

OPEN

# CONSERVATION PLAN

SPACE



## CERRO SAN LUIS NATURAL RESERVE



Prepared by **The Natural Resources Program** ▪ Administration Department  
City of San Luis Obispo ▪ 990 Palm Street ▪ San Luis Obispo ▪ CA 93401



city of san luis obispo



Natural Resources Protection Program

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***Cerro San Luis 1890***  
*Photo courtesy of John French.*



***Cerro San Luis 2005***  
*City of San Luis Obispo photo.*

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## Executive Summary

Cerro San Luis Natural Reserve (CSLNR) is a 118 acre area located within the City of San Luis Obispo adjacent to U. S. Highway 101. The Reserve consists of several habitat types, including grassland, coastal scrub, oak woodland, and several occurrences of exotic plants such as eucalyptus, cypress, pepper tree, and Mission cactus. The terrain ranges from gently sloping to quite steep.

CSLNR contains several significant sensitive species or features, including several spring and wetland areas, the Mission cactus patches (which form excellent protective cover for many species), and small areas of oak woodland. Several species of concern, including the San Diego desert wood rat, loggerhead shrike, and western skink, have been observed in the Reserve. However, no listed threatened or endangered species have been reported from the Reserve.

Management issues or concerns associated with CSLNR: CSLNR is heavily used for recreation, especially by mountain biking enthusiasts. It also has a stronger “flavor” of historical use than most of the City’s open space lands. Features contributing to this “flavor” include the “M” on the hillside facing the downtown area; the old lemon grove and cypress plantation, marking an old home site; a eucalyptus plantation; the large patches of Mission cactus; and the scattered individuals of pepper tree.



The “M” has been determined to be of historic or cultural significance to the community by the City’s Cultural Heritage Committee.

Certain areas, particularly the eucalyptus groves, represent a higher fire hazard and would benefit from abatement efforts. There are also areas of high resource value, which warrant protective measures.

The property has historically been used for livestock grazing.

The Conservation Plan addresses these issues by calling for:

- Retention of the “M”, provision of a properly graded and aligned trail to it, and closure of the existing unauthorized trails, which are causing erosion problems.
- Elimination of certain other redundant or duplicative trails.
- Continued use of livestock grazing on a controlled basis.
- Fencing and enhancement of several wetland areas within the Reserve.
- Undertaking of fuel management in the eucalyptus plantation and other appropriate areas.
- Control of the continued spread of exotic species.
- Allowance for other interested parties to restore the lemon grove.

## 1. Introduction

Cerro San Luis is one of the nine named volcanic peaks, or *morros*, that form a craggy ridge that extends between the cities of Morro Bay and San Luis Obispo, dividing the Los Osos and Chorro Creek valleys. The *morros* run in a southeasterly direction from Morro Rock on the coast to Islay Hill, at the southeastern corporate boundary of the City of San Luis Obispo. Cerro San Luis, situated between Islay Hill and Bishop Peak, is the eighth named *morro* from the coast. The peak looms prominently over the City of San Luis Obispo and is a central feature of the City's viewshed. The Cerro San Luis Natural Reserve (CSLNR) was created through the acquisition of two parcels of land on the eastern slope of the peak totaling 118 acres. The first acquisition was a gift of 43 acres deeded to the City by Edison and Francis French in October 1980. The donated land is located near the lemon grove in the northern part of the Reserve. The City purchased the remaining 75 acres of land within the Cerro San Luis Natural Reserve from the Maino Family in 1997. The peak itself is currently in the ownership of the Madonna family, and as such it is often referred to as 'Madonna Mountain'.

The CSLNR encompasses approximately 118 acres of wildlife habitat situated on the lower and middle slopes of the peak (Fig. 1). The site is adjacent to the southern

end of Marsh Street and is accessed from public parking along Fernandez Road, which intersects with the onramp to State Highway 101 South. State Highway 101 separates the Reserve from urbanized areas of central San Luis Obispo and the edge of the southbound lanes of the highway constitutes much of its eastern border. The northern section of the eastern Reserve boundary is bordered by developed residential neighborhoods. The steep boulder strewn upper slopes of Cerro San Luis border the Reserve to the west and privately owned ranchland occupies the moderate slopes of the peak that lie immediately to the north and south.

The topography of the property is generally moderate to steeply sloping and elevations within the CSLNR boundaries range from around 190 feet along the Highway 101 easement to nearly 920 feet along the western boundary. Currently, recreational activities constitute the predominant land use within the CSLNR. Recreational users access the more than two miles of authorized trails within the Reserve from the trailhead off Fernandez Road. The main trail through the CSLNR is named Lemon Grove Loop because of the grove of old lemon trees located on a plateau below the white "M" on the hillside. Common recreational activities within the Reserve include hiking, jogging, and mountain biking.

The CSLNR was used historically as rangeland, thus cattle and horses are periodically present.

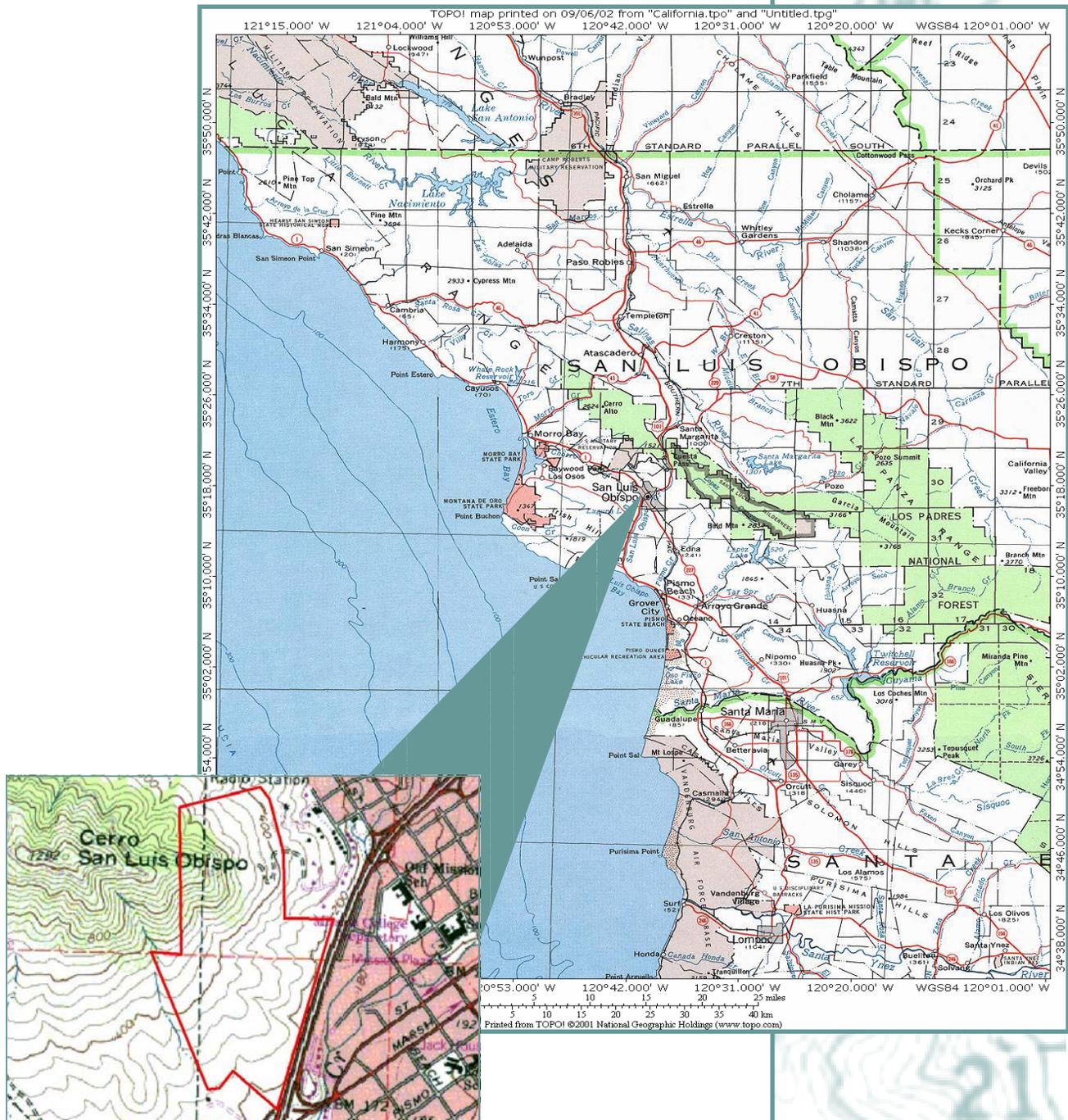


FIGURE I  
**Regional Setting of Cerro San Luis Natural Reserve**

## 1.1 History

The Cerro San Luis Natural Reserve actually has a strong historical theme to it. This has been most recently demonstrated by the unanimous finding of the City's Cultural Heritage Committee in September 2004 that the M is of historically and culturally significant, and that the draft



Conservation Plan for the Cerro San Luis Obispo Natural Reserve include its retention. It is a piece of property that

came very close to being largely developed with residences, but did not for some reason. The hand of mankind is evident in many areas of the site. For example:

- Old fence lines marking some of the numerous lots that once existed and may have been separately utilized many years ago can still be found in many places, particularly on the lower slopes of the Reserve;
- Various plantations of exotic species, including Mission cactus, eucalyptus, Peruvian pepper tree, and Monterey cypress dominate certain parts of the Reserve. Dr. Robert F. Hoover, author of "Vascular Plants of San Luis Obispo County" (1970) was particularly impressed with the Peruvian pepper tree, which for some reason has become well established on Cerro San Luis Obispo, and forms almost a savanna in some areas;
- The old lemon grove shows up prominently in old photos of the mountain: some photos also show a gazebo which was once at that location. Most of the lemons are dead, and many have been overtaken by oaks which have clearly volunteered in what was once the lemon grove; however, a few lemon trees remain to provide a reminder of this period of history of the site;
- In 1922 the City Council of the City of San Luis Obispo approved a subdivision on what is now the Charles A. and May Maino Open Space. This subdivision was never built but it allowed for the creation of some 294 lots on the lower slopes of Cerro San Luis Obispo. Had the subdivision been developed, this entire area of the City would have had a very different history and appearance;
- At least two significant roadways, one of them partially paved, were constructed in what is now the Reserve. These roads both still exist and now serve as both maintenance roads and recreational trails. The northern road has a cistern system associated with it in one location.
- In 1965, the last graduating class of Mission High School built the "M" (for Mission High) on what was at that time the private property of the French family. This was a significant undertaking for a group of students, hauling rebar and cement up the steep hillside to create the structure. It has served as a community landmark

ever since. The property, generally referred to as the Lemon Grove Open Space, was dedicated to the City of San Luis Obispo by the French family in 1973.

These features are old and have generally been “softened” by time and the recovery of natural vegetation. However, the strong undercurrent of human use in recent times creates a certain “flavor” to the Reserve which is not duplicated in other units of the City of San Luis Obispo’s open space system. As a result, the Conservation Plan puts a high value on this “flavor” and aims to keep it wherever possible.

## **1.2 Background**

The property now referred to as Cerro San Luis Natural Reserve was acquired in two units: the first unit of 43 acres was acquired by dedication as part of the approval of a residential development project proposed by the French family in the 1970s at the end of Hill Street. The dedication area covered 43 acres including the “Lemon Grove”, an area of an old lemon orchard and springs, and the surrounding area. In 1997 the City purchased an additional 75 acres from the Maino family, which brought the Reserve to its current total area of 118 acres. The two units are individually known as the “Lemon Grove Open Space”, and the “Charles A. and May Maino Open Space”.

## **1.3 Legal Considerations**

The purchase of the Maino Open Space was what is referred to as a “bargain sale”; that is, a sale at less than the fair market value of the

property. As part of the transaction, the Maino family donated a conservation easement covering the property to the Land Conservancy of San Luis Obispo County. That easement restricts the property to open space uses in perpetuity, specifically prohibiting park improvements such as tennis courts, ball fields, etc., or buildings such as park department offices. The easement specifically gives the Land Conservancy the authority to enjoin the City from undertaking such improvements.

## **1.4 Access**

Cerro San Luis Natural Reserve is primarily accessed by a public road, known as Fernandez Road, which is located just to the west of U. S. Highway 101. Fernandez Road itself is accessed from Marsh Street where it crosses under Highway 101 and just before the point where Marsh Street becomes an on- and off-ramp to the highway for southbound traffic.

A second access reaches the site from a common driveway serving three private residences at 663, 665, and 667 Hill Street. Due to lack of on-street parking, and a route not conducive to public use, this access is used exclusively for maintenance.

## 2 Inventory

### 2.1 Physical Features (Fig. 2)

Area – 118 acres

Miles of trails – 2.28 miles

Miles of creeks and seeps – 0.84 miles

Access points – One official access from parking lot at Fernandez Road

Parking – Off street parking for 10 vehicles at Fernandez Road

### 2.2 Soils

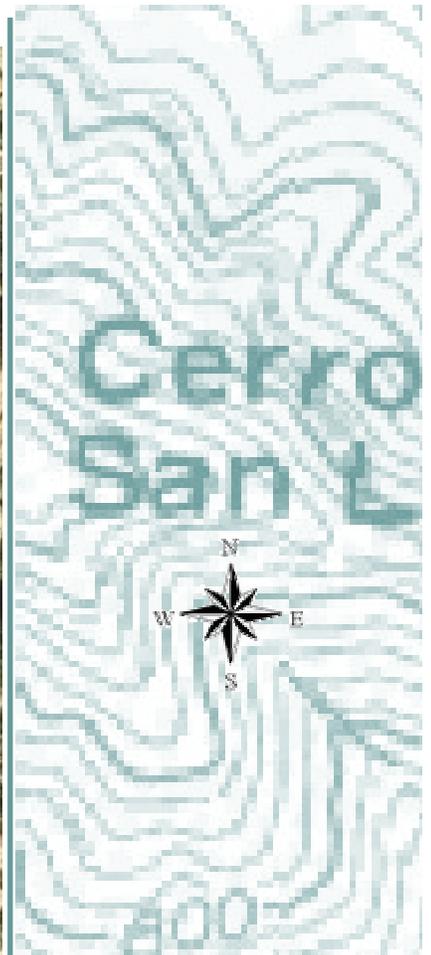
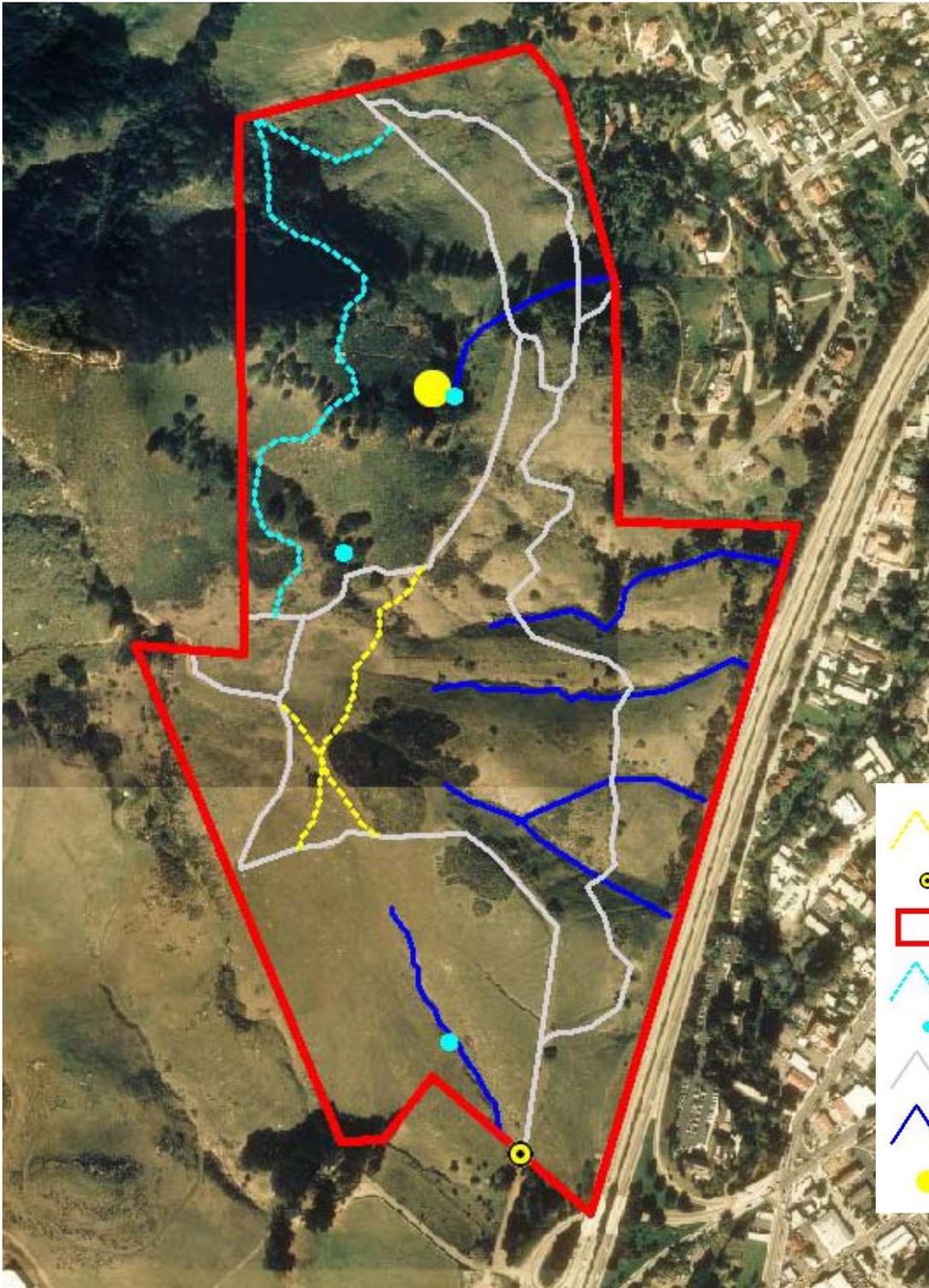
Complexes of four soil series (Diablo, Lodo, Los Osos and Salinas) are listed on U.S. Department of Agriculture (USDA) soils survey maps as being present within the CSLNR boundaries (Fig. 3). On the upper slopes of the Reserve, above an elevation of approximately 600 feet, soils are listed as Gazos-Lodo clay loam, 30 to 50 percent slopes. These soils are shallow to moderately deep and well drained to excessively drained. They have a very low or low available water capacity and a high water erosion hazard. This soil type primarily supports coastal scrub vegetation within the CSLNR, however, coast live oak woodland is also present in areas. The middle and lower slopes of the open space area are composed of Los Osos-Diablo complex soils (9 to 15 percent slopes, 15 to 30 percent slopes, and 30 to 50 percent slopes). These soils are well drained and generally deeper than Gazos-Lodo soils. The available water capacity of Los Osos-Diablo complex soils ranges

from low to very high. Because of the clay content and low permeability of these soils, surface runoff is rapid and the hazard of water erosion is moderate to high. Areas of Los Osos-Diablo complex soils support all of the dominant vegetative communities observed in the Reserve. Salinas silty clay loam, (2 to 9 percent slopes) is present in a narrow strip of the CSLNR along the Highway 101 easement. This soil type is found on alluvial fans and plains. It is very deep and well drained, and permeability is moderately slow, so available water capacity is high or very high. Surface runoff is relatively slow so the hazard of water erosion is slight to moderate. In the CSLNR, areas of Salinas silty clay loam support grassland habitat, cacti, and various introduced trees.



