Area Specific Management Directives

for

San Vicente Open Space Preserve
San Diego County

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INTRODUCTION

The San Vicente Open Space Preserve (SVOSP) is a 1,375-acre conservation area within the unincorporated area of the County of San Diego (County), two miles northwest of the San Vicente Reservoir. The site lies within the County's Multiple Species Conservation Program (MSCP) Subarea Plan boundary. Preparation of this Area Specific Management Directives (ASMD) document is funded by the State of California Natural Community Conservation Planning (NCCP) Program. The County adopted the MSCP in 1997. In accordance with the MSCP, a Framework Management Plan has been created by the County that incorporates the requirements of Table 3-5 of the MSCP and includes fire management measures. Subsequent area-specific management directives are also required for preserve lands within the Subarea greater than 300 acres. SVOSP ASMD consists of management recommendations tailored to habitats and species within SVOSP.

After completion of the surveys for the preparation of the SVOSP ASMD, SVOSP was burned during the 2003 Cedar Fire. Since the objective of this ASMD is to provide adaptive management directives (which include a fire management plan) The Cedar Fire did not directly change the management recommendations for the SVOSP.

PURPOSE OF THE ASMD

The ASMD has been prepared as a guidance document to preserve and manage the biological and cultural resources within SVOSP while balancing the need to provide appropriate passive recreational opportunities. It is the goal of the Department of Parks and Recreation (DPR) to promote natural and cultural resource management strategies that ensure environmental preservation, quality of life, and economic development. Enhancing the quality of life for San Diego County residents requires a balance between the responsibility to preserve biological and cultural resources with our obligation to meet the residents varying recreational needs. The DPR has completed the following adaptive management plan for the SVOSP to ensure there is a balance between the preservation of the resources with our obligation to open the SVOSP to the public.

PROPERTY DESCRIPTION

LOCATