

Resource Management Plan for **Oakoasis Preserve** **San Diego County**



June 2009

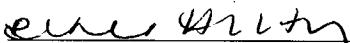


OAKOASIS PRESERVE

RESOURCE MANAGEMENT PLAN

June 30, 2009

Approved by:



Renee Hilton, Assistant Director
County of San Diego
Department of Parks and Recreation

6/30/09

Date

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1.0 INTRODUCTION

Oakoasis Preserve (Preserve) is an approximately 400-acre open space preserve. The Preserve is located at 12620 Wildcat Canyon Road, Lakeside an unincorporated community of San Diego County (County). The Preserve is within the upper San Diego River watershed, less than one mile east of the San Vicente Reservoir (Figures 1 and 2). The Preserve consists of areas of high value natural communities and includes a trail system, staging area and camping facilities. In addition, 17 known cultural resources have been identified within the Preserve. The Preserve is included in the County of San Diego's Multiple Species Conservation Program (MSCP) preserve system.

1.1 Purpose of Resource Management Plan

This Resource Management Plan (RMP) has been prepared as a guidance document to manage and preserve the biological and cultural resources within the Preserve, and to provide Area-Specific Management Directives (ASMDs) pursuant to the requirements of the County's MSCP Subarea Plan (County of San Diego 1997), the Framework Management Plan (County of San Diego 2001) and Sections 10.9A and 10.9B of the Implementing Agreement (County of San Diego 1998). These sections specify that the County will be responsible for managing lands which it owns or acquires within the MSCP preserve system.

This RMP will:

- a) guide the management of vegetation communities/habitats, plant and animal species, cultural resources, and programs described herein to protect and, where appropriate, enhance biological and cultural values;
- b) serve as a guide for appropriate public uses of the property;
- c) provide a descriptive inventory of the vegetation communities/habitats, plant and animal species, and the archaeological and/or historical resources that occur on this property;
- d) establish the baseline conditions from which adaptive management will be determined and success will be measured; and
- e) provide an overview of the operation and maintenance requirements to implement management goals.

Chapter 5 of this RMP includes ASMDs for Oakoasis Preserve.

It is recognized that County-owned land is only a small portion of the MSCP preserve system. The County does ensure management of other lands that are dedicated as a conservation easement for discretionary project mitigation through requiring land developers to prepare Resource Management Plans. The County will spearhead a larger coordinated effort to ensure that other conserved lands in the area that make up the MSCP preserve are also being monitored and managed

consistent with this RMP and the overall goals of the MSCP Plan and County's MSCP Subarea Plan when a regional funding source is identified pursuant to Section 10.9C of the Implementing Agreement.

1.1.1 MSCP Background

The MSCP is a cooperative habitat program that encompasses 582,000 acres and establishes a 172,000-acre preserve system in southwestern San Diego County. The MSCP covers 85 plant and animal species and 23 vegetation communities. Agencies participating in the MSCP include the County, other local jurisdictions, the U.S. Fish and Wildlife Service (USFWS) and the California Department of Fish and Game (CDFG). Local jurisdictions and special districts implement their respective portions of the MSCP Plan (City of San Diego 1998) through Subarea plans, which describe specific implementing mechanisms for the MSCP. The combination of the subregional MSCP Plan and Subarea plans serve as a Multiple Species Habitat Conservation Plan (HCP) pursuant to Section 10(a)(1)(B) of the Federal Endangered Species Act (FESA), the Natural Community Conservation Planning (NCCP) Program pursuant to the California NCCP Act of 1991 and the California Endangered Species Act (CESA). Oakoasis Preserve is fully owned and operated by the County and is included under the County of San Diego South County MSCP Subarea Plan.

1.1.2 County Subarea Plan

The South County MSCP Subarea Plan (MSCP Subarea Plan) was adopted in October 1997. The MSCP Subarea Plan is subdivided into three segments: Lake Hodges, South County, and Metro-Lakeside-Jamul, with Oakoasis Preserve in the latter segment. In this segment, preserve boundaries were not designated; rather, pre-approved mitigation areas consisting of high-value habitats were identified and a set of preserve design goals and criteria for cores and linkages were established for consideration during project review.

1.1.3 Framework Management Plan and Area-Specific Management Directives

According to Section 6.3.1 of the MSCP Plan and as a condition of the Implementing Agreement with the Wildlife Agencies (Section 10.10), the County was required to prepare a Framework Management Plan for the portion of the MSCP preserve within the MSCP Subarea Plan's boundaries. The Framework Management Plan sets forth management goals and objectives, along with general management directives that apply to all areas of the MSCP Subarea Plan.

The Framework Management Plan states that appropriate recreational activities shall be accommodated in concurrence with the goals of the MSCP and MSCP Subarea Plan, as follows:

- a) Public access and passive recreation are permitted uses within specified areas of the preserve. Access points, new trails and facilities, and a public

control plan will be included in the specific framework habitat management plans and the area-specific management directives.

- b) Riding and hiking trails will be allowed within the preserves to allow passive recreational opportunities for the public. Passive recreation includes hiking, scientific research, bird watching, and under specified conditions and locations identified in approved projects and or management plans, mountain biking, horseback riding, sailing, sun bathing, fishing, and swimming. Equestrian, hiking, and bicycles may be allowed when in accordance with approved management plans and are consistent with the County of San Diego Subarea Plan. All recreational activities will be required to avoid impacts to narrow endemics or unique critical populations of specific species, unless the activities are in “take” authorized areas as identified or allowed under the MSCP.

The Framework Management Plan incorporates a requirement for the subsequent preparation and implementation of ASMDs. These directives are required to be developed following baseline surveys using generally accepted practices and procedures for management of biological preserves, and in compliance with the criteria established by the Framework Management Plan and Table 3-5 of the MSCP Plan. They are intended to be specific management actions that are appropriate for the habitats and species found in a local area and take into account the particular circumstances of the given area. In addition to addressing the general directives of the Framework Management Plan and species-specific management requirements of MSCP Table 3-5, ASMDs are required to address fuel management activities. Chapter 5 of this RMP includes ASMDs for Oakoasis Preserve.

1.2 Implementation

1.2.1 Management Approach

A key concept of the MSCP is the use of “Adaptive Management Techniques” directed at the conservation and recovery of individual species. This term refers to modifying management actions when monitoring of the resources indicates that changes are needed. It is particularly useful where there is uncertainty regarding the efficacy of certain management measures and/or the needs of target species. Adaptive management and an associated monitoring program are designed to inform land managers of the status and trends of covered species, natural communities, and landscapes in a manner that provides data to allow informed management actions and decisions.

It is anticipated that the recommended management actions provided in this RMP will be dynamic in nature. Applying adaptive management, the effectiveness and appropriateness of recommended management actions would be determined through review of management goal and objective achievement so that changes can be made to management directives and implementation measures as needed. Adaptive management techniques depend upon the specific issues impacting the

resources. Therefore, the techniques herein may be subject to change or revisions when applied. Additionally, the monitoring protocols/requirements for MSCP covered species and habitats are being revisited by participants of the MSCP and are subject to change based on adoption of updated protocols. It is anticipated that this RMP will be revised once every five years, as needed. The RMP may be revised on a shorter time scale if there is a change in circumstance, for example, acquisition of additional Preserve land.

1.2.2 Responsible Parties/Designation of Land Manager

The County is responsible for management, biological monitoring, and meeting the conditions of MSCP coverage on County-owned lands conserved as part of the MSCP preserve system. The Preserve is owned and operated by the County Department of Parks and Recreation (DPR) and the DPR District Park Manager assigned to the Preserve is the land manager. DPR will be responsible for the implementation and enforcement of the RMP.

The Preserve is located in the management district of one supervising park ranger, one senior park ranger, 1.5 park rangers, one park maintenance worker, and four MSCP seasonal employees. Park rangers patrol the Preserve daily. It is expected that many of the implementation measures, especially the maintenance tasks, will be carried out by the rangers who are most familiar with the site and currently patrol the Preserve.

1.2.3 Regulatory Context

The County's park rangers manage County parks and enforce park rules and regulations pursuant to San Diego County Code of Regulatory Ordinances Title 4, Division 1, Chapter 1 County Parks and Recreation. In addition, per County Code of Regulatory Ordinance Sec 41.111, 41.112, 41.113, all wildlife, plant, historical artifacts, and geologic features are protected and are not to be damaged or removed. Any person who violates any provision of Sections 41.111, 41.112, 41.113 is guilty of a misdemeanor as provided in Sections 11.116, 11.117, and 11.118 of this Code, punishable by fines up to \$2,500 a day for each day the person violates these sections. The park rangers will contact law enforcement who will cite the offending individual. In addition, if an individual does not comply with signs within a facility and ignores park ranger instructions, the individual could potentially be charged with a misdemeanor by law enforcement.

1.2.4 Limitations and Constraints

Implementation and the timing of many of the management directives will be based on funding in any fiscal year and will be determined through the DPR Operations Division who will prioritize park/preserve needs in their work plan for the fiscal year based on the priority of the directives in the RMP for each park/preserve.

2.0 PROPERTY DESCRIPTION

2.1 Property Location

Oakoasis Preserve is located at 12620 Wildcat Canyon Road, Lakeside, CA 92040. Wildcat Canyon Road bisects the eastern portion of the Preserve. The Preserve is located in the San Vicente Reservoir U.S. Geological Survey (USGS) quadrangle, Township 14 South, Range 1 East, Sections 28, 29, 32, and 33 (Figures 1 and 2). The Assessor's Parcel Numbers for the Preserve are: 329-090-09; 329-090-10; 329-131-01; 329-131-04; 329-141-01; 329-141-02; 329-141-08; 329-160-47

2.2 Geographical Setting

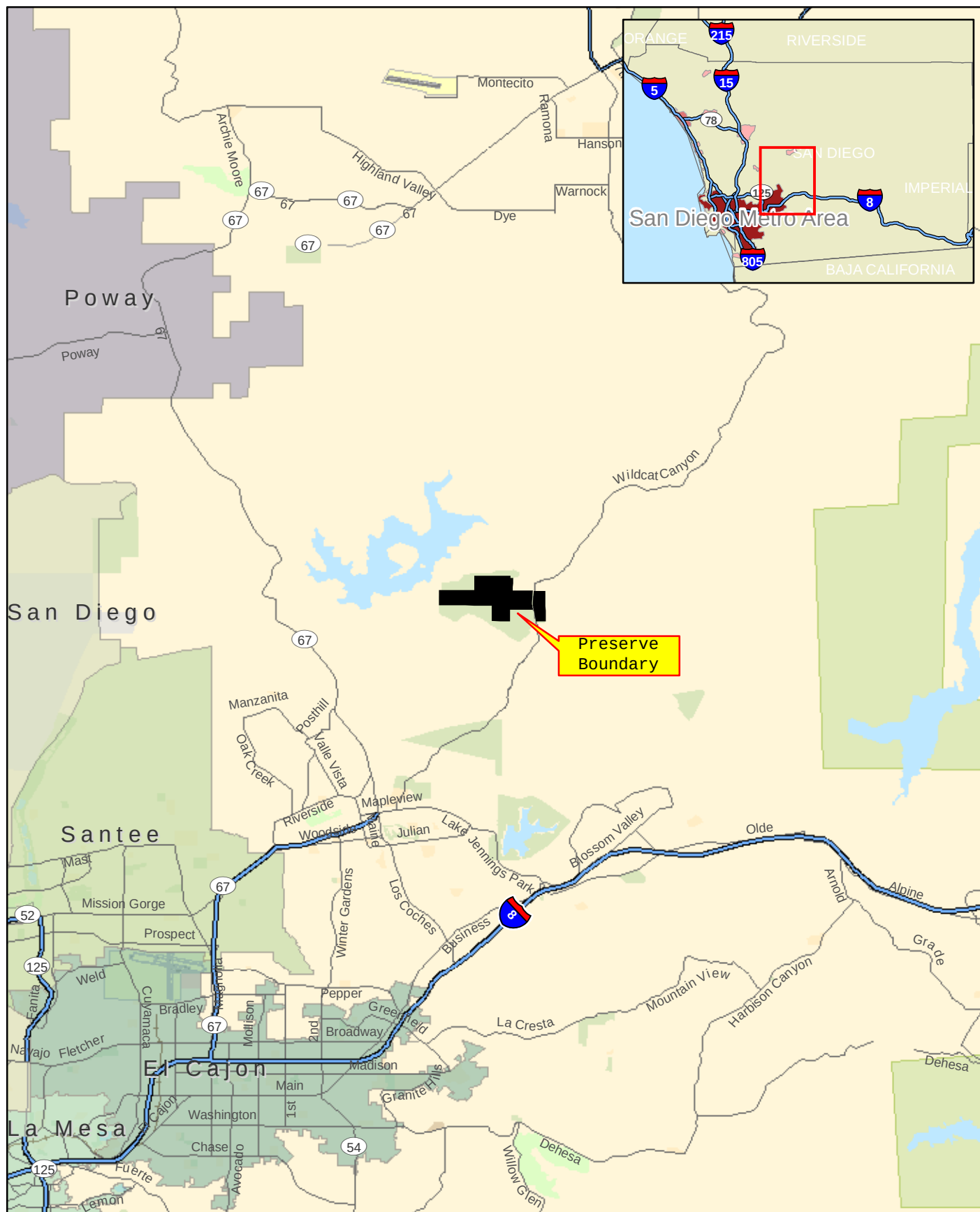
The natural setting within the Preserve is characterized by steep coastal foothills separated by a canyon and drainages. The Preserve is situated southeast of San Vicente Reservoir. Wildcat Canyon Road bisects the eastern portion of the property. Three blue-line streams occur within the Preserve. Elevation within the Preserve ranges between approximately 1,000 feet (304.8 meters) above mean sea level (AMSL) at a low point along the western portion of the Preserve and approximately 1,600 feet (487.7 meters) AMSL east of Wildcat Canyon Road. The closest source of fresh water is San Vicente Reservoir.

2.2.1 Site Access

The Preserve is open to the public daily between 9:30 a.m. and sunset. The Preserve is accessible to the public via a driveway located on the west side of Wildcat Canyon Road, across from Blue Sky Ranch Road, north of Interstate 8 and east of State Route 67. The staging area for the Preserve is located approximately 0.1 mile down the driveway. In addition, Blue Sky Ranch Road provides access to the portion of the Preserve east of Wildcat Canyon Road, and two private roads provide access to the central and northern portions of the Preserve west of Wildcat Canyon Road.

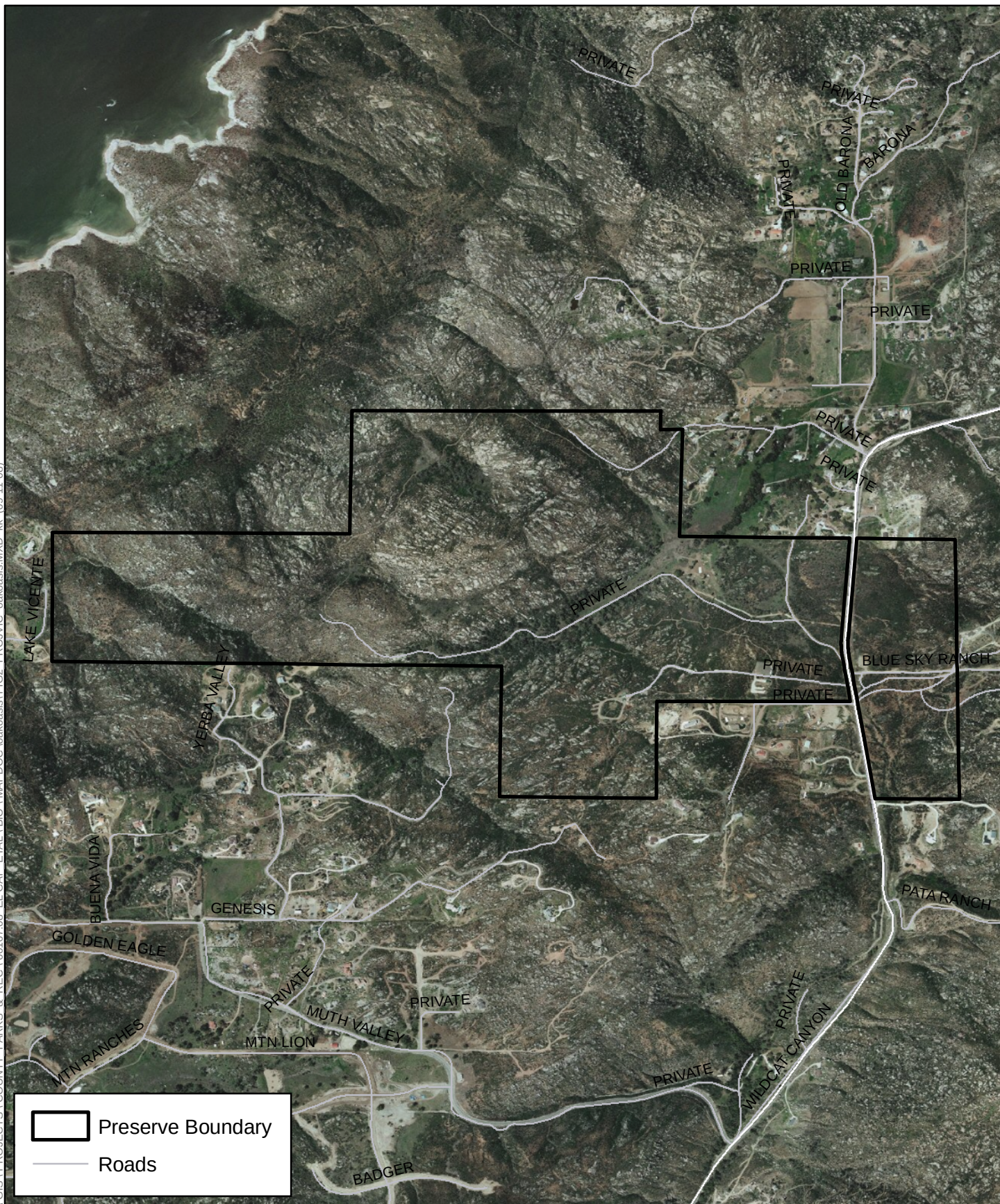
2.2.2 MSCP Context

The Preserve is included within the Metro-Lakeside-Jamul segment of the MSCP Subarea Plan. The majority of the Preserve is identified as Pre-Approved Mitigation Area (PAMA), with the exception of two small parcels in the north central portion of the property that are identified as Unincorporated Land, and is considered part of the MSCP preserve (Figure 3).



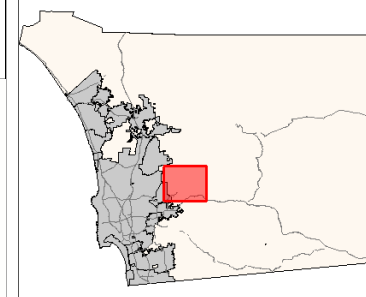
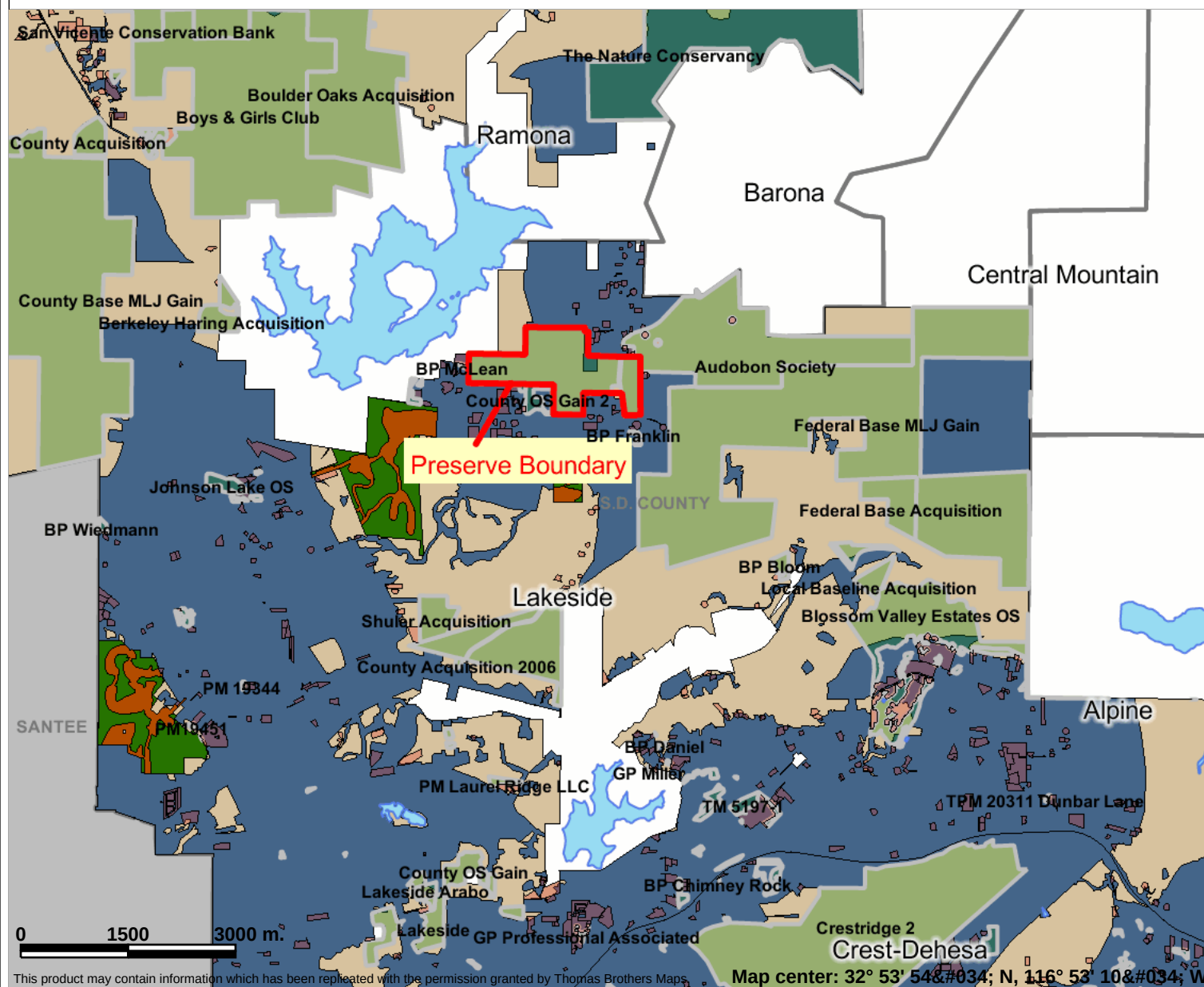
SOURCE: ESRI Streetmap USA (2006)

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SOURCE: ESRI Imagery

Figure 3. Oakoasis Preserve MSCP Designations



Legend

Water Bodies

Water Bodies

Habitrak 2005 Data

Habitrak Gain
Habitrak Loss

MSCP_Designations - South

Hardline Preserve
Pre-Approved Mitigation Area (PAMA)
Major Amendment Area
Minor Amendment Area
Minor Amendment Area Subject to Special Considerations
Conserved Subject to Agreement with Wildlife Agencies
Santa Fe Valley Open Space II
Santa Fe Valley 'D' Designator
Otay Ranch Areas Where No Take Permits will be Issued
Take Authorized Area
Uncorporated Land in Metro-Lakeside-Jamul Segment

Other

Sponsor Groups

Sponsor Groups

Other

Community Planning Area

Community Planning Areas

Incorporated Areas

S.D. COUNTY

Other



Scale: 1:84,302



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2.3 Physical and Climatic Conditions

2.3.1 Geology and Soils

The Preserve is situated atop the southern California batholith consisting of Cretaceous granitic rocks. These rocks form the majority element of this massive feature that underlies roughly two-fifths of San Diego County. In the Preserve, this exposed granitic bedrock is comprised of either the Woodson Mountain Granodiorite or the Green Valley Tonalite Formations, which consist principally of granodiorite, tonalite (quartz diorite), and minor occurrences of granite (Strand 1962).

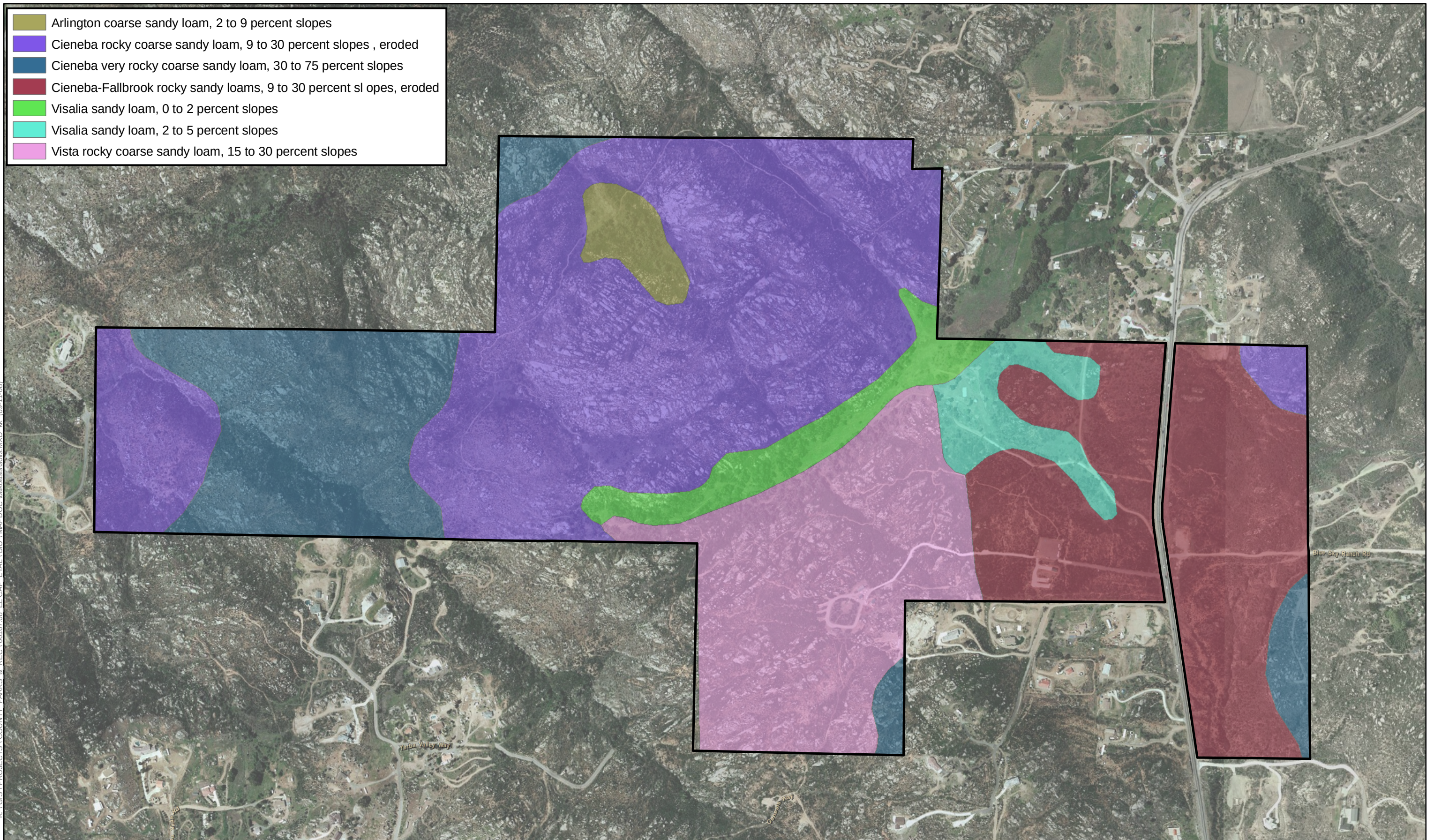
Within the Preserve, several general soil associations are represented: the Arlington series, Cieneba series, Visalia series, and Vista series (Figure 4). Each of these series is described in detail below.

Arlington Series

The Arlington soil series is characterized as moderately well drained moderately deep coarse sandy loams and is usually found on alluvial fans with slopes ranging from 2 to 9 percent. It is found at elevations ranging from 400 to 1,100 feet (122 to 335 meters) AMSL. The surface layer is brown in color and coarse sandy loam in texture. The subsoil is yellowish-brown, brown, and light yellowish-brown in color and slightly acidic. The substratum extends to a depth of 48 inches (122 centimeters) and is weakly cemented, slightly acidic coarse sandy loam. The specific soil type found in the Preserve is Arlington coarse sandy loam (2 to 9 percent slopes). Vegetation communities occurring on this soil type within the Preserve include non-native grassland, coast live oak woodland, and southern mixed chaparral.

Cieneba Series

The Cieneba soil series is characterized as excessively drained very shallow to shallow, coarse sandy loams and is usually found on slopes ranging from 5 to 75 percent. It is found on uplands at elevations ranging from 200 to 3,000 feet (61 to 914 meters) AMSL. It is usually 10 to 20 inches (25.4 to 50.8 centimeters) thick and medium acidic. The topsoil ranges from brown to dark brown in color and coarse sandy loam to sandy loam in texture. The layer below this consists of weathered granodiorite. Runoff is high to very high and the erosion hazard is very high. Boulders and rock outcrops are present. Specific soil types found in the Preserve consist of Cieneba rocky coarse sandy loam (9 to 30 percent, eroded), Cieneba very rocky coarse sandy loam (30 to 75 percent), and Cieneba-Fallbrook rocky sandy loams (9 to 30 percent slopes, eroded). This soil complex is about 55 percent Cieneba coarse sandy loam and 40 percent Fallbrook sandy loam (USDA 1973). Within the Preserve these soils types support southern mixed chaparral.



- Arlington coarse sandy loam, 2 to 9 percent slopes
- Cieneba rocky coarse sandy loam, 9 to 30 percent slopes , eroded
- Cieneba very rocky coarse sandy loam, 30 to 75 percent slopes
- Cieneba-Fallbrook rocky sandy loams, 9 to 30 percent sl opes, eroded
- Visalia sandy loam, 0 to 2 percent slopes
- Visalia sandy loam, 2 to 5 percent slopes
- Vista rocky coarse sandy loam, 15 to 30 percent slopes



Visalia Series

The Visalia soil series is characterized by moderately well drained, very deep sandy loams and is usually found on slopes ranging from 0 to 15 percent. It is found on alluvial fans and floodplains at elevations ranging from 400 to 2,000 feet (122 to 610 meters) AMSL. The surface layer is usually 12 inches (30.5 centimeters) thick and slightly acidic. The topsoil is dark grayish-brown in color and sandy loam in texture. The subsoil is dark grayish-brown, slightly acidic, sandy loam and loam and is more than 60 inches (152.4 centimeters) thick. Runoff is very slow to medium and the erosion hazard is slight to moderate. The gravelly sandy loam consists of approximately 15 percent gravel. The specific soil type found within the Preserve is Visalia sandy loam (0 to 2 percent slopes) and Visalia sandy loam (2 to 5 percent slopes). Within the Preserve these soil types support southern coast live oak riparian forest, non-native grassland, and southern mixed chaparral.

Vista Series

The Vista soil series is characterized by well drained, moderately deep and deep coarse sandy loams and is usually found on slopes ranging from 5 to 65 percent. It is found on uplands at elevations ranging from 300 to 2,500 feet (91 to 62 meters) AMSL. The surface layer is usually 19 inches (48.3 centimeters) thick and neutral and slightly acidic. The topsoil is dark grayish-brown and dark brown in color and consists of sandy loam in texture. The subsoil is dark brown and yellowish-brown in color, slightly acidic, coarse sandy loam and is about 16 inches (40.6 centimeters) thick. Below this layer the soil consists of strongly weathered granitic rock. Runoff is slow to medium and the erosion hazard is slight to moderate. The specific soil type found in the Preserve is Vista rocky coarse sandy loam (15 to 30 percent slopes). This soil type supports southern mixed chaparral within the Preserve.

2.3.2 Climate

A semi-permanent, Pacific high-pressure cell, located over the Pacific Ocean, dominates San Diego County's climate. This cell drives the dominant on-shore circulation, maintaining clear skies for much of the year. Summers at the Preserve are typically warm and dry, while winters are mild with occasional rain (USDA 1973).

The Western Regional Climate Center, a collaborative project of the National Oceanic and Atmospheric Agency and the Desert Research Institute, maintains a climatic station in El Cajon, the closest such station to the Preserve. Data collected at the station indicate that the area experiences a normal mean temperature of approximately 65 degrees Fahrenheit (°F) (18.3 degrees Celsius; °C), with a mean maximum temperature of 77.8°F (25.4°C) and a mean minimum of 52.4°F (11.3°C). The El Cajon area tends to experience more sunshine than the coastal regions of southern California due to its inland location. In a normal year, precipitation at the Preserve averages 15 to 18 inches and falls mostly in the winter and spring (San Diego County Flood Control District 2007).

A predominant feature of the local climate is the sea-breeze/land-breeze cycle. During the daytime, particularly in the summer, on-shore winds move inland with speeds of approximately seven to ten miles per hour (mph). Easterly land breezes of approximately two to four mph often occur at night. Surrounding rugged terrain, which induces turbulence into the airflow, modifies the influence of this cycle. This cycle is also periodically affected by land airflow that dominates weather patterns. The most widely recognized of these are the Santa Ana conditions, during which strong, hot and dry easterly winds prevail for two- or three-day periods.

2.3.3 Hydrology

The Preserve is situated within the San Diego River Watershed. Designated beneficial uses for the San Diego River and its tributaries include municipal and domestic supply; agricultural supply; industrial service supply; industrial process supply; contact and non-contact water recreation; warm freshwater habitat; cold freshwater habitat; wildlife habitat; and rare, threatened, or endangered species habitat (California RWQCB 1994).

Three unnamed seasonal blue-line streams occur within the Preserve (Figure 5). Two are tributaries to San Vicente Reservoir and one is a tributary to the San Diego River.

