</i>
Black rat	<i>Rattus rattus</i>
Norway rat	<i>Rattus norvegicus</i>
House mouse	<i>Mus musculus</i>
Coyote	<i>Canis latrans</i>
Kit fox	<i>Vulpes macrotis</i>
Gray fox	<i>Urocyon cinereoargenteus</i>
Ringtail	<i>Bassariscus astutus</i>
Raccoon	<i>Procyon lotor</i>
Long-tailed weasel	<i>Mustela frenata</i>
American badger	<i>Taxidea taxus</i>
Western spotted skunk	<i>Spilogale gracilis</i>
Striped skunk	<i>Mephitis mephitis</i>
Mountain lion	<i>Puma concolor</i>

COMMON NAME	SCIENTIFIC NAME
Bobcat	<i>Lynx rufus</i>
Feral horse	<i>Equus caballus</i>
Mule deer	<i>Odocoileus hemionus</i>
Feral goat	<i>Capra hircus</i>
Western pond turtle	<i>Clemmys marmorata</i>
Desert tortoise	<i>Gopherus agassizii</i>
Western banded gecko	<i>Coleonyx variegatus</i>
Leaf-toed gecko	<i>Phyllodactylus xanti</i>
Granite spiny lizard	<i>Sceloporus orcutti</i>
Western fence lizard	<i>Sceloporus occidentalis</i>
Sagebrush lizard	<i>Sceloporus graciosus</i>
Side-blotched lizard	<i>Uta stansburiana</i>
Small-scaled lizard	<i>Urosaurus microscutatus</i>
Coast horned lizard	<i>Phrynosoma coronatum</i>
Granite night lizard	<i>Xantusia henshawi</i>
Desert night lizard	<i>Xantusia vigilis</i>
Western skink	<i>Eumeces skiltonianus</i>
Gilbert's skink	<i>Eumeces gilberti</i>
Orange-throated whiptail	<i>Cnemidophorus hyperythrus</i>
Western whiptail	<i>Cnemidophorus tigris</i>
Southern alligator lizard	<i>Elgaria multicarinata</i>
California legless lizard	<i>Anniella pulchra</i>
Western blind snake	<i>Leptotyphlops humilis</i>
Rosy boa	<i>Charina trivirgata</i>
Ringneck snake	<i>Diadophis punctatus</i>
Racer	<i>Coluber constrictor</i>
Coachwhip	<i>Masticophis flagellum</i>
Striped racer	<i>Masticophis lateralis</i>
Western patch-nosed snake	<i>Salvadora hexalepis</i>
Glossy snake	<i>Arizona elegans</i>
Gopher snake	<i>Pituophis melanoleucus</i>
Common kingsnake	<i>Lampropeltis getula</i>
California mountain kingsnake	<i>Lampropeltis zonata</i>
Long-nosed snake	<i>Rhinocheilus lecontei</i>
Common garter snake	<i>Thamnophis sirtalis</i>
Western black-headed snake	<i>Tantilla planiceps</i>
Lyre snake	<i>Trimorphodon biscutatus</i>

COMMON NAME	SCIENTIFIC NAME
Night snake	<i>Hypsiglena torquata</i>
Red diamond rattlesnake	<i>Crotalus ruber</i>
Speckled rattlesnake	<i>Crotalus mitchellii</i>
Western rattlesnake	<i>Crotalus viridis</i>
Two-striped garter snake	<i>Thamnophis hammondi</i>

Table 5. List of special-status wildlife species and their status identified in the Cuyamaca Peak and Descanso USGS 7.5-minute quadrangles from the CDFG CNDDDB Rarefind Database.

SCIENTIFIC NAME	COMMON NAME	FEDERAL STATUS	STATE STATUS	CDFG STATUS	GENERAL HABITAT	MICROHABITAT	Potential Occurrence
<i>Accipiter cooperii</i>	Cooper's hawk			SC	Woodland, chiefly of open, interrupted or marginal type.	Nest sites mainly in riparian growths of deciduous trees, as in canyon bottoms on river flood-plains; also, live oaks.	High. Currently known to occur regularly in project vicinity. Suitable nesting and foraging habitat is present.
<i>Antrozous pallidus</i>	pallid bat			SC	Deserts, grasslands, shrublands, woodlands, & forests. Most common in open, dry habitats with rocky areas for roosting.	Roosts must protect bats from high temperatures. Very sensitive to disturbance of roosting sites.	Moderate - High. Small numbers may roost and likely forage within the project area.
<i>Bufo californicus</i>	arroyo toad	FE		SC	Semi-arid regions near washes or intermittent streams, including valley-foothill and desert riparian, desert wash, etc.	Rivers with sandy banks, willows, cottonwoods, and sycamores; loose, gravelly areas of streams in drier parts of range.	Low - Moderate. No breeding habitat at either project site. May use Descanso Area Development site for overwintering.
<i>Chaetodipus californicus femoralis</i>	Dulzura pocket mouse			SC	Variety of habitats including coastal scrub, chaparral & grassland in San Diego Co.	Attracted to grass-chaparral edges.	Low - Moderate.
<i>Choeronycteris mexicana</i>	Mexican long-tongued bat			SC	Occasionally found in San Diego County, which is on the periphery of their range.	Feeds on nectar & pollen of night-blooming succulents. Roosts in relatively well-lit caves, and in and around buildings.	Low, Night blooming succulents not found at either project site.
<i>Corynorhinus townsendii</i>	Townsend's big-eared bat			SC	Throughout California in a wide variety of habitats. Most common in mesic sites.	Roosts in the open, hanging from walls & ceilings. Roosting sites limiting. Extremely sensitive to human disturbance.	Low - Moderate. Considered uncommon in California. Small numbers may roost and likely forage within the project area.
<i>Corynorhinus townsendii pallescens</i>	Pale big-eared bat			SC	Lives in a wide variety of habitats but most common in mesic sites.	Need appropriate roosting, maternity, and hibernacula sites free from human disturbance.	Moderate - High. Small numbers may roost and likely forage within the project area.
<i>Corynorhinus townsendii pallescens</i>	pale big-eared bat			SC	Lives in a wide variety of habitats but most common in mesic sites.	Need appropriate roosting, maternity, and hibernacula sites free from human disturbance.	
<i>Emys (=Clemmys) marmorata pallida</i>	southwestern pond turtle			SC	Inhabits permanent or nearly permanent bodies of water in many habitat types; below 6000 ft elevation.	Require basking sites such as partially submerged logs, vegetation mats, or open mud banks. Need suitable nesting sites.	Low. Areas of permanent water do not occur at the project sites. Upland habitat adjacent to the Sweetwater River may support nesting.
<i>Euderma maculatum</i>	Spotted bat			SC	Occupies a wide variety of habitats from arid deserts and grasslands through mixed conifer forests.	Feeds over water and along washes. Needs rock crevices in cliffs or caves for roosting.	Low - Moderate. Rare, small numbers may roost and likely forage within the project area.