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*Complexes of four soil series (Diablo, Lodo, Los Osos and Salinas) are listed on U.S. Department of Agriculture soils survey maps as being present within the CSLNR boundaries.*



-  Eliminated Trails
-  Access Point
-  Boundary
-  Proposed Trails
-  Springs
-  Existing Trails
-  Creeks
-  Lemon Grove



**FIGURE 2**  
**Physical Features of the Cerro San Luis Natural Reserve**

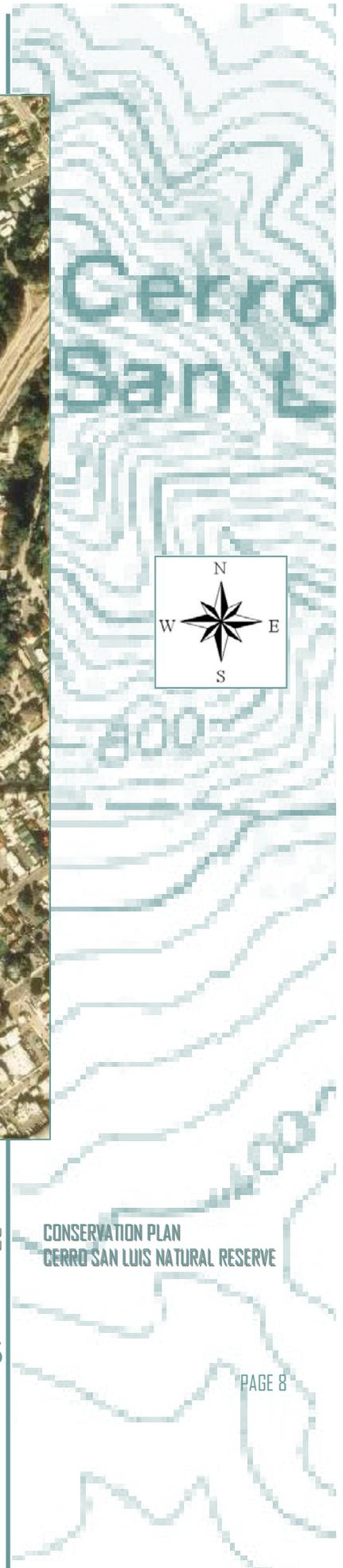
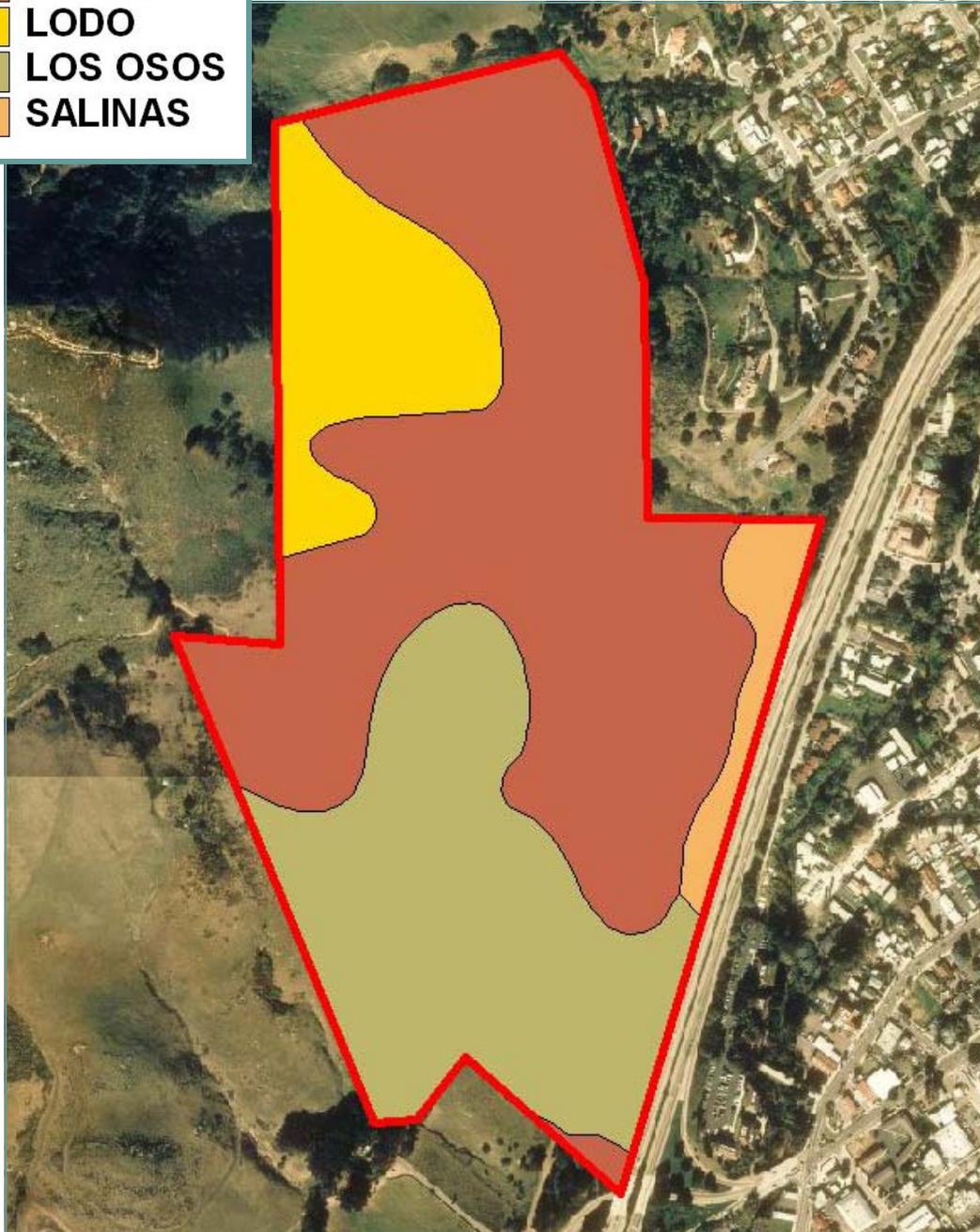
 Boundary

 DIABLO

 LODO

 LOS OSOS

 SALINAS



 0.1 0.2 Miles

# Cerro San Luis Natural Reserve Soil Types

FIGURE 3

CONSERVATION PLAN  
CERRO SAN LUIS NATURAL RESERVE

### **2.3 Cultural Resources**

Two archeological sites are located on the Cerro San Luis Obispo Natural Reserve ranging in age from recent historic to possibly prehistoric. A report detailing the specifics of each site and its location has been prepared (Singer, 2004), a copy of which is available from the City of San Luis Obispo by written request.

### **2.4 Natural Resources**

Three broadly defined native vegetative communities are the dominant habitat types on Cerro San Luis Natural Reserve. These include coast live oak woodland, coastal scrub, and grassland communities. Two plant communities dominated by introduced plant species are also prominent. These include areas supporting Opuntia scrub habitat, a variation of the coastal scrub community that is dominated by the introduced mission-fig cactus (*Opuntia ficus-indica*), and woodland habitat comprised largely of introduced trees such as blue gum (*Eucalyptus globulus*), Monterey cypress (*Cupressus macrocarpa*), and Peruvian pepper (*Schinus molle*). Generally the southern half of the CSLNR, on the lower east-facing slopes is dominated by grassland habitat. The northern half of the CSLNR is vegetated with a mosaic of grassland, coastal scrub, oak woodland, and introduced trees. Grassland habitat occupies nearly two thirds of the site (64 percent). Roughly sixteen percent of the CSLNR supports a varying coastal scrub community and nine percent is

vegetated with coast live oak woodland. The remainder of the site consists of vegetation growing beneath the canopy of introduced trees or in areas occupied by a plant community dominated by the introduced cactus (5.5 and 4.8 percent, respectively). The composition and abundance of dominant species within each community is variable.

#### **2.4.1 Grassland Habitat**

Grassland habitat is present on the middle and lower slopes of Cerro San Luis, occupying a combined area of approximately 76 acres within the Reserve boundaries (Fig. 4). The plant assemblage within grassland areas is dominated by introduced annual grasses and forbs, but includes a mixture of native grasses and herbs. Generally, the composition of plant species found in grassland habitat within the CSLNR is typical of sites that have sustained years of use as rangeland for cattle. Plant species commonly encountered in grassland habitat on the site include:

- Foxtail barley (*Hordeum sp.*)
- Ryegrass (*Lolium sp.*)
- Wild oats (*Avena fatua*)
- Ripgut (*Bromus diandrus*)
- Purple needlegrass (*Nasella pulchra*)

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*Two archeological sites are located on the Cerro San Luis Obispo Natural Reserve ranging in age from recent historic to possibly prehistoric.*

- California sagebrush (*Artemisia californica*)
- Fennel (*Foeniculum vulgare*)
- Teasel (*Dipsacus sativus*)
- Knotted dock (*Rumex conglomeratus*)
- Dandelion (*Taraxacum officinale*)
- Mustard (*Hirschfeldia incana*)
- Saw-toothed goldenbush (*Hazardia squarrosa*)
- Turkey mullien (*Eremocarpus setigerus*)

Although surveys were conducted at a time of year when native wildflowers are not in bloom and often difficult to detect, three common species were noted in



grassland areas during surveys. These included the California poppy (*Eschscholzia californica*), morning

glory (*Calystegia macrostegia*), and tarweed (*Hemizonia fasciculata*). Grassland areas provide habitat for burrowing mammals, ground-nesting/foraging birds, various reptiles, and cursorial species such as the black-tailed jackrabbit (*Lepus californicus*). Grassland areas also offer important foraging habitat for a variety of hawks and owls.

#### 2.4.2 Coastal Scrub Habitat

Coastal scrub habitat occupies a little over 19 acres within the CSLNR (Fig. 4). Dominant species within this community include California sagebrush (*Artemisia californica*), black sage (*Salvia mellifera*), and coyote bush (*Baccharis pilularis*).

The abundance of each of these dominants varies with elevation. California sagebrush is the primary component of the coastal scrub community on the lower slopes of the open space area and occurs in nearly monotypic stands within expanses of grassland habitat. On the middle slopes of the open space area coastal scrub habitat includes an increasing abundance of coyote bush and black sage, however California sage remains the dominant species. The composition of the coastal scrub community on the steep, densely vegetated upper slopes of Cerro San Luis is distinctly different from the lower and middle slopes, with black sage replacing California sagebrush as the dominant species. As elevation and slope increase, California sagebrush and coyote bush become increasingly minor components of the community. The dense, black sage-dominated coastal scrub community vegetating the upper slopes of the CSLNR includes chamise (*Adenostoma fasciculatum*), deerweed (*Lotus junceus*), and monkeyflower (*Mimulus spp.*). Plant species commonly noted within coastal scrub habitat during the surveys include:



- California sagebrush (*Artemisia californica*)
- Black sage (*Salvia mellifera*)
- Coyote bush (*Baccharis pilularis*)
- Chamise (*Adenostoma fasciculatum*)
- Toyon (*Heteromeles arbutifolia*)

- Coast live oak (*Quercus agrifolia*)
- Deerweed (*Lotus junceus*)
- Poison oak (*Toxicodendron diversilobum*)
- Monkeyflower (*Mimulus sp.*)
- Blue elderberry (*Sambucus mexicana*)
- Wild buckwheat (*Eriogonum sp.*)
- Morning glory (*Calystegia macrostegia*)
- Saw-toothed goldenbush (*Hazardia squarrosa*)
- Wild rose (*Rosa californica*)

The coastal scrub plant community serves a number of important habitat



functions for wildlife inhabiting the CSLNR. The dense low-growing shrubs and trees provide cover for predator avoidance, sites for nesting, and a source of food for browsing mammals and seed-eating birds. In addition to seeds, a variety of flowering plants provide a nectar source for species like the Anna's hummingbird.

### 2.4.3 Coast Live Oak Woodland Habitat

The boundaries of the CSLNR encompass approximately 10.5 acres of coast live oak woodland habitat (Fig. 4). The primary stand of coast live oak woodland is located on the northern exposure of Cerro San Luis, adjacent to the northwest property corner. This stand occupies steep, boulder-strewn slopes and

includes many large, mature oaks that grow together to form a closed canopy forest. Understory vegetation is relatively sparse beneath the canopy because of the low light, thick carpet of oak leaf litter, and steep, thin soils. Coast live oak woodland also occupies areas along two of the larger drainage gullies within the CSLNR boundaries. These woodland areas are relatively open and typically support undergrowth comprised of plant species from surrounding coastal scrub habitat. Common species identified within coast live oak woodland include:

- Coast live oak (*Quercus agrifolia*)
- Poison oak (*Toxicodendron diversilobum*)
- Coffeeberry (*Rhamnus californica*)
- Monkeyflower (*Mimulus spp.*)
- Mugwort (*Artemisia douglasiana*)
- Hummingbird sage (*Salvia spathacea*)
- Blackberry (*Rubus ursinus*)
- Bracken fern (*Pteridium aquilinum*)

Coast live oak woodlands provide important nesting, roosting, and foraging habitat for a great number of bird species including titmice, woodpeckers, wrens, warblers, and various raptors. Habitat features such as logs and rocks that are situated in the leaf litter beneath closed canopy oak woodlands offer shelter and a rich foraging environment for small mammals, reptiles, and amphibians.

Closed canopy oak woodlands also offer larger crepuscular and nocturnal mammals such as deer, fox, coyote, raccoons, and skunks areas for concealment during daylight hours.

Two of the spring/seep areas within the CSLNR originate in coast live oak woodland habitat. In addition to oaks, the canopy trees in this area include western sycamore (*Platanus racemosa*), black cottonwood (*Populus balsamifera*), and introduced species such as the Monterey cypress and blue gum. Understory vegetation in the vicinity of the seeps is more diverse than in other oak woodland areas and includes a mixture of native and introduced shrubs, trees, and herbaceous species. Vegetation unique to seep areas (in coast live oak woodland and grassland habitat) included umbrella sedge (*Cyperus eragrostis*), cattails (*Typha latifolia*), watercress (*Rorippa nasturtium-aquaticum*), spikerush (*Eleocharis macrostachya*), and saltgrass (*Distichlis spicata*).

#### 2.4.4 Opuntia Scrub Habitat

Opuntia scrub habitat is a variant of the coastal scrub community and includes many of the same plant species. The obvious difference between the two communities is that the dominant species in Opuntia scrub is the introduced mission fig, or Indian-fig, cactus (*Opuntia ficus-indica*). Opuntia scrub habitat occupies 5.7 acres of the CSLNR and is most extensively established in prominent patches located in the

central part of the Reserve (Fig. 4). Mission fig cacti form dense,

impenetrable stands in this area, occupying east-facing slopes and the sides of drainage gullies.

The dominant plant species within Opuntia scrub habitat generally include:

- Indian-fig cactus (*Opuntia ficus-indica*)
- California sagebrush (*Artemisia californica*)
- Coyote bush (*Baccharis pilularis*)
- Poison oak (*Toxicodendron diversilobum*)
- Monkeyflower (*Mimulus spp.*)
- Black sage (*Salvia mellifera*)
- Toyon (*Heteromeles arbutifolia*)
- Coast live oak (*Quercus agrifolia*)
- Coffeeberry (*Rhamnus californica*)



#### 2.4.5 Introduced Trees

Historical use of the northern and eastern slopes of Cerro San Luis has resulted in the introduction and establishment of several non-native tree species. These introduced trees are present on approximately 6.5 acres of the CSLNR, occurring in forested stands (blue gum), windbreaks (Monterey cypress), and in small, scattered patches within grassland habitat (Peruvian pepper). Peruvian pepper trees are also present within coastal scrub and Opuntia scrub habitat. As mentioned

earlier, an old grove of lemon trees is also present within the Reserve.

Generally, the allelopathic properties of litter from blue gum and Monterey cypress trees tends to inhibit the growth of understory vegetation and limit habitat value for many wildlife species. Stands of introduced blue gum and Monterey cypress trees do however offer roosting and nesting habitat for a variety of bird species, including raptors and owls. Deer and small mammals are also likely to utilize refuge provided by stands of introduced trees. The introduced tree species identified within the Reserve include:

- Blue gum (*Eucalyptus globulus*)
- Monterey cypress (*Cupressus macrocarpa*)
- Peruvian pepper (*Schinus molle*)
- Lemon (*Citrus limon*)

## 2.5 Sensitive Habitats

Locations within the CSLNR that support special status species or those areas vulnerable to degradation from sustained use are shown in Fig. 5. Plant communities occupying the lower slopes of the Reserve support numerous introduced plant species and are not generally considered sensitive habitat. However, coastal scrub and coast live oak woodland communities on the steep upper slopes of the Reserve appear to be relatively intact. The steepness of the slopes and thin soils make these areas extremely susceptible to erosion and use of these areas by

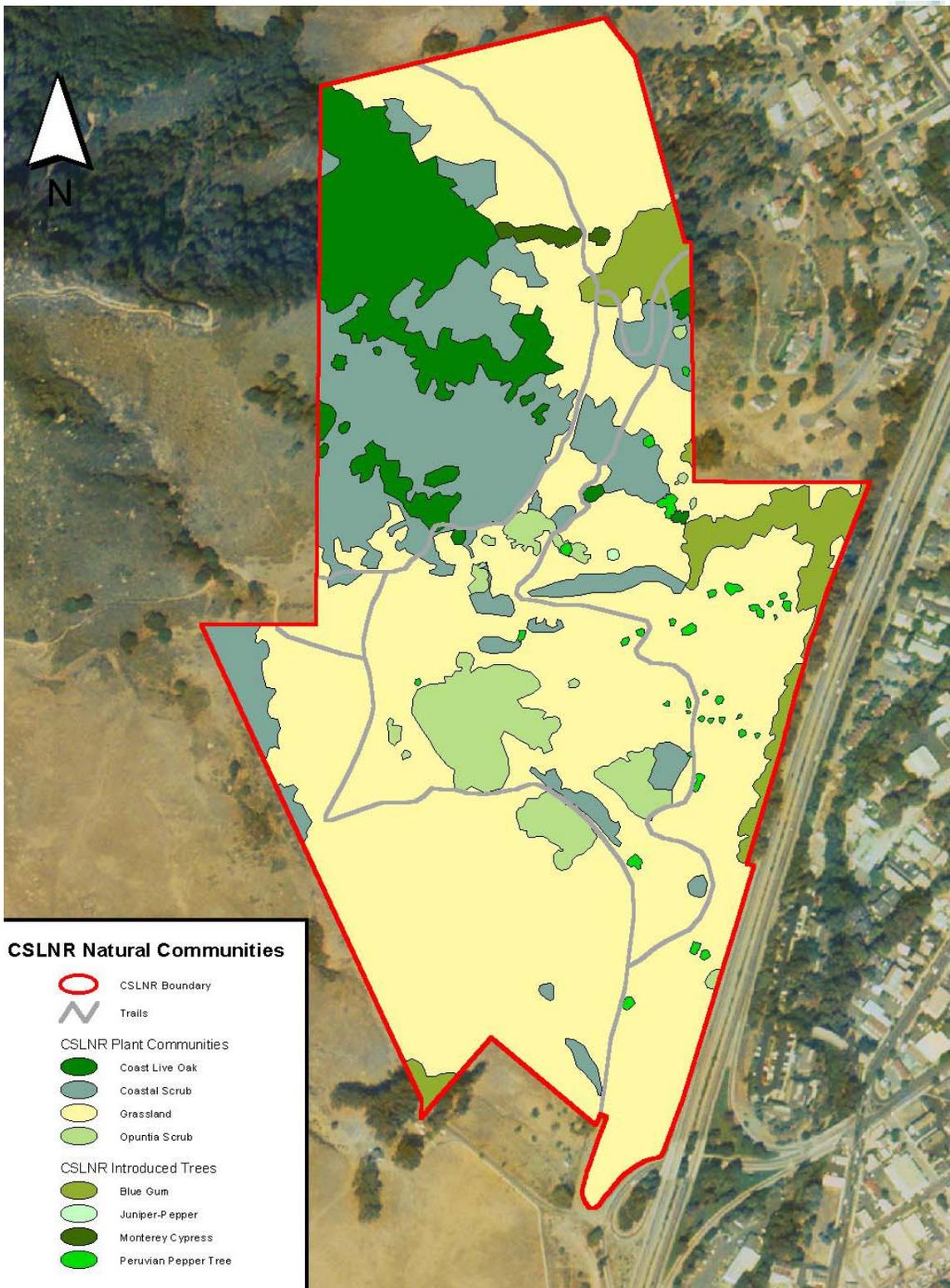
visitors could rapidly result in the degradation of native plant communities. Springs and seep areas in the CSLNR can also be adversely impacted from use by hikers, mountain bikers, and grazing cattle and should be avoided during the routing of formal trails.