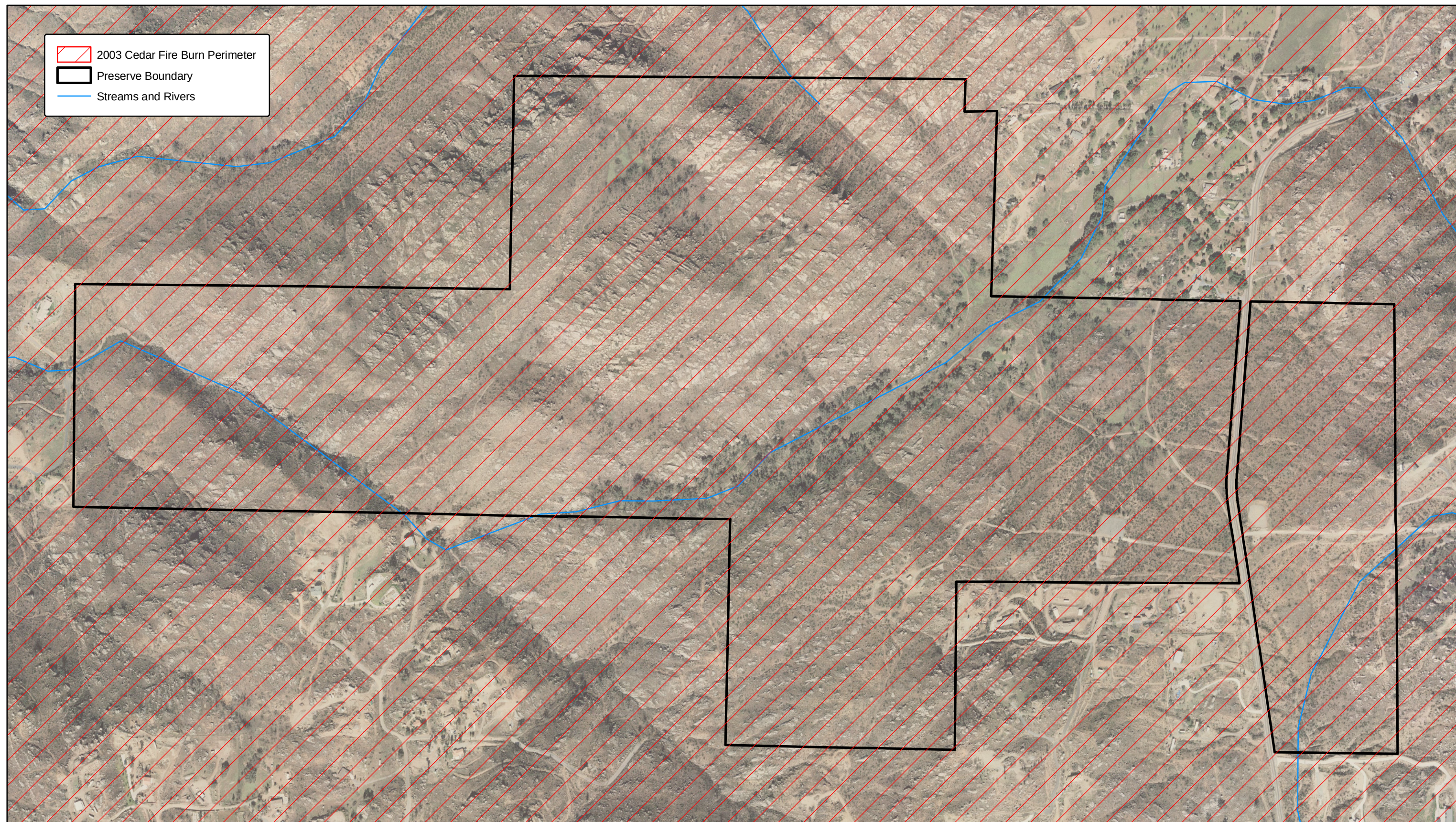
2.3.4 Fire History

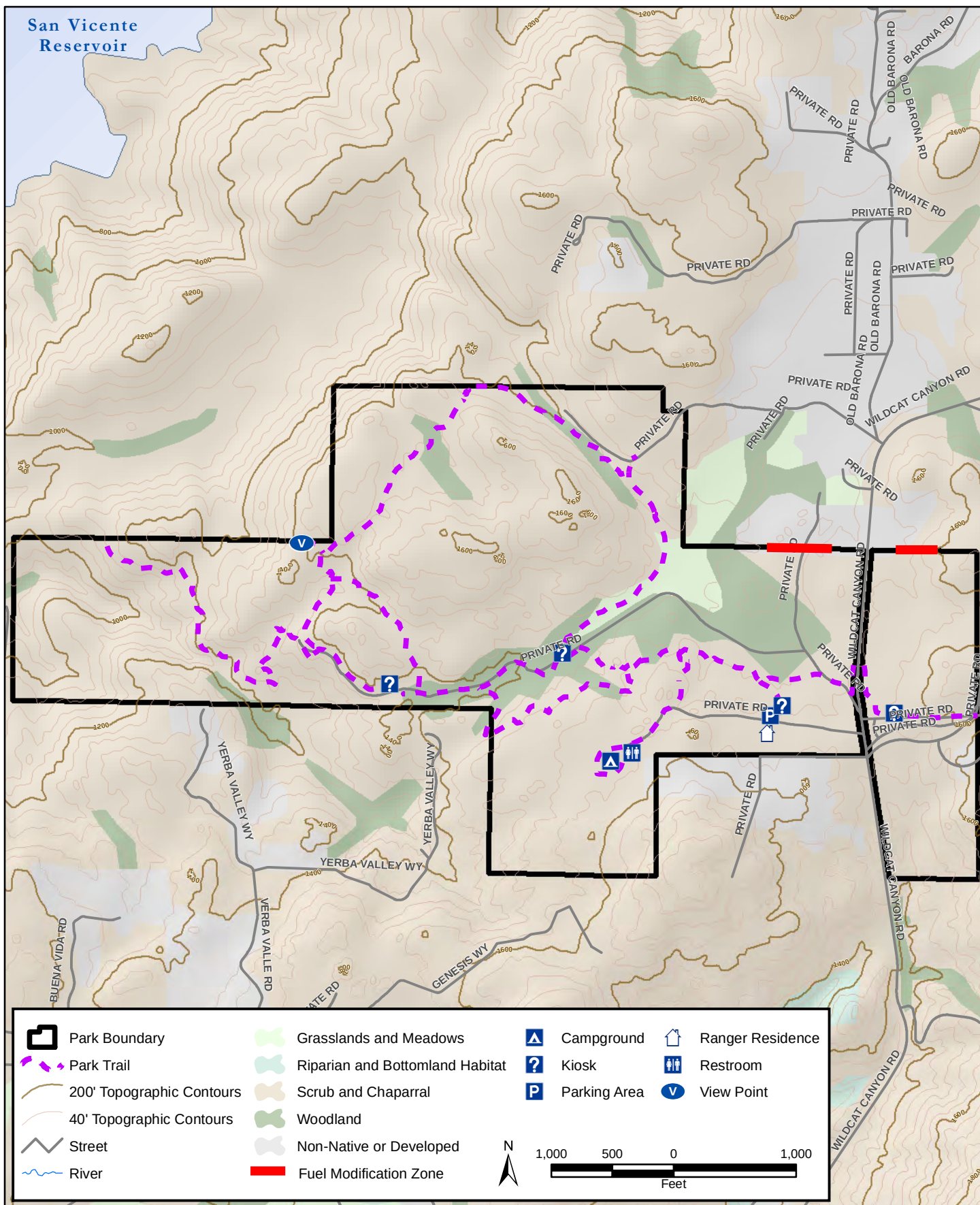
According to the County of San Diego fire burn history data, portions of the Preserve have burned in 1959 and 1961. Most recently, the entire Preserve burned in the 2003 Cedar Fire (SanGIS 2008) (Figure 5). The Preserve is located within the jurisdiction of the Lakeside Fire Protection District.

2.4 Land Use

2.4.1 On-Site Land Use

The Preserve is an approximately 400-acre open space preserve. The driveway to the Preserve is located along the west side of Wildcat Canyon Road, which bisects the Preserve. The driveway is gated to control vehicle access to the Preserve. Within the western portion of the Preserve, approximately 0.1 mile down the driveway, is a ranger residence and an equestrian staging area. Further down the driveway, approximately 0.4 mile west of Wildcat Canyon Road, are both camping and picnic facilities (Figure 6). The portion of the Preserve east of Wildcat Canyon Road consists of the staging area for the nearby El Capitan Preserve. A tunnel underneath Wildcat Canyon Road connects both the east and west portions of the Preserve.





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Figure 6
Land Use Map
Oakoasis Preserve

A 4.9-mile multi-use trail system and several private roads occur throughout the undeveloped portion of the Preserve. In addition, several San Diego Gas & Electric (SDG&E) distribution lines and one transmission line occur within the Preserve on both sides of Wildcat Canyon Road.

2.4.2 Adjacent Properties

The Preserve is surrounded by vacant undeveloped land, open space, and spaced rural residential uses. The eastern boundary of the Preserve is immediately adjacent to San Diego Audubon Society owned property, including the Silverwood Wildlife Sanctuary. The western boundary of the Preserve is immediately adjacent to City of San Diego open space, and lies approximately 0.2 mile southeast of the San Vicente Reservoir. Vacant undeveloped land and spaced rural residences occur along the northern and southern boundaries of the Preserve.

2.4.3 Easements or Rights

Several easements and/or right-of-ways cross through the Preserve boundary. The County maintains an 84-foot right-of-way along Wildcat Canyon Road for provision of road improvements and other underground and overhead improvements. There are also several SDG&E easements that cross through the Preserve near Wildcat Canyon Road including: four 12-foot-wide distribution line right-of-ways, one 30-foot-wide transmission line right-of-way, and one anchor easement associated with a power pole. SDG&E conducts operation and maintenance activities for their facilities in accordance with the SDG&E Subregional Natural Community Conservation Plan (NCCP) (SDG&E 1995). The SDG&E NCCP was approved by the Wildlife Agencies and is consistent with this RMP.

2.5 Trails

The Preserve contains approximately 4.9 miles of multi-use (hiking, biking, and equestrian use) trails (Figure 6), including approximately 1.8 miles of the Trans-County Trail. These trails include dirt roads and single track footpaths that navigate users through a large portion of the Preserve. Associated with the trail system are recreational camping facilities located along the southeastern portion of the Preserve.

3.0 BIOLOGICAL RESOURCES DESCRIPTION

In 2008 (February to October) Jones & Stokes Associates, Inc. conducted baseline biological resources surveys of the Preserve. The results of these surveys can be found in the biological resources report entitled, *Baseline Biological Resources Evaluation for the Oakoasis Open Space Preserve*, dated December 2008, and attached as Appendix A. The survey results were used in the preparation of this RMP.

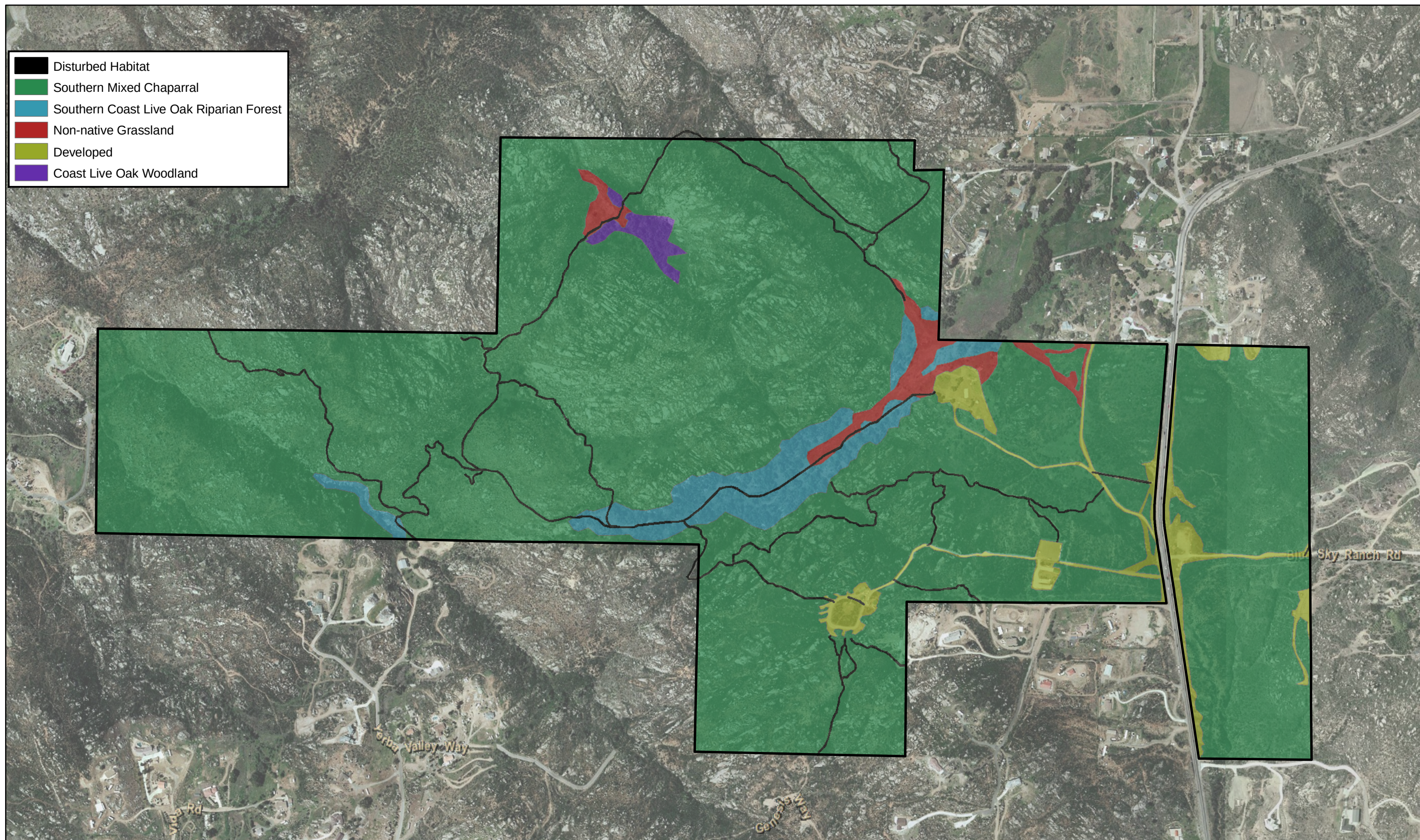
The 2008 surveys documented six land cover types and 243 species that were detected throughout the Preserve. These surveys detected 115 plant species, 63 bird species, 29 mammal species (nine small mammals, eight medium and large bodied mammals, and 12 bats), 14 herpetiles (two amphibian and 12 reptiles), and 22 invertebrate species. This list includes 26 sensitive species, of which one plant and five wildlife species are MSCP-covered species.

3.1 Vegetation Communities/Habitat

Vegetation communities present within the Preserve consist of southern coast live oak riparian forest, open coast live oak woodland, southern mixed chaparral, non-native grassland, disturbed habitat and developed lands (Figure 7, Table 1). A description of the vegetation communities and the dominant plant species detected during the survey are found below.

Table 1. Vegetation Communities within the Preserve

Vegetation Community	Acreage
Southern Coast Live Oak Riparian Forest	16.9
Coast Live Oak Woodland	2.6
Southern Mixed Chaparral	361.0
Nonnative Grassland	7.1
Disturbed Habitat	4.0
Developed (includes roads, ranger house and camping facilities)	13.4
Total	405.0



SOURCE: ESRI Imagery



Southern Coast Live Oak Riparian Forest (Holland Code 61310)

Southern coast live oak riparian forest is a dense evergreen sclerophyllous riparian forest dominated by coast live oak (*Quercus agrifolia*). According to Holland (1986), it is richer in herbs and poorer in understory shrubs than other riparian communities. It typically occurs in bottom lands and outer floodplains along larger streams, on fine-grained, rich alluvium. Approximately 16.9 acres of southern coast live oak riparian forest occurs along several stream courses within the Preserve.

Open Coast Live Oak Woodland (Holland Code 71161)

Open coast live oak woodland is typically dominated by coast live oak trees that reach 30 to 80 feet (nine to 24 meters) in height. The shrub layer within this habitat is usually poorly developed while the herb layer is continuous and typically dominated by nonnative grasses. This community typically occurs on north-facing slopes and shaded ravines in southern California (Holland 1986). Coast live oak was the dominant plant species in areas mapped as open coast live oak woodland. Onsite the 2.6 acres of this habitat is found within the northeast portion of the Preserve.

Southern Mixed Chaparral (Holland Code 37120)

Southern mixed chaparral is generally composed of broad-leaved sclerophyll shrubs that form dense vegetation with little or no understory. The majority (approximately 361 acres) of the Preserve supports this vegetation community. Dominant plant species observed within this habitat include chamise (*Adenostoma fasciculatum*), laurel sumac (*Malosma laurina*), mission manzanita (*Xylococcus bicolor*), and scrub oak (*Quercus berberidifolia*). Other species present include Lakeside ceanothus (*Ceanothus cyaneus*), chaparral whitethorn (*Ceanothus leucodermis*), holly leaf redberry (*Rhamnus ilicifolia*), sugar bush (*Rhus ovata*), Our Lord's candle (*Yucca whipplei*), thicketleaf yerba santa (*Eriodictyon crassifolium*), blue elderberry (*Sambucus mexicana*), wild cucumber (*Marah macrocarpus*), and manzanita (*Arctostaphylos* sp.).

Non-Native Grassland (Holland Code 42200)

Non-native grassland is characterized by a dense to sparse cover of annual grasses reaching up to three feet (one meter), which may include numerous native wildflowers, particularly in years of high rainfall. These annuals germinate with the onset of the rainy season and set seeds in the late spring or summer. This community is usually found on fine-textured soils that proceed from moist or waterlogged in the winter to very dry during the summer and fall (Holland 1986). Non-native grasslands, in many circumstances, have replaced native grasslands as a result of disturbance (directly manmade [e.g., mechanical disturbance, grazing] or natural [i.e., altered fire cycles]). Within the Preserve approximately 7.1 acres of

nonnative grassland is found adjacent to the southern coast live oak riparian forest and within the vicinity of the coast live oak woodland.

Disturbed Habitat (Holland Code 11300)

The approximately 4.0 acres of disturbed habitat within the Preserve consist of trails used for recreational purposes including hiking, and horseback riding.

Developed Land (Holland Code 12000)

The approximately 13.4 acres of developed land within the Preserve consist of existing roads, a parking lot, camping facilities and a ranger house.

3.2 Plant Species

3.2.1 Plant Species Present

Floristic inventories detected 115 plant species at the Preserve. The Baseline Biological Resources Evaluation (Appendix A) includes the complete list of all species observed during the surveys.

3.2.2 Rare, Threatened or Endangered Plants Present

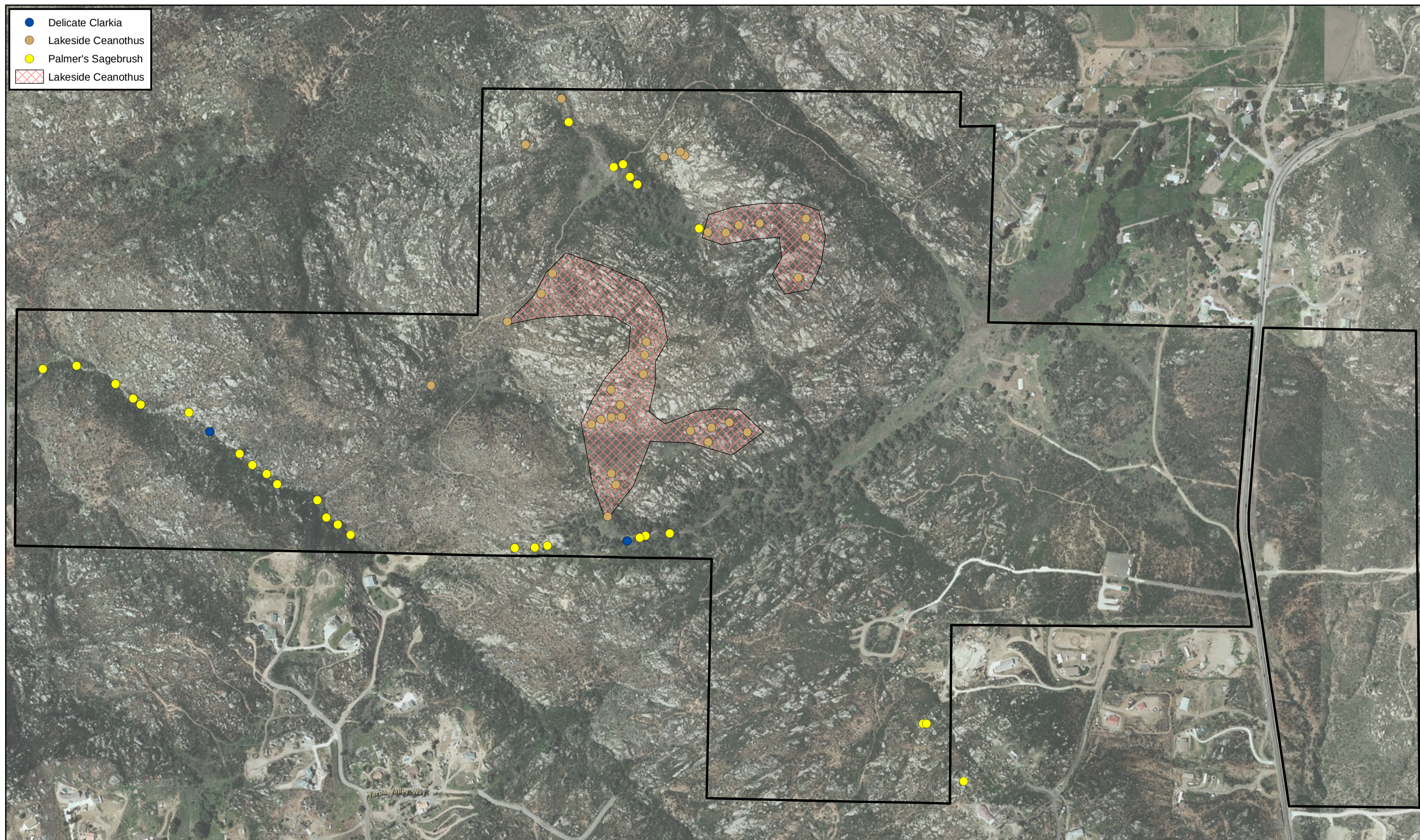
A special-status plant species is one listed by federal or state agencies as threatened or endangered; considered to be of special status by one or more special interest groups, such as the California Native Plant Society (e.g., CNPS List 1, 2, 3, and 4 Plant Species); is included on the County's Sensitive Plant list (Group A, B, C, or D Listed Plants); or is covered under the MSCP.