<i>Eumops perotis californicus</i>	Western mastiff bat			SC	Many open, semi-arid to arid habitats, including conifer & deciduous woodlands, coastal scrub, grasslands, chaparral etc	Roosts in crevices in cliff faces, high buildings, trees & tunnels.	Low - Moderate. Considered uncommon. Small numbers may roost and likely forage within the project area.
<i>Falco mexicanus</i>	prairie falcon			SC	Inhabits dry, open terrain, either level or hilly.	Breeding sites located on cliffs. Forages far afield, even to marshlands and ocean shores.	Low - Moderate. May use Descanso Area Development site for foraging.
<i>Halictus harmonius</i>	A sweat bee				Known only from the foothills of the San Bernardino Mts., poss. Also the San Jacinto Mts.		
<i>Lampropeltis zonata (pulchra)</i>	California mountain kingsnake			SC	Restricted to the San Gabriel and San Jacinto Mtns of southern California.	Inhabits a variety of habitats, including valley-foothill hardwood, coniferous, chaparral, riparian, and wet meadows.	Low – Moderate. Known to occur within Cuyamaca Rancho State park.
<i>Lasiurus cinereus</i>	Hoary bat			SC	Prefers open habitats or habitat mosaics, with access to trees for cover & open areas or habitat edges for feeding.	Roosts in dense foliage of medium to large trees. Feeds primarily on moths. Requires water.	Moderate - High. Small numbers may roost and likely forage within the project area.
<i>Lycaena hermes</i>	Hermes copper butterfly				Found in southern mixed chaparral & coastal sage scrub at western edge of Laguna mountains.	Host plant is <i>Rhamnus crocea</i> . Although <i>R. Crocea</i> is widespread throughout the coast range, <i>Lycaena hermes</i> is not.	Low. No rhamnus crocea observed at either location during botanical surveys.
<i>Phrynosoma coronatum (blainvillei population)</i>	Coast (San Diego) horned lizard			SC	Inhabits coastal sage scrub and chaparral in arid and semi-arid climate conditions	Prefers friable, rocky, or shallow sandy soils.	Low - Moderate. Friable soils at Descanso Area Development site but thick non-native vegetation may inhibit occupancy.
<i>Taricha torosa torosa</i>	Coast range newt			SC	Coastal drainages from Mendocino County to San Diego County.	Lives in terrestrial habitats & will migrate over 1 km to breed in ponds, reservoirs & slow moving streams.	Low. Areas of permanent water do not occur at the project sites. The Sweetwater River may support breeding.
<i>Vireo bellii pusillus</i>	least Bell's vireo	FE	SE		Summer resident of southern California in low riparian in vicinity of water or in dry river bottoms; below 2000 ft.	Nests placed along margins of bushes or on twigs projecting into pathways, usually willow, baccharis, and mesquite.	Low. No riparian habitat located at either project location.

Code	Definition
FE	Listed as endangered under the federal Endangered Species Act.
SE	Listed as endangered under the California Endangered Species Act.
SC	CDFG Species of special concern.

Table 6. Typical noise levels generated by construction equipment.

Equipment	Typical Noise Level (dBA) 50 feet from the Source
Air Compressor	81
Backhoe	80
Compactor	82
Concrete Mixer	85
Concrete Pump	82
Crane, Derrick	88
Crane, Mobile	83
Dozer	85
Generator	81
Grader	85
Impact Wrench	85
Jack Hammer	88
Loader	85
Paver	89
Pneumatic Tool	85
Pump	76
Rock Drill	98
Roller	74
Saw	76
Scraper	89
Truck	88

dBA = A-weighted decibels
Source: FTA 1995

Table 7. Approximate vegetation impacts for the Equestrian Facilities Project various alternatives.

Alternatives	Descanso Area Development (annual grassland)	Green Valley Loop Campground (developed coastal oak woodland)	Paso Picacho Day-Use Area (montane hardwood- conifer)	Descanso Interim
Preferred	Permanent – 17.0 acres Temporary – 7.7 acres	Permanent – 0.5 acres	Permanent – 1.12 acres ¹	Permanent – 0.63 acres
Alternative 2	Permanent – 19.4 acres Temporary – 6.4 acres	Permanent – 0.5 acres	Permanent – 1.12 acres ²	Permanent - 0.63 acres
Alternative 3	Permanent – 4.0 acres Temporary – 1.9 acres		Permanent – 1.68 acres ³	

¹ Approximately 21 trees will be removed in this alternative (16 pines and 5 oaks)

² Approximately 21 trees will be removed in this alternative (16 pines and 5 oaks)

³ At least 21 trees will be removed. Tree survey did not cover entire limit of work.