A review of the California Natural Diversity Database (CNDDDB) shows a roost site for monarch butterflies located immediately south of the CSLNR. Roost sites for over-wintering monarch butterflies are often located within groves of

introduced blue gum and Monterey cypress trees such as those occurring within the CSLNR. The grove of blue gum trees in the north-central part of the Reserve offers habitat features often associated with monarch butterfly roost sites including a nearby water source and areas protected from wind.

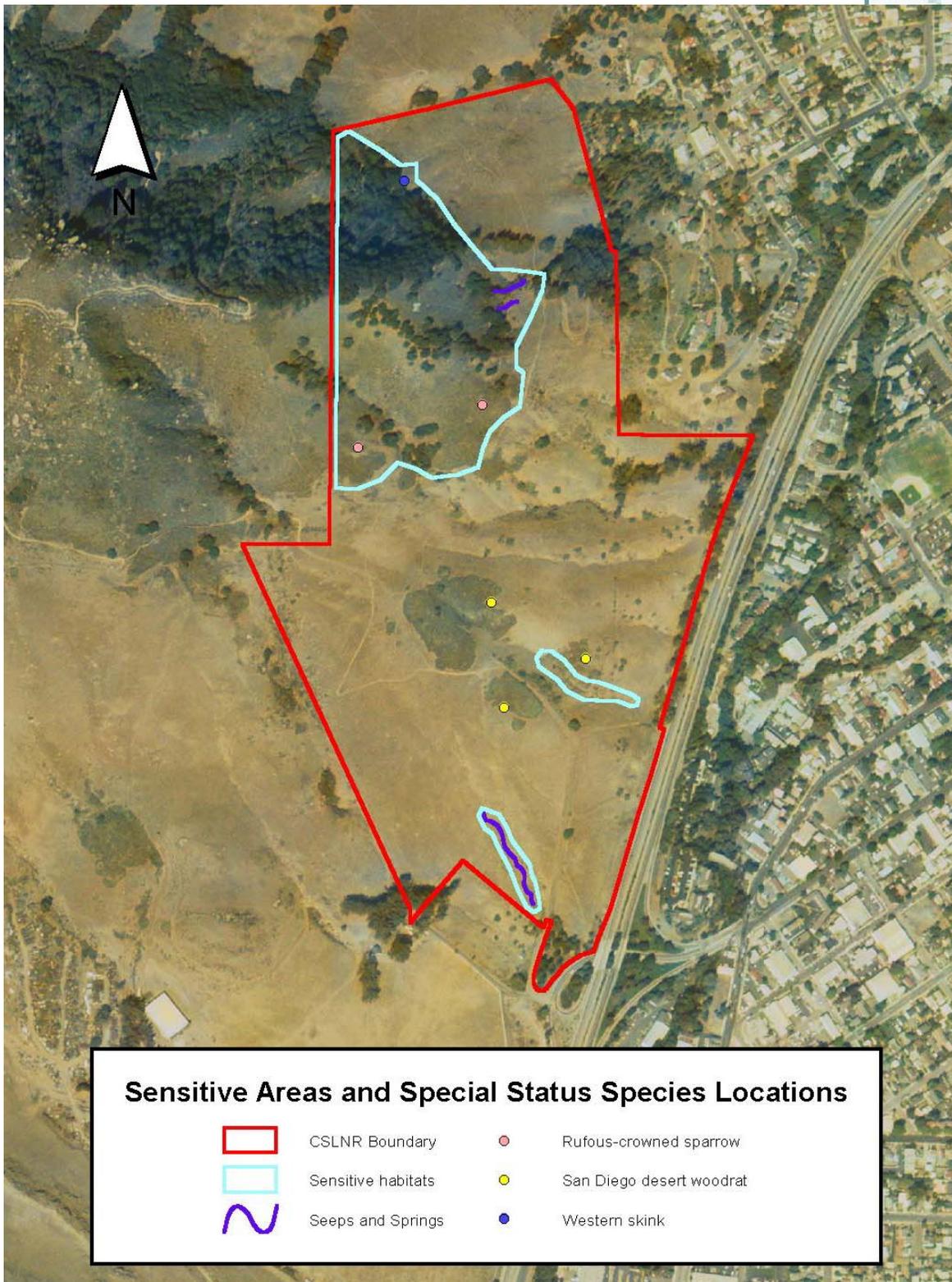
Generally, the wildlife species observed or detected during surveys of the CSLNR were relatively common inhabitants of coastal scrub, coast live oak woodland, and grassland habitats. One special status species, the San Diego desert woodrat (*Neotoma lepida intermedia*), was encountered within the Reserve boundaries. The San Diego desert woodrat is a federal and state species of special concern.



0.1 0.2 Miles

FIGURE 4  
**Cerro San Luis Natural Reserve  
 Habitat Types**

CONSERVATION PLAN  
 CERRO SAN LUIS NATURAL RESERVE



0.1 0.2 Miles

# Location of Sensitive Species on Cerro San Luis Natural Reserve

**FIGURE 5**

CONSERVATION PLAN  
CERRO SAN LUIS NATURAL RESERVE

Several species of local concern were encountered during wildlife surveys, including the western skink (*Eumeces skiltonianus*), yellow-rumped warbler (*Dendroica coronata*), rufous-crowned sparrow (*Aimophila ruficeps*), and monarch butterfly (*Danaus plexippus*).

A summary of the wildlife species identified within the CSLNR during this survey is presented in the following section. General information relative to their observed distribution is included in the summary.

## 2.6 Birds

The CSLNR offers a mixture of habitats that support a varied assemblage of bird species. A total of 46 bird species was identified during the CSLNR wildlife survey including two local species of concern, the yellow rumped warbler (*Dendroica coronata*) and the rufous-crowned sparrow (*Aimophila ruficeps*). Additionally, two species of wrens, the Bewick's wren (*Thryomanes bewickii*) and the house wren (*Troglodytes aedon*), various sparrows, including the lark sparrow (*Chondestes grammacus*), golden-crowned sparrow (*Zonotrichia atricapilla*), white-crowned sparrow (*Zonotrichia leucophrys*), chipping sparrow (*Spizella passerina*), and a second warbler species, the Townsend's warbler (*Dendroica townsendi*) were identified during surveys. The bird species most commonly

encountered in the Reserve included the northern mockingbird (*Mimus polyglottis*), Anna's hummingbird (*Calypte anna*), western scrub jay (*Aphelocoma californica*), California towhee (*Pipilo crissalis*), and morning dove (*Zenaida macroura*). Turkey vultures (*Cathartes aura*) and red-tailed hawks (*Buteo jamaicensis*) were frequently visible in the sky above the CSLNR during daytime surveys. Sizable flocks of American crows (*Corvus brachyrhynchos*) and foraging cliff swallows (*Petrochelidon pyrrhonota*) were also observed on occasion in the sky above the Reserve. Three owl species were detected during surveys from either direct observation during nighttime surveys or the identification of pellets found at the base of trees and fence posts. Table 1 presents a list of the birds identified during the surveys. A more extensive seasonal sampling effort would undoubtedly detect additional resident and migratory bird species.



*Western Scrub Jay*

Birds were observed most abundantly from sampling points in open grasslands and along the edges of dense coastal scrub and *Opuntia* scrub habitat. Twenty-two bird species were identified in grassland habitat and twenty bird species were identified in both coastal scrub and *Opuntia* scrub habitats.

These observations included birds flying over sampling points during surveys. The most diverse aggregation of bird species encountered occurred in the large centrally located patch of *Opuntia* scrub. The added habitat value provided by the four oak trees situated inside the upper margin of this patch are likely to account for this increased diversity.

Fifteen bird species were identified in oak woodland habitat, however, because of the difficult terrain in some areas and reduced visibility through the oak canopy, birds that were observed but were not actively calling could not always be positively identified. The least number of bird species (12) was observed in habitat provided by introduced trees.



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*Fifteen bird species were identified  
in oak woodland habitat.*

Table 1. List of birds identified during wildlife surveys of the Cerro San Luis Natural Reserve showing habitats in which the species were observed.

<b>Common Name/ Scientific Name</b>	<b>Opuntia Scrub</b>	<b>Coastal Scrub</b>	<b>Live Oak Woodland</b>	<b>Introduced Trees</b>	<b>Grassland</b>
Rufous-crowned sparrow <i>Aimophila ruficeps</i>		√			
Red-winged blackbird <i>Agelaius phoeniceus</i>		√			√
Western scrub jay <i>Aphelocoma californica</i>	√	√	√	√	√
plain (oak) titmouse <i>Baeolophus inornatus</i>			√		
Great horned owl <i>Bubo virginianus</i>				√	
Red-tailed hawk <i>Buteo jamaicensis</i>	√	√	√	√	√
Red-shouldered hawk <i>Buteo lineatus</i>			√	√	
California quail <i>Callipepla californica</i>	√	√			
Anna's hummingbird <i>Calypte anna</i>	√	√		√	√
Lesser goldfinch <i>Carduelis psaltria</i>		√			
House finch <i>Carpodacus mexicanus</i>				√	
Turkey vulture <i>Cathartes aura</i>	√	√	√	√	√
Swainson's thrush <i>Catharus ustulatus</i>	√				
Wrentit <i>Chamaea fasciata</i>		√			
Lark sparrow <i>Chondestes grammacus</i>			√		
Northern flicker <i>Colaptes auratus</i>	√		√	√	
Rock dove (pigeon) <i>Columba livia</i>					√

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American crow <i>Corvus brachyrhynchos</i>				√	√
Yellow-rumped warbler <i>Dendroica coronata</i>			√		
Townsend's warbler <i>Dendroica townsendi</i>			√		
Brewer's blackbird <i>Euphagus cyanocephalus</i>					√
American kestrel <i>Falco sparverius</i>					√
Dark-eyed junco <i>Junco hyemalis</i>	√		√	√	
Northern mockingbird <i>Mimus polyglottis</i>	√	√	√		
Western screech owl <i>Otus kennicottii</i>					√
House sparrow <i>Passer domesticus</i>				√	√
Cliff swallow <i>Petrochelidon pyrrhonota</i>	√				√
California towhee <i>Pipilo crissalis</i>	√	√			√
Spotted towhee <i>Pipilo maculatus</i>	√				
Blue-gray gnatcatcher <i>Polioptila caerulea</i>		√			
Nuttall's woodpecker <i>Picoides nuttallii</i>	√				
Bushtit <i>Psaltriparus minimus</i>			√	√	
Ruby-crowned kinglet <i>Regulus calendula</i>	√	√	√		
Black phoebe <i>Sayornis nigricans</i>		√			√
Say's phoebe <i>Sayornis saya</i>					√
Western bluebird <i>Sialia mexicana</i>	√				√
Chipping sparrow <i>Spizella passerina</i>		√			√
Western meadowlark <i>Sturnella neglecta</i>					√
European starling <i>Sturnus vulgaris</i>					√

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California thrasher <i>Toxostoma redivivum</i>	√	√			
Bewick's wren <i>Thryomanes bewickii</i>	√		√		
House wren <i>Troglodytes aedon</i>		√			
Barn owl <i>Tyto alba</i>					√
Mourning dove <i>Zenaida macroura</i>	√	√	√		√
Golden-crowned sparrow <i>Zonotrichia atricapilla</i>	√	√			
White-crowned sparrow <i>Zonotrichia leucophrys</i>	√	√			√

## 2.7 Mammals

A total of seventeen mammal species was observed or detected during the wildlife surveys of the CSLNR including one federal and state species of special concern, the San Diego desert woodrat. Additionally, a shrew, which is a mammal species of local concern, was encountered beneath debris near the CSLNR parking lot. The species of shrew could not be positively identified during the brief encounter, however, range and life history information suggest that it was probably an ornate shrew (*Sorex ornatus*). A list of mammals identified during the CSLNR wildlife surveys is presented in Table 2.

Five rodent species were identified during small mammal trapping efforts and three additional rodent species were observed during the course of wildlife surveys. Woodrat nests were encountered in *Opuntia* scrub, coastal scrub, oak woodland habitat, and areas beneath introduced trees. Two species of woodrat, the dusky-footed woodrat (*Neotoma fuscipes macrotis*) and the San Diego desert woodrat, were identified in the CSLNR during small mammal trapping. The San Diego desert woodrat is one of two special status woodrat sub-species that occur in San Luis Obispo County. The second is the Monterey dusky-footed woodrat (*Neotoma fuscipes luciana*) and both are federal and state species of special concern. Although no positive identification

was made, the sub-species of dusky-footed woodrat encountered in the CSLNR is not believed to be the Monterey dusky footed woodrat because Cerro San Luis is located several miles south of the described range of the sub-species. Bats (Order *Chiroptera*) were observed foraging during the early evening in grassland habitat and open areas near the lemon grove, however, their taxa could not be determined so they are not listed in Table 2.



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*A total of seventeen mammal species was observed or detected during the wildlife surveys of the CSLNR including one federal and state species of special concern, the San Diego desert woodrat.*

Table 2. List of mammals identified during wildlife surveys of the Cerro San Luis Natural Reserve showing habitats in which the species were observed or detected.

<b>Common Name/ Scientific Name</b>	<b>Opuntia Scrub</b>	<b>Coastal Scrub</b>	<b>Live Oak Woodland</b>	<b>Introduced Trees</b>	<b>Grassland</b>
Coyote <i>Canis latrans</i>		√	√		√
Opossum <i>Didelphis marsupialis</i>				√	
Blacktail jackrabbit <i>Lepus californicus</i>					√
California meadow mouse <i>Microtus californicus</i>					√
Dusky-footed woodrat <i>Neotoma fuscipes macrotis</i>	√		√	√	
San Diego desert woodrat <i>Neotoma lepida intermedia</i>	√				
Mule deer <i>Odocoileus herionus</i>		√	√	√	√
Brush mouse <i>Peromyscus boylei</i>		√			
California mouse <i>Peromyscus californicus</i>	√				
Deer mouse <i>Peromyscus maniculatus</i>	√	√	√	√	√
Raccoon <i>Procyon lotor</i>			√		
California ground squirrel <i>Spermophilus beecheyi</i>	√				√
Desert cottontail <i>Sylvilagus auduboni</i>	√				
Brush rabbit <i>Sylvilagus bachmani</i>	√	√			
Shrew <i>Sorex sp.</i>					√
Botta's pocket gopher <i>Thomomys bottae</i>			√		√
Gray fox <i>Urocyon cinereoargenteus</i>			√		√

Based on observations made during surveys of the CSLNR, grassland habitat appeared to support the greatest number of mammal species. Mammals identified as utilizing grassland habitat include rodents that burrow beneath the ground, small mammals (rodents, rabbits, shrews) that forage in grasslands but live in refugia provided by rock outcrops or patches of *Opuntia* and coastal scrub vegetation, and larger mammals that forage or hunt in grasslands. The California ground squirrel and Botta's pocket gopher were the most common mammals in grassland areas, and the dusky-footed woodrat and deer mouse were most abundant in patches of scrub vegetation. The deer mouse was present in all of the surveyed habitat types. Larger mammals such as the gray fox, mule deer, raccoon, opossum, and coyote did not appear to be common in the CSLNR and were detected from occasional remains (opossum and gray fox), scat (coyote, raccoon), visual observations (mule deer), and tracks (mule deer, raccoon). These larger species are likely to remain in oak woodland and coastal scrub habitat on the relatively inaccessible upper slopes of Cerro San Luis during the day and leave their concealed locations only after sunset to forage in grassland habitat on the lower slopes. Mule deer were the only large mammal observed during nighttime surveys.

## 2.8 Reptiles

Five reptile species were encountered during the CSLNR wildlife surveys including one species of local concern, the western skink (*Eumeces skiltonianus*) (Table 3). A single western skink was encountered beneath a rock located at the edge of oak woodland habitat on a north-facing slope. The western fence lizard (*Sceloporus occidentalis*) was the most commonly encountered reptile species in the CSLNR and was present in all of the surveyed habitat types. Although no live California king snakes were encountered during surveys, a single shed skin (banded pattern) found in grassland habitat indicated that the species is present in the Reserve.



*Western Skink*

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*Five reptile species were encountered during the CSLNR wildlife surveys including one species of local concern, the western skink.*

Table 3. List of reptiles identified during wildlife surveys of the Cerro San Luis Natural Reserve showing habitats in which the species were observed.

<b>Common Name/ Scientific Name</b>	<b>Opuntia Scrub</b>	<b>Coastal Scrub</b>	<b>Live Oak Woodland</b>	<b>Introduced Trees</b>	<b>Grassland</b>
Southern alligator lizard <i>Elgaria multicarinatus</i>			√	√	√
Western skink <i>Eumeces skiltonianus</i>			√		
California king snake <i>Lampropeltis getulus californae</i>					√
Gopher snake <i>Pituophis melanoleucus</i>					√
Western fence lizard <i>Sceloporus occidentalis</i>	√	√	√	√	√

## 2.9 Amphibians

The CSLNR does not appear to support an abundance of amphibians. The Pacific tree frog (*Hyla regilla*) and the black-bellied slender salamander (*Batrachoseps nigriventris*) were the only two amphibian species encountered during this survey. Pacific tree frogs were observed in a rock pile located in grassland habitat and in the seep area adjacent to the lemon grove. Black-bellied slender salamanders were encountered beneath rocks and logs at the oak woodland-grassland interface on the northern exposure of Cerro San Luis.

## 2.10 Invertebrates

A variety of invertebrates were identified during surveys of the CSLNR including one species of local concern, the monarch butterfly (*Danaus plexippus*). Monarch butterflies were encountered in a variety of habitats within the Reserve and are likely to utilize nectar from blue gum trees and other flowering plants on the site. Although no large aggregations of monarch butterflies were observed during surveys, areas within the grove appeared to offer conditions suitable for roosting.

The inland form of the federally endangered Morro shoulderband snail (*Helminthoglypta walkeriana* var. *morroensis*) was also found at a number of locations within the CSLNR. Until recently, the taxonomic difference between Morro shoulderband snails occurring in

sandy soils around Los Osos and the Morro Bay Estuary (*Helminthoglypta walkeriana*) and the snails occurring at inland locations (*Helminthoglypta walkeriana* var. *morroensis*) was somewhat unsettled and both were afforded protection under the Endangered Species Act (ESA) of 1973.

However, based on recent investigations of distribution and various morphological and anatomical traits, *H. w.* var. *morroensis* was found to be sufficiently distinct from the endangered coastal form (*H. walkeriana*) to warrant a different taxonomic status. This was confirmed as the official USFWS position on the matter in May 2004.

In addition to the inland form of the Morro shoulderband snail, the Big Sur shoulderband snail (*Helminthoglypta umbilicata*), a related but more widely distributed terrestrial snail species, was abundantly encountered in the CSLNR. Selected invertebrate species noted during the wildlife surveys are listed in Table 4.



Table 4. List of invertebrate species noted during wildlife surveys of the Cerro San Luis Natural Reserve showing habitats in which the species were observed.

<b>Common Name/ Scientific Name</b>	<b>Opuntia Scrub</b>	<b>Coastal Scrub</b>	<b>Live Oak Woodland</b>	<b>Introduced Trees</b>	<b>Grassland</b>
Honey bee <i>Apis mellifera</i>	√	√			√
Bumble bee <i>Bombus</i> sp.	√				√
Monarch butterfly <i>Danus plexippus</i>	√	√	√	√	√
Stink beetle <i>Eleodes</i> sp.					√
Field cricket <i>Gryllus pennsylvanicus</i>					√
European garden snail <i>Helix aspersa</i>	√				
Big Sur shoulderband snail <i>Helminthoglypta umbilicata</i>	√	√		√	√
Morro shoulderband snail <i>Helminthoglypta walkeriana</i> var. <i>morroensis</i>	√	√			√
Ladybird beetle <i>Hippodamia convergens</i>	√	√			√
Black widow spider <i>Latrodectus mactans</i>					√
Forest spider wasp <i>Priocnemis oregona</i>			√		
Scorpion Order Scorpionida					√
Jerusalem cricket <i>Stenoplematus fuscus</i>					√

A wide variety of other invertebrates were present within the CSLNR that were not specifically identified in Table 4. These included various butterflies, wasps, beetles, ticks, flies, centipedes, mosquitoes, spiders, and ants.