Three special-status plant species were detected within the Preserve (Figure 8) including: delicate clarkia (also known as Campo clarkia) (*Clarkia delicata*), Palmer's sagebrush (also known as San Diego sagewort) (*Artemisia palmeri*), and Lakeside ceanothus (*Ceanothus cyaneus*). Each of these species is addressed below in more detail.

Delicate Clarkia (also known as Campo Clarkia) (*Clarkia delicata*)

CNPS List 1B, San Diego County Group A

Delicate clarkia is an annual wildflower that is typically found on the periphery of oak woodland habitats and within cismontane chaparral. Two different delicate clarkia populations are located within the center portion of the Preserve.



SOURCE: ESRI Imagery



Lakeside Ceanothus (*Ceanothus cyaneus*)*CNPS List 1B, MSCP Covered Species, San Diego County Group A*

Lakeside ceanothus is known from an extremely small range (southern Ramona to the foothills of Lakeside). Typically, this *Ceanothus* occurs in dense, almost impenetrable chaparral with a mix of chamise and other shrubs such as manzanita. Lakeside ceanothus found on the Preserve is within the rocky chaparral located within the northern portion of the Preserve. This species is a common component of the chaparral in the northern portion of the Preserve.

Palmer's Sagebrush (also known as San Diego sagewort) (*Artemisia palmeri*)*CNPS List 4, San Diego County Group D*

Palmer's sagebrush is typically found along creeks and drainages near the coast and within inland chaparral. Within the Preserve, this species is widely scattered within the southern mixed chaparral and woodland habitats.

3.2.3 Rare, Threatened or Endangered Plants with High Potential to Occur

Only one special status plant, Orcutt's Brodiaea (*Brodiaea orcuttii*), has a high potential to occur within the Preserve. Additional information on this species can be found in the Baseline Biological Resources Evaluation (Appendix A).

Orcutt's Brodiaea (*Brodiaea orcuttii*)*CNPS List 1B, MSCP Covered Species, San Diego County Group A*

The non-native grasslands within the Preserve could potentially support this MSCP-covered plant species.

3.2.4 Non-native and/or Invasive Plant Species

The Preserve is dominated primarily by native and naturalized plant species. While some individual invasive, non-native plants were detected during the 2008 surveys, these species are not abundant and currently do not pose a threat to the Preserve.

3.3 Wildlife Species**3.3.1 Wildlife Species Present**Invertebrates

A complete list of invertebrate species identified on the Preserve below the level of family is included in the faunal list of the Baseline Biological Resources Evaluation (Appendix A). No special-status butterfly species or other invertebrate species were

detected during any surveys, and no special status invertebrate species have high potential to occur at the Preserve.

Butterflies

Butterfly species observed during the 2008 surveys include: Sara's orangetip (*Anthocaris sara*), Behr's metalmark (*Apodemia mormo virgulti*), brown elfin (*Callophrys augustinus*), orange sulfur (*Colias eurytheme*), funereal duskywing (*Erynnis funeralis*), pale swallowtail (*Papilio eurymedon*), common white (*Pontia protodice*), and painted lady (*Vanessa cardui*). No Quino checkerspot butterfly or any other special-status butterfly surveys were performed on the Preserve. While not detected, both Quino checkerspot and Hermes copper (*Lycaena hermes*) have potential to occur within the Preserve based on the presence of their primary host plants, dwarf plantain (*Plantago erecta*) and spiny redberry (*Rhamnus crocea*), respectively.

Other Invertebrates

Twelve other invertebrate species were captured in the pitfall traps associated with the herpetological array or observed during other fieldwork. These species were identified in the field, or photographed and provided to a local entomologist to identify. No invertebrate species were collected.

Amphibians

Two amphibian species, including Pacific chorus frog (*Pseudacris regilla*) and western toad (*Bufo boreas*), were captured in the pitfall traps during the 2008 sampling at the Preserve. Western toad tadpoles were observed in several ponded areas within the meadow in the central portion of the Preserve. Pacific chorus frog tadpoles were observed in the stream in the western portion of the Preserve. No sensitive amphibian species were detected during the 2008 surveys.

Reptiles

During the 2008 sampling at the Preserve, 12 reptile species were detected including: southern alligator lizard (*Elgaria multicarinata*), San Diego horned lizard (*Phrynosoma coronatum blainvilli*), western fence lizard (*Sceloporus occidentalis*), granite spiny lizard (*Sceloporus orcutti*), side-blotched lizard (*Uta stansburiana*), Gilbert's skink (*Eumeces gilberti*), coastal western whiptail (*Cnemidophorus tigris stejnegeri*), Coronado skink (*Eumeces skiltonianus interparietalis*), granite night lizard (*Xantusia henshawi*), striped racer (*Masticophis lateralis*), two-striped garter snake (*Thamnophis hammondi*), and western rattlesnake (*Crotalus oreganus*). Two additional species, western blind snake (*Leptotyphlops humilis*), and night snake (*Hypsiglena torquata*), have been observed by park rangers. A complete list of herpetofauna observed within the Preserve during the 2008 herpetological surveys

is included in the faunal list of the Baseline Biological Resources Evaluation (Appendix A).

Birds

Avian species richness (total species detected) was found to be moderate at the Preserve. In total, 63 bird species were detected with 55 species detected during the point counts, and eight detected during other fieldwork. These included year-round residents, winter-only species, breeding species that migrate to the Neotropics, and species that are strictly migratory through the Preserve, neither breeding nor wintering there. A complete list of avian species observed within the Preserve during the 2008 surveys is included in the faunal list of the Baseline Biological Resources Evaluation (Appendix A).

The Preserve's avifauna is a mixture of species that are closely associated with the riparian habitat and the surrounding chaparral that is recovering from the 2003 Cedar Fire. These species include California quail (*Callipepla californica*), black-chinned hummingbird (*Archilochus alexandri*), Costa's hummingbird (*Calypte costae*), Anna's hummingbird (*Calypte anna*), acorn woodpecker (*Melanerpes formicivorus*), Nuttall's woodpecker (*Picoides nuttallii*), ash-throated flycatcher (*Myiarchus cinerascens*), Pacific slope flycatcher (*Empidonax difficilis*), oak titmouse (*Baeolophus inornatus*), white-breasted nuthatch (*Sitta carolinensis*), canyon wren (*Catherpes mexicanus*), Bewick's wren (*Thryomanes bewickii*), house wren (*Troglodytes aedon*), spotted towhee (*Pipilo maculatus*), California towhee (*Pipilo crissalis*), southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*), song sparrow (*Melospiza melodia*), lazuli bunting (*Passerina amoena*), house finch (*Carpodacus mexicanus*), and lesser goldfinch (*Carduelis psaltria*).

The Preserve has a good diversity of raptors (birds of prey), including seven raptor species observed: turkey vulture (*Cathartes aura*), white-tailed kite (*Elanus leucurus*), Cooper's hawk (*Accipiter cooperii*), red-shouldered hawk (*Buteo lineatus*), red-tailed hawk (*Buteo jamaicensis*), barn owl (*Tyto alba*), and great horned owl (*Bubo virginianus*). These birds are using the Preserve for foraging and some species have potential to breed on site; however, no active raptor nests were observed.

The nocturnal bird surveys documented three nocturnal species using the Preserve: barn owl, great horned owl and common poorwill (*Phalaenoptilus nuttallii*). The Preserve supports high potential for two additional nocturnal species: western screech-owl (*Megascops kennicottii*) and lesser nighthawk (*Chordeiles acutipennis*). These species could be present in small numbers, though were not detected during the surveys. Western screech-owl was historically observed onsite by park rangers, but has not returned since the 2003 Cedar Fire.

The Preserve supports a small patch of willows but the riparian vegetation is best described as oak riparian forest with an open understory. There is no reasonable

potential for southwestern willow flycatcher (*Empidonax traillii extimus*) to occur at the Preserve beyond rare and brief visits, due to lack of suitable habitat. It is likely that other subspecies of willow flycatcher pass through the Preserve in spring and fall, though they were not recorded during the current work. There is moderate potential for least Bell's vireo (*Vireo bellii pusillus*) to occur at the Preserve, but once again this would be in a rare or brief visit.

Mammals

A complete list of mammal species observed within the Preserve during the 2008 surveys is included in the faunal list of the Baseline Biological Resources Evaluation (Appendix A).

Small Mammals

In total, nine small mammal species were recorded at the Preserve during small mammal trapping and other surveys including: Dulzura pocket mouse (*Chaetodipus californicus femoralis*), Dulzura kangaroo rat (*Dipodomys simulans*), California mouse (*Peromyscus californicus insignis*), northern Baja mouse (*Peromyscus fraterculus*), San Diego desert woodrat (*Neotoma lepida intermedia*), desert shrew (*Notiosorex crawfordi*), California ground squirrel (*spermophilus beecheyi nudipes*), Botta's pocket gopher (*Thomomys bottae*), and California vole (*Microtus californicus*). These species were detected through capture, direct observation or sign. The trapping results indicate that the Preserve has moderate diversity in small mammal species with 29 captures from five species. The species detected are commonly found in the habitats found on the Preserve.

Medium to Large Mammals

A total of eight medium to large mammal species were detected in the Preserve during the 2008 surveys including: desert cottontail (*Sylvilagus audubonii*), coyote (*Canis latrans*), common raccoon (*Procyon lotor*), striped skunk (*Mephitis mephitis*), bobcat (*Felis rufus*), domestic dog (*Canis familiaris*), domestic horse (*Equus caballus*), and southern mule deer (*Odocoileus hemionus fuliginata*).

Coyote, striped skunk (*Mephitis mephitis*), common raccoon (*Procyon lotor*), bobcat, domestic horse (*Equus caballus*) and southern mule deer were detected in the Preserve through direct observation, tracks, sign, and nocturnal surveys (Table 11, Appendix B). Movement of larger animals appeared to be concentrated along easily traveled routes with good visibility such as roads and ridges. Most sign of smaller animals was within natural communities with cover, especially chaparral.

Bats

A total of 12 bat species were detected during the three seasons of bat monitoring in 2008. The most active bat species detected were the long-eared myotis (*Myotis*

evotis), canyon bat (*Parastrellus hesperus*), and pocketed free-tailed bat (*Nyctinomops femorosaccus*). Species detected infrequently included the California myotis (*Myotis californicus*), Yuma myotis (*Myotis yumanensis*), big brown bat (*Eptesicus fuscus*), small-footed myotis (*Myotis ciliolabrum*), western red bat (*Lasiurus blossevillii*), and Townsend's big-eared bat (*Corynorhinus townsendii*). The bat species detected during all three seasonal monitoring sessions included the canyon bat, pocketed free-tailed bat, and Mexican free-tailed bat (*Tadarida brasiliensis*). The big free-tailed bat (*Nyctinomops macrotis*) was detected only during the spring while the long-eared myotis was detected only during the summer.

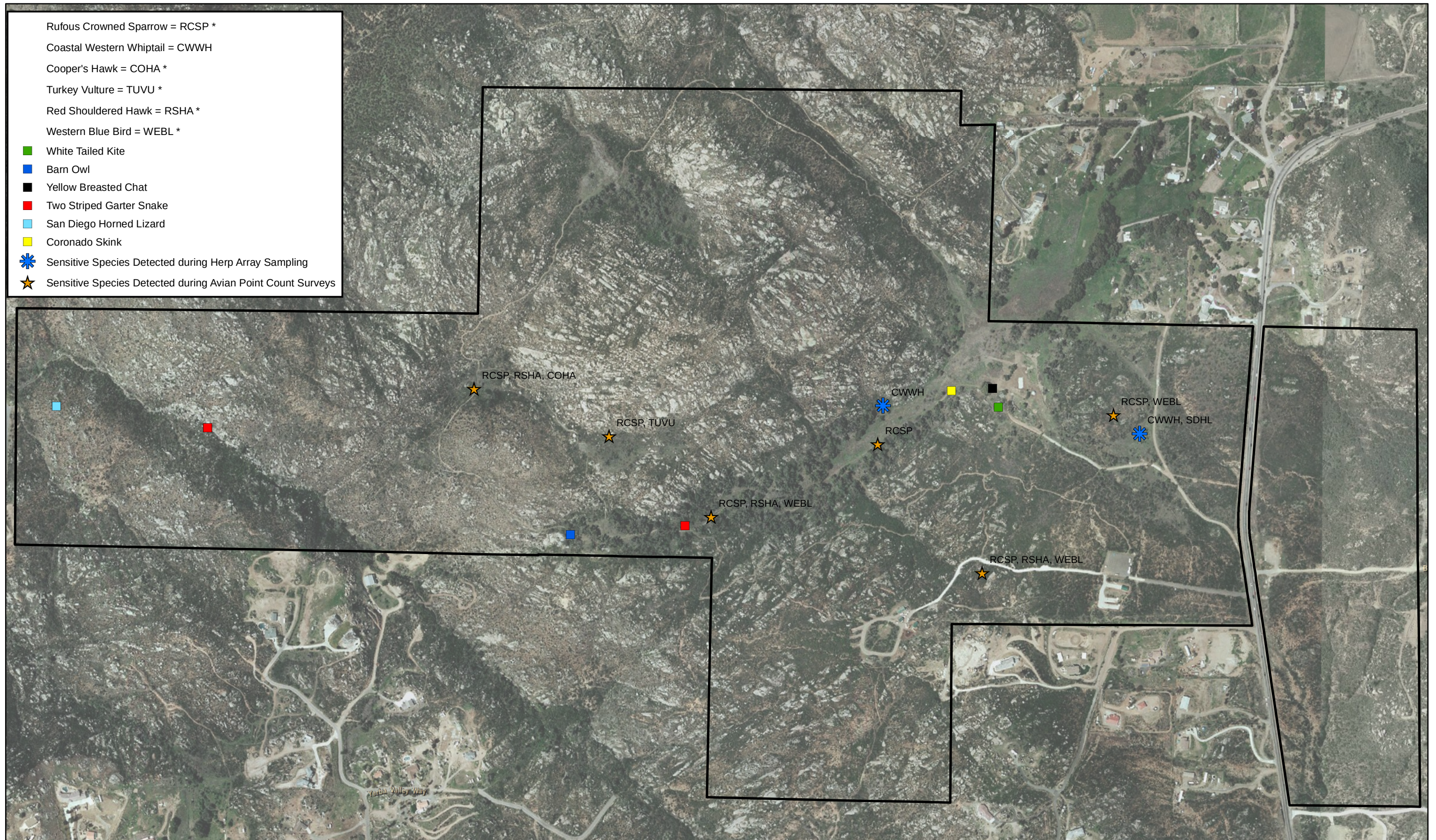
3.3.2 Rare, Threatened or Endangered Wildlife Present

This section discusses special-status wildlife species observed at the Preserve (Figure 9). A special-status wildlife species is one listed by federal or state agencies as threatened or endangered; is included on the County's Sensitive Animal List (Group 1 or 2 Species); or is covered under the MSCP. Twenty-three special-status wildlife species were detected at the Preserve. Each of these 23 species is addressed below in more detail.

San Diego Horned Lizard (*Phrynosoma coronatum blainvillii*)

State Species of Special Concern, MSCP Covered Species, San Diego County Group II

The San Diego horned lizard is a large lizard that historically was found in Kern, Los Angeles, Santa Barbara, and Ventura counties southward to Baja California, Mexico. Horned lizards inhabit a variety of vegetation communities including coastal sage, annual grassland, chaparral, oak woodland, riparian woodland, and coniferous forest (Stebbins 2003). Loose, fine soils with a high sand content, an abundance of prey and open areas with limited overstory typify suitable habitat for this species (Jennings and Hayes 1994). The San Diego horned lizard's insectivorous diet consists mostly of native harvester ants (*Pogonmyrmex* sp.) which make up over 90% of their prey items, but it is an opportunistic feeder that will take other insects including termites, beetles, flies, wasps, and grasshoppers (Stebbins 2003, Jennings and Hayes 1994). This species has disappeared from about 45% of its former range and a number of factors have led to this decline including habitat fragmentation and degradation, loss of native prey to exotic species, and extensive collection for the curio trade (Jennings and Hayes 1994). The specialized diet of harvester ants has made horned lizards especially vulnerable to extirpation since the introduction of Argentine Ants (*Linepithema humile*). This species was captured in one of the two arrays in July.