10.0 Figures

Figure 1. Equestrian Facilities Project vicinity map, Cuyamaca Rancho State Park, San Diego County, California.

CALIFORNIA STATE PARKS
SOUTHERN SERVICE CENTER
8885 Rio San Diego Drive, Suite 270
San Diego, CA 92108

PROJECT LOCATION MAP EQUESTRIAN FACILITIES

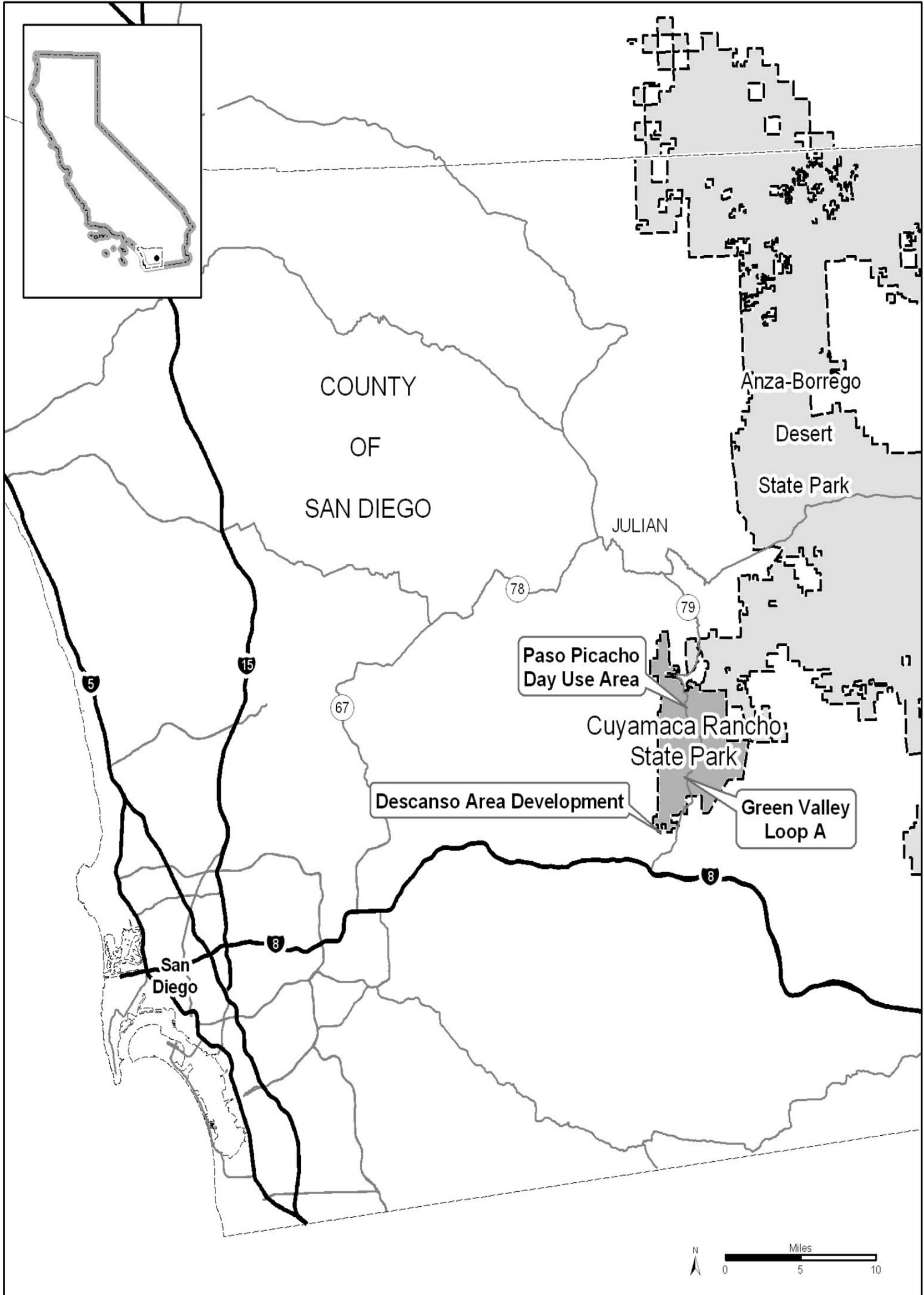


Figure 2. Hydrology in the vicinity of the Equestrian Facilities Project, Cuyamaca Rancho State Park, San Diego County, California.