### 3 Goals & Recommendations

The City document “*Conservation Guidelines for Open Space Lands of the City of San Luis Obispo*” describes management guidelines and policies designed to achieve the stated goals of the City’s Open Space Element (i.e., OS1.1.1-OS1.1.4). Management goals relevant to the CSLNR are:

- 3.1 To conserve, enhance and restore natural plant communities; to protect sensitive and endangered plant species and their habitats; and maintain biodiversity of native plants and animals.
- 3.2 To provide the public with a safe and pleasing natural environment in which to pursue passive recreational activities, while maintaining the integrity of the resource and minimizing the impact on the wildlife and habitats represented.
- 3.3 To preserve and restore creeks, wetlands and ephemeral seeps or springs in a natural state, and provide suitable habitat to all native aquatic and riparian species. To minimize the impacts of harmful activities such as the release of pollutants, while maintaining the creek system as a means of conveying storm water within urban areas.

- 3.4 To conserve and protect native plant and animal species and enhance their habitats in order to maintain viable wildlife populations within balanced ecosystems.

Management goals 3.1-3.4 will be achieved by designation of land use categories within the CSLNR as described in the document “*Conservation Guidelines for Open Space Lands of the City of San Luis Obispo*”. Designation of land use categories for the CSLNR is shown on the system map in Figure 6.

#### **Public Comment**

The Conservation Plan aims to accommodate the desires and wishes of the general public for CSLNR, as well as addressing the goals of the City’s Open Space element. The specific recommendations detailed below are the result of input from members of the public collected during workshops, and suggestions from the City Planning Commission and Parks and Recreation Commission.

- 3.5 Consider alternatives to burning of vegetation as a method of fuel management.
- 3.6 Maintenance of cactus stand as suitable habitat for the Morro Shoulderband Snail.
- 3.7 Include educational signage on the CSLNR.
- 3.8 Remove “M” and rehabilitate the site – This is an important viewshed to those driving in to town on HWY 101.
- 3.9 The City should participate in the Morros Trail Project

Look at Fernandez Rd legal issues and relationships to formal boundaries

- 3.10 Improve the Fernandez Rd parking area – gravel, fencing, trees etc.
- 3.11 Interpretation/Restoration of lemon grove.
- 3.12 Divert trespassers entering the Reserve from the Mountain View/Hill Street areas.
- 3.13 Provide information in the form of trail guides showing official access routes to discourage trespassing.
- 3.14 Evaluate the potential for a landslide event in the vicinity of the Lemon Grove.
- 3.15 A grazing plan should be designed that encourages biodiversity
- 3.16 Consider developing spring for wildlife
- 3.17 Collaborate with CalTrans to plant screening trees along the margin with HWY 101.
- 3.18 Habitat area should be maximized
- 3.19 Develop a monitoring program for the open space incorporating the concept of Limits of Acceptable Change (LAC's).

## 4 Conservation Plan

The Conservation Plan describes how the City intends to manage CSLNR to fulfill adopted City goals and the recommendations of the community for the property. The land use designations proposed for the CSLNR are shown on the system map (Fig. 6). The general day-to-day management of these areas will be in accordance with direction in the City-adopted document

*“Conservation Guidelines for Open Space Lands of the City of San Luis Obispo”*. The conservation plan also describes a series of tasks that will be implemented in order to achieve the recommendations made by the general public.

### **Needs Analysis**

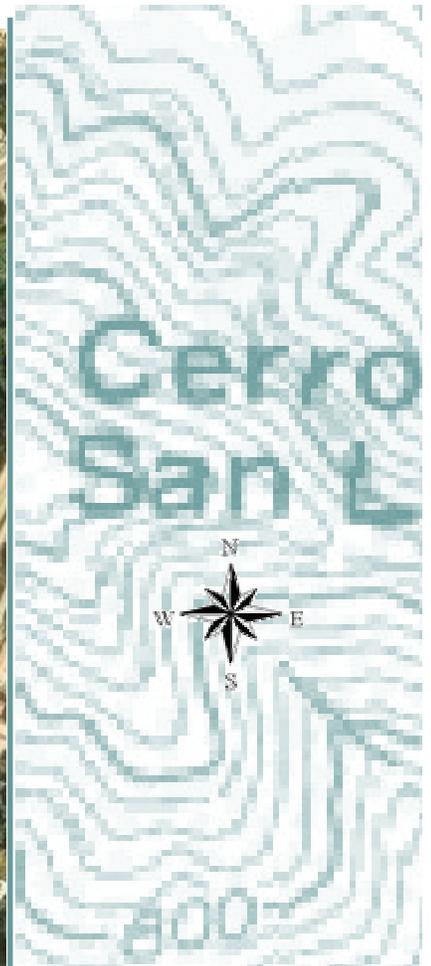
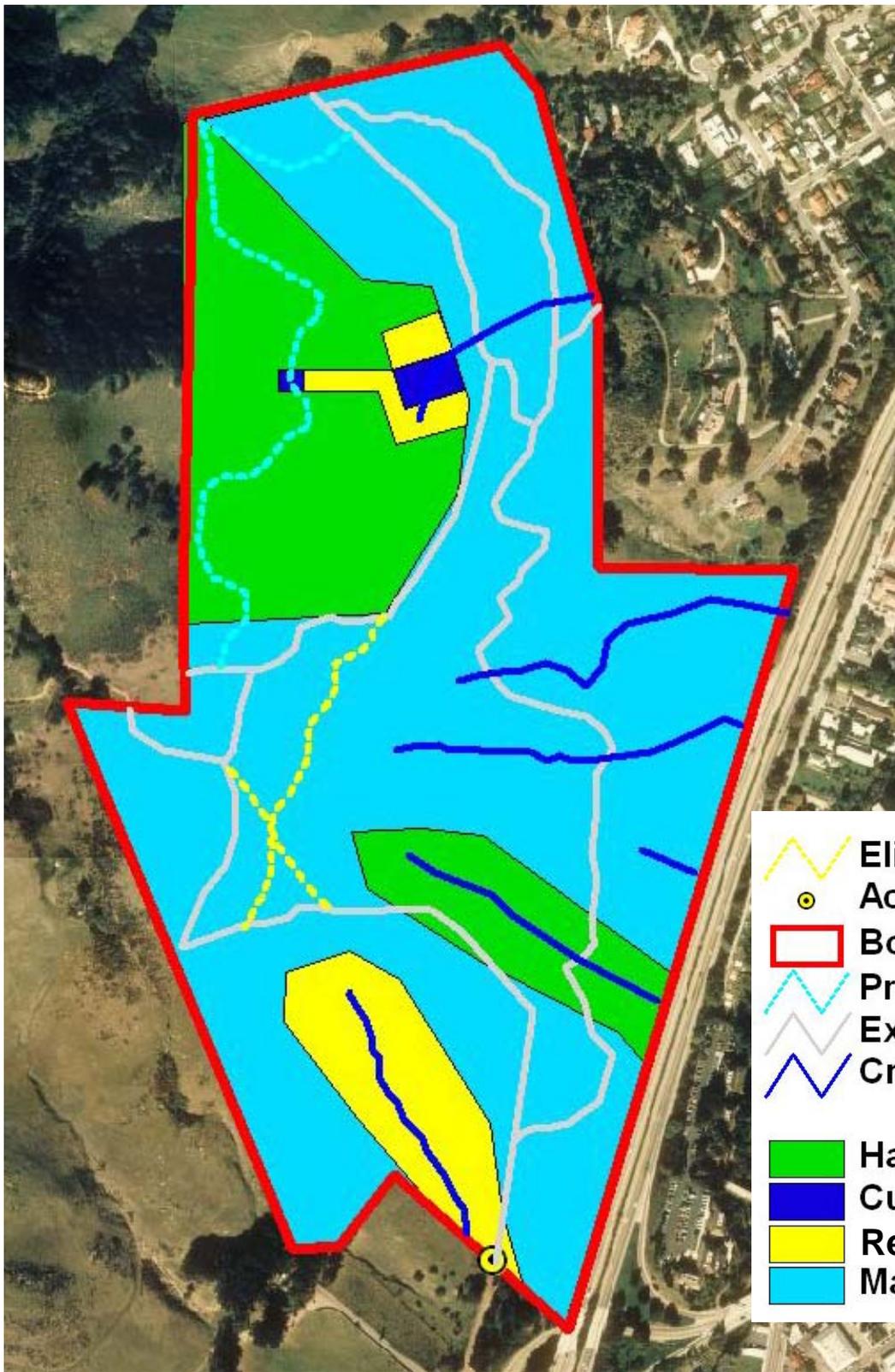
The following tasks will be undertaken over the next 5 to 7 year cycle to accomplish the stated City goals and recommendations from the general public identified in Section 3.

To achieve goals 3.1-3.4 the CSLNR shall be managed in accordance with the City adopted policies described in *“Conservation Guidelines for Open Space Lands of the City of San Luis Obispo”*.

The reader is referred to this document for specific details of how these policies relate to the land use categories designated for the CSLNR on the system map (Fig. 6); and for an explanation of how policies are identified in the following discussion.

Many of the policies described in *“Conservation Guidelines for Open Space Lands of the City of San Luis Obispo”* are designed to be protective of City-owned resources by restricting activities that may have a negative impact (e.g. prohibition of trail construction in ‘Habitat’ areas [HA12]).

Providing such limitations are observed, implementation of restrictions is primarily a passive affair requiring no active management or changes in prevailing conditions or activities.



-  Eliminated Trails
-  Access Point
-  Boundary
-  Proposed Trails
-  Existing Trails
-  Creeks
-  Habitat
-  Cultural/Historic
-  Restorative
-  Management

0.1      0.2 Miles

**FIGURE 6** CONSERVATION PLAN  
**CERRO SAN LUIS NATURAL RESERVE**

## Land Use Designations of the Cerro San Luis Natural Reserve

However, other recommendations do require active management and will result in changes in management practices or altered resource conditions. These are:

(Note: The specific goal or recommendation identified in Section 3 that is addressed by the proposed action is given in parentheses)

- 4.1 Traditionally CSLNR has been utilized as pasture land for cattle and horses. Grazing will continue, in accordance with the grazing plan described in Section 7, as the primary means of vegetative fuel management (3.6/3.17).
- 4.2 Educational signage describing the unique natural and cultural characteristics of the reserve will be installed at the City sanctioned access point to the Reserve originating at Fernandez Rd (3.8).
- 4.3 The City will cooperate and collaborate as appropriate, with any public or private agency involved in the development of the "Morros Trail Project" (3.10).
- 4.4 The City will cooperate with any organization or individual interested in restoration of the lemon grove area of CSLNR; however, no City funds will be dedicated to this cause. In the absence of an interested party the lemon grove will be left to revert to a natural, untended state (3.13).
- 4.5 A trail guide will be produced which identifies all sanctioned hiking, mountain biking trails

and official access points to the Reserve (3.15).

- 4.6 The Cultural Heritage Committee has determined that the 'M' is historically and culturally significant to the community. Therefore the Plan recommends the retention of this structure, provision for its maintenance, and appropriate access to it, as detailed below in Items 4.7, 4.8, and 4.9. City staff shall prepare a letter of agreement with the Mission College Preparatory School for such maintenance that will include agreed upon standards.
- 4.7 The steep, erosive 'bootleg' trails that have been formed up to the 'M' will be closed and rehabilitated. A correctly constructed gently sloping trail which can be used the access the 'M' will be constructed. This will minimize the erosive damaged caused by maintenance activities associated with the structure.
- 4.8 The restorative areas identified in Fig. 5 include a creek/seep area in the south region of the Reserve which has been impacted by grazing cattle. This will be fenced to exclude cattle and willow stakes planted to restore riparian cover. The eroded trail leading up to the "M" will be eliminated and an alternative trail at correct grade will be installed. The final restorative area is a seep adjacent to the lemon grove this will be covered and modified to provide a water source for wildlife.

4.9 The trail area identified as 'Eliminated Trails' in Fig. 5 will be decommissioned, and a new section of trail identified as 'Proposed Trails' will be constructed at the correct grade to service the 'M'.

4.10 CSLNR hosts seven diverse habitat types (Fig. 4), including non-native grasslands, eucalyptus and cactus stands. The non-natives do have habitat value, tall eucalypts provide perching sites for hunting raptors and the Morro Shoulderband Snail is only found in association with stands of cactus on the site. Wholesale removal of non-native vegetation may result in the reduction of native species that have adapted to their presence. With this in mind the City will remove newly forming cactus stands or eucalypt groves that develop outside of the current range.

City staff will especially monitor the generally exotics-free coastal scrub community on the upper elevations of the Reserve for appearance of exotic plant species and will remove such exotics as they are discovered.

In addition, eucalypts <6" in diameter may be removed as part of an ongoing fuel reduction program on the Reserve. Eucalyptus trees up to 12 inches in diameter will be evaluated for possible removal following an initial thinning, and, if considered necessary, will be removed. General exotic

monitoring will also evaluate thinning or removal of pepper trees up to 12 inches in diameter, especially in areas where their growth may contribute to fuel loading.

4.11 The City will cooperate with Caltrans to plant trees along the margin of 101 to screen the freeway from the open space (3.19).

4.12 Photopoints will be established to monitor the temporal status of the resource (3.21).

4.13 Livestock grazing will be permitted at CSLNR, and the major part of the open space is suitable for that purpose. Therefore, in accordance with the "*Conservation Guidelines for Open Space Lands of the City of San Luis Obispo*" all grazing lands will be categorized as 'Management' areas. In this instance 'Habitat' areas comprise 23% (27.14 acres) of the open space, 'Management' areas 69% (81.42 acres), 'Restoration' areas 7.1% (8.38 acres), and 'Cultural' areas 0.9% (1.06 acres).

***In Addition...***

4.14 At its regular meeting on September 27, 2004, the City of San Luis Obispo's Cultural Heritage Committee determined that the "M" on Cerro San Luis Obispo was historically and culturally significant to the community, and recommended to the City Council that the Conservation Plan for Cerro

San Luis Natural Reserve included the retention of that feature and the provision of appropriate access to it.

## 5 Implementation Strategy

The priority and order in which these tasks shall be implemented is detailed below. Each task has been designated to staff from the City's Natural Resources Program (NR), Parks and Recreation Department (PR) or other City staff as specified.

### 5.1 Ongoing Tasks

General maintenance activities in accordance with the adopted policies described in "*Conservation Guidelines for Open Space Lands of the City of San Luis Obispo*" shall be implemented on a regular or 'as needed' basis throughout the 5-7 years covered by this Conservation Plan (NP/PR).

### 5.2 Specific Tasks

#### Years 1-2

- Implement grazing plan as outlined in Section 7 to reduce fuel load at the urban/open space interface.
- Install educational signage at City sanctioned trailhead.
- Construct new trail to facilitate maintenance of 'M'.
- Start restoration projects identified in Section 4.8, as well as maintenance or restorative activities identified

in Sections 4.7, 4.9, 4.10, and 4.12.

- Produce trail guide for the CSLNR.
- Develop and install one or more signs informing the public of the history of the 'M'; such a sign may be installed in the City at a location where people may see the 'M' as well as or instead of a sign at a location within CSLNR.
- Seek cooperator in maintenance/restoration of the Lemon Grove.
- Complete a Letter Agreement Regarding the 'M' with Mission College Preparatory School.
- Seek grant funds for tree planting along Highway 101.

#### Years 3-4

- Continue activities outlined above to completion.

#### Years 5-6

- Continue activities outlined above to completion.

### As Funds/Opportunities Become Available

- Participate in the 'Morros Trail' project.
- Participate in/encourage third party restoration of the lemon grove area.
- Any agreement for maintenance of the 'M', the trail thereto, elimination and restoration of the unauthorized trails thereto, or any agreement concerning

restoration and maintenance of the Lemon Grove area will be presented to the Parks and Recreation Commission for approval. Any such agreement will include measurable or observable standards for such maintenance.

## 6 Wildfire Preparedness Plan

The City document “*Conservation Guidelines for Open Space Lands of the City of San Luis Obispo*” recommends that a Wildfire Preparedness Plan be developed for City open space lands. After consultation with the City’s Fire Department and CDF, three areas have been identified that will receive specific treatment with respect to fighting wildfires and prescribed burning (Fig. 7). The process of identification of these areas takes into account a number of factors, including: the topography of the land; proximity to urban developments; vegetation type; and the presence of sensitive species. The areas are:

Fuel management area – areas adjacent to the urban/wildland interface that could not be safely burned in a controlled manner. These areas will require active pruning, mowing and/or other active management of the vegetation (including livestock grazing) to reduce fuel loads adjacent to developed properties. This includes most of the grassland areas of the Reserve, and especially the eucalyptus plantation on the easterly boundary near Hill Street.

Active firefighting area – areas acting as a buffer between the surrounding urban developments and the pristine habitat. Active firefighting techniques such as the use of heavy machinery and cutting of fuel breaks can be utilized to protect property from an advancing wildfire.

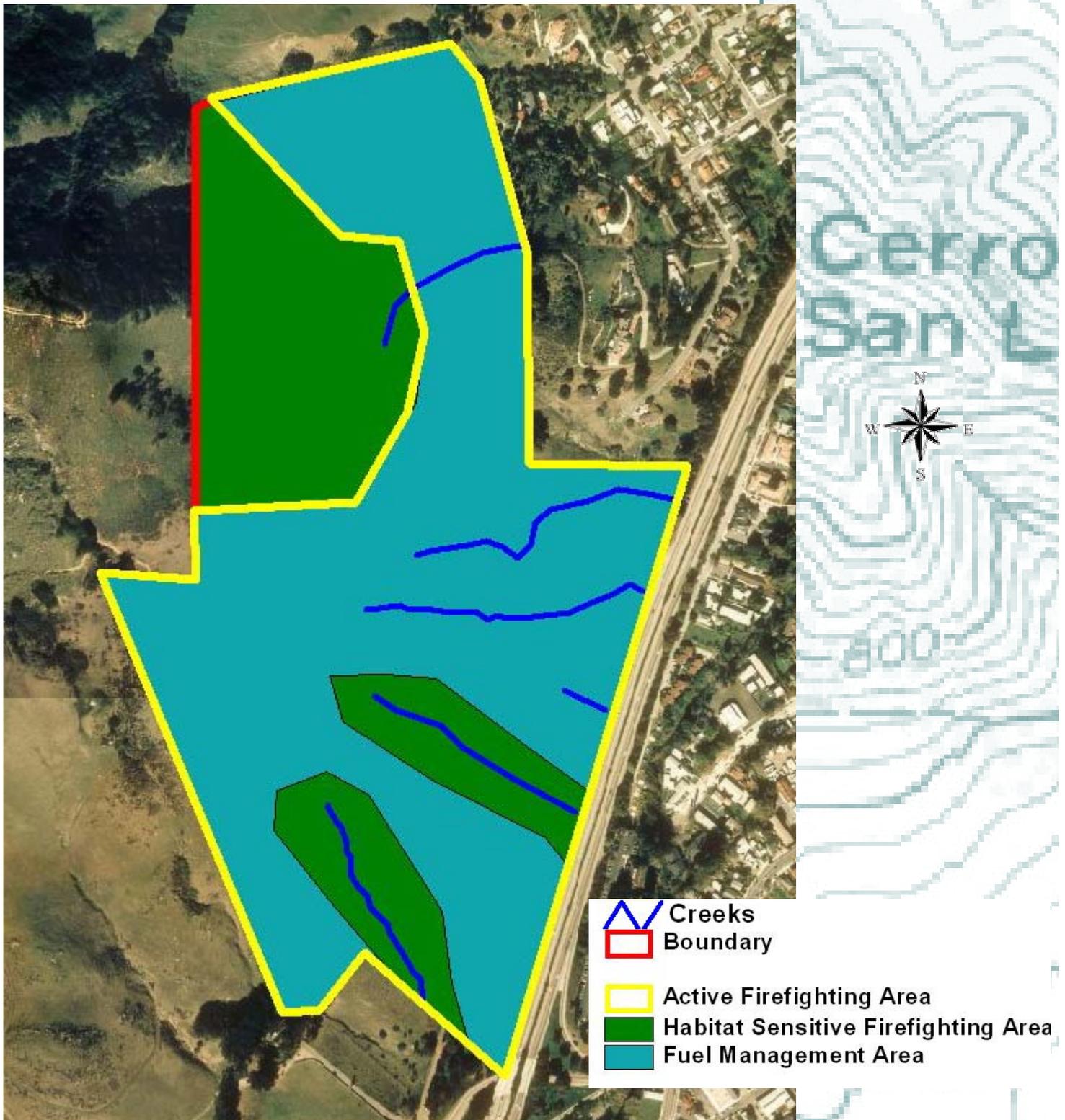
These areas have also been identified because the physical resources and topography are conducive to successful restoration efforts following a wildfire.