SOURCE: ESRI Imagery



Coronado Skink (*Eumeces skiltonianus interparietalis*)*State Species of Special Concern, San Diego County Group II*

The Coronado skink is a medium-sized secretive lizard that is typically found in the moister areas of coastal sage, chaparral, oak woodlands, pinon-juniper, riparian woodlands and pine forests (Jennings and Hayes 1994). Their prey includes small invertebrates found in leaf litter or dense vegetation at the edges of rocks and logs. The Coronado skink is found along the coastal plain and Peninsular Ranges west of the deserts from approximately San Geronio Pass in Riverside County south to San Quentin, Mexico (Jennings and Hayes 1994). Coronado Skink was observed during surveys of the Preserve.

Coastal Western Whiptail (*Cnemidophorus tigris multiscutatus*)*San Diego County Group II*

Coastal western whiptail is a medium-sized slender lizard that is found in arid and semiarid desert to open woodlands where the vegetation is sparse so running is easy (Stebbins 2003). Its range includes coastal Southern California and western Baja California. The decline of coastal western whiptails is likely due to loss of habitat to agriculture and urban development. This species was captured numerous times throughout the trapping program in both arrays.

Two-Striped Garter Snake (*Thamnophis hammondi*)*State Species of Special Concern, San Diego County Group I*

Two-striped garter snake occurs west of the deserts and Central Valley from Salinas, Monterey County, south into Baja California, and at elevations from sea level up to about 8,000 feet (2,438 meters) AMSL in the San Jacinto Mountains (Jennings and Hayes 1994). It is often in water and rarely found far from it, though it is also known to inhabit intermittent streams having rocky beds bordered by willow thickets or other dense vegetation (Jennings and Hayes 1994). They will also inhabit large riverbeds such as those of the Santa Ana and Santa Clara rivers if riparian vegetation is available, and even occur in artificial impoundments if both aquatic vegetation and suitable prey items (small amphibians and fish) are present (Jennings and Hayes 1994). Declines are attributable directly to loss of riparian habitats. This species was observed during surveys of the Preserve.

Turkey Vulture (*Cathartes aura*)*San Diego County Group I*

Turkey vultures are often seen foraging over woodlands and nearby open country (Unitt 2004). They prefer dry, open country, ranch lands and often occur along

roadsides where carrion is common. They nest in crevices among granite boulders (Unitt 2004). The turkey vulture's range has been retracting from the coast due to human disturbance, loss of foraging habitat and pesticide contamination (Unitt 2004). Turkey vultures were observed foraging over the Preserve.

White-Tailed Kite (*Elanus caeruleus*)

State Fully Protected Species (nesting), San Diego County Group I

The white-tailed kite is found in lower elevations in open grasslands, agricultural areas, wetlands, and oak woodlands. Their primary source of food is the California vole (*Microtus californicus sanctidiegi*) (Unitt 2004). It typically forages in open undisturbed habitats and nests in the top of a dense oak, willow or other large trees (Unitt 2004). The white-tailed kite population is on the decline mostly due to urban sprawl; however, this species is still considered fairly widespread throughout the foothills of San Diego County (Unitt 2004). A white-tailed kite was observed near the ranger residence in May. There is suitable foraging and nesting habitat within the boundaries of the Preserve, but breeding was not confirmed.

Cooper's Hawk (*Accipiter cooperii*)

San Diego County Group I, MSCP Covered Species

The Cooper's hawk is a resident of riparian deciduous habitats and oak woodlands, but in recent times has become adapted to urban park environments (Unitt 2004). They hunt their primary source of food, passerines, in broken woodlands and forest margins and they are also known to take fish and mammals. The Cooper's hawk population declined due to hunting and loss of habitat; however, this species is making a comeback through its adaptation to the urban environment (Unitt 2004). A transitory juvenile Cooper's hawk was observed on the Preserve in July. There is suitable foraging and breeding habitat on the Preserve; however, breeding was not confirmed on the Preserve.

Red-Shouldered Hawk (*Buteo lineatus*)

San Diego County Group I

The red-shouldered hawk was once an uncommon breeder of lowland riparian woodlands, but has been thriving in urban environments with large trees such as gum (*Eucalyptus sp.*) (Unitt 2004). On the west coast, this species is found in California and northern Baja California and is common throughout San Diego County (Unitt 2004). A red-shouldered hawk was detected in the riparian forest in June and September and most likely breeds somewhere in this riparian corridor.

Barn Owl (*Tyto alba*)*San Diego County Group II*

The barn owl is the owl species that is most tolerant to urban development (Unitt 2004). It will nest in buildings, nest boxes, at the base of the leaves in palm trees, and in cavities in native trees. Even though this species is tolerant of human development, dense housing communities do not provide suitable nesting habitat and loss of birds to increased traffic has a negative effect on the species (Unitt 2004). A barn owl was not detected at the Preserve until August, but there is potential for this species to breed in the southern coast live oak riparian forest.

Western Bluebird (*Sialia mexicana*)*San Diego County Group II, MSCP Covered Species*

The western bluebird is a stocky blue bird with a chestnut chest and is considered common in the foothills and mountains of San Diego County. This species can usually be found in montane coniferous and oak woodlands (Unitt 2004). It can also occur in areas with scattered trees, open forests, scrubs and during the winter in the desert. Western bluebirds breed in western North America from southern British Columbia south to central Mexico, east to western Montana and west Texas, but are absent from the Great Basin (Guinan et al. 2000). It can also winter outside its breeding range in central California and along the lower Colorado River (Guinan et al. 2000). Western bluebird numbers are declining due to loss of nesting cavities to logging, fire suppression, and competition with non-native species such as European starling and house sparrow (*Passer domesticus*) (Unitt 2004). A western bluebird pair was confirmed successfully breeding at one of the point count stations.

Yellow-Breasted Chat (*Icteria virens*)*State Species of Special Concern, San Diego County Group I*

The yellow-breasted chat is a medium sized insectivorous migratory passerine that is typically found in dense stands of riparian woodland that also have a well-developed understory. Chats are usually detected on their breeding grounds from April to late September near the edge of a stream, swampy ground or small pond. The loss of riparian habitat to development, agriculture and channeling of water has led to this species' decline. Some also mention that the decline may have been due to parasitism by the brown-headed cowbird (Gaines 1974, Unitt 2004). Numbers of yellow-breasted chats in San Diego County have been on the rise since the mid 1980s (Unitt 2004). Two yellow-breasted chats were observed in the southern coast live oak riparian forest adjacent to the ranger residence. It is unclear if they were breeding on site, but they were present in June during the breeding season.

Southern California Rufous-Crowned Sparrow (*Aimophila ruficeps canescens*)*San Diego County Group I, MSCP Covered Species*

The southern California rufous-crowned sparrow is a resident species that is closely associated with coastal sage scrub, steep rocky hillsides, burned chaparral, and openings in mature chaparral (Unitt 2004). Preferring open habitat, with approximately 50% shrub cover, this species seeks cover in shrubs, rocks, grass, and forb patches (Dudek 2000, Unitt 2004). The southern California subspecies is restricted to semiarid coastal sage scrub and sparse chaparral from Santa Barbara south to the northwestern corner of Baja California (Dudek 2000). Rufous-crowned sparrows are declining due to loss of appropriate habitat and are sensitive to habitat fragmentation (Unitt 2004). Southern California rufous-crowned sparrows were detected throughout the recovering shrub communities within the Preserve.

Dulzura Pocket Mouse (*Chaetodipus californicus femoralis*)*State Species of Special Concern, San Diego County Group II*

Dulzura pocket mouse is mainly active on the ground, but also climbs shrubs and small trees when feeding (CDFG 2005). This species can become torpid by day at any time of the year, and is inactive in cold wet weather. It breeds in spring to early summer and occurs from sea level to approximately 7,900 feet (2,408 meters) AMSL (CDFG 2005). This species prefers dense chaparral and is less common in dry grassland and desert scrub. During the small mammal trapping program, 19 individuals were captured at the Preserve.

San Diego Desert Woodrat (*Neotoma lepida intermedia*)*State Species of Special Concern, San Diego County Group II*

San Diego desert woodrat requires large amounts of water, which it obtains from fleshy plants such as *Yucca* species and prickly pear cactus (*Opuntia* sp.). It usually makes a stick house under one of these food plants, or may den among rocks (CDFG 2005). House materials include cacti, sticks, bones and a variety of debris. Houses provide insulation against excessive heat as well as protection from predators. This species breeds in late winter or spring, occurs from sea level to approximately 8,500 feet (2,591 meters) AMSL in deserts and coastal sage scrub, and prefers areas with rocky outcrops and plentiful succulents (CDFG 2005). During the small mammal trapping program, two individuals were captured at the Preserve.

Southern Mule Deer (*Odocoileus hemionus fuliginata*)*San Diego County Group II, MSCP Covered Species*

Southern mule deer are common across the western U.S. in a variety of habitats from forest edges to mountains and foothills (Whitaker 1996). Southern mule deer prefer edge habitats, rarely travel or forage far from water, and are most active around dawn and dusk. Southern mule deer sign were observed and individuals were photographed by the camera stations.

Small-Footed Myotis (*Myotis ciliolabrum*)

San Diego County Group II

The small-footed myotis is found through most of western North America, from southwestern Canada south into Mexico (BCI 2008). There is not much information on the habitat requirements of this species, but it has been documented under rock slabs and in crevices, mine tunnels, under loose tree bark, and in buildings (BCI 2008). This species hibernates in caves, typically in small groups. Reasons for decline are poorly understood as there has been little research conducted on this species. This species was detected during active surveys only. There is minimal roosting habitat for this species available on site; therefore, the Preserve may just be used for foraging by this species.

Long-Eared Myotis (*Myotis evotis*)

San Diego County Group II

Long-eared myotis is found in western North America from British Columbia south through California to Baja Mexico (BCI 2008). This species prefers coniferous forest in higher altitudes and will roost in caves, rock crevices, under tree bark or in buildings (BCI 2008). There is minimal roosting habitat for this species available on the Preserve. This species was detected during the summer bat monitoring session only. The Preserve may just be used for foraging by this species.

Yuma Myotis (*Myotis yumanensis*)

San Diego County Group II

The Yuma myotis is found throughout much of the western U.S. and up into Canada (BCI 2008). The species is always found near lakes, creeks or ponds where the species forages over the water. Typically, individuals skim low over the water and snatch up flying insects but they can forage in other mesic areas. The species roosts by day usually in buildings or bridges but have been documented using mines or caves (BCI 2008). Yuma myotis are threatened by loss of riparian habitat and the decline in permanent water sources in the southwest. This species was detected during the summer and fall bat monitoring sessions. Both suitable roosting and foraging habitat for the Yuma myotis occurs in the Preserve.

Western Red Bat (*Lasiurus blossevillii*)*State Species of Special Concern, San Diego County Group II*

Western red bats are found from southern Canada, throughout U.S., all the way down to South America (BCI 2008). Several species in the genus *Lasiurus* are commonly referred to as "tree bats" because they roost only in tree foliage. The western red bat is a typical tree bat, with a close association with cottonwoods (*Populus* sp.) and riparian areas (BCI 2008). Like all tree bats, this species is solitary, coming together only to mate and to migrate. Western red bats typically forage along forest edges, in small clearings, or around street-lights where they prefer moths (BCI 2008). Although largely undocumented, this species' decline appears to be in part due to the loss of lowland riparian forests in the Southwest. This species was detected during active surveys only. Both suitable roosting and foraging habitat for the western red bat occurs in the Preserve.

Townsend's Big-Eared Bat (*Corynorhinus townsendii*)*State Species of Special Concern, San Diego County Group II*

Townsend's big-eared bat occurs throughout the drier portions of California (Zeiner et al. 1990). It is non-migratory and hibernates from approximately October through April. A wide variety of natural communities are occupied but mesic sites are preferred. They capture a variety of prey while in flight, which is slow and maneuverable, and they are capable of hovering (Zeiner et al. 1990). The species is known to roost predominantly in caves, but will use lava tubes, mines, tunnels, buildings, and other man-made structures (BCI 2008). They are extremely sensitive to disturbance at their roosting sites and have suffered severe population declines throughout much of the U.S. (BCI 2008). This species was detected during active surveys only. The Townsend's big-eared bat may be roosting at the Preserve and using it for foraging. The mines located in the adjacent El Capitan Preserve also provide nearby roosting habitat for this species.

Pocketed Free-Tailed Bat (*Nyctinomops femorosaccus*)*State Species of Special Concern, San Diego County Group II*

Pocketed free-tailed bats are rarely found in southwestern California. These bats live in arid desert areas and roost in crevices high on cliff faces in rugged canyons (BCI 2008). Nursery colonies are relatively small and usually include fewer than 100 individuals. This species primarily forages on large moths, especially over water. The regional status and species trends are unclear, but it is likely vulnerable to disturbance, especially at roosts, and perhaps also to threats to food supply from man-made toxins. The pocketed free-tailed bat is likely not roosting in the Preserve as there are no cliffs, but the adjacent El Capitan Preserve provides suitable roosting habitat for this species. This species was detected during all three seasons of bat

monitoring. The individuals detected are likely using the Preserve as a place to forage.

Big Free-Tailed Bat (*Nyctinomops macrotis*)

San Diego County Group II

Big free-tailed bats are typically found in desert and arid grasslands with rocky outcrops, canyons, or cliffs (BCI 2008). This species roosts on cliffs and occasionally in buildings. Isolated populations can be found throughout the southwestern U.S. into Mexico. The regional status and species trends are unclear, but it is likely vulnerable to disturbance, especially at roosts, and perhaps also to threats to food supply from man-made toxins. This species was detected during the spring bat monitoring session only. The big free-tailed bat is likely not roosting in the Preserve as there are no cliffs, but the adjacent El Capitan Preserve does provide suitable roosting habitat. The individuals detected are using the Preserve as a place to forage.

Western Mastiff Bat (*Eumops perotis*)

State Species of Special Concern, San Diego County Group II

Western mastiff bats are the largest native bats in the United States. This subspecies occurs from the western foothills of the Sierra Nevada and the coastal ranges (south of San Francisco Bay) southward into Mexico (BCI 2008). In southern California, they are found throughout the coastal lowlands up to drier mid-elevation mountains, but avoid the Mohave and Colorado deserts (Zeiner et al. 1990). Habitats include dry woodlands, shrublands, grasslands, and occasionally even developed areas. This big bat forages in flight and most prey species are relatively small, low to the ground, and weak-flying. For roosting, western mastiff bats appear to favor rocky, rugged areas in lowlands where abundant suitable crevices are available for day roosts (BCI 2008). Roost sites may be in natural rock or in tall buildings, large trees or elsewhere. The reasons for this species' decline are poorly understood but probably are related to disturbance, habitat loss, and perhaps widespread use of pesticides. This species was detected during spring and fall bat monitoring sessions. The western mastiff bat is likely not roosting in the Preserve as there are no cliffs, but the adjacent El Capitan Preserve does provide suitable roosting habitat. The individuals detected are using the Preserve as a place to forage.

3.3.3 Rare, Threatened or Endangered Wildlife with High Potential to Occur

Additional information on the species listed below can be found in the Baseline Biological Resources Evaluation (Appendix A).

Quino Checkerspot Butterfly (*Euphydryas editha quino*)*Federally Endangered, San Diego County Group 1*

The Preserve is within the USFWS Quino checkerspot Survey Area 2. This species has a high potential to occur within the Preserve based on the presence of the Quino checkerspot's primary host plant, dwarf plantain (*Plantago erecta*).

Hermes Copper (*Lycaena hermes*)*San Diego County Group I*

This species has a high potential to occur within the Preserve based on the presence of the Hermes copper's primary host plant, spiny redberry (*Rhamnus crocea*).

Western Spadefoot (*Spea [=Scaphiopus] hammondi*)*State Species of Special Concern, San Diego County Group II*

This species is known to occur in the area and has high potential to occur in pooled areas along the stream courses within the Preserve.

Orange-throated Whiptail (*Cnemidophorus hyperythrus beldingi*)*State Species of Special Concern, MSCP Covered Species, San Diego County Group II*

This species has high potential to occur in chaparral on the Preserve.

California Legless Lizard (*Anniella pulchra*)*State Species of Special Concern, San Diego County Group II*

This species has a high potential to occur along the seasonal streams within the Preserve.

Coastal Rosy Boa (*Charina trivirgata roseofusca*)*San Diego County Group II*

This species has high potential to occur in rocky areas on the Preserve.

San Diego Ringneck Snake (*Diadophis punctatus similis*)*San Diego County Group II*

This species has high potential to occur in mesic areas throughout the Preserve.

Coast Patch-Nosed Snake (*Salvadora hexalepis virgutea*)

State Species of Special Concern, San Diego County Group II

This species has high potential to occur throughout the Preserve due to presence of suitable habitat.

Red Diamond Rattlesnake (*Crotalus ruber ruber*)

State Species of Special Concern, San Diego County Group II

This species has high potential to occur in the areas with boulders on the Preserve.

Northern Harrier (*Circus cyaneus*)

State Species of Special Concern, San Diego County Group I, MSCP Covered Species

Northern harriers have been documented foraging at the nearby Louis A. Stelzer County Park (Jones & Stokes 2008d). This nearby sighting and the presence of foraging habitat at the Preserve lead to high potential for this species to forage at the Preserve. The Preserve provides minimal suitable breeding habitat for this species and if it was breeding at the Preserve in 2008, this would have been detected.

Golden Eagle (*Aquila chrysaetos*)

State Fully Protected Species, San Diego County Group I, MSCP Covered Species

Golden eagles are known to occur at the nearby El Cajon Mountain. The Preserve may be used for foraging, but does not provide suitable nesting habitat for the species. A pair of golden eagles is known to occur in the vicinity of the Preserve; therefore, there is high potential for this species to sporadically occur at the Preserve.

Loggerhead Shrike (*Lanius ludovicianus*)

State Species of Special Concern, San Diego County Group I

This species has high potential to occur as there is appropriate foraging and nesting habitat at the Preserve.

Bell's Sage Sparrow (*Amphispiza belli belli*)*San Diego County Group I*

Bell's sage sparrow has high potential to occur as there is suitable nesting habitat for the species on the Preserve.

Northwestern San Diego Pocket Mouse (*Chaetodipus fallax fallax*)*State Species of Special Concern, San Diego County Group II*

One northwestern San Diego pocket mouse was captured at the nearby El Monte County Park (Jones & Stokes 2008b). Due to the proximity of this occurrence and the suitability of the habitat within the Preserve, there is high potential for this species to occur.

San Diego Black-Tailed Jackrabbit (*Lepus californicus*)*State Species of Special Concern, San Diego County Group I*

The Preserve supports suitable habitat for this species.