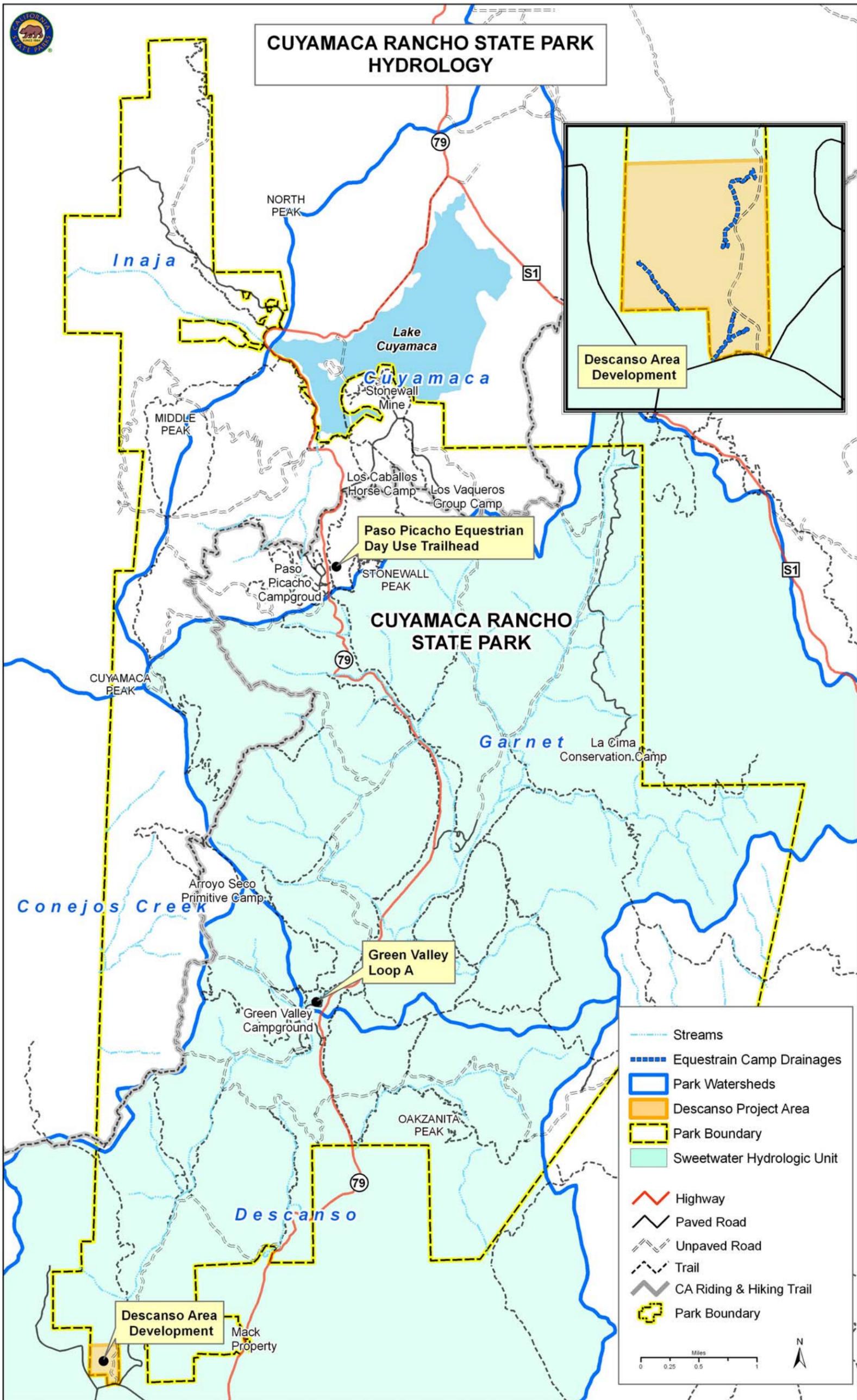


Figure 3. Soil series in the vicinity of the Equestrian Facilities Project, Cuyamaca Rancho State Park, San Diego County, California.