Passive (habitat sensitive) firefighting area – areas of important wildlife habitat, mostly on steep hillsides. These areas are also somewhat removed from urban development. They are particularly sensitive to aggressive firefighting techniques such as the use of heavy machinery. Therefore, wherever practicable, firefighting strategies in these areas should be limited to low impact, habitat friendly methods.

## 7 Grazing Plan

Livestock grazing will continue to be permitted at CSLNR.

The current grazing permittee, Madonna Construction, Inc., has generally used CSLNR as part of a rotational grazing system encompassing the entirety of Cerro San Luis Obispo, which includes lands owned by the permittee. This has resulted in an appropriate level of grazing utilization, and good rest periods between grazing periods. It also results in minimal need for City-owned infrastructure such as fences, corrals, water troughs, etc. The grazing plan therefore calls for such



**FIGURE 7**  
**Cerro San Luis Natural Reserve**  
**Wildfire Preparedness Plan**

rotational use to continue. The plan will be implemented as follows:

- The area will be retained by existing fencing as two pastures, north pasture and south pasture.
- Vegetation management objectives for both pastures will be to control the amount of residual dry matter (RDM) at the end of the growing season to approximately 1,200 pounds per acre. The objectives will also to have an increase in coverage of purple needlegrass and other native bunchgrasses. These objectives will be accomplished by permitted rotational livestock grazing throughout the year, but avoiding the winter months (December through February in the south pasture, December through March in the north pasture). Measurements of RDM will be accomplished in late May or early June of the year. Numbers of livestock will be based upon NRCS soils survey data for the area.
- Grazing use will be monitored to ensure that management objectives are being met. This will be done through ocular estimates of standing crop biomass, and the establishment and monitoring of permanent transects to estimate species composition within the pastures. A goal of the program will be to maintain native bunchgrasses and forbs, measured as a

percent cover by the transect measurements.

- An enclosure will be constructed to eliminate livestock access into the unnamed creek in the south pasture, and permit revegetation of that feature with willows and other appropriate vegetation.
- The existing fence at the springs and the “Lemon Grove” area will be improved to eliminate livestock access and allow for reestablishment of the lemon grove as an historical feature of the site. Livestock access to the water at the site will be done by restoring flow from the springs to the existing trough outside of the enclosure. Flow to this trough will be constructed in such a way as to ensure that no more than one-half of the flow from the spring goes into the pipe supplying the trough. Also a wildlife ladder or other appropriate structure will be installed at the trough to ensure wildlife access to the water in the trough.

## **8 Fiscal Statement**

The fiscal impact of the adoption of the Cerro San Luis Obispo Conservation Plan is expected to be minor. It will consist of maintaining the patrol and maintenance of the property at basically its existing level, and the implementation of several small-scale capital improvements. The latter include:

- Construction of one new trail accessing the “M”, above the Lemon Grove area. This trail will be about three-quarters of a mile long and would most likely be constructed with volunteer labor;
- Closure and restoration of several existing “bootleg”, or unauthorized trails, currently providing access to the M and resulting in erosion problems and unsightliness; and
- Fencing or re-fencing of several areas to eliminate livestock access and foster habitat restoration and enhancement in those areas.

None of these projects is considered costly. The new trail plus the related closures, would call for expenditures in the \$1,000-\$2,000 range for materials. These would be paid out of maintenance funds from the Natural Resources program. The restoration projects may be funded internally or may utilize grant fund sources. Overall cost of the revegetation programs is considered to be in the \$15,000 range.

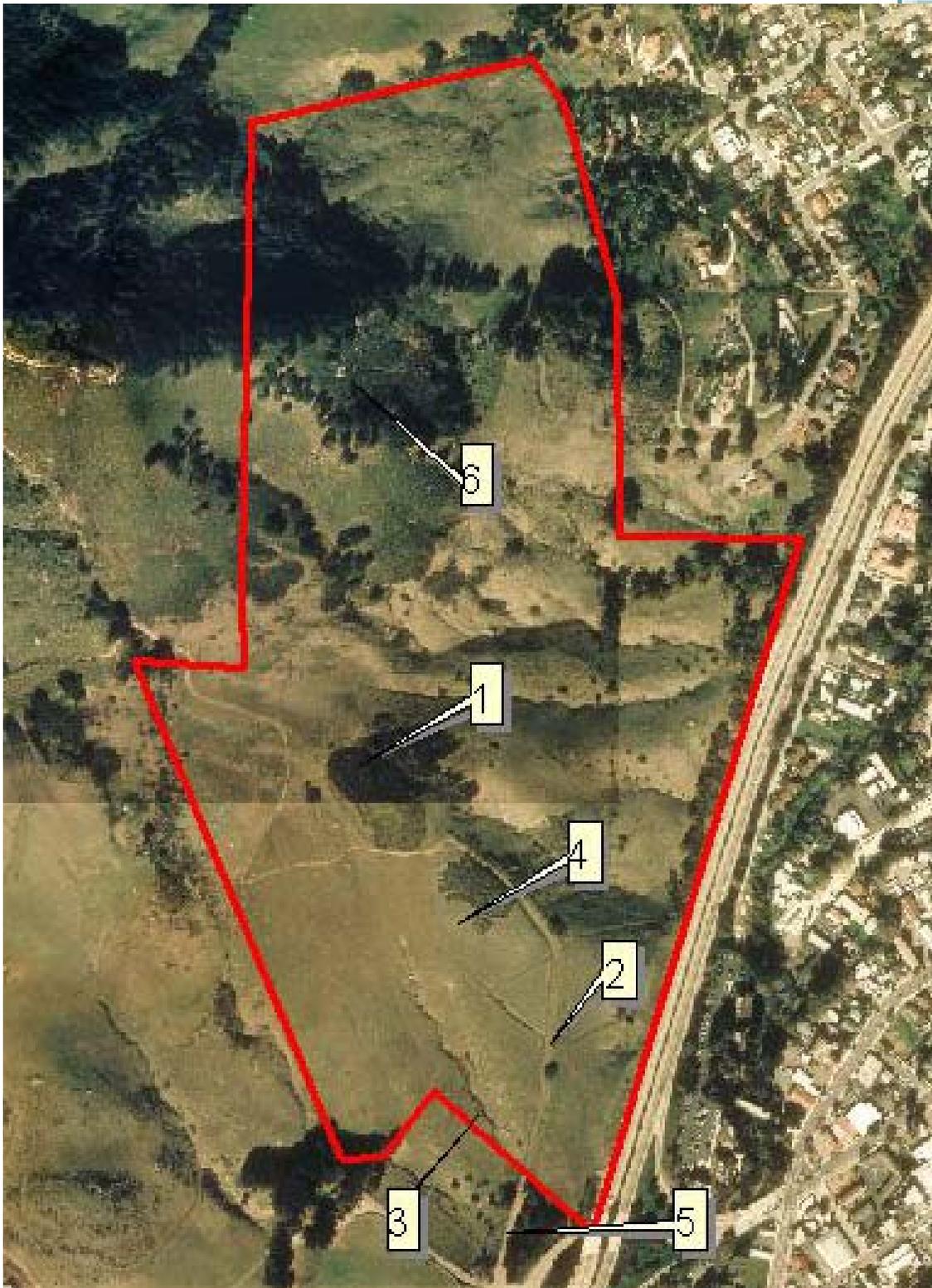
The fire preparedness plan has certain minor maintenance costs associated with it, specifically, periodic pruning of vegetation and removal of forest litter in a limited area, within 200 feet of the Reserve boundary near Hill Street where a eucalyptus grove is adjacent to residential property. For the most part, however, the fire preparedness plan would utilize livestock grazing as the primary management tool, as most of the lands identified as fuel

management areas are non-native grasslands most appropriately managed by proper range management techniques.

It is expected that the level of staffing for the Reserve would not change unless there was a major change involving legal access to the top of Cerro San Luis Obispo, which is on private property and is accessed by the public by permission of the landowner.

## **9 Monitoring**

Six photopoints have been established on CSLNR (Fig. 8) which include areas of exotic species, grasslands, restoration sites, major trails and parking areas. These sites will be visited annually and photographs taken from the same perspective. This will give a temporal record of the status of the resource over time. Should examination of subsequent photographs suggest that the status of the resource is being negatively impacted (i.e. exceeding limits of acceptable change) by visitor activity or management decisions, permitted uses and management strategy will be re-evaluated.



0.1 0.2 Miles

**FIGURE 8**  
**Location of Monitoring  
Photopoints on  
Cerro San Luis Natural Reserve**

CONSERVATION PLAN  
CERRO SAN LUIS NATURAL RESERVE

Figure 8 cont.



1. *Opuntia* Scrub Habitat



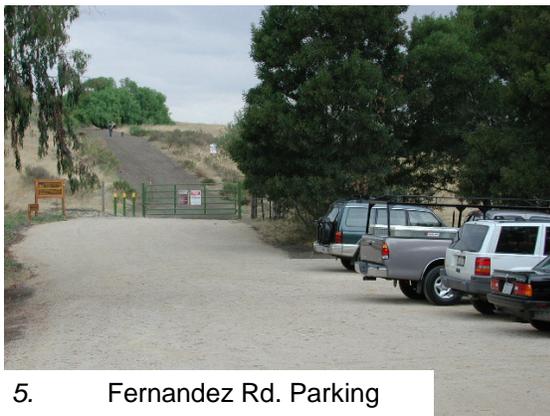
2. Main Trailhead



3. Swale Restoration Site



4. Grassland Habitat



5. Fernandez Rd. Parking

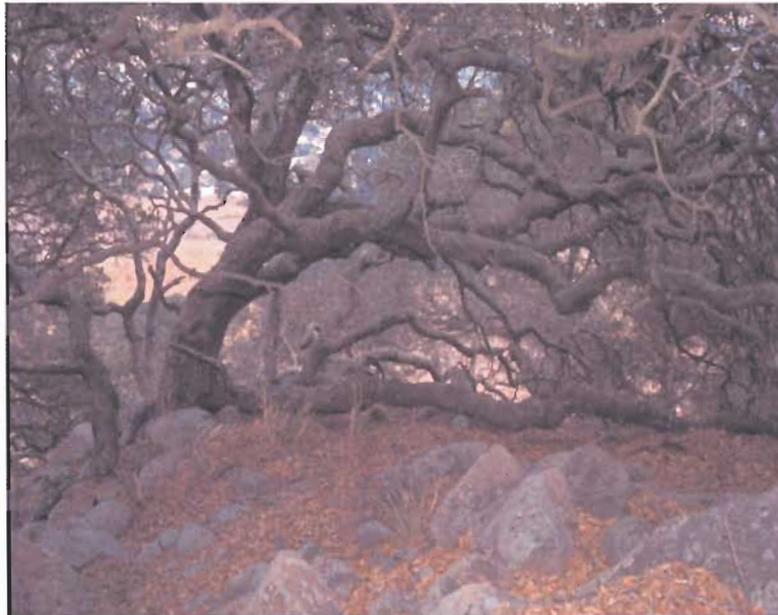


6. Mission School "M"

# **Appendix 1**

*City Of San Luis Obispo*

# **Final Report on the Wildlife Resources of the Cerro San Luis Natural Reserve**



**May 28, 2004**

***Submitted to:***

The City of San Luis Obispo  
Administration Department  
990 Palm Street  
San Luis Obispo, CA 93401

***Prepared and Submitted by:***



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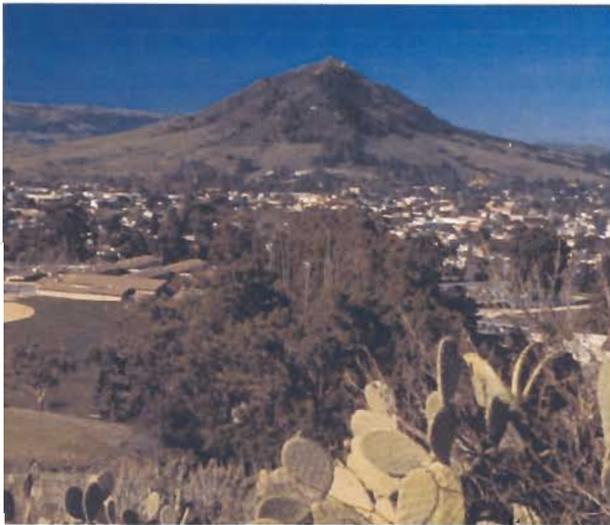
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## Introduction

The clean air, pastoral scenery, and abundant open space surrounding the City of San Luis Obispo (City) contribute greatly to its enduring appeal as well as to the quality of life enjoyed by its residents. As people seeking new opportunities and life at a more relaxed pace are drawn to the Central Coast from large metropolitan areas, economic pressures to develop vacant land increase. While growth is inevitable and must be accommodated through the construction of new homes and commercial buildings, it is desirable that this new development be fostered in a way that preserves the qualities that make the area such an appealing place to live. Recognizing the value of conserving open space, San Luis Obispo City planners have long been committed to a program to create an open space greenbelt surrounding the City. The objectives of the program are to assist in shaping the urban limits of the city, protect sensitive natural resources, preserve contiguous wildlife corridors through and around urban areas, and provide areas offering outdoor recreational opportunities for local residents and visitors. To this end, municipal planners for the City have successfully pursued a variety of land conservation efforts, including the acquisition of land on Cerro San Luis.

Cerro San Luis is one of the nine named volcanic peaks, or *morros*, that form a craggy ridge that extends between the cities of Morro Bay and San Luis Obispo, dividing the Los Osos and Chorro Creek valleys. The *morros* run in a southeasterly direction from Morro Rock on the coast to Islay Hill, at the southeastern corporate boundary of the City of San Luis Obispo. Cerro San Luis, situated between Islay Hill and Bishop Peak, is the eighth named *morro* from the coast. The peak looms prominently over the City of San Luis Obispo and is a central feature of the City's viewshed (Figure 1). The Cerro San Luis Natural Reserve (CSLNR) (Reserve) was created through the acquisition of two parcels



**Figure 1. Cerro San Luis and the City of San Luis Obispo.**

of land on the eastern slope of the peak totaling 118 acres. The first acquisition was a gift of 43 acres deeded to the City by Edison and Francis French in October 1980. The donated land is located near the lemon grove in the northern part of the Reserve. The City purchased the remaining 75 acres of land within the Cerro San Luis Natural Reserve from the Maino Family in 1997.

The identification of sensitive natural resources is an important facet of the development of a management plan for the Reserve. Past botanical surveys (Holland, 1988; Tomsovic, 1997) and wildlife surveys (Corey, 2000; Szamos,

2003) provide useful information about the natural resources of the site, however, additional site-specific information about the assemblage of wildlife species inhabiting the Reserve is necessary to the planning process. This report presents the results of a wildlife survey of the CSLNR conducted by TENERA biologists. The survey results are intended to assist city resource managers with the development of a management plan for the area by providing an inventory of wildlife resources and sensitive habitats within, and in the immediate vicinity of, the Cerro San Luis Natural Reserve.

## Site Location / Description

The Cerro San Luis Natural Reserve is located in the west-central region of San Luis Obispo, on the lower slopes of the eastern exposure of Cerro San Luis, or San Luis Mountain (Figure 2). The peak looms to an elevation of 1,292 feet over the City of San Luis Obispo and is situated a short distance west of the City center. Bishop Peak, the highest of the *morros*, is located across Foothill Boulevard to the northwest. The fertile agricultural lands of the Los Osos Valley extend to the west of the peak and the Madonna Inn and Laguna Lake region of the City lie to the south. The City of San Luis Obispo partially encircles Cerro San Luis, radiating out to the north and east of the peak and extending part way up its northern slopes.

The CSLNR encompasses approximately 118 acres of wildlife habitat situated on the lower and middle slopes of the peak (Figure 3). The site is adjacent to the southern end of Marsh Street and is accessed from public parking along Fernandez Road, which intersects with the onramp to State Highway 101 South. State Highway 101 separates the Reserve from urbanized areas of central San Luis Obispo and the easement for the southbound lanes of the highway constitutes much of its eastern border. The northern section of the eastern Reserve boundary is bordered by developed residential neighborhoods. The steep boulder strewn upper slopes of Cerro San Luis border the Reserve to the west and privately owned ranchland occupies the moderate slopes of the peak that lie immediately to the north and south.

Cerro San Luis is located within the 84 square mile San Luis Obispo Creek watershed and runoff from the CSLNR is directed through culverts under Highway 101 into San Luis Obispo Creek. The topography of the property is generally moderate to steeply sloping and elevations within the CSLNR boundaries range from around 190 feet along the Highway 101 easement to nearly 920 feet along the western boundary. Currently, recreational activities constitute the predominant land use within the CSLNR. Recreational users access the more than two miles of authorized trails within the Reserve from the trailhead off Fernandez Road. The main trail through the CSLNR is named Lemon Grove Loop because of the grove of old lemon trees located on a plateau below the white "M" on the hillside. Common recreational activities within the Reserve include hiking, jogging, and mountain biking. Dogs are allowed on the trails but must be on a



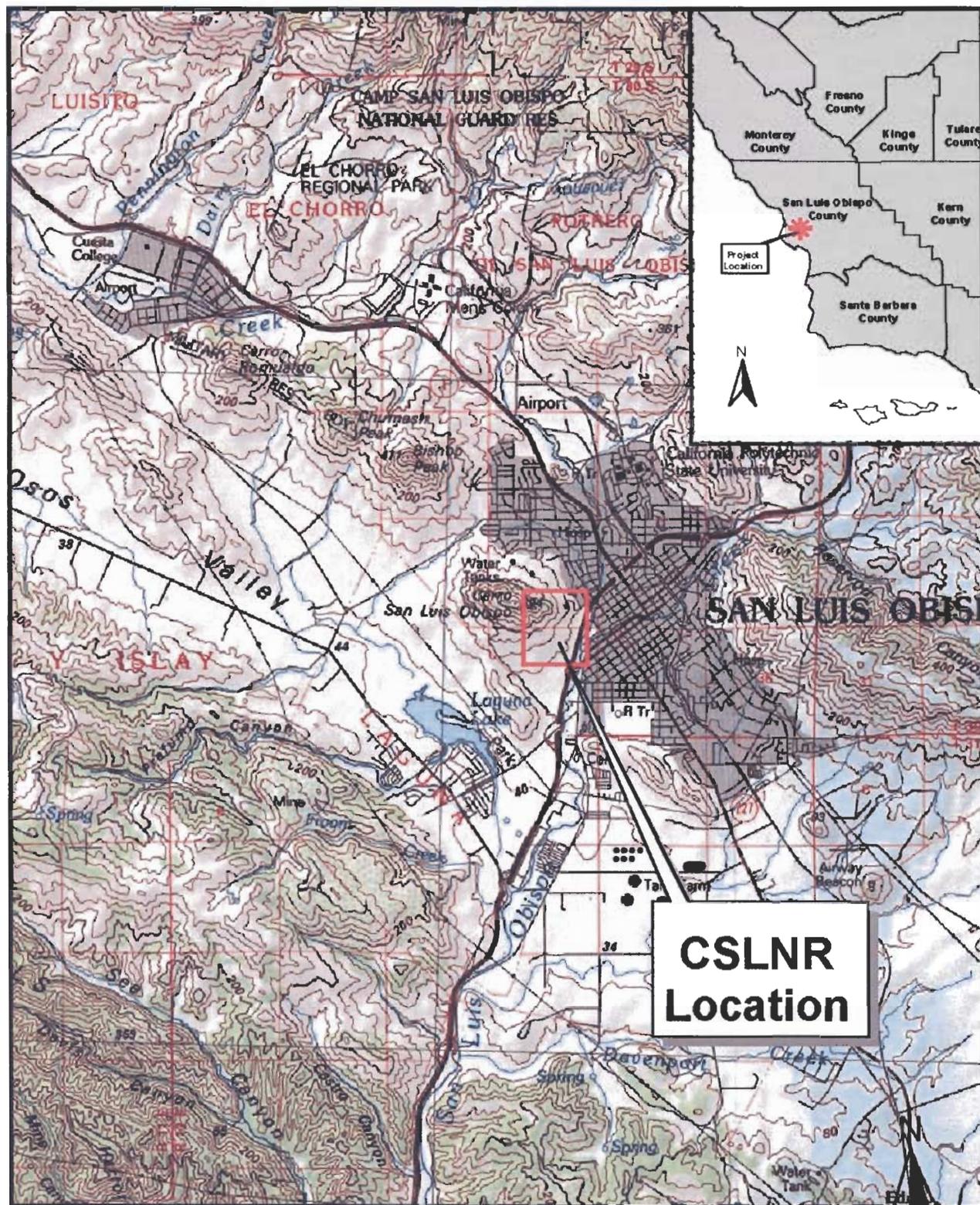


Figure 2. Regional view of the location of the Cerro San Luis Natural Reserve (CSLNR).