Mountain Lion (*Puma concolor*)*San Diego County Group II, MSCP Covered Species*

This Preserve and the surrounding open space provide habitat for mountain lion to use for foraging and cover. As there is a large amount of open space surrounding the Preserve, potential for this species to move through the Preserve is high.

Pallid Bat (*Antrozous pallidus*)*State Species of Special Concern, San Diego County Group II*

Both suitable roosting and foraging habitat for the pallid bat occurs in the Preserve.

3.3.4 Non-native and/or Invasive Wildlife Species

Two non-native or invasive bird species were detected during the 2008 surveys: European starling (*Sturnus vulgaris*) and brown-headed cowbird (*Molothrus ater*). Brown-headed cowbird, an obligate brood parasite was apparently present only as a migrant and wanderer on the Preserve. Nineteen sightings of individuals, mainly males, were recorded on or over the Preserve. No juveniles were detected indicating that this species may not parasitize nests on the Preserve. There was only one sighting of a European starling and this bird was flying high overhead. This species does not currently pose a threat to the native avian species on the Preserve.

3.4 Overall Biological and Conservation Value

The Preserve lies immediately adjacent to the Lake Jennings/Wildcat Canyon-El Cajon Mountain MSCP designated Core Biological Resource Area. Sixteen core biological resource areas and associated habitat linkages were identified in the MSCP study area. According to the MSCP Plan, core biological resource areas are defined as generally supporting a high concentration of sensitive biological resources which, if lost or fragmented, could not be replaced or mitigated elsewhere.

The Lake Jennings/Wildcat Canyon-El Cajon Mountain Core Biological Resource Area is adjacent to two habitat linkages: Interstate 8 at Lakeside which provides a connection to habitat south of Interstate 8; and Dehesa to El Capitan Reservoir which provides a connection to areas outside the South County MSCP boundary, and is an important corridor for species that occupy habitats other than coastal sage scrub.

To define the core and linkage areas, an extensive geographic information system database of vegetation communities, species locations, elevation, slope, soils, drainages, and other physical parameters were used to develop a habitat evaluation map for the study area. The habitat evaluation map ranks habitat areas as Very High, High, Moderate, or Low based on their potential to support priority gnatcatcher habitat, and wildlife corridors. According to the MSCP Habitat Evaluation Model, the habitat within the Preserve ranges from low to very high in value.

The native vegetation communities within the Preserve have a high ecological value. The most extensive habitat within the Preserve is southern mixed chaparral, which is considered MSCP Tier III habitat and supports a variety of sensitive plant and wildlife species. The other smaller habitat types within the Preserve are considered either MSCP Tier I habitat (oak and riparian woodlands) or MSCP Tier III habitat (non-native grasslands). In addition, the habitat features within the Preserve are highly supportive of a variety of rare and sensitive bat species.

A moderate number of bat species appear to be supported by the Preserve. The Preserve is fairly diverse and contains habitat features important to bats in the southern California landscape such as riparian vegetation, oak woodland, scrub vegetation, and a fairly extensive amount of exposed rocky outcrops (Krutzsch 1948, Stokes et al 2005). The occurrence of rare and sensitive species, such as the Townsend's big-eared bat, indicates the Preserve's importance to bat populations in this part of the County. The capture of three females of this species suggests there may be a maternity roost of this species in the Preserve or nearby. Interestingly, there was a maternity colony of this species known from the town of Foster in the early-mid 1900's, which was not too far from the Preserve (Krutzsch 1948). This town and maternity roost site was ultimately inundated by the creation of the San Vicente Reservoir, and the maternity colony was never observed again. It is possible these three bats are part of a maternity colony that is related ancestrally to the one observed over 50 years ago and was presumed lost.

3.4.1 Wildlife Linkages and Corridors

The Preserve is located in a relatively undeveloped area of San Diego County and abuts vacant undeveloped land, open space preserve areas, and spaced rural residential development. The Preserve occurs just east of the San Vicente Reservoir and north of the east–west trending upper San Diego River valley which is a wildlife corridor and provides local movement for a wide range of wildlife including mule deer, coyote, bobcat, and potentially mountain lion. Consequently, though the Preserve is located adjacent to some areas of developed land, it is considered to be within a core biological resource area and is adjacent to a regional biological linkage (Figure 3).

Movement of larger animals appeared to be concentrated along easily traveled routes with good visibility such as roads and ridges. Most signs of smaller animals were within natural communities with cover. No clear evidence of regular or important, larger-scale dispersal across the site was found, though such movement may well occur. Certainly it can be assumed that larger mammals regularly move on, off of, and across the Preserve, to and from adjacent open space.

4.0 CULTURAL RESOURCES

San Diego County is characterized by a rich and varied historical past. Cultural resources which reflect this history consist of archaeological remains, historic buildings, artifacts, photographs, oral histories, Native American memories and public documents. This RMP identifies the known cultural resources within Oakoasis Preserve and describes areas of potential resources.

In 2008, an archaeological survey was completed for the Preserve in compliance with the California Environmental Quality Act (CEQA) and County environmental guidelines to assist in continued and future land use and resource protection planning. The results of this study can be found in the report entitled, *Cultural Resources Phase I Survey and Inventory of County of San Diego El Capitan and Oakoasis Preserves and El Monte and Louis A. Stelzer Regional Parks, San Diego County, California*, dated October 2008, and is attached as Appendix B (Jordan and Eckhardt 2008). This Phase I inventory involved site records searches, literature reviews, Native American consultation, historic map checks, field survey, and resource documentation. The survey and inventory results were used in the preparation of this RMP.

4.1 Site History

The nineteenth century roots of the Oakoasis Preserve appear to be lost to history. The earliest mention is when Margaret Minshall, a teacher, purchased 240 acres and in 1936 built a log cabin on the property. The cabin featured a bedroom and living room but lacked running water and electricity. The absence of a kitchen indicates that cooking must have taken place outdoors on the stone grill. Margaret continued to add small parcels to her holdings, ultimately accumulating 397 acres.

Throughout the 1940s and 1950s, access to the back country became easier as the County improved and expanded the road system and the newer automobile provided reliable transportation for all classes. Margaret sought to turn this to her advantage by operating a summer camp that would give city girls an outdoor experience. With nearly a dozen horses and many miles of trail to ride, the aptly named Oakoasis summer camp must surely have satisfied many a young lady's dream.

In the years preceding Proposition 13, property taxes rocketed out of control and Margaret found it increasingly difficult to keep up the payments. She made an arrangement with the County of San Diego whereby property taxes were waived throughout her and her brother Frank's lifetimes. Following their deaths, the property was bequeathed to the County and plans were formulated to restore the cabin as well as re-establish equestrian trails. Oakoasis Preserve was still a work in progress in October of 2003 when the 2003 Cedar fire completely burned the Preserve. Despite the setback, the Park was reopened in June 2005.

4.2 Native American Consultation

Native American participation and consultation in the current study was initiated at the onset of background research and continued through the documentation and review process. Correspondence with the California Native American Heritage Commission (NAHC) was initiated February 6, 2008. A response, dated February 11, 2008, indicated that NAHC research did not indicate the presence of any Sacred Lands for the affected area, and recommended continuing consultation with Native American contacts provided on an attached list.

On February 29, 2008, Mr. Clint Linton of Santa Ysabel Band of Diegueño Indians was contracted through his company, Red Tail Monitoring and Research, Inc., to provide Native American monitoring and archaeology services for this study. On May 14, 2008, correspondence was initiated with those listed Native American contacts provided by the NAHC. This letter identified the NAHC results and reiterated an invitation to comment, question, or review any portion of the preserves and parks included in this study.

4.3 Cultural Resource Descriptions

Seventeen cultural resources are present within the Preserve. Fifteen are prehistoric resources and two are multi-component sites. Of the prehistoric resources, four are bedrock milling sites, three are artifact scatters, six are temporary camps or multi-use sites and two are isolates.

4.3.1 Prehistoric Resources

4.3.1.1 *Bedrock Milling Sites*

CA-SDI-19,194 (P-37-030122)

This resource consists of one prehistoric bedrock milling feature on a knoll top. The bedrock milling feature is on a tall, rounded-top boulder with two dead or burned oaks in the crevices. The outcrop has remnants of slicks. Other milling is present in the area and recorded as separate sites due to distance and terrain. No other artifacts were observed.

CA-SDI-19,195 (P-37-030123)

This resource is a food processing site, consisting of three bedrock milling features with a total of seven slicks, the remains of a possible slick and one deteriorated mortar. The site has a small drainage at the northeast side and the bedrock milling features are scattered on the slope of the drainage. The southwest side of the site is partially cleared and flat. No artifacts were observed in this location.

CA-SDI-19,196 (P-37-030124)

This resource consists of four bedrock milling features with a total of four slicks and the remnants of at least two more slicks. Two features are located in a cluster of bedrock in the south portion of the site while the northern two features are smaller boulders, one on each side of the trail. No artifacts were observed.

CA-SDI-19,199 (P-37-030127)

This resource consists of one bedrock milling feature, a flat-topped low-lying bedrock exposure with one deteriorated slick. The feature is surrounded by grasses in a small drainage on the west side of the upper meadow trail.

4.3.1.2 Artifact ScattersCA-SDI-19,188 (P-37-030116)

This resource consists of a scatter of lithic debris and groundstone artifacts, including a unifacial mano of brown granitic material, a metate fragment and more than 20 flakes of porphyritic metavolcanic and quartz. The scatter is present in a lightly vegetated portion of the top of the knoll at an approximate elevation of 1,470 to 1,490 feet AMSL. Although the bedrock in the area shows no sign of milling, it is very weathered and milling may have been present in the past. The site appears to be a small temporary campsite. No trails lead to this location and the site appears to be in good condition despite the weathered bedrock.

CA-SDI-19,200 (P-37-030128)

This resource consists of a lithic flake scatter of various materials, one mano fragment (of a granitic material) and one possibly used cobble. The flake scatter consists of quartzite, metavolcanics (black, beige, light green) and granite. The granite flakes observed are possibly from shaping groundstone. Other debitage outside of the flake scatter concentration were quartz and Lusardi. A volcanic core was also noted.

CA-SDI-19,201 (P-37-030129)

This resource is a lithic scatter with three loci. The site is located on a gentle slope in moderately dense to sparse vegetation, south of Blue Sky Ranch Road and east of Wildcat Canyon Road. More than 50 flakes are present. Materials include green metavolcanics, various quartz, Lusardi volcanic, and jasper. A core (Lusardi volcanic), one biface fragment (rosy quartz) and one scraper (green metavolcanic, Santiago Peak) were observed. Each locus is situated on a level portion of the finger, with separation of the loci by slope and slightly denser vegetation.

4.3.1.3 *Temporary Camps or Multi-Use Sites*

CA-SDI-19,190 (P-37-030118)

Located on the top of a bedrock outcrop overlooking a seasonal drainage at an elevation of about 1,530 feet AMSL, the resource consists of three bedrock milling features and a mano fragment. There is one mortar, a few slicks in good condition, and several deteriorated slick remnants on the three bedrock milling features. Also present is a stacked rock feature associated with one of the bedrock milling features. The stacked rock has been disturbed if it was once part of a prehistoric feature and so is considered modern disturbance at the site, some of which seem to spell out letters. No other artifacts were observed at the site, though some possible quartz pieces near one of the bedrock milling features may be debitage.

CA-SDI-19,191 (P-37-030119)

This resource consists of six bedrock milling features and a flake. The six bedrock milling features have a combined total of one basin, at least three slicks, and several deteriorated slicks. Several other boulders are within the site and some have very small pieces of possible milling but are very weathered.

One flake of green/grey porphyritic metavolcanic was observed across the Cross Country trail and upslope to the west of one of the bedrock milling features in a clearing near the Preserve property corner marker. No other artifacts were observed but visibility is low. Another site down the creek to the west includes pottery, lithics, and more bedrock milling. The possibility that this small camp site is part of the nearby small habitation site exists, especially considering the low visibility of the ground surface surrounding the creek.

A trail passes through running north/south on the west side of the site and another trail runs along the north edge of the site. The trails intersect in the northwest portion of the site and, if a more significant artifactual element is present, pedestrian traffic through the site may disturb the site beyond the increased depreciating bedrock milling features that are located at the trail.

CA-SDI-19,192 (P-37-030120)

Located beyond the oak cover, this resource consists of one bedrock milling feature and a serrated arrow point. The bedrock milling feature contains slicks, and is a low, flat boulder on the east side of a cluster of boulders and the south end of a clearing in the vegetation. The arrow point has serrated edges including the sides of the base; it is missing a small portion of the tip. The material appears to be Santiago Peak metavolcanic or chert and is green with a small portion of red near the tip. Some small pieces of quartz debitage and a large piece of quartz that may have a worked edge are also present in the clearing where the point is located (northwest of the bedrock milling feature).

CA-SDI-19,193 (P-37-030121)

This resource consists of one prehistoric bedrock milling feature and an unknown stacked rock feature. The bedrock milling feature, located on the south facing slope of the riparian zone, has one broken heavy-use slick present. Upslope from the milling feature is a circular stacked rock feature. The base of the feature consists of at least two larger boulders with several non-mortared smaller rocks comprising a wall in a circular alignment. No significant amount of lichen growth is present to support a prehistoric age, but the construction suggests that it is.

CA-SDI-19,197 (P-37-030125)

This resource consists of two bedrock milling features with a total of two slicks and a possible granary base. The scatter of loose rocks (averaging 15 centimeters or more in size) are located on a large expanse of exposed bedrock measuring about 12 meters northwest/southeast and 4.5 meters northeast/southwest. The rocks are in a semi-circular pattern on the lower portions of the bedrock. No significant amount of lichen is present to suggest an age for the feature or the original alignment of the rocks. This site is a food possessing site with a possible storage component.

CA-SDI-19,198 (P-37-030126)

Located in center portion of the Preserve, upslope from the riparian zone, the resource consists of a granary base and possible black-grey volcanic core. The granary base is composed of a semi-circular alignment of 15 to 20 loose rocks and centered around a natural indentation on exposed bedrock. The core is located near the edge of the bedrock that the granary base is situated on. The core appears to have a few removals but is very weathered.

4.3.1.4 IsolatesP-37-030114

This resource, composed of a single isolate, is located within an old road that leads into the Preserve from the northeast at the base of a slope next to a drainage. This resource is an isolated chalcedony flake. It is pink/peach in color with white inclusions.

P-37-030115

This resource consists of two isolated flakes. Both flakes are of a green/grey fine-grained metavolcanic and are large biface thinning flakes.

4.3.2 Multi-Component Resources

CA-SDI-14,309 (P-37-15558)

This resource was originally recorded in 1996 by S. Hector as a prehistoric site with one bedrock milling feature and artifacts. During the current visit to the site, the originally recorded milling feature and artifacts were located and an additional five milling features (containing basins, and slicks in varying states of deterioration, including several in good condition – foot traffic on the trail will damage certain remaining slicks) were identified and recorded as well as the Minshall log house ruins. In the southeast portion of the site is a large cluster of broken boulders where several mano fragments are present, probably collected by patrons. Several pieces of pottery, flakes, and milling tools are present throughout the site.

Due to dense grasses, mustard, and poison oak visibility was poor in the location of the Minshall log house. Only a single rock and mortar fire hearth with a metal grate is observable other than the scattered metal hardware in the area. The Minshall house burned in the 2003 Cedar wildfire. Several metal tools and fragments of construction material are also present all along the riparian-covered creek area.

CA-SDI-19,189 (P-37-030117)

Park trails run directly adjacent to this resource. The site is located on the slope of a hill that overlooks a meadow and a creek. This resource consists of prehistoric bedrock milling and pottery as well as historic rock structural ruins and refuse on the south side of an old road. Four bedrock milling features were identified with multiple slicks (of varying use-wear and deterioration), basins, and one mortar. Potential for more slicks exists due to soil partially covering some of the bedrock. Two pieces of pottery were observed at the top of the knoll to the southwest of the milling features.

There are two historic rock features. One is located within the milling features on the north-facing slope and consists of a hearth feature with metal grates, a room measuring 8 feet by 6 feet and 6 feet in height, some steps, and what appears to be separated from the rest, a three-level platform. The construction of these features includes mortared stacked rock and some metal bars or mesh. Vegetation (dense mustard) distorts the full view of the feature. Another feature is located farther down the trail to the southwest and consists of stacked rock walls and some barbed wire enveloped in an oak.

Two pieces of pottery, Tizon Brownware, were observed at the top of the knoll to the southwest of the milling features. Some historic refuse is scattered throughout the area which includes non-diagnostic glass (aqua and clear, melted), whiteware ceramics, barbed wire, and other metal springs and wire.

This site was possibly a temporary camp site prehistorically, later used as a recreational or ranch style habitation site historically. The trail runs along the site on

the east, north, and west edges. The possibility of associated artifacts exists in the meadow.

4.4 Resource Significance

Oakoasis Preserve encompasses a variety of site types and appears to represent a dispersed settlement. Evidence of Late Prehistoric occupation is present at sites CA-SDI-14,309 and CA-SDI-19,189 where bedrock milling including mortars and pottery exist along the creek. These sites are located at the west end of the Preserve overlooking a village that existed along San Vicente Creek (McGown 1945). The creek that traverses the Preserve may have served as a route between such larger sites as those presently under San Vicente Reservoir and other major sites in the area. Several other smaller resources in the Preserve (CA-SDI-19,190, CA-SDI-19,195, CA-SDI-19,197, and CA-SDI-19,198) represent locations of associated activities of Late Prehistoric age. These sites include features exemplifying a reliance on acorn processing (granary basket bases and mortars) which is believed to be a Late Prehistoric technology. Site CA-SDI-19,193 consists of bedrock milling and a circular stacked rock feature that may also be associated with storing food. The stacked rock wall feature appears to be different from the historic rock and mortar features.

Other clusters of milled bedrock outcrops are located throughout the hills in Oakoasis Preserve and average less than five features with slicked surfaces. Often no artifacts were observed in association with these features and defining a possible age is difficult. A serrated arrow point was discovered in association with the bedrock milling feature at CA-SDI-19,192, however, and may represent trade or travel activities. The difficulty with this assumption is that the serrated point discovered in Oakoasis Preserve is not typical in that the basic shape is a Cottonwood triangular point. It has a convex base and no central base notch, but deep serrations are present along at least 80 percent of the length of the sides. Whether this point is representative of economic exchange or travel is unclear but possible.