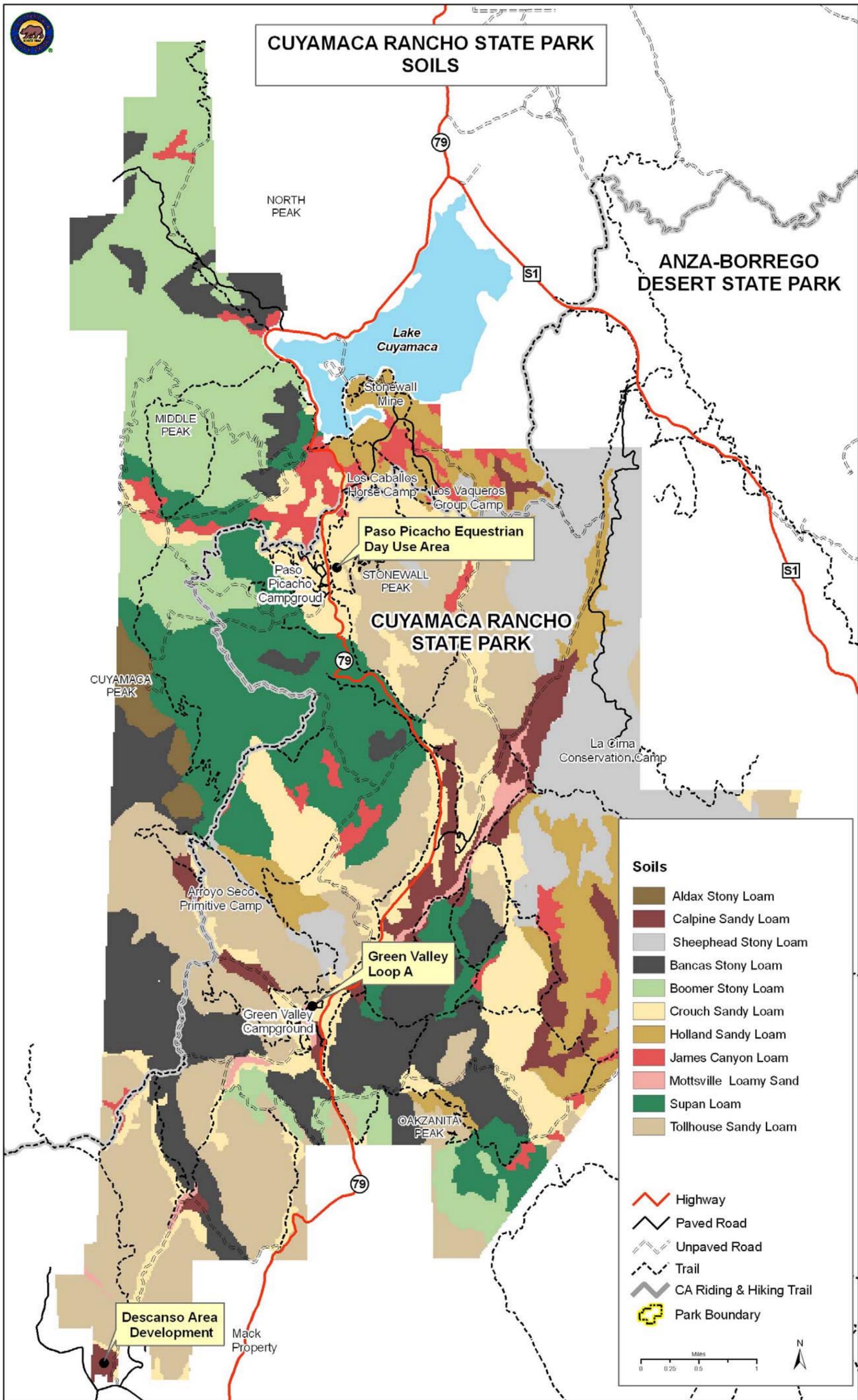


Figure 4. Vegetation communities in the vicinity of the Equestrian Facilities Project, Cuyamaca Rancho State Park, San Diego County, California.

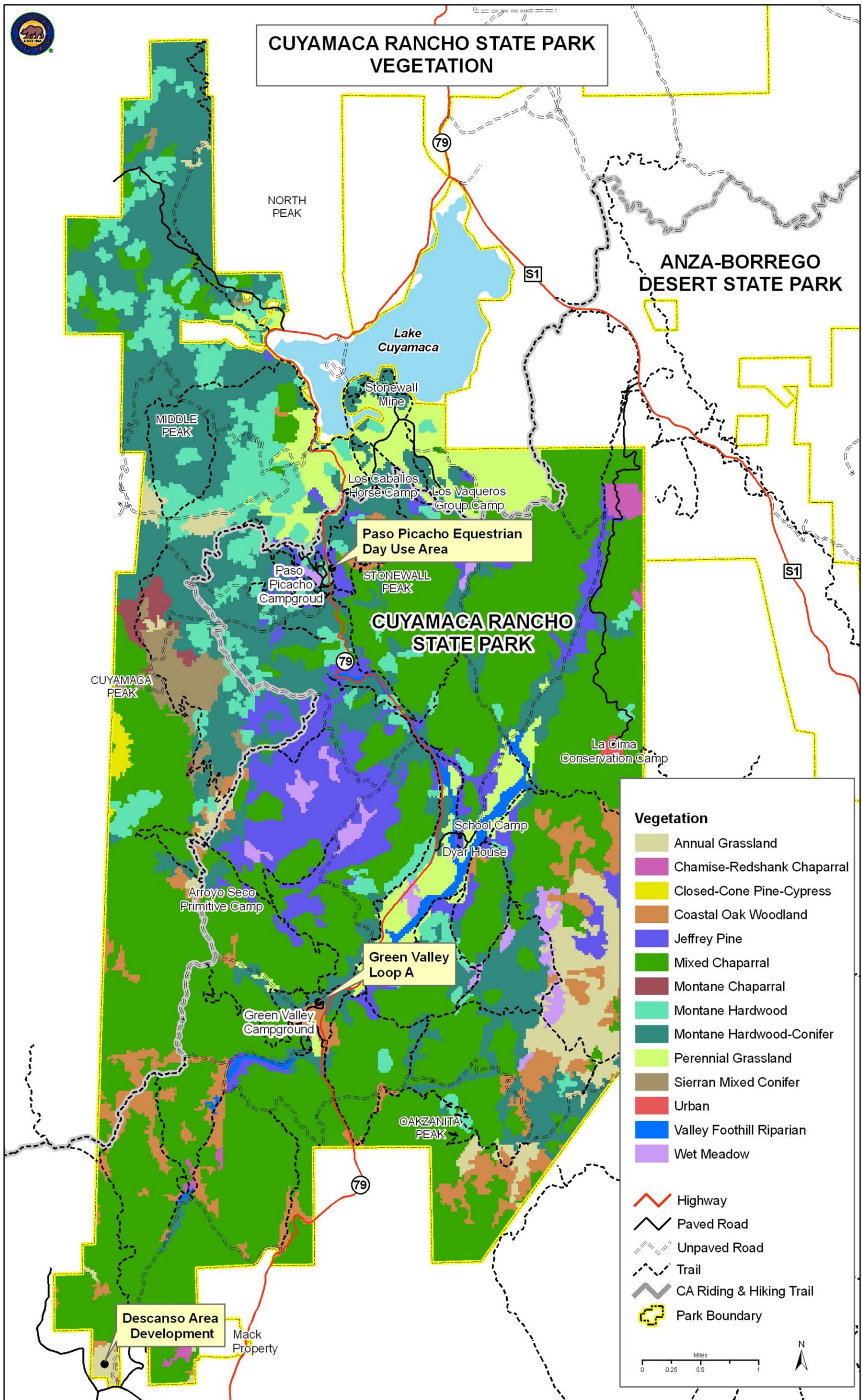
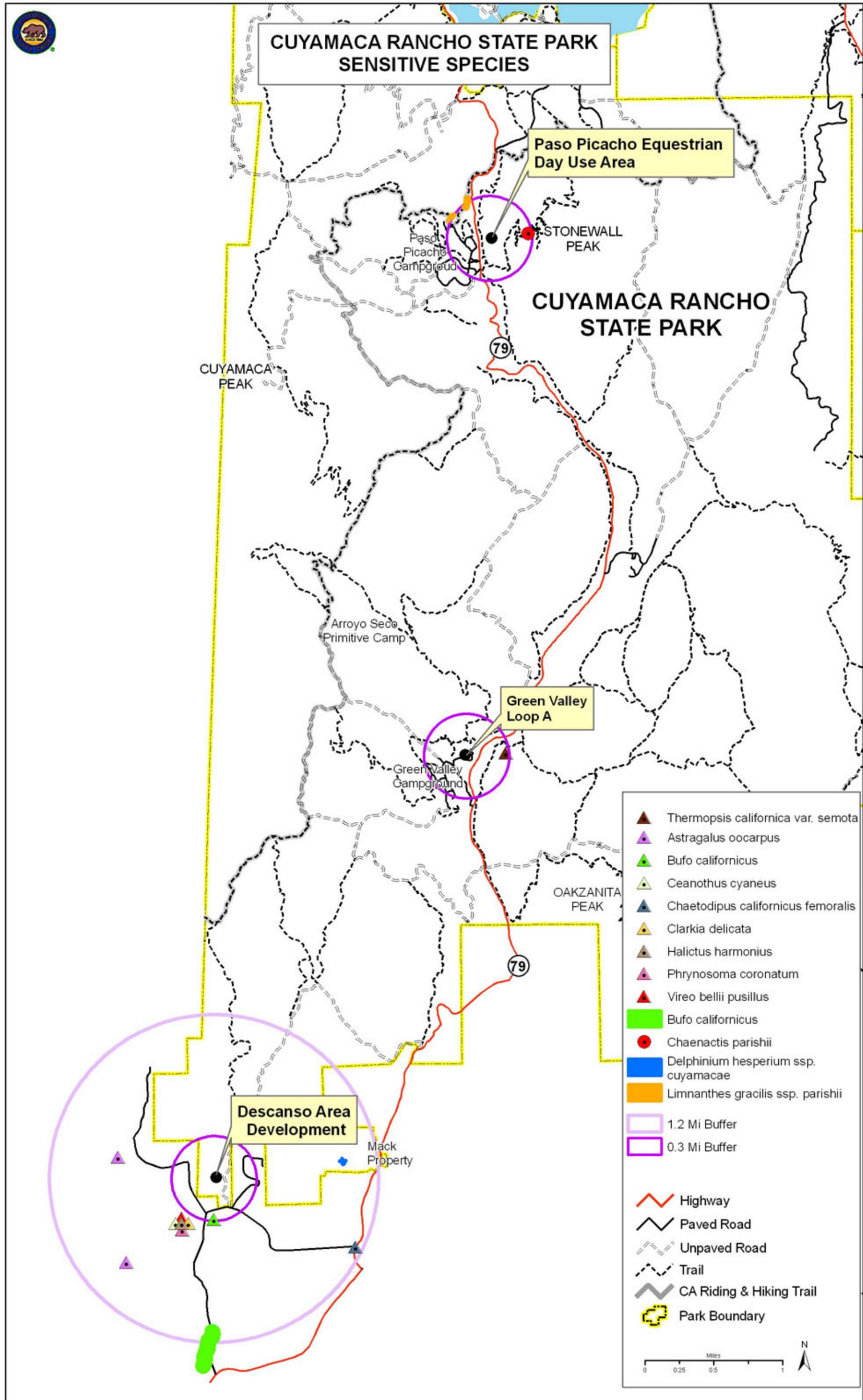