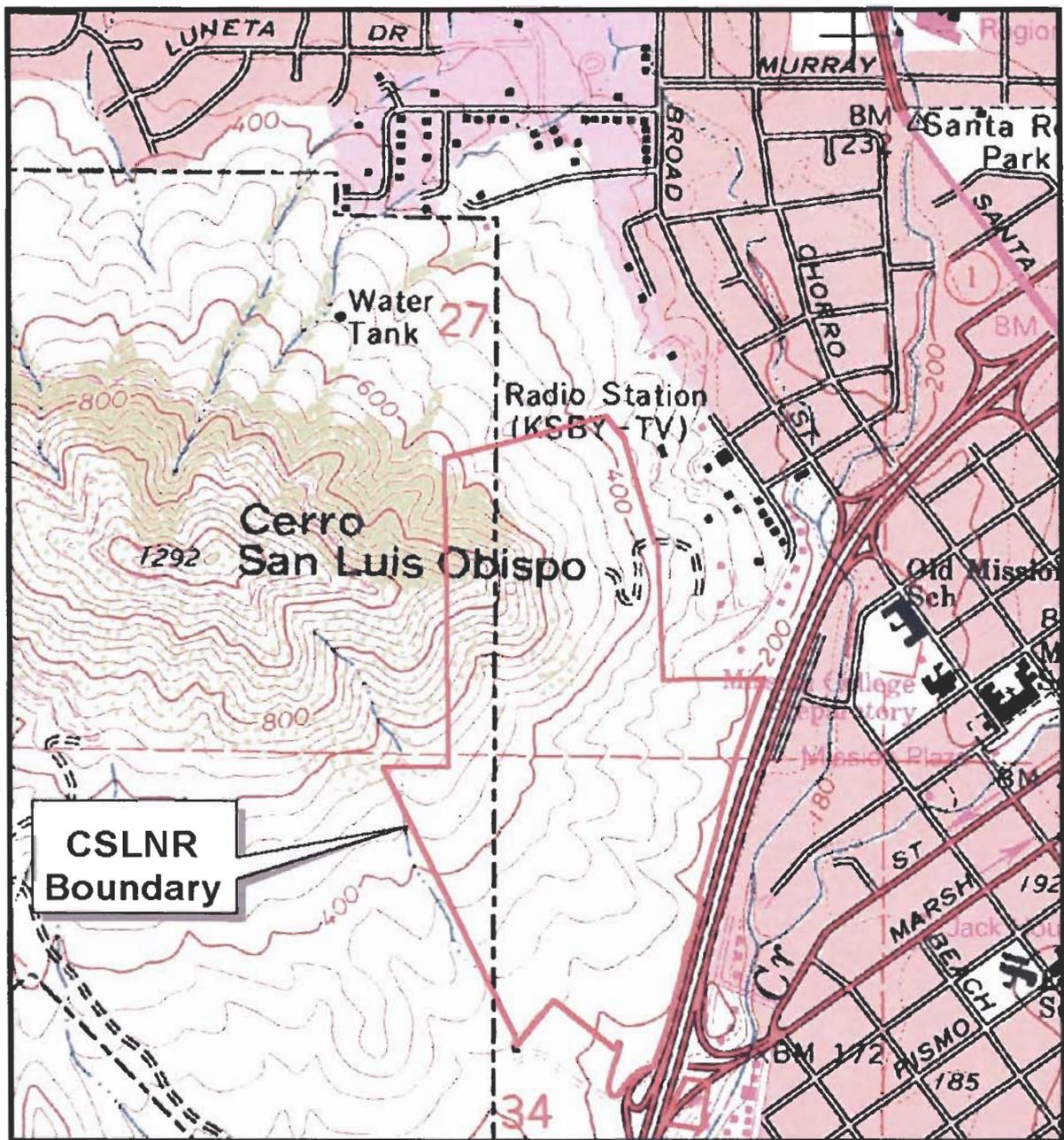


Figure 3. Topographic map showing the boundaries of the CSLNR (outlined in red).

leash. The CSLNR was used historically as rangeland and cattle and herds of horses are periodically present.

Four soil series are listed on U.S. Department of Agriculture (USDA) soils survey maps as being present within the CSLNR boundaries. On the upper slopes of the Reserve, above an elevation of approximately 600 feet, soils are listed as Gazos-Lodo clay loam, 30 to 50 percent slopes. These soils are shallow to moderately deep and well drained to excessively drained. They have a very low or low available water capacity and a high water erosion hazard. This soil type primarily supports coastal scrub vegetation within

the CSLNR, however, coast live oak woodland is also present in areas. The middle and lower slopes of the open space area are composed of Los Osos-Diablo complex soils (9 to 15 percent slopes, 15 to 30 percent slopes, and 30 to 50 percent slopes). These soils are well drained and generally deeper than Gazos-Lodo soils. The available water capacity of Los Osos-Diablo complex soils ranges from low to very high. Because of the clay content and low permeability of these soils, surface runoff is rapid and the hazard of water erosion is moderate to high. Areas of Los Osos-Diablo complex soils support all of the dominant vegetative communities observed in the Reserve. Salinas silty clay loam, (2 to 9 percent slopes) is present in a narrow strip of the CSLNR along the Highway 101 easement. This soil type is found on alluvial fans and plains. It is very deep and well drained, and permeability is moderately slow, so available water capacity is high or very high. Surface runoff is relatively slow so the hazard of water erosion is slight to moderate. In the CSLNR, areas of Salinas silty clay loam support grassland habitat, cacti, and various introduced trees.

## Methodology

The wildlife survey of the Cerro San Luis Natural Reserve consisted of a general reconnaissance of the property followed by focused field surveys. The primary objective of the wildlife survey was to determine if listed or special status animal species were present on the property, however, all bird, reptile, amphibian, and mammal species observed or detected during the surveys were documented. Invertebrate genera and rare or unusual plants identified during the surveys are also noted in this report.

An initial reconnaissance of the CSLNR was conducted to ascertain the extent and composition of dominant vegetative communities within its boundaries and to determine the best locations for subsequent survey efforts. Focused field surveys within each of the identified vegetative communities were then conducted to detect wildlife species. Surveys included canvassing the area by foot and conducting daytime point surveys, nighttime surveys, and small mammal trapping surveys. Sampling was conducted in coastal scrub, *Opuntia* scrub, oak woodland, introduced trees (blue gum/Monterey cypress forest), and grassland habitats.

Each of the dominant vegetative communities was canvassed thoroughly by foot during both day and nighttime surveys. Binoculars were used to aid in the detection and identification of wildlife species. Flashlights (four "D" cell batteries) were used in conjunction with binoculars during nighttime surveys. Wildlife species were identified through direct observation, calls, or sign such as tracks, scat, pellets, hair, nests, or dens. Sampling was also conducted from various vantage points within each of the major habitat types by stationary observers. Points were sampled in the morning and/or evening during daylight hours for a duration of between 15 to 30 minutes. A limited number of points were also sampled between sunset and midnight. During point surveys the observer remained stationary and still, watching and listening for movement or calls.

Small mammal trapping was conducted in two grassland, two oak woodland, two coastal scrub, and three *Opuntia* scrub habitat areas. Five Tomahawk live traps (trap size: 25.4 cm x 7.6 cm x 7.6 cm) were set in each of the four habitat types during each night of the trapping effort. Traps were baited with peanut butter on tortillas and placed near rock outcrops, woodrat nests, within dense coastal scrub vegetation, cacti, and in other locations that may be utilized by small mammals. The trapping effort was conducted during three nights (November 12, 14, and 17) and the traps were checked the following morning. All animals were captured live and released.

## Survey Results

The Cerro San Luis Natural Reserve is situated on moderate to steeply sloping hillsides supporting grassland habitat, coastal scrub habitat, coast live oak woodland, and areas predominated by introduced trees and cacti. Surveys of the CSLNR were conducted between June 2003 and November 2003. Representative areas of grassland, coastal scrub, *Opuntia* (cactus) scrub, coast live oak woodland, and blue gum/Monterey cypress stands were sampled using the survey methods described above. Although surveys were conducted during the dry season, standing water, moist soil, and vegetation indicative of wetland conditions was present in three seep areas within the Reserve. These seep areas were surveyed in conjunction with the surrounding habitats (grassland, coastal scrub, and woodland areas) and were not sampled as a separate habitat type. Additionally, boulders and rock outcrops appeared to be an important natural feature of grassland, coastal scrub, and coast live oak woodland habitats, but were not selectively sampled.

A variety of bird, mammal, reptile, amphibian, and invertebrate species were observed or detected during the surveys. Some areas within the open space were inaccessible due to dense stands of poison oak (*Toxicodendron diversilobum*), cacti (*Opuntia ficus-indica*), and/or thick scrub vegetation on steep hillsides. Wildlife observations in these areas were made, when possible, from game trails. Appendix A presents a list of wildlife species identified during the surveys.

## Dominant Vegetative Communities

Three broadly defined native vegetative communities were identified as dominant habitat types during the initial reconnaissance of the Cerro San Luis Natural Reserve. These included coast live oak woodland, coastal scrub, and grassland communities.

Additionally, two plant communities dominated by introduced plant species were also noted during surveys. These included areas supporting *Opuntia* scrub habitat, a variation of the coastal scrub community that is dominated by the introduced mission-fig cactus, and woodland habitat comprised largely of introduced trees such as blue gum (*Eucalyptus globulus*), Monterey cypress (*Cupressus macrocarpa*), and Peruvian pepper (*Schinus molle*). The locations and coverage of each of these communities are shown in Figure 4. Generally the southern half of the CSLNR, on the lower east-facing slopes is dominated by grassland habitat. The northern half of the CSLNR is vegetated with a mosaic of



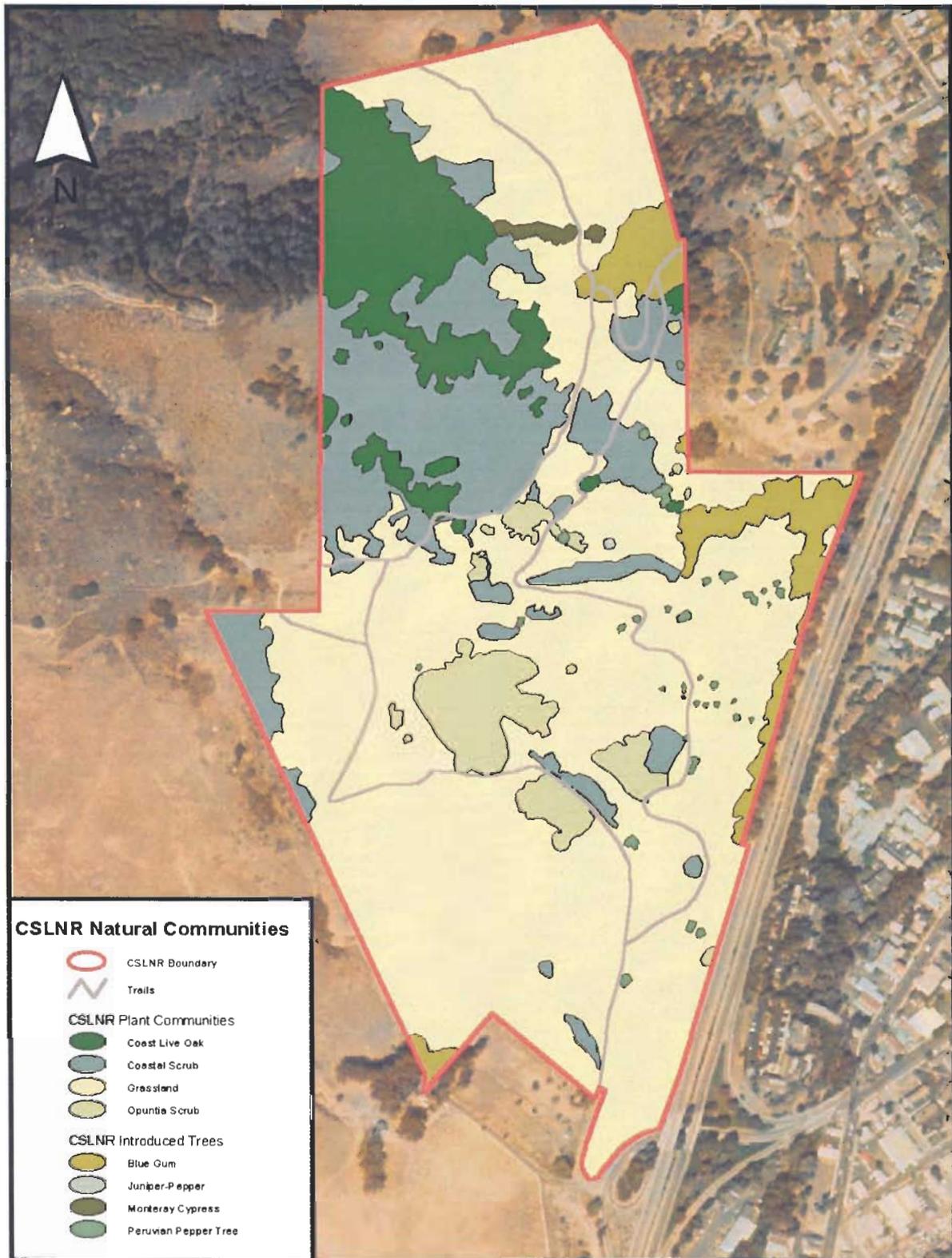


Figure 4. View showing natural communities within the CSLNR.

grassland, coastal scrub, oak woodland, and introduced trees. Grassland habitat occupies nearly two thirds of the site (64 percent). Roughly sixteen percent of the CSLNR supports a varying coastal scrub community and nine percent is vegetated with coast live oak woodland. The remainder of the site consists of vegetation growing beneath the canopy of introduced trees or in areas occupied by a plant community dominated by an introduced species of *Opuntia* cactus (5.5 and 4.8 percent, respectively). The composition and abundance of dominant species within each community is variable.

### Grassland Habitat

Grassland habitat is present on the middle and lower slopes of Cerro San Luis, occupying a combined area of approximately 76 acres within the Reserve boundaries (Figure 5). The plant assemblage within grassland areas is predominated by introduced annual grasses and forbs, but includes a mixture of native grasses and plants. Generally, the composition of plant species found in grassland habitat within the CSLNR is typical of sites that have sustained years of use as rangeland for cattle. Plant species commonly encountered in grassland habitat on the site included:



Figure 5. Grassland habitat dominates the lower slopes of the CSLNR.

- Foxtail barley (*Hordeum* sp.)
- Ryegrass (*Lolium* sp.)
- Common wild oats (*Avena fatua*)
- Ripgut brome (*Bromus diandrus*)
- California sagebrush (*Artemisia californica*)
- Fennel (*Foeniculum vulgare*)
- Teasel (*Diosacus sativus*)
- Peruvian pepper tree (*Schinus molle*)
- Knotted dock (*Rumex conglomeratus*)
- Dandelion (*Taraxacum officinale*)
- Mustard (*Hirschfeldia incana*)
- Saw-toothed goldenbush (*Hazardia squarrosa*)
- Turkey mullien (*Eremocarpus setigerus*)

Although surveys were conducted at a time of year when native wildflowers are not in bloom and often difficult to detect, three common species were noted in grassland areas during surveys. These included the California poppy (*Eschscholzia californica*), morning glory (*Calystegia macrostegia*), and tarweed (*Hemizonia fasciculata*). Grassland areas

- Morning glory (*Calystegia macrostegia*)
- Saw-toothed goldenbush (*Hazardia squarrosa*)
- Wild rose (*Rosa californica*)

The coastal scrub plant community serves a number of important habitat functions for wildlife inhabiting the CSLNR. The dense low-growing shrubs and trees provide cover for predator avoidance, sites for nesting, and a source of food for browsing mammals and seed-eating birds. In addition to seeds, a variety of flowering plants provide a nectar source for species like the Anna's hummingbird.

### Coast Live Oak Woodland Habitat

The boundaries of the CSLNR encompass approximately 10.5 acres of coast live oak woodland habitat. The primary stand of coast live oak woodland is located on the northern exposure of Cerro San Luis, adjacent to the northwest property corner. This stand occupies steep, boulder-strewn slopes and includes many large, mature oaks that grow together to form a closed canopy forest (Figure 7). Understory vegetation is relatively sparse beneath the canopy because of the low light, thick carpet of oak leaf litter, and steep, thin soils. Coast live oak woodland also occupies areas along two of the larger drainage gullies within the CSLNR boundaries. These woodland areas are relatively open and typically support undergrowth comprised of plant species from surrounding coastal scrub habitat. Common species identified within coast live oak woodland included:



Figure 7. Coast live oak woodland habitat on the northern slopes of the CSLNR.

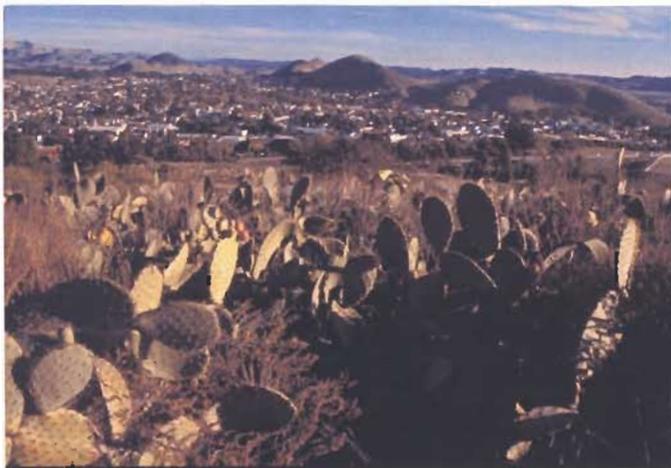
- Coast live oak (*Quercus agrifolia*)
- Poison oak (*Toxicodendron diversilobum*)
- Coffeeberry (*Rhamnus californica*)
- Monkeyflower (*Mimulus* spp.)
- Mugwort (*Artemisia douglasiana*)
- Hummingbird sage (*Salvia spathacea*)
- Blackberry (*Rubus ursinus*)
- Bracken fern (*Pteridium aquilinum*)

Coast live oak woodlands provide important nesting, roosting, and foraging habitat for a great number of bird species including titmice, woodpeckers, wrens, warblers, and

various raptors. Habitat features such as logs and rocks that are situated in the leaf litter beneath closed canopy oak woodlands offer shelter and a rich foraging environment for small mammals, reptiles, and amphibians. Closed canopy oak woodlands also offer larger crepuscular and nocturnal mammals such as deer, fox, coyote, raccoons, and skunks areas for concealment during daylight hours.