Other information from the sites within the Preserve is drawn from the artifact scatters. One large artifact scatter, CA-SDI-19,201, contains only a single possible mano and no milling features, but does include several lithic tool manufacturing debris and some other possible evidence of trade and travel. CA-SDI-19,201 includes lithic debris of metavolcanic, quartz, Lusardi Formation Volcanic, and jasper. Jasper or chert is not local, and Lusardi has likely traveled from the south Poway area (Pignuolo 2007). CA-SDI-19,200, another lithic scatter, contains very similar materials but consists of far fewer flakes consisting of metavolcanic materials. CA-SDI-19,188 is also comprised of debitage including quartz and volcanics. All three artifact scatters include milling tools such as manos. The age of each of these sites is unknown but may be representative of the Late Prehistoric period because of the use of quartz.

CA-SDI-14,309 and CA-SDI-19,189 both include an American period element consisting of rock and mortar features associated with the Minshall family occupation of the land. The Minshall structures were representative of recreational or rural settlement during the twentieth century. Overall, the prehistoric sites encompassed within the Oakoasis Preserve are representative of a dispersed settlement pattern and likely a route of travel between larger habitation sites along year-round water sources like San Diego River and San Vicente Creek.

No site evaluations were conducted for the 2008 inventory. Indications from surface examinations and record documentation are that a number of the sites included in this inventory possess important scientific and cultural qualities. Many of these resources may well qualify for local and state registers; some may qualify for national listing. Under County guidelines cultural resources are considered significant until recommendations based on evaluation testing suggest otherwise (County of San Diego 2007).

5.0 RESOURCE MANAGEMENT

5.1 Management Goals and Objectives

Management of the natural and cultural resources within the Preserve will be guided by the general goals and objectives of both the County and the MSCP.

5.1.1 County-Specific

County-specific goals and objectives used to guide the management of resources within the Preserve can be found in the County Strategic Plan, the DPR Strategic Plan, as well as the Lakeside Community Plan. The County's overall goal or mission, as indicated in the 2009-2014 Strategic Plan, is to provide the residents of San Diego County with superior County services in terms of quality, timeliness and value in order to improve the region's quality of life. The Strategic Plan for Parks and Recreation is closely aligned with the County's strategic initiatives.

The DPR Strategic Plan 2008-2013, outlines the department's priorities for accomplishing its mission over a five-year period. The overall goal or mission of the DPR is to provide opportunities for high quality parks and recreation experiences and to preserve regionally significant natural and cultural resources. The DPR makes this mission a reality through programs that create healthy communities, protect valuable natural and cultural resources, provide recreation opportunities, reduce crime and vandalism, and foster economic development.

In addition, the Lakeside Community Plan provides goals and policies which are designed to fit the specific or unique circumstances existing within this community. Goals provided in this plan seek to preserve Lakeside's rural atmosphere and unique resources, and provide a wide variety of recreational activities and facilities which will meet the needs and enrich the lives of all residents of Lakeside. To this end, the plan provides policies and recommendations which are meant to guide the allocation of County resources towards prescribed outcomes consistent with the goals.

5.1.2 MSCP-Related

The MSCP Plan and the County's Subarea Plan provide both general and segment-specific goals and objectives. The Preserve is located within the Metro-Lakeside-Jamul Segment of the MSCP Subarea Plan and, as discussed in Section 3.4, lies between two habitat linkages within the Lake Jennings/Wildcat Canyon-El Cajon Mountain Core Biological Resource Area. The overall MSCP goal is to maintain and enhance biological diversity in the region and conserve viable populations of endangered, threatened, and key sensitive species and their habitat, thereby preventing local extirpation and ultimate extinction. This is intended to minimize the need for future listings, while enabling economic growth in the region.

In order to assure that the goal of the MSCP preserve is attained and fulfilled, management objectives for the County of San Diego MSCP preserve are as follows:

1. To ensure the long-term viability and sustainability of native ecosystem function and natural processes throughout the MSCP preserve.
2. To protect the existing and restored biological resources from disturbance-causing or incompatible activities within and adjacent to the MSCP preserve while accommodating compatible public recreational uses.
3. To enhance and restore, where feasible, the full range of native plant associations in strategic locations and functional wildlife connections to adjoining habitat in order to provide viable wildlife and sensitive species habitat.
4. To facilitate monitoring of selected target species, habitats, and linkages in order to ensure long-term persistence of viable populations of priority plant and animal species and to ensure functional habitats and linkages.
5. To provide for flexible management of the MSCP preserve that can adapt to changing circumstances to achieve the above objectives.

5.1.3 Management Directives and Implementation Measures

Based on the above management goals and objectives, recommended management directives have been identified. In accordance with the Framework Management Plan, the ASMDs have been designated as Priority 1 or Priority 2. This designation recognizes the fact that many of the directives cannot be immediately implemented, but instead will occur over the life of the MSCP. The ability to implement and the timing of many of the management directives will be directly related to the availability of funding in any fiscal year and on the priority. The priorities are, therefore, intended to assist in decisions on where and how to spend limited funds. Priority designations are as follows:

Priority 1: Directives that protect the resources in the Preserve and the MSCP preserve, including management actions that are necessary to ensure that sensitive species are adequately protected.

Priority 2: Directives other than those required for sensitive species status and other long-term items that may be implemented during the life of the MSCP as funding becomes available.

The management directives provided in this RMP have been divided into five elements: A) Biological Resources, B) Vegetation Management, C) Public Use, Trails, and Recreation, D) Operations and Facility Maintenance, and E) Cultural Resources.

5.2 Biological Resources Element (A)

5.2.1 Biological Monitoring

Biological monitoring will be performed onsite to gather information that will assist DPR in making land management decisions to conform to MSCP goals and objectives, as well as DPR and BLM objectives. The biological monitoring that will occur will be designed to guide decisions at the individual preserve level. The first year of monitoring has been conducted (baseline surveys) and the results are included as Appendix A. Additional monitoring results will be incorporated into stand alone monitoring reports. These reports may recommend revisions to the management directives contained within this RMP.

It is recognized that subregional monitoring has been designed to answer concerns and objectives on a larger scale. No subregional monitoring is occurring at Oakoasis Preserve. While objectives of individual preserve and subregional monitoring may be different, subregional monitoring methods that have been developed, or are under development, may assist monitoring methods and decisions at the preserve level for particular species and habitats.

The key to successful monitoring at the individual preserve level, such that data gathered is not duplicative and meets individual preserve level objectives, is close coordination with stakeholder groups that are performing subregional monitoring, sharing of data, future plans and schedules and keeping abreast of monitoring methods as they are developed. To ensure uniformity in the gathering and treatment of data, a (SANDAG) land management working group has been formed and will designate a land manager who will assist jurisdictions in coordinating monitoring programs, analyzing data, and providing other information and technical assistance. The DPR will work closely with this group.

MSCP covered species have been prioritized for monitoring in the 2006 report prepared by San Diego State University (SDSU) entitled *San Diego Multiple Species Conservation Program Covered Species Prioritization* (Regan et al. 2006). Subregional monitoring methods have been developed for rare plants (McEachern et al. 2007) and animals (USFWS 2008). These references will assist DPR in developing monitoring methods at the preserve level, as well as the management directives that are identified for specific species in this document.

Management Directive A.1 – Conduct habitat monitoring to ensure MSCP goals and DPR objectives are met (*Priority 1*)

Implementation Measure A.1.1: DPR will conduct habitat monitoring at five-year intervals. Habitat monitoring will address both temporary and permanent habitat changes as well as habitat value. The main product of this monitoring will be a report which will include a discussion of monitoring objectives, monitoring methods to meet those objectives, and an updated vegetation community map.

Implementation Measure A.1.2: DPR will conduct general wildlife and rare plant surveys at five-year intervals utilizing and refining baseline monitoring methods to facilitate trend and distribution status analysis. This information will be included in the habitat monitoring report.

Implementation Measure A.1.3: DPR will conduct monitoring for invasive plant species at five-year intervals to assess invasion or re-invasion by exotic plant species within the Preserve. These surveys will focus on areas where invasive, non-native plants have been detected in the past, but also look for new occurrences in the Preserve. This information will be included in the habitat monitoring report.

Management Directive A.2 – Conduct corridor monitoring to ensure MSCP goals are met (Priority 2)

As discussed in Section 3.4, even though the Preserve does not lie within a primary linkage, it is located immediately adjacent to the Lake Jennings/Wildcat Canyon-El Cajon Mountain Core Biological Resource Area, which connects to two biological linkages. While corridor monitoring within the Preserve will take place at the preserve-level, it anticipated that it will provide data for better understanding movement on a regional scale.

Implementation Measure A.2.1: The DPR will conduct corridor monitoring at five-year intervals in conjunction with habitat monitoring and general wildlife and rare plant surveys (as described in implementation measures A.1.1 and A.1.2). The main product of this monitoring will be a report documenting the results of the current assessment of habitat linkage function including a list of species detected.

5.2.2 MSCP Covered Species-Specific Monitoring and Management Conditions

Not all species occurring within the Preserve are expected to require species-specific management. It is expected, rather, that other management directives and implementation measures outlined under the Biological Resources and Vegetation Management elements should be sufficient to protect and manage optimal habitat conditions for most, if not all, species to maintain and/or thrive within the Preserve. However, there are some species listed as MSCP Covered Species in the County's Subarea Plan which require additional management measures, particularly if monitoring indicates that the general guidelines are not sufficient to maintain acceptable population levels.

Table 3-5 of the Final MSCP Plan (City of San Diego 1998) provides management and/or monitoring measures for specific MSCP Covered Species. In addition, the SDSU Prioritization Report (Regan et al. 2006) classifies MSCP Covered Species as

Risk Group 1 (most endangered), Risk Group 2 (moderately endangered), and Risk Group 3 (less endangered). The SDSU report also identifies the threats/risk factors facing these species and ranks these factors as high, moderate, or low degree of threat. This RMP will only discuss management conditions addressing high and moderate threats for Risk Group 1 species, none of which currently occur within the Preserve.

Management Directive A.3 - Comply with applicable conditions of coverage for MSCP Covered Species (Priority 1)

Implementation Measure A.3.1: Implement the species-specific monitoring and management conditions as listed in Table 3-5 of the MSCP (City of San Diego 1998) and the SDSU Prioritization Report (Regan et al. 2006) for all MSCP Covered Species detected within the Preserve.

The conditions of coverage for those species currently known to occur in the Preserve are listed below followed by an explanation of how monitoring and/or management activities in the Preserve will comply.

Lakeside Ceanothus (*Ceanothus cyaneus*)

Monitoring: Table 3-5 - Habitat Based and Management Plan/Directives; SDSU – Risk Group 2

Management Conditions: Area-specific management directives must include specific management measures to address the autecology and natural history of the species and to reduce the risk of catastrophic fire. Management measures to accomplish this may include prescribed fire.

Management measures to reduce the risk of catastrophic fire are addressed through vegetation management implementation measure B.4.3.

San Diego Horned Lizard (*Phrynosoma coronatum blainvillii*)

Monitoring: Table 3-5 - Site Specific Monitoring Plan; SDSU – Risk Group 3

Management Conditions: Area-specific management directives must include specific measures to maintain native ant species, discourage the Argentine ant, and protect against detrimental edge effects to this species.

No Argentine ants were observed within the Preserve, and edge effects are addressed through implementation measures D.7.1, D.8.1, and B.4.1.

Cooper's Hawk (*Accipiter cooperii*)

Monitoring: Table 3-5 - Habitat Based Monitoring Plan and Management Plan/Directives (site-specific nest territories); SDSU – Risk Group 3

Management Conditions: In the design of future projects within the Metro-Lakeside-Jamul segment, preserve areas shall conserve patches of oak woodland and oak riparian forest of adequate size for nesting and foraging habitat. Area-specific management directives must include 300-foot impact avoidance areas around active nests and minimization of disturbance in oak woodlands and oak riparian forests.

No nesting territories were observed within the Preserve during the 2008 surveys; however future detection will be addressed through general wildlife surveys (as described in implementation measure A.1.2). Any potential impacts from future projects will be analyzed and mitigation proposed, as necessary, through environmental review pursuant to the California Environmental Quality Act (CEQA) and will be subject to approval by the wildlife agencies.

Western Bluebird (*Sialia mexicana*)

Monitoring: Table 3-5 - Habitat Based; SDSU - Excluded

Management Conditions: None

Southern California Rufous-Crowned Sparrow (*Aimophila ruficeps canescens*)

Monitoring: Table 3-5 - Habitat Based; SDSU – Risk Group 3

Management Conditions: Area-specific management directives must include maintenance of dynamic processes, such as fire, to perpetuate some open phases of coastal sage scrub with herbaceous components.

No coastal sage scrub habitat occurs within the Preserve, but dynamic processes, such as fire, will be maintained through vegetation management implementation measure B.4.3.

Southern Mule Deer (*Odocoileus hemionus*)

Monitoring: Table 3-5 - Habitat Based and Corridor Sites: SDSU – Risk Group 3

Management Conditions: None

5.2.3 Non-Native Invasive Wildlife Species Control

Management Directive A.4 – Reduce, control, or where feasible eradicate invasive, non-native fauna known to be detrimental to native species and/or the local ecosystem (*Priority 2*)

Invasive, non-native species detected within the Preserve during the 2008 surveys include European starling and brown-headed cowbirds. These species do not currently appear to be posing an immediate threat to native species and/or the local ecosystem and thus no management is proposed at this time. However, they have potential to outcompete native species for valuable resources.

Implementation Measure A.4.1: Conduct surveys for the presence of invasive, non-native wildlife species of management concern, including European starling and cowbirds at five-year intervals in conjunction with habitat monitoring and general wildlife surveys (as described in implementation measures A.1.1 and A.1.2).

Implementation Measure A.4.2: If an increase in the population of invasive, non-native wildlife species is noted and/or detrimental effects of these species are detected within the Preserve, preparation and implementation of a trapping and removal program, or other means of humane control will be initiated.

Implementation Measure A.4.3: On a case-by-case basis, some limited trapping of non-native predators may be necessary at strategic locations, and where determined feasible to protect ground- and shrub-nesting birds, lizards, and other sensitive species from excessive predation. If implemented, the program would only be on a temporary basis and where significant problem has been identified and therefore needed to maintain balance of wildlife in El Capitan Preserve and the MSCP preserve. The program would be operated in a humane manner, providing adequate shade and water, and checking all traps twice daily. Signage at access points and noticing of adjacent residents will inform people that trapping occurs, and how to retrieve and contain their pets.

Implementation Measure A.4.4: Institute an equestrian education program regarding the potential negative impacts to native ecosystems from the accumulation of non-point source pollutants (e.g., increased potential for occurrence of cowbirds) in staging areas and on frequently used trails. This could be accomplished through implementation of a signage program and interaction between rangers and trail users. See also implementation measure B.3.2.

Implementation Measure A.4.5: Provide materials for clean up by equestrian users of staging areas to keep it free of non-point source pollutants that may attract cowbirds or other invasive, non-native species. See also implementation measure B.3.3.

5.2.4 Future Research

The MSCP preserve presents a rich array of research opportunities for the academic and professional communities, primarily in disciplines related to biology, ecology, and natural resources management, but also ranging to environmental design, sociology, and park use and administration. The County of San Diego encourages research within the MSCP preserve in order to gain valuable information unavailable through other means.

There are a multitude of unanswered questions posed by the development of a multiple species and habitat system where little literature or previous research exists on the majority of species inhabiting the region. In addition, research on vegetation associations and habitats, natural regeneration, restoration, fragmentation, edge effects, genetics, viability, predation, wildlife movement, and much more, would be useful to provide information on the health and dynamics of an urbanized open space system as well as how to improve conditions.

Management Directive A.5 – Allow for future research opportunities for the Academic and Professional Scientific and Biologic Activities within the Preserve (Priority 2)

Implementation Measure A.5.1: DPR will accept and review proposals for scientific research, monitoring, and habitat restoration and enhancement activities which are permitted within the MSCP preserve. Proposed research activities will be subject to approval by DPR. All such activities must obtain any necessary permits and shall be consistent with this RMP. Additionally, any person conducting research of any kind within the Preserve shall obtain a Right-of-Entry Permit from DPR, which will outline the precautions to be taken to preserve and protect sensitive biological and cultural resources within the Preserve and require results of any research to be made available to DPR.

5.3 Vegetation Management Element (B)

5.3.1 Habitat Restoration

Management Directive B.1 – Restore degraded habitats to protect and enhance populations of rare and sensitive species through stabilization of eroded lands and strategic revegetation (Priority 1)

Implementation Measure B.1.1: DPR will assess and determine the need for restoration activities within the Preserve. The need for restoration activities will be determined based on the results of habitat monitoring (as described in implementation measure A.1.1) and trail maintenance activities (as described in implementation measure C.5.3). Any proposed restoration activities should utilize current, accepted techniques and avoid/minimize impacts to sensitive species or native habitats. Any proposed revegetation activities should use only local native species. No active restoration is currently needed. Passive

restoration (recovery from fire) is ongoing. However, stabilization of eroded lands may be necessary.

5.3.2 Non-Native Plant Species Removal and Control

Management Directive B.2 – Reduce, control, or where feasible eradicate invasive, non-native flora known to be detrimental to native species and/or the local ecosystem (*Priority 1*)

As described in Section 3.2.4 above, the Preserve is dominated by native and naturalized plant species. Invasive plant species are not abundant within the Preserve.

Implementation Measure B.2.1: Ranger staff will routinely pull weeds or remove any non-native plant species in early stages of growth found along trails.

Implementation Measure B.2.2: DPR will coordinate with other agencies, non-profit organizations, and/or volunteer groups in order to seek funding and implement larger removal projects of any invasive non-native plants found during plant surveys and monitoring (as described in implementation measures A.1.2 and A.1.3) within the Preserve, as needed.

Management Directive B.3 – Manage and minimize the expansion of invasive, non-native flora within the Preserve (*Priority 2*)

Implementation Measure B.3.1: DPR will implement an educational program for Preserve visitors and adjacent residents in order to discourage the introduction of invasive, non-native plants into the Preserve. Provided information will discuss invasive plants harmful to the Preserve, and prevention methods. The program may also encourage residents to voluntarily remove invasive exotics from their landscaping. See also implementation measure D.8.1.