Figure 5. Known occurrences for sensitive wildlife and plant species in the vicinity of the Equestrian Facilities Project, Cuyamaca Rancho State Park, San Diego County, California.



Appendix A Herpetofaunal Survey Report

Business and Ecology Consulting
312 Highland Avenue Suite 202, El Cajon CA 92020
Phone 619-590-2802 Fax 619-590-2804

May 12, 2008

Ms. Susie Lahite, State Representative
California Department of Parks and Recreation
8885 Rio San Diego Drive
San Diego, CA 92108

Re: Pitfall Trapping for Cuyamaca Rancho State Park Campground and Day Use Project
(Merigan Ranch Site), Final Report

Dear Ms. Lahite:

Business and Ecology Consulting is pleased to submit this report as the final milestone in fulfillment of Task One and Task Two of the Task Order A07E0020 Statement of Work (SOW) for the herpetofaunal survey of the Merigan Ranch Site. Task Order A07E0020 is now completed.

Task 1. Site meeting and supplies.

The site visit was held on February 7, 2008 and was attended by senior biologist, Ruben S. Ramirez; Bruce Campbell; Richard Burg, California Department of Parks and Recreation (CDPR); and Native American and archaeological specialists, both associated with CDPR. The Merigan Ranch site lies near the junction of the Sweetwater River with Descanso Creek, adjacent to the Descanso Elementary School.

Materials were purchased and pitfall traps were assembled on February 6, 2008. The funnel traps were provided by CDPR. On the afternoon of April 6, 2008, funnel traps were installed on each array arm, and along each drift fence run, for a total of eight traps. Funnels were placed in the end of each trap and secured with binder clips.

Task 2. Pitfall array installation and operation.

Installation.

Two pitfall trapping arrays and a pitfall drift fence were installed at the Merigan Ranch site, under the direct on-site supervision of Ruben S. Ramirez (Fish and Wildlife Service 10(a) Recovery Permit, TE -780566-10). Installation followed the protocol of Brown *et al* (2003) and Fisher *et al* (2001). Trap sites were chosen to sample a variety of habitats, and to intercept probable herpetofaunal upland habitat movement corridors, especially amphibians, per Ramirez (2007).