Two of the spring/seep areas within the CSLNR originate in coast live oak woodland habitat. In addition to oaks, the canopy trees in this area include western sycamore (*Platanus racemosa*), black cottonwood (*Populus balsamifera*), and introduced species such as the Monterey cypress and blue gum. Understory vegetation in the vicinity of the seeps is more diverse than in other oak woodland areas and includes a mixture of native and introduced shrubs, trees, and herbaceous species. Vegetation unique to seep areas (in coast live oak woodland and grassland habitat) included umbrella sedge (*Cyperus eragrostis*), cattails (*Typha latifolia*), watercress (*Rorippa nasturtium-aquaticum*), spikerush (*Eleocharis macrostachya*), and saltgrass (*Distichlis spicata*).

### **Opuntia Scrub Habitat**



**Figure 8.** *Opuntia* scrub habitat in central region of the CSLNR.

*Opuntia* scrub habitat is a variant of the coastal scrub community and includes many of the same plant species (Figure 8). The obvious difference between the two communities is that the dominant species in *Opuntia* scrub is the introduced mission fig, or Indian-fig, cactus (*Opuntia ficus-indica*). *Opuntia* scrub habitat occupies 5.7 acres of the CSLNR and is most extensively established in prominent patches located in the central part of the Reserve.

Mission fig cacti form dense, impenetrable stands in this area, occupying east-facing slopes and the sides of drainage gullies. These cactus patches are likely to constitute an important refuge for many birds, small mammals, and invertebrates. The dominant plant species within *Opuntia* scrub habitat generally included:

- Indian-fig cactus (*Opuntia ficus-indica*)
- California sagebrush (*Artemisia californica*)
- Coyote bush (*Baccharis pilularis*)
- Poison oak (*Toxicodendron diversilobum*)
- Monkeyflower (*Mimulus* spp.)
- Black sage (*Salvia mellifera*)

- Toyon (*Heteromeles arbutifolia*)
- Coast live oak (*Quercus agrifolia*)
- Coffeeberry (*Rhamnus californica*)

### Introduced Trees

Historical use of the northern and eastern slopes of Cerro San Luis has resulted in the introduction and establishment of several non-native tree species (Figure 9). These introduced trees are present on approximately 6.5 acres of the CSLNR, occurring in



**Figure 9.** Stand of blue gum trees near eastern border of the CSLNR.

forested stands (blue gum), windbreaks (Monterey cypress), and in small, scattered patches within grassland habitat (Peruvian pepper). Peruvian pepper trees are also present within coastal scrub and *Opuntia* scrub habitat. As mentioned earlier, an old grove of lemon trees is also present within the Reserve. Generally, the allelopathic properties of litter from blue gum and Monterey cypress trees tends to inhibit the growth of understory vegetation and limit habitat value for many wildlife species. Stands of

introduced blue gum and Monterey cypress trees do however offer roosting and nesting habitat for a variety of bird species, including raptors and owls. Deer and small mammals are also likely to utilize refuge provided by stands of introduced trees. The introduced tree species identified within the Reserve included:

- Blue gum (*Eucalyptus globulus*)
- Monterey cypress (*Cupressus macrocarpa*)
- Peruvian pepper (*Schinus molle*)
- Lemon (*Citrus limon*)

### Sensitive Habitats

Locations within the CSLNR that supported special status species or those areas vulnerable to degradation from sustained use are shown in Figure 10. Plant communities occupying the lower slopes of the Reserve support numerous introduced plant species and were not generally considered sensitive habitat. However, coastal scrub and coast live oak woodland communities on the steep upper slopes of the Reserve appear to be relatively intact. The steepness of the slopes and thin soils make these areas extremely susceptible to erosion and use of these areas by visitors could rapidly result in the degradation of native plant communities. Springs and seep areas in the CSLNR can also



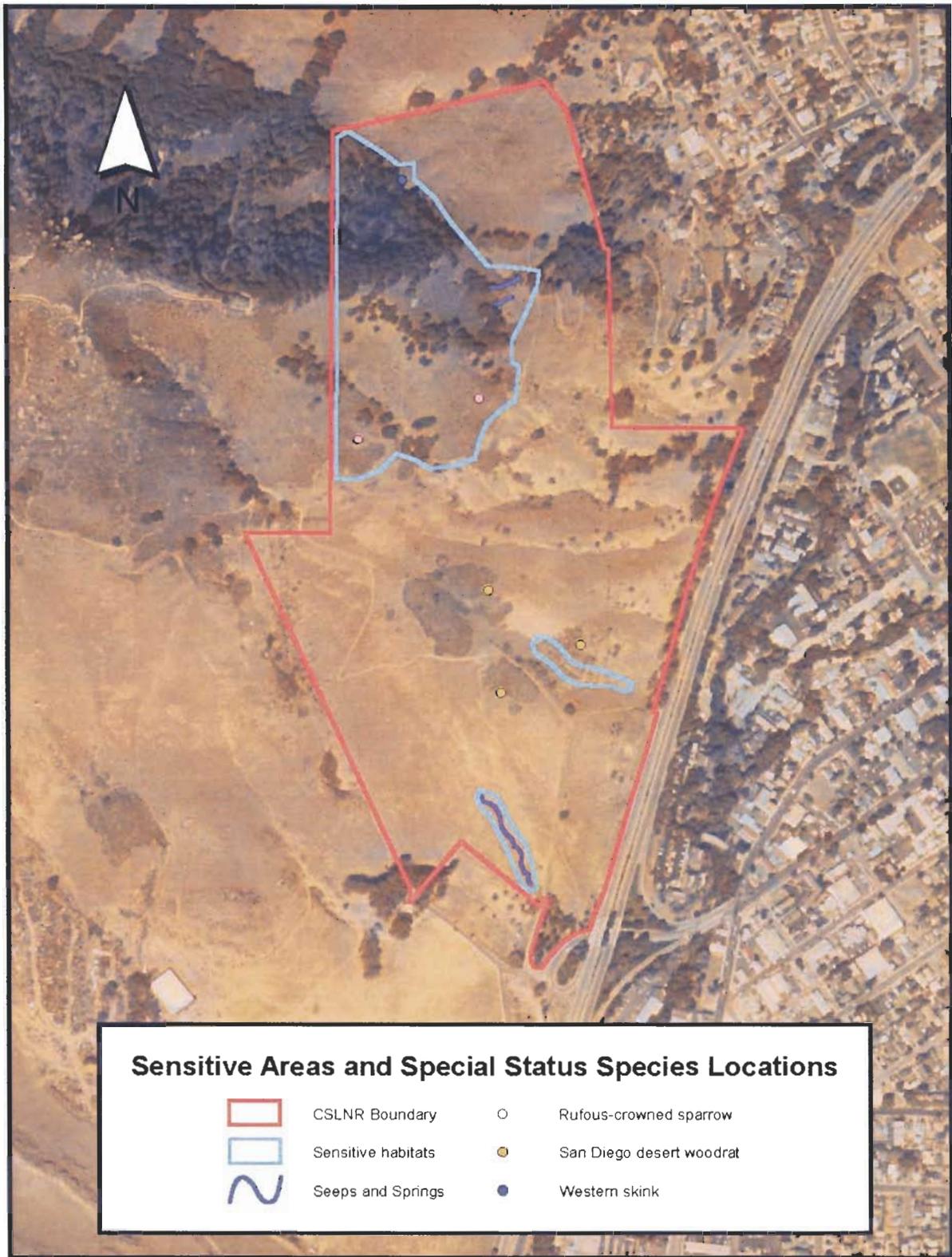


Figure 10. Aerial view of the CSLNR showing areas that are sensitive to disturbance and the locations of special status species encountered during surveys.

be adversely impacted from use by hikers, mountain bikers, and grazing cattle and should be avoided during the routing of formal trails.

A review of the California Natural Diversity Database (CNDDDB) shows a roost site for monarch butterflies located immediately south of the CSLNR. Roost sites for overwintering monarch butterflies are often located within groves of introduced blue gum and Monterey cypress trees such as those occurring within the CSLNR. Although no clusters of monarch butterflies were encountered, individuals were frequently observed during wildlife surveys. The grove of blue gum trees in the north-central part of the Reserve offers habitat features often associated with monarch butterfly roost sites including a nearby water source and areas protected from wind.

## **Wildlife Survey**

Generally, the wildlife species observed or detected during surveys of the CSLNR were relatively common inhabitants of coastal scrub, coast live oak woodland, and grassland habitats. One special status species, the San Diego desert woodrat (*Neotoma lepida intermedia*), was encountered within the Reserve boundaries. The San Diego desert woodrat is a federal and state species of special concern. Additionally, the inland form of the federally endangered Morro shoulderband snail (*Helminthoglypta walkeriana* var. *morroensis*) was found at a number of locations within the CSLNR.

Several species of local concern were encountered during wildlife surveys, including the western skink (*Eumeces skiltonianus*), yellow-rumped warbler (*Dendroica coronata*), rufous-crowned sparrow (*Aimophila ruficeps*), and monarch butterfly (*Danaus plexippus*). A summary of the wildlife species identified within the CSLNR during this survey is presented in the following section. General information relative to their observed distribution is included in the summary.

### **Birds**

The CSLNR offers a mixture of habitats that support a varied assemblage of bird species. A total of 46 bird species was identified during the CSLNR wildlife survey including two local species of concern, the yellow rumped warbler (*Dendroica coronata*) and the rufous-crowned sparrow (*Aimophila ruficeps*). Additionally, two species of wrens, the Bewick's wren (*Thryomanes bewickii*) and the house wren (*Troglodytes aedon*), various sparrows, including the lark sparrow (*Chondestes grammacus*), golden-crowned sparrow (*Zonotrichia atricapilla*), white-crowned sparrow (*Zonotrichia leucophrys*), chipping sparrow (*Spizella passerina*), and a second warbler species, the Townsend's warbler (*Dendroica townsendi*) were identified during surveys. The bird species most commonly encountered in the Reserve included the northern mockingbird (*Mimus polyglottis*), Anna's hummingbird (*Calypte anna*), western scrub jay (*Aphelocoma californica*), California towhee (*Pipilo crissalis*), and morning dove (*Zenaida macroura*) (Figure 11). Turkey vultures (*Cathartes aura*) and red-tailed hawks (*Buteo jamaicensis*) were



Figure 11. A variety of bird species were encountered in the CSLNR including Anna’s hummingbird (left), lark sparrow (center), and red-tailed hawk (right).

frequently visible in the sky above the CSLNR during daytime surveys. Sizable flocks of American crows (*Corvus brachyrhynchos*) and foraging cliff swallows (*Petrochelidon pyrrhonota*) were also observed on occasion in the sky above the Reserve. Three owl species were detected during surveys from either direct observation during nighttime surveys or the identification of pellets found at the base of trees and fence posts. Table 1 presents a list of the birds identified during the surveys. A more extensive seasonal sampling effort would undoubtedly detect additional resident and migratory bird species.

Birds were observed most abundantly from sampling points in open grasslands and along the edges of dense coastal scrub and *Opuntia* scrub habitat. Twenty-two bird species were identified in grassland habitat and twenty bird species were identified in both coastal scrub and *Opuntia* scrub habitats. These observations included birds flying over sampling points during surveys. The most diverse aggregation of bird species encountered occurred in the large centrally located patch of *Opuntia* scrub. The added habitat value provided by the four oak trees situated inside the upper margin of this patch are likely to account for this increased diversity. Fifteen bird species were identified in oak woodland habitat, however, because of the difficult terrain in some areas and reduced visibility through the oak canopy, birds that were observed but were not actively calling could not always be positively identified. The least number of bird species (12) was observed in habitat provided by introduced trees.

Table 1. List of birds identified during wildlife surveys of the Cerro San Luis Natural Reserve showing habitats in which the species were observed.

<b>Common Name/ Scientific Name</b>	<b>Opuntia Scrub</b>	<b>Coastal Scrub</b>	<b>Live Oak Woodland</b>	<b>Introduced Trees</b>	<b>Grassland</b>
Rufous-crowned sparrow <i>Aimophila ruficeps</i>		√			
Red-winged blackbird <i>Agelaius phoeniceus</i>		√			√
Western scrub jay <i>Aphelocoma californica</i>	√	√	√	√	√

<b>Common Name/ Scientific Name</b>	<b>Opuntia Scrub</b>	<b>Coastal Scrub</b>	<b>Live Oak Woodland</b>	<b>Introduced Trees</b>	<b>Grassland</b>
Plain (oak) titmouse <i>Baeolophus inornatus</i>			√		
Great horned owl <i>Bubo virginianus</i>				√	
Red-tailed hawk <i>Buteo jamaicensis</i>	√	√	√	√	√
Red-shouldered hawk <i>Buteo lineatus</i>			√	√	
California quail <i>Callipepla californica</i>	√	√			
Anna's hummingbird <i>Calypte anna</i>	√	√		√	√
Lesser goldfinch <i>Carduelis psaltria</i>		√			
House finch <i>Carpodacus mexicanus</i>				√	
Turkey vulture <i>Cathartes aura</i>	√	√	√	√	√
Swainson's thrush <i>Catharus ustulatus</i>	√				
Wrentit <i>Chamaea fasciata</i>		√			
Lark sparrow <i>Chondestes grammacus</i>			√		
Northern flicker <i>Colaptes auratus</i>	√		√	√	
Rock dove (pigeon) <i>Columba livia</i>					√
American crow <i>Corvus brachyrhynchos</i>				√	√
Yellow-rumped warbler <i>Dendroica coronata</i>			√		
Townsend's warbler <i>Dendroica townsendi</i>			√		
Brewer's blackbird <i>Euphagus cyanocephalus</i>					√
American kestrel <i>Falco sparverius</i>					√
Dark-eyed junco <i>Junco hyemalis</i>	√		√	√	
Northern mockingbird <i>Mimus polyglottis</i>	√	√	√		
Western screech owl <i>Otus kennicottii</i>					√
House sparrow <i>Passer domesticus</i>				√	√
Cliff swallow <i>Petrochelidon pyrrhonota</i>	√				√
California towhee <i>Pipilo crissalis</i>	√	√			√
Spotted towhee <i>Pipilo maculatus</i>	√				

Common Name/ Scientific Name	Opuntia Scrub	Coastal Scrub	Live Oak Woodland	Introduced Trees	Grassland
Blue-gray gnatcatcher <i>Polioptila caerulea</i>		√			
Nuttall's woodpecker <i>Picoides nuttallii</i>	√				
Bushtit <i>Psaltriparus minimus</i>			√	√	
Ruby-crowned kinglet <i>Regulus calendula</i>	√	√	√		
Black phoebe <i>Sayornis nigricans</i>		√			√
Say's phoebe <i>Sayornis saya</i>					√
Western bluebird <i>Sialia mexicana</i>	√				√
Chipping sparrow <i>Spizella passerina</i>		√			√
Western meadowlark <i>Sturnella neglecta</i>					√
European starling <i>Sturnus vulgaris</i>					√
California thrasher <i>Toxostoma redivivum</i>	√	√			
Bewick's wren <i>Thryomanes bewickii</i>	√		√		
House wren <i>Troglodytes aedon</i>		√			
Barn owl <i>Tyto alba</i>					√
Mourning dove <i>Zenaidura macroura</i>	√	√	√		√
Golden-crowned sparrow <i>Zonotrichia atricapilla</i>	√	√			
White-crowned sparrow <i>Zonotrichia leucophrys</i>	√	√			√

## Mammals

A total of seventeen mammal species was observed or detected during the wildlife surveys of the CSLNR including one federal and state species of special concern, the San Diego desert woodrat. Additionally, a shrew, which is a mammal species of local concern, was encountered beneath debris near the CSLNR parking lot. The shrew could not be positively identified during the brief encounter, however, range and life history information suggest that it was probably an ornate shrew (*Sorex ornatus*). A list of mammals identified during the CSLNR wildlife surveys is presented in Table 2.

Five rodent species were identified during small mammal trapping efforts and three additional rodent species were observed during the course of wildlife surveys (Figure 12). Woodrat nests were encountered in *Opuntia* scrub, coastal scrub, oak woodland habitat, and areas beneath introduced trees. Two species of woodrat, the dusky-footed woodrat



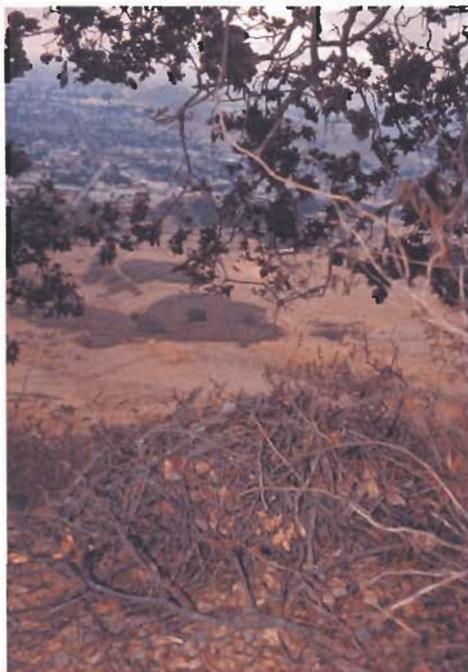


Figure 12. Woodrat nests (left foreground) and deer mice (right) were common in the CSLNR.

(*Neotoma fuscipes macrotis*) and the San Diego desert woodrat, were identified in the CSLNR during small mammal trapping. The San Diego desert woodrat is one of two special status woodrat sub-species that occur in San Luis Obispo County. The second is the Monterey dusky-footed woodrat (*Neotoma fuscipes luciana*) and both are federal and state species of special concern. Although no positive identification was made, the sub-species of dusky-footed woodrat encountered in the CSLNR is not believed to be the Monterey dusky footed woodrat because Cerro San Luis is located several miles south of the described range of the sub-species. Bats (Order Chiroptera) were observed foraging during the early evening in grassland habitat and open areas near the lemon grove, however, their taxa could not be determined so they are not listed in Table 2.

Table 2. List of mammals identified during wildlife surveys of the Cerro San Luis Natural Reserve showing habitats in which the species were observed or detected.

<b>Common Name/ Scientific Name</b>	<b>Opuntia Scrub</b>	<b>Coastal Scrub</b>	<b>Live Oak Woodland</b>	<b>Introduced Trees</b>	<b>Grassland</b>
Coyote <i>Canis latrans</i>		√	√		√
Opossum <i>Didelphis marsupialis</i>				√	
Blacktail jackrabbit <i>Lepus californicus</i>					√
California meadow mouse <i>Microtus californicus</i>					√

Common Name/ Scientific Name	Opuntia Scrub	Coastal Scrub	Live Oak Woodland	Introduced Trees	Grassland
Dusky-footed woodrat <i>Neotoma fuscipes macrotis</i>	√		√	√	
San Diego desert woodrat <i>Neotoma lepida intermedia</i>	√				
Mule deer <i>Odocoileus herionus</i>		√	√	√	√
Brush mouse <i>Peromyscus boylei</i>		√			
California mouse <i>Peromyscus californicus</i>	√				
Deer mouse <i>Peromyscus maniculatus</i>	√	√	√	√	√
Raccoon <i>Procyon lotor</i>			√		
California ground squirrel <i>Spermophilus beecheyi</i>	√				√
Desert cottontail <i>Sylvilagus auduboni</i>	√				
Brush rabbit <i>Sylvilagus bachmani</i>	√	√			
Shrew <i>Sorex sp.</i>					√
Botta's pocket gopher <i>Thomomys bottae</i>			√		√
Gray fox <i>Urocyon cinereoargenteus</i>			√		√

Based on observations made during surveys of the CSLNR, grassland habitat appeared to support the greatest number of mammal species. Mammals identified as utilizing grassland habitat include rodents that burrow beneath the ground, small mammals (rodents, rabbits, shrews) that forage in grasslands but live in refuge provided by rock outcrops or patches of *Opuntia* and coastal scrub vegetation, and larger mammals that forage or hunt in grasslands. The California ground squirrel and Botta's pocket gopher were the most common mammals in grassland areas, and the dusky-footed woodrat and deer mouse were most abundant in patches of scrub vegetation. The deer mouse was present in all of the surveyed habitat types. Larger mammals such as the gray fox, mule deer, raccoon, opossum, and coyote did not appear to be common in the CSLNR and were detected from occasional remains (opossum and gray fox), scat (coyote, raccoon), visual observations (mule deer), and tracks (mule deer, raccoon). These larger species are likely to remain in oak woodland and coastal scrub habitat on the relatively inaccessible upper slopes of Cerro San Luis during the day and leave their concealed locations only after sunset to forage in grassland habitat on the lower slopes. Mule deer were the only large mammal observed during nighttime surveys.