Implementation Measure B.3.2: DPR will institute an equestrian education program regarding the potential negative impacts to native ecosystems from the accumulation of non-point source pollutants (e.g., spread of non-native seeds) in staging areas and on frequently used trails. This could be accomplished through implementation of a signage program and interaction between rangers and trail users. Specific signage should state, “Don’t Plant a Pest! Feeding horses weed-free feed for at least 72 hours prior to Preserve entry helps preserve our natural environment”. See also implementation measure A.4.4.

Implementation Measure B.3.3: DPR will provide materials for clean up by equestrian users of staging areas to keep it free of non-point source pollutants that may attract cowbirds or other invasive, non-native species. See also implementation measure A.4.5.

5.3.3 Fire prevention, control, and management

Current fire management activities within the Preserve include two fuel modification zones found along the northern boundary of the Preserve on both sides of Wildcat Canyon Road where the Preserve abuts private residences (Figure 7). In the event of a fire, adequate access to the Preserve is provided by the existing dirt roads. There are no fire breaks within the Preserve.

Management Directive B.4 – Provide for necessary fire management activities that are sensitive to natural and cultural resources protection (*Priority 1*)

Implementation Measure B.4.1: The County will maintain the established fuel modification zones on Preserve property adjacent to the existing residential structures that are within 100 feet of the Preserve property boundary. The intent of a fuel modification zone is to protect habitable structures adjacent to the Preserve from wildfires. It may further protect the resources within the Preserve by absorbing some of the “edge effects” that might otherwise occur within the Preserve.

Management of the fuel modification zones will adhere to CAL FIRE and/or Lakeside Fire Protection District requirements.

Implementation Measure B.4.2: The existing dirt roads/trails within the Preserve acting as access roads will be maintained annually to keep them fuel free. In addition, DPR will continue to coordinate with CAL FIRE and the Lakeside Fire Protection District to determine what improvements need to be made to make fire response feasible throughout the Preserve.

Implementation Measure B.4.3: Vegetation management is not a current need within the Preserve to address wildfire issues as vegetation is continuing to recover after the 2003 Cedar Fire and is anticipated to be fire-resistant for the next 10 to 15 years. The need for vegetation management will be assessed through implementation measure A.1.1. DPR will coordinate with CAL FIRE and/or the Lakeside Fire Protection District to assess the future need to develop an integrated Vegetation Management Plan that will allow environmental documentation for strategic fuels management to be conducted if, and when, needed. A Vegetation Management Plan will also identify likely locations for equipment staging areas and fire breaks, assisting fire fighting activities to avoid known cultural sites, if feasible.

5.4 Public Use, Trails, and Recreation Element (C)

5.4.1 Public Access

Management Directive C.1 – Limit types of public uses to those that are appropriate for the site (*Priority 1*)

Implementation Measure C.1.1: The following public uses are prohibited in the Preserve. Park rangers are responsible for enforcing these restrictions and may call the sheriff for legal enforcement, as appropriate.

- a. Off-road or cross-country vehicle and public off-highway recreational vehicle activity are considered incompatible uses in the MSCP preserve, and are therefore prohibited in the Preserve, except for law enforcement, Preserve management, and/or emergency purposes.
- b. Hunting or discharge of firearms is an incompatible use in the MSCP preserve, and is therefore prohibited in the Preserve, except for law enforcement, and/or emergency purposes.
- c. Poaching or collecting plant or animal species, archaeological or historical artifacts or fossils from the Preserve is generally prohibited; however, the County may authorize collecting upon approval for scientific research, revegetation or restoration purposes, or species recovery programs. In addition, impacts to historic features are prohibited except upon approval by the County.
- d. Fishing, swimming, and wading in rivers, streams, or creeks
- e. Homeless and itinerant worker camps
- f. Feeding wildlife
- g. Domestic animals, except horses and leashed dogs
- h. Smoking
- i. Campfires/Open Flames
- j. Off-trail biking, hiking or equestrian use
- k. Littering

Implementation Measure C.1.2: Prohibited uses will be clearly specified on kiosks, signage and/or trail maps.

Management Directive C.2 – Manage public access in sensitive biological and cultural resource areas within the Preserve (Priority 1)

Implementation Measure C.2.1: DPR has identified and mapped narrow endemics and critical populations, and all covered species populations in the Preserve so that these areas can be avoided and/or monitored. Updated information on sensitive species in relation to public access points will be obtained during habitat monitoring, and general wildlife and rare plant surveys (as described in implementation measures A.1.1 and A.1.2).

Implementation Measure C.2.2: DPR will ensure that any new public-use trails are designed and constructed to avoid and/or minimize impacts to sensitive

biological and cultural resource areas. However, no new public use trails are anticipated at this time.

Implementation Measure C.2.3: DPR will provide sufficient signage to clearly identify public access to the Preserve. Barriers such as vegetation, rocks/boulders or fencing may be necessary to protect highly sensitive areas. The appropriate types of barriers to be used will be determined based on location, setting and use.

Management Directive C.3 – Provide appropriate interpretive and educational materials (Priority 2)

Implementation Measure C.3.1: DPR will share outreach and educational information and notify the public of volunteer opportunities that advance the management, monitoring, and stewardship resources available, and objectives of this RMP. This information will be provided on the DPR website, www.sdparks.org.

Implementation Measure C.3.2: Opportunities for educational trail-side signage and educational kiosks will be identified within the Preserve. In addition, signage provided at access points and on trails maps provides a form of education. See also implementation measures E.2.4 and E.3.1.

Implementation Measure C.3.3: When possible, park rangers assigned to this Preserve should organize and conduct interpretative walks or programs within the Preserve. During these interpretative walks or programs the ranger should distribute the “Living Close to Nature” brochure. This brochure discusses how to live in harmony with wildlife. The interpretative walks and programs should be conducted in accordance with park ranger availability.

5.4.2 Fencing and Gates

Currently, the Preserve driveway is gated for vehicle access and the staging area is fenced along three sides.

Management Directive C.4 – Install and maintain fencing and gates within the Preserve (Priority 1)

Implementation Measure C.4.1: Ranger staff will install fencing and/or gates at points of unauthorized public access as appropriate. Points of unauthorized access will be identified in conjunction with trail monitoring activities (as described in implementation measure C.5.1).

Implementation Measure C.4.2: Ranger staff will regularly inspect and maintain all fencing and gates within the Preserve. Fencing segments and gates will be repaired or replaced as necessary.

5.4.3 Trail and Access Road Maintenance

Currently, there is one road, Wildcat Canyon Road, which provides access to the driveway leading to the Preserve. There are also two private roads off of Wildcat Canyon Road which provide access to the northern and southern portions of the Preserve. In addition, there are approximately 4.9 miles of trails within the Preserve.

Management Directive C.5 – Properly maintain public access roads, staging areas and trails for user safety, to protect natural and cultural resources, and to provide high-quality user experiences (*Priority 1*)

Implementation Measure C.5.1: Ranger staff will monitor public access roads, staging areas, and trails for degradation and off-trail access and use, and provide necessary repair/maintenance in accordance with the Community Trails Master Plan (County of San Diego 2005). See also implementation measure B.4.2.

Implementation Measure C.5.2: If temporary closure of a trail is deemed necessary for maintenance or remediation, temporary closure actions will be accompanied by educational support, and public notification through signs and public meeting announcements. An implementation schedule should be written by DPR Operations staff when maintenance or remediation is deemed necessary.

The trail will be posted with signage that indicates temporary closure and the primary reason for the closure (e.g., erosion issues, and sensitive biological resource impacts). Finally, signs should provide contact information for anyone wishing to provide input on trail use or gain additional information regarding temporary closure of trails.

Once posted, the trails in need of maintenance should be blocked with A-frame barricades and/or caution tape. Enforcement of the temporary closure of a trail would require increased ranger patrols of these areas and investigations to determine if the barriers are effective.

Implementation Measure C.5.3: DPR will restore degraded habitats, control non-native plant species along trails, and reduce detrimental edge effects through spot treatment of non-native plants, maintenance and stabilization of trails and strategic revegetation. Measures to counter the effects of trail erosion may include the use of stone or wood cross-joints, edge plantings of native grasses, and mulching of the trail in accordance with the Community Trails Master Plan (County of San Diego 2005). See also implementation measures B.1.1 and B.2.1.

Implementation Measure C.5.4: If unauthorized trail formation is observed by ranger staff, those specific areas will be posted with clear signage reminding the public to remain on authorized trails.

5.4.4 Signage

Management Directive C.6 – Develop, install, and maintain appropriate signage to effectively communicate important information to Preserve visitors (*Priority 1*)

Signs educate, provide direction, and promote sensitive resources and enjoyment of natural areas. Types of signs within the Preserve may include those necessary to: protect sensitive biological and cultural resources (see A.4.4, B.3.2, and E.2.4); provide educational and interpretive information (see C.3.2 and E.3.1); explain rules of the Preserve (see C.1.2 and D.2.1); direct public access (see C.2.3 and C.5.4); and, provide Parks operations information (see A.4.3 and C.5.2).

Implementation Measure C.6.1: Park ranger staff will regularly inspect and maintain all posted signs within the Preserve in good condition. Signs shall be kept free from vandalism and will be repaired or replaced as necessary.

5.5 Operations and Facility Maintenance Element (D)

5.5.1 Litter/Trash and Materials Storage

Management Directive D.1 – Maintain a safe and healthy environment for Preserve users (*Priority 1*)

Implementation Measure D.1.1: Trash receptacles will be provided and maintained at all parking, staging, and picnic areas. Trash receptacles should be designed to be secure from intrusion by wildlife species. Ranger staff will regularly empty trash receptacles at least twice a week or more/less as deemed necessary.

Implementation Measure D.1.2: The permanent storage of hazardous and toxic materials within the Preserve will be prohibited. Any temporary storage must be in accordance with applicable regulations, and otherwise designed to minimize any potential impacts.

Management Directive D.2 – Publicize and enforce regulations regarding littering/dumping (*Priority 1*)

Implementation Measure D.2.1: Lists of regulations will be provided to Preserve users (e.g., posted on kiosks) clearly stating that littering within the Preserve is illegal, and will provide appropriate DPR contacts to report any littering observed.

Implementation Measure D.2.2: Regulations regarding littering/dumping will be enforced by park rangers (County Code of Regulatory Ordinance Section 41.116). Penalties for littering and dumping will be imposed by law enforcement officers sufficient to prevent recurrence and reimburse costs to remove and dispose of debris, restore the area if needed, and pay for additional DPR staff

time. Areas where dumping recurs will be evaluated for potential barrier placement. Additional monitoring and enforcement will be provided as needed.

5.5.2 Hydrological Management

Native habitats in the MSCP preserve have evolved, in part, on the distribution and flow characteristics of water. MSCP preserve property should be managed to maintain existing natural drainages and watershed and to restore or minimize changes to natural hydrological processes. Proposed structures and activities should be evaluated for effects on hydraulics, and remedial actions should be taken as needed. Best Management Practices (BMPs) should be used both within and outside the preserve system to maintain water quality.

Management Directive D.3 – Retain tributaries of the San Diego River and San Vicente Reservoir in their natural condition (*Priority 1*)

Implementation Measure D.3.1: Any proposed activities shall avoid the tributaries of the San Diego River and San Vicente Reservoir located throughout the Preserve and maintain a minimum 100-foot buffer which will be managed in accordance with the MSCP. No future Preserve development is proposed within these buffer areas. Potential threats to jurisdictional waters from any activities shall be identified and impacts avoided or minimized to the maximum extent practicable.

5.5.3 Emergency, Safety and Police Services

The Framework Management Plan explains that the interface between current and future urban development and MSCP preserve areas requires increased coordination between the preserve managers and agencies responsible for public safety. The MSCP preserve system, including Oakoasis Preserve, must accommodate access for emergency response and fire control and management. In the event that entry into the Preserve by law enforcement agencies is needed in the routine performance of their duties, use of existing roads and trails should be encouraged. In emergencies where there is a direct threat to public safety, the law enforcement agency should contact DPR whenever feasible.

Law enforcement and fire control agencies, the National Guard, the U.S. Citizenship and Immigration Service (USCIS), the Border Patrol, and organizations and agencies that respond to natural disasters shall be permitted to perform their activities within any preserve system subject to all applicable requirements of state and federal law.

Management Directive D.4 – Maintain or increase the ability of emergency response personnel to deal with emergencies within the Preserve or vicinity (*Priority 1*)

Implementation Measure D.4.1: Law enforcement officials will be invited to access Preserve property as necessary to enforce the law. If it becomes apparent that extensive enforcement activities are necessary, DPR will coordinate with the applicable agencies to inform field personnel of how to minimize damage to particularly sensitive resources.

Implementation Measure D.4.2: All medical, rescue, and other emergency agencies will be allowed to access Preserve property to carry out operations necessary to protect the health, safety, and welfare of the public. Access issues are further discussed in implementation measure B.4.2.

Management Directive D.5 – Provide for a safe recreational experience for Preserve visitors (Priority 1)

Implementation Measure D.5.1: In the event of a natural disaster, such as a fire or flood, park ranger staff shall evacuate the Preserve and coordinate with the Emergency Operations Center. In addition, staff will coordinate with the local agency in charge of responding to the emergency and, if possible, assist where necessary.

5.5.4 Adjacency Management Issues

As described in Section 2.4.2, there is currently only limited development immediately contiguous to the Preserve. The establishment of the MSCP preserve system does not include regulatory authority on properties adjacent to the Preserve; however, the County will require adjacent property owners to follow guidelines when planning and implementing uses and activities that can be regulated when located immediately adjacent to the site.

Management Directive D.6 – Coordinate with adjacent landowners and open space land managers (Priority 1)

Implementation Measure D.6.1: DPR will coordinate with adjacent open space land managers on an annual basis, or more regularly as needed, to ensure the contiguous preserved land is managed consistently and in accordance with the MSCP. Adjacent land managers include: the San Diego Audubon Society (land manager for the Silverwood Wildlife Sanctuary) and the City of San Diego (land manager for the San Vicente Reservoir).

Management Directive D.7 - Enforce Preserve boundaries (Priority 1)

Implementation Measure D.7.1: DPR will enforce, prevent, and remove illegal intrusions into the Preserve (e.g., orchards, decks) on an annual basis, in addition to a complaint basis.

Management Directive D.8 – Educate residents of surrounding areas regarding adjacency issues (Priority 2)

Implementation Measure D.8.1: DPR will provide information on this RMP to residents adjacent to the Preserve to heighten environmental awareness, and inform residents of access, appropriate landscaping, construction or disturbance within the Preserve boundaries, pet intrusion, fire management, and other adjacency issues. This RMP will also be accessible on the DPR website and will thus be available to adjacent residents and to the general public.

5.6 Cultural Resources Element (E)

The goal of this section of the RMP is long-term preservation, public interpretation of the cultural resources, and interaction with the bands of Native Americans in whose traditional tribal territory this Preserve exists.

Management Directive E.1 – Identify, record, and assess the significance of all cultural resources within the Preserve (*Priority 2*)

Implementation Measure E.1.1: Assess each known cultural site within the Preserve for eligibility as a Historical Landmark, and to the California Resources Historic Register/National Register of Historic Places.

Management Directive E.2 – Preserve and protect significant cultural resources to ensure that sites are available for appropriate uses by present and future generations (*Priority 2*)

Implementation Measure E.2.1: Threats to the cultural resources from natural (e.g., fire, erosion, floods) or human-caused events shall be identified, and impacts prevented, reduced, eliminated, or adverse effects mitigated. Safeguards against incompatible land and resource uses shall be identified to protect all cultural resources.

Implementation Measure E.2.2: The condition and status of cultural resources shall be noted as part of routine monitoring activities conducted once a year and remedial measures shall be taken if damage is noted. Monitoring activities should also photo-document site conditions so that comparisons can be made over time. Any monitoring of the sites in the Preserve will follow the guidelines used by the Department of Public Works, which are found in the County of San Diego *Report Format and Content Requirements, Cultural Resources: Archaeological and Historical Resources* (2007).

All site location information will be kept strictly confidential, and will be available only for qualified cultural resource staff and land managers. Site locations will not be shown on maps or divulged to the public.

Implementation Measure E.2.3: All management activities within the Preserve including, but not limited to, trail construction and maintenance, placement of fencing and gates, and restoration of habitat will take into consideration potential

impacts to cultural resources and shall avoid adverse impacts to any cultural resources to the maximum extent possible. No ground disturbing activities will be allowed on or in any cultural resource site within the Preserve until the impacts have been assessed.

If avoidance is not feasible, appropriate mitigation measures will be established. Removal or disturbance of cultural resources shall not occur prior to completion of an approved mitigation program, such as data recovery or recordation. Preservation in place is the preferred mitigation measure.

Implementation Measure E.2.4: Signs shall be posted at kiosks, trail heads and/or throughout the Preserve to notify users that sensitive cultural resources within the Preserve cannot be damaged and that removal of any archaeological material is prohibited by law. Protection and preservation of cultural resources will comply with County of San Diego ordinances (Title 4; Public Property, Division 1; Parks and Beaches, Article 2, Section 41.113), and applicable state and federal laws, which will be enforced by the appropriate law enforcement authorities.

The County will ensure that park ranger staff has sufficient training through the DPR Ranger Academy to actively protect archaeological sites from vandalism and other forms of human impact. If a Preserve user is suspected of vandalism to cultural resources, the appropriate law enforcement authorities shall be notified. More aggressive measures may be needed if vandalism and damage continue or increase.

Management Directive E.3 – Promote the beneficial uses of cultural resources through interpretation and educational programs (*Priority 2*)

Implementation Measure E.3.1: Off-site, and when possible, on-site interpretive programs for Native American heritage, local and regional history, and prehistory will be developed for the Preserve. These may include lectures, walks, kiosks, signs, historic brochures, and displays, but will not include excavations, collecting of artifacts, or disclosure of confidential site locations unless an interpretive plan is developed and approved by the Director of Parks and Recreation. The plan will include supervision by a qualified archaeologist approved by the Director of Parks and Recreation.

Management Directive E.4 – Honor Native American Heritage and promote Native American ceremonies, gathering, and cultural practices (*Priority 2*)

Implementation Measure E.4.1: Consultation with the Barona and Viejas Band of Mission Indians shall be conducted frequently in order to identify appropriate management of pre-contact and ethnographic cultural resources. The tribes will be encouraged to participate in evaluation, recordation, protection and preservation of cultural resources.

Implementation Measure E.4.2: The County will open the Preserve to traditional uses by the Barona and Viejas Band of Mission Indians. All activities by Native Americans in the Preserve shall be conducted with a Right-of-Entry permit specifically designed for the Preserve.

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