- Array One was placed in the northwest section of the property, centered at latitude 32°51'38.24" N by longitude 116°36'49.53" W.
-

- Array Two was placed in the southwest section of the property, centered at latitude 32°51'34.38" N. by longitude 116°36'42.31" W.
- A drift fence consisting of two 45 meter runs, extending perpendicular to each other from latitude 32°51'33.31" N. by longitude 116°36'45.56" W., through latitude 32°51'32.32" N. by longitude 116°36'45.30" W., and ending at latitude 32°51'32.52" N. by longitude 116°36'44.15" W.

Array and drift fence construction began on February 7, 2008. All excavations were completed on February 7, 2008 and monitored by Native American and archaeological monitors from the California Department of Parks and Recreation.

Traps were covered, and erection of silt fencing was completed the following day, February 8, 2008. Pitfall traps were left covered pending the arrival of weather conditions conducive to herpetofaunal movement (Ramirez, 2007).

References cited:

Brown, C.W., Fisher, R.N., and Haas, C.D. (2003). Herpetofaunal Inventory and Monitoring at Silverwood Lake State Recreation Area April 2000-July 2002. United States Geological Survey Technical Report, 90 pgs.

Fisher, R., Stokes, D., Rochester, C., Brehme, C., Hathaway, S., and Case, T. (2001). Herpetological Monitoring Using a Pitfall Trapping Design in Southern California. United States Geological Survey Technical Report, 92 pgs.

Ramirez, R. (2007). 2003-2006 Arroyo Toad (*Bufo californicus*) Upland Habitat Movement Pitfall Trapping Study Meadowood. Cadre Environmental, Inc. Final Report (private communication).

Pitfall trap data collection session 1.

Because herpetofaunal activity is highly temperature dependent, and because the project site elevation is 1036 meters above sea level, weather conditions were monitored throughout the months of February and March 2008 on the official National Oceanic and Atmospheric Administration forecast website for the Descanso, CA weather station. When the five day forecast for Descanso projected that evening temperatures would remain above 7° C. until 2300, and fall no lower than 4° C. during the night hours, a trapping session was scheduled for April 6 through 10, 2008.

Pitfall traps were opened at 1800, April 6, 2008, with a favorable forecast.

Traps were checked daily by the field biologist, John Konecny (Fish and Wildlife Service 10(a) Recovery Permit, TE837308-4) between the hours of 0730 and 930, starting April 7, 2008. Catches were identified and logged by trap location, and immediately released. A single *Bufo boreas* (California Western Toad) specimen was found dead in the trap.

Traps were closed and secured at 1000 April 10, 2008 by Mr. Konecny. Enclosure (1) contains the field collection records submitted by Mr. Konecny.

Table 1: Pitfall trap data April 6 through 10, 2008.

Observations by Mr. John Konecny are provided in the following table.

	Site conditions	Herpetofauna Observed:
		Array 1 (Northwest); Array 2 (Southeast)
April 7, 2008	0730-0800 42° F, wind 1-3mph 100% overcast	Array 1: 2 - <i>Elgaria multicarinata</i> ; 1- <i>Bufo boreas</i> Array 2: 0 South Fence: 0
April 8, 2008	0850-0920 46° F, wind 3-7mph, 100% overcast	Array 1: 1- <i>B. boreas</i> Array 2: 1 - <i>E. multicarinata</i> South Fence: 1 - <i>Sceloporus occidentalis</i>
April 9, 2008	0850-0920 39° F, wind 15-20mph 100% overcast, light rain	Array 1: 1- <i>B. boreas</i> (dead, vouchered) Array 2: 1 - <i>Sceloporus occidentalis</i> South Fence: 0
April 10, 2008	0930-1010 55° F, wind 3-5 mph 100% overcast	Array 1: 0 Array 2: 1 - <i>Uta stansburiana</i> ; 1- <i>S. occidentalis</i> South Fence: 0

Pitfall trap data collection session 2.

The second trapping session was conducted May 1 through May 5, 2008. Repairs were made to fencing and trap covers, and traps were opened on May 1, 2008 between 5:30 p.m. and 6:50 p.m. Mr. Rob Lovich (U.S. Fish and Wildlife Service 10(a) (1) (A) Recovery Permit TE023886-2) checked and cleared the traps each morning from May 2 through May 4, 2008 between 0730 and 1000. Traps were closed and secured by Mr. Lovich on Monday, May 5, 2008 at 1830. Table 2 below contains the results of the second trapping session. Enclosures (2) through (5) contain the field collection records submitted by Mr. Lovich.

Table 2: Pitfall trap data May 1 through 5, 2008

Observations by Mr. Rob Lovich are provided in the following table.

	Site conditions	Herpetofauna Observed:
		Array 1 (Northwest); Array 2 (Southeast)
May 2, 2008	0730-0850 63° F, wind 17 mph Clear skies	Array 1: 0 Array 2: 0 South Fence: 1 - <i>Thomomys bottae</i> (juvenile)
May 3, 2008	0740-0920 57° F, wind 6-7mph, Clear skies	Array 1: 1- <i>Uta stansburiana</i> (adult) Array 2: 1- <i>Sceloporus occidentalis</i> (adult female) South Fence: 0
May 4, 2008	0650-0900 42-43° F, wind 6-7 mph Partly cloudy	Array 1: 1- <i>U. stansburiana</i> (adult female) Array 2: 4 - <i>U. stansburiana</i> (2 adult female, 2 adult male) South Fence: 0
May 5, 2008	1830-1900 50° F, wind 6 mph Mostly sunny	Array 1: 1 - <i>Bufo boreas</i> (adult female; dead, vouchered) Array 2: 2 - <i>U. stansburiana</i> (adult male; juvenile female) South Fence: 0

Only those species listed in Table One and Table Two can be stated with certainty to be present on the property. The limited nature of this study, and the abbreviated sampling regime, do not permit conclusions regarding the possibility of other species using the site as habitat.