### Reptiles

Five reptile species were encountered during the CSLNR wildlife surveys including one species of local concern, the western skink (*Eumeces skiltonianus*) (Table 3). A single western skink was encountered beneath a rock located at the edge of oak woodland habitat on a north-facing slope. The western fence lizard (*Sceloporus occidentalis*) was the most commonly encountered reptile species in the CSLNR and was present in all of the surveyed habitat types (Figure 13). Although no live California king snakes were encountered during surveys, a single shed skin (banded pattern) found in grassland habitat indicated that the species is present in the Reserve.



Figure 13. Alligator lizards inhabit a variety of habitat types within the CSLNR.

Table 3. List of reptiles identified during wildlife surveys of the Cerro San Luis Natural Reserve showing habitats in which the species were observed.

<b>Common Name/ Scientific Name</b>	<b>Opuntia Scrub</b>	<b>Coastal Scrub</b>	<b>Live Oak Woodland</b>	<b>Introduced Trees</b>	<b>Grassland</b>
Southern alligator lizard <i>Elgaria multicarinatus</i>			√	√	√
Western skink <i>Eumeces skiltonianus</i>			√		
California king snake <i>Lampropeltis getulus californae</i>					√
Gopher snake <i>Pituophis melanoleucus</i>					√
Western fence lizard <i>Sceloporus occidentalis</i>	√	√	√	√	√

### Amphibians

The CSLNR does not appear to support an abundance of amphibians. The Pacific tree frog (*Hyla regilla*) and the black-bellied slender salamander (*Batrachoseps nigriventris*) were the only two amphibian species encountered during this survey. Pacific tree frogs were observed in a rock pile located in grassland habitat and in the seep area adjacent to the lemon grove. Black-bellied slender salamanders were encountered beneath rocks and logs at the oak woodland-grassland interface on the northern exposure of Cerro San Luis.

### Invertebrates

A variety of invertebrates were identified during surveys of the CSLNR including one species of local concern, the monarch butterfly (*Danaus plexippus*). Monarch butterflies were encountered in a variety of habitats within the Reserve and are likely to utilize

nectar from blue gum trees and other flowering plants on the site (Figure 14). Although no large aggregations of monarch butterflies were observed during surveys, areas within the grove appeared to offer conditions suitable for roosting.



**Figure 14. Invertebrates encountered in the CSLNR included the monarch butterfly and Jerusalem cricket.**

The inland form of the federally endangered Morro shoulderband snail (*Helminthoglypta walkeriana* var. *morroensis*) was also found at a number of locations within the CSLNR. Until recently, the taxonomic difference between Morro shoulderband snails occurring in sandy soils around Los Osos and the Morro Bay Estuary (*Helminthoglypta walkeriana*) and the snails occurring at inland locations (*Helminthoglypta walkeriana* var. *morroensis*) was somewhat unsettled and both were afforded protection under the Endangered Species Act (ESA) of 1973. However, based on recent investigations of distribution and various morphological and anatomical traits, *H. w.* var. *morroensis* was found to be sufficiently distinct from the endangered coastal form (*H. walkeriana*) to warrant a different taxonomic status. Although the issue has not been officially settled, a position statement is expected from the USFWS in the near future stating that *H. w.* var. *morroensis*, the form that occurs in the CSLNR, will no longer be regulated under the ESA.

In addition to the inland form of the Morro shoulderband snail, the Big Sur shoulderband snail (*Helminthoglypta umbilicata*), a related but more widely distributed terrestrial snail species, was

abundantly encountered in the CSLNR. Selected invertebrate species noted during the wildlife surveys are listed in Table 4.

Table 4. List of invertebrate species noted during wildlife surveys of the Cerro San Luis Natural Reserve showing habitats in which the species were observed.

<b>Common Name/ Scientific Name</b>	<b>Opuntia Scrub</b>	<b>Coastal Scrub</b>	<b>Live Oak Woodland</b>	<b>Introduced Trees</b>	<b>Grassland</b>
Honey bee <i>Apis mellifera</i>	√	√			√
Bumble bee <i>Bombus</i> sp.	√				√
Monarch butterfly <i>Danus plexippus</i>	√	√	√	√	√

Common Name/ Scientific Name	Opuntia Scrub	Coastal Scrub	Live Oak Woodland	Introduced Trees	Grassland
Stink beetle <i>Eleodes</i> sp.					√
Field cricket <i>Gryllus pennsylvanicus</i>					√
European garden snail <i>Helix aspersa</i>	√				
Big Sur shoulderband snail <i>Helminthoglypta umbilicata</i>	√	√		√	√
Morro shoulderband snail <i>Helminthoglypta walkeriana</i> var. <i>morroensis</i>	√	√			√
Ladybird beetle <i>Hippodamia convergens</i>	√	√			√
Black widow spider <i>Latrodectus mactans</i>					√
Forest spider wasp <i>Priocnemis oregona</i>			√		
Scorpion Order Scorpionida					√
Jerusalem cricket <i>Stenoplematus fuscus</i>					√

A wide variety of other invertebrates were present within the CSLNR that were not specifically identified in Table 4. These included various butterflies, wasps, beetles, ticks, flies, centipedes, mosquitoes, spiders, and ants.

## Discussion

Plant communities dominated by introduced species, including annual grassland habitat, occupy approximately seventy-five percent of the CSLNR. As would be expected in such an area, the wildlife species encountered during surveys were generally common inhabitants of habitat situated on the fringe of urban areas. Most were resident species that are adaptable to various levels of human disturbance. The abundant introduced plants and trees, regular recreational use, and traffic noise may not be attractive to some of the less commonly observed wildlife species. Dense native coastal scrub and live oak woodland habitat on the steep upper slopes of the Reserve is more isolated from traffic noise and regular human disturbance and likely to harbor additional wildlife species. Because of the difficulty in conducting effective surveys in this terrain only occasional forays onto the steep upper hillsides were attempted. Consequently, the species listed in this report were encountered mostly during surveys of the more sparsely vegetated area on the lower slopes of the Reserve. Nevertheless, the results of this survey provide a foundation of information about the wildlife resources of the CSLNR that may be augmented with additional surveys.

The CSLNR is within easy walking distance from residential areas surrounding central San Luis Obispo and is utilized regularly by hikers, joggers, and mountain bikers.



Grasslands in the Reserve also sustain limited use as rangeland for livestock. Currently, management of the Reserve includes efforts to limit the activities of CSLNR users to formal trails and to curtail the use, and the proliferation of, unauthorized trails. These efforts can be expected to limit areas that become eroded from regular use, however erosion is still likely to be the primary concern for Reserve managers. Erosion can adversely affect wildlife habitat within the Reserve and in nearby drainages such as San Luis Obispo Creek. The following wildlife habitat issues may warrant consideration in the management plan for the Reserve:

- **Formal Trail Construction and Maintenance-** The regular use of trails in the Reserve is likely to result in periodic erosion problems, particularly in areas where trails traverse steep grades or cross drainage gullies. Trail use in these problem areas is likely to be especially damaging when soils are saturated following a storm event. A variety of measures can be incorporated into trail improvement and construction to minimize erosion in these problem areas. Suggested measures include the building of small footbridges to span the live channel of seasonal drainage gullies and the installation of appropriately spaced water bars and steps. The grade of the Lemon Grove Loop trail is gradual enough in most places that it should not require a great deal of modification. The creation of trails in the steep, upper areas of the Reserve should be avoided. The soils on these slopes (Gazos-Lodo clay loam, 30 to 50 percent slopes) are shallow and have a high water erosion hazard. These steep slopes support intact coastal scrub and coast live oak woodland plant communities and could be rapidly degraded with use.
- **Unauthorized Trails-** A number of unauthorized trails were noted during wildlife surveys of the CSLNR. These trails are not formally maintained and can be a source of erosion problems because they are generally established haphazardly, without respect for sensitive habitat or potential problem areas. The presence of well-used unauthorized trails may also encourage the establishment of additional trails, which exacerbates the difficulty of managing the Reserve. The use of unauthorized trails by hikers, joggers, and particularly mountain bikers has a strong potential to result in habitat degradation and should be discouraged through periodic enforcement efforts. Efforts to fence off unauthorized trails appear to have effectively reduced their use and the impacted areas are gradually re-vegetating. Even so, a restoration planting effort would speed the revegetation process along. The unauthorized trails into the coastal scrub habitat on the steep upper slopes of the Reserve show significant erosion and do not appear to be re-vegetating naturally. This includes the trail to the large "M" on the side of the hill. Management of the Reserve should include measures to discourage use of these trails and restore the impacted areas, if possible.



- **Livestock Grazing-** Livestock have the potential to adversely impact sensitive habitats within the CSLNR by compacting soils, removing groundcover, and trampling shrubs. The severity of impacts is largely dependent on the duration and intensity of use for grazing. Currently, the use of the Reserve as rangeland for livestock appeared to be periodic, of limited duration, and involved relatively few animals. At current levels the continued use of the CSLNR for grazing is not expected to result in the degradation of wildlife habitat in most areas of the Reserve. Fencing off seep areas, drainage gullies, and the steep slopes within the Reserve to exclude livestock would greatly limit the potential for impacts to sensitive habitats. The closure of the Reserve to grazing during the rainy season would also reduce the potential impacts of this land use.
- **Invasive Plants-** A wide variety of non-native plant species have become established in the CSLNR over time, displacing native plant communities. Eradicating these introduced species would be controversial, costly, and difficult to achieve. Removal of the most prominent introduced species (cacti and trees) is not advised and would likely have adverse impacts on wildlife habitat within the Reserve for an extended period of time. Although the mission fig cactus was introduced to the site, the cactus patches that have become established within the Reserve are likely to provide important refuge for special status wildlife species such as the San Diego desert woodrat. Additionally, the introduced trees on the site provide nesting and roosting habitat for various birds, and roosts and nectar for monarch butterflies. Given the abundance of introduced plant species and the relative importance of the habitat that some provide, the primary concern relative to invasive plant species is the establishment or spread of noxious weed species such as the yellow star thistle (*Centaurea solstitialis* L.) and the distaff thistle (*Carthamus lanatus* L.). Periodic botanical monitoring of the CSLNR would aid in the early identification of noxious plant species that may become a concern for Reserve managers.

## References

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**Appendix A**  
**Biological Inventory**



The following species have been identified as occurring on, or directly adjacent to, the Cerro San Luis Natural Reserve. The number in the last column indicates the source of the observation.

**Birds**

<b>Scientific Name</b>	<b>Common Name</b>	<b>Comments</b>	<b>Status</b>	<b>Source</b>
<i>Agelaius phoeniceus</i>	Red-winged blackbird	Native		1
<i>Aimophila ruficeps</i>	Rufous-crowned sparrow	Native		1,2
<i>Aphelocoma californica</i>	Western scrub-jay	Native		1
<i>Baeolophus inornatus</i>	Plain (oak) titmouse	Native		1
<i>Bubo virginianus</i>	Great horned owl	Native		1
<i>Buteo lineatus</i>	Red-shouldered hawk	Native		1,2
<i>Buteo jamaicensis</i>	Red-tailed hawk	Native		1,2
<i>Callipepla californica</i>	California quail	Native		1,2
<i>Calypte anna</i>	Anna's hummingbird	Native		1,2
<i>Carduelis psaltria</i>	Lesser goldfinch	Native		1,2
<i>Carpodacus mexicanus</i>	House finch	Native		1,2
<i>Carpodacus purpureus</i>	Purple finch	Native		2*
<i>Cathartes aura</i>	Turkey vulture	Native		1,2
<i>Catharus ustulatus</i>	Swainson's thrush	Native		1
<i>Chamaea fasciata</i>	Wrentit	Native		1,2
<i>Chondestes grammacus</i>	Lark sparrow	Native		1,2
<i>Colaptes auratus</i>	Northern flicker	Native		1,2
<i>Columba livia</i>	Rock dove (pigeon)	Introduced		
<i>Corvus brachyrhynchos</i>	American crow	Native		1,2
<i>Dendroica coronata</i>	Yellow-rumped warbler	Native		1,2
<i>Dendroica townsendii</i>	Townsend's warbler	Native		1
<i>Euphagus cyanocephalus</i>	Brewer's blackbird	Native		1
<i>Falco sparverius</i>	American kestrel	Native		1,2
<i>Hirundo pyrrhonta</i>	Cliff swallow	Native		1
<i>Junco hyemalis</i>	Dark-eyed junco	Native		1,2
<i>Mimus polyglottis</i>	Northern mockingbird	Native		1,2
<i>Otus kennicottii</i>	Western screech owl	Native		1
<i>Passer domesticus</i>	House sparrow	Introduced		1
<i>Petrochelidon pyrrhonota</i>	Cliff swallow	Native		1
<i>Picoides nuttallii</i>	Nuttall's woodpecker	Native		1
<i>Pipilo crissalis</i>	California towhee	Native		1,2
<i>Pipilo erythrophthalmus</i>	Spotted towhee	Native		1
<i>Polioptila caerulea</i>	Blue-gray gnatcatcher	Native		1
<i>Psaltriparus minimus</i>	Bushtit	Native		1
<i>Regulus calendula</i>	Ruby-crowned kinglet	Native		1
<i>Sialia mexicana</i>	Western bluebird	Native		1
<i>Sayornis nigricans</i>	Black phoebe	Native		1,2
<i>Sayornis saya</i>	Say's phoebe	Native		1



<i>Selasphorus sasin</i>	Allen's hummingbird	Native		1,2
<i>Spizella passerina</i>	Chipping sparrow	Native		1
<i>Sturnella neglecta</i>	Western meadowlark	Native		1,2
<i>Sturnus vulgaris</i>	European starling	Introduced		1,2
<i>Thryomanes bewickii</i>	Bewick's wren	Native		1,2
<i>Toxostoma redivivum</i>	California thrasher	Native		1
<i>Troglodytes aedon</i>	House wren	Native		1,2
<i>Tyto alba</i>	Common barn-owl	Native		1
<i>Zenaida macroura</i>	Mourning dove	Native		1,2
<i>Zonotrichia atricapilla</i>	Golden-crowned sparrow	Native		1,2
<i>Zonotrichia leucophrys</i>	White-crowned sparrow	Native		1,2

**Mammals**

<b>Scientific Name</b>	<b>Common Name</b>	<b>Comments</b>	<b>Status</b>	<b>Source</b>
<i>Canis latrans</i>	Coyote	Native		1
Order Chiroptera	Bat	Native		1
<i>Didelphis virginiana</i>	Virginia opossum	Introduced		1
<i>Peromyscus boylei</i>	Brush mouse	Native		1
<i>Peromyscus californicus</i>	California mouse	Native		1
<i>Peromyscus maniculatus</i>	Deer mouse	Native		1
<i>Procyon lotor</i>	Raccoon	Native		1
<i>Lepus californicus</i>	Blacktail jackrabbit	Native		1
<i>Microtus californicus</i>	California meadow mouse	Native		1
<i>Neotoma fuscipes macrotis</i>	Dusky-footed woodrat	Native		1
<i>Neotoma lepida intermedia</i>	San Diego desert woodrat	Native	FSC, CSC	1
<i>Odocoileus herionus</i>	Mule deer	Native		1
<i>Sorex sp.</i>	Shrew	Native		1
<i>Sylvilagus auduboni</i>	Desert cottontail	Native		1
<i>Spermophilus beecheyi</i>	California ground squirrel	Native		1
<i>Sylvilagus bachmani</i>	Brush rabbit	Native		1
<i>Thomomys bottae</i>	Botta's pocket gopher	Native		1
<i>Urocyon cinereoargenteus</i>	Gray fox	Native		1

**Amphibians**

<b>Scientific Name</b>	<b>Common Name</b>	<b>Comments</b>	<b>Status</b>	<b>Source</b>
<i>Batrachoseps nigriventris</i>	Black-bellied slender salamander	Native		1
<i>Hyla regilla</i>	Pacific treefrog	Native		1



**Reptiles**

<b>Scientific Name</b>	<b>Common Name</b>	<b>Comments</b>	<b>Status</b>	<b>Source</b>
<i>Elgaria multicarinatus</i>	Southern alligator lizard	Native		1
<i>Eumeces skiltonianus</i>	Western skink	Native		1
<i>Lampropeltis getulus californae</i>	Califorina kingsnake	Native		1
<i>Pituophis melanoleucus</i>	Gopher snake	Native		1
<i>Sceloporus occidentalis</i>	Western fence lizard	Native		1

**Invertebrates**

<b>Scientific Name</b>	<b>Common Name</b>	<b>Comments</b>	<b>Status</b>	<b>Source</b>
<i>Apis mellifera</i>	Honey bee	Native		1
<i>Dananeus plexippus</i>	Monarch butterfly	Native		1
<i>Bombus</i> sp.	Bumble bee	Native		1
<i>Eleodes</i> sp.	Stink beetle	Native		1
<i>Gryllus pennsylvanicus</i>	Field cricket	Native		1
<i>Helix aspersa</i>	European garden snail	Introduced		1
<i>Helminthoglypta walkeriana</i>	Morro shoulderband snail	Native	FE	1
<i>Helminthoglypta umbilicata</i>	Big Sur shoulderband snail	Native		1
<i>Hippodamia convergens</i>	Ladybird beetle	Native		1
<i>Latrodectus mactans</i>	Black widow spider	Native		1
<i>Priocnemis oregona</i>	Forest spider wasp	Native		
Order Scorpionida	Scorpion	Native		1
<i>Stenoplematus fuscus</i>	Jerusalem cricket	Native		1

**References**

- 1 – Field observation by Tenara biologists.
- 2 – Reported in Szamos (2003)
- \* (Not positively identified)

**Status Codes**

- FSC- Federal Special Concern Species (Endangered Species Act listing code)
- CSC- Department of Fish and Game: California Special Concern Species
- FE- Federally Endangered (See note on page 21 of text)

## **Appendix 2**

**RESOLUTION NO. 9650 (2005 Series)**

**A RESOLUTION OF THE CITY COUNCIL  
OF THE CITY OF SAN LUIS OBISPO ADOPTING THE  
“CONSERVATION PLAN FOR CERRO SAN LUIS NATURAL RESERVE”**

**WHEREAS**, the City of San Luis Obispo has adopted policies for protection, management, and public use of open space lands acquired by the City; and

**WHEREAS**, the City of San Luis Obispo has acquired and manages eleven open space areas totaling approximately 2,500 acres, including the 118 acre Cerro San Luis Natural Reserve; and

**WHEREAS**, the City Council desires to have the policies for management of City-owned open space lands applied in an appropriate and consistent manner; and

**WHEREAS**, the Planning Commission, Parks and Recreation Commission, and the general public have commented upon the plan as it has moved through a Council-directed approval process, and the plan reflects those comments.

**NOW, THEREFORE, BE IT RESOLVED** that the City Council of the City of San Luis Obispo hereby:

1. Finds that the implementation of the Conservation Plan as presented to the City Council this date, and as mitigated, will not have a negative impact on the environment;
2. Adopts as City policy the “Conservation Plan for the Cerro San Luis Natural Reserve” as presented to the Council this date; and
3. Directs the City Administrative Officer to undertake all actions necessary and appropriate to carry out this resolution.

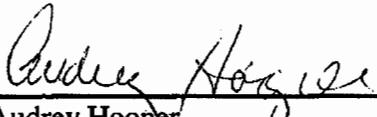
On motion of Councilmember Mulholland seconded by Councilmember Brown, and on the following roll call vote:

**AYES:** Council Members Brown, Mulholland and Settle, Vice Mayor Ewan and Mayor Romero  
**NOES:** None  
**ABSENT:** None

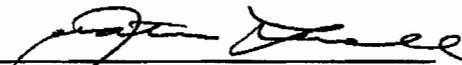
The foregoing resolution was adopted this 1<sup>st</sup> day of February 2005.

  
Mayor David F. Romero

**ATTEST:**

  
Audrey Hooper  
City Clerk

**APPROVED AS TO FORM:**

  
Jonathan P. Lowell  
City Attorney