Business and Ecology Consulting was notified by Mr. Richard Burg from the California Department of Parks and Recreation (CDPR) Southern Service Center that the Merigan Ranch campground and day use project was cancelled due to funding issues. No further trapping sessions will be conducted. At Mr. Burg's request, drift fencing and pitfall traps were left installed (covered), and surrendered as State property. Funnels were removed from the funnel traps, and stored adjacent to the bodies of the traps. The CDPR is responsible for removal of the pitfall and funnel trap installations.

Please feel free to contact me at 619-590-2802 (office) or 619-729-5185 (cell phone) for further information.

A handwritten signature in cursive script that reads "Bruce H. Campbell".

Bruce H. Campbell
Managing Partner

cc: Richard S. Burg, Senior Environmental Scientist, California Department of Parks and Recreation, Southern Service Center, San Diego, CA

Pitfall Trap Results April 7, 2008 through April 10, 2008

Location: Cuyamaca Rancho State Park Merigan Ranch Property, Descanso, California

April 7, 2008

0730-0800 (42° F, wind 1-3mph, 100% overcast)

Southeast Array: 0

Northwest Array : 2 - *Elgaria multicarinata*; 1- *Bufo boreas*

South Fence: 0

April 8, 2008

0850-0920 (46° F, wind 3-7mph, 100% overcast)

Southeast Array: 1 - *Elgaria multicarinata*

Northwest Array: 1- *Bufo boreas*

South Fence: 1 - *Sceloporus occidentalis*

April 9, 2008

0850-0920 (39° F, wind 15-20mph, 100% overcast, light rain)

Southeast Array: 1 - *Sceloporus occidentalis*

Northwest Array: 1- *Bufo boreas* (dead)

South Fence: 0

April 10, 2008

0930-1010 (55° F, wind 3-5 mph, 100% overcast)

Southeast Array: 1 - *Uta stansburiana*; 1- *Sceloporus occidentalis*

Northwest Array: 0

South Fence: 0

Closed Pitfall Traps

Enclosure (1)

Appendix B U.S. Fish and Wildlife Service Species List



United States Department of the Interior



FISH AND WILDLIFE SERVICE

Ecological Services
Carlsbad Fish and Wildlife Office
6010 Hidden Valley Road
Carlsbad, California 92011

In Reply Refer To:
FWS-SDG-4913.2

MAY 08 2007

Richard Burg
Environmental Scientist
Southern Service Center
8885 Rio San Diego Drive, Suite 270
San Diego, California 92108

Subject: Request for special status species list for proposed equestrian facilities project in Cuyamaca Rancho State Park in San Diego County, California

Dear Mr. Burg:

The U.S. Fish and Wildlife Service (Service) has reviewed the information provided in your April 16, 2007, letter to assess the potential presence of federally listed species at the proposed project site. We do not have site specific information for your project area. However, to assist you in evaluating whether or not the proposed project may affect listed species, we are providing the enclosed list of federally listed species that may occur in the general project area. Please note that this is not a comprehensive list. You should also contact the California Department of Fish and Game for State-listed and sensitive species that may occur in the area of the proposed project. Please note that State-listed species are protected under the provisions of the California Endangered Species Act. We recommend that you seek assistance from a biologist familiar with your project site, and experienced in assessing the potential for direct, indirect, and cumulative effects to species and their habitats likely to result from the proposed activity.

If it is determined that the proposed project may affect a listed or proposed species, or the designation of any critical habitat you should initiate consultation (or conference for proposed species) with the Service pursuant to section 7 of the Endangered Species Act (Act) of 1973, as amended. Informal consultation may be used to exchange information and resolve conflicts with respect to listed species prior to a written request for formal consultation.

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Richard Burg (FWS-SDG-4913.2)

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If you have any questions regarding the species on the enclosed list or your responsibilities under the Act, please call Cara McGary of my staff at (760) 431-9440.

Sincerely,


for Therese O'Rourke
Assistant Field Supervisor

Enclosure

Richard Burg (FWS-SDG-4913.2). Enclosure 1

**Federally Listed Species Which May Occur on or Near the Paso Picacho and Merrigan Ranch
Equestrian Facilities in Cuyamaca Rancho State Park, San Diego County, California**

Common Name	Scientific Name	Status
AMPHIBIANS		
arroyo toad	<i>Bufo californicus</i>	E, CH
BIRDS		
least Bell's vireo	<i>Vireo bellii pusillus</i>	E
E: endangered		
CH: critical habitat		



Appendix C Projects Proposed for Cuyamaca Rancho State Park

Project #	District	Park Unit	Project Title	Type
8365	Colorado-Desert	Cuyamaca Rancho SP	Stonewall Mine ADA Improvements	ADA ⁴
7878	Colorado Desert	Cuyamaca Rancho SP	Dyar House Artifact Recovery	FEMA ⁵
7879, 7880, 7881	Colorado Desert	Cuyamaca Rancho SP	Paso Picacho Group Campground A Restroom & Shower	FEMA
7884-7885	Colorado Desert	Cuyamaca Rancho SP	Dyar Storage and Garage Building Reconstruction	FEMA/DMP ⁶
7891	Colorado Desert	Cuyamaca Rancho SP	Arroyo Seco Vault Toilet	FEMA
8458	Colorado Desert	Cuyamaca Rancho SP	Dyar House Area Park Lot Restroom	ADA
NA	Colorado Desert	Cuyamaca Rancho SP	Rehab Water System throughout Park	DMP
NA	Colorado Desert	Cuyamaca Rancho SP	Stabilization and Interpretation of Dyar House	

⁴ American with Disabilities Act Project

⁵ Federal Emergency Management Agency Project

⁶ Delayed Maintenance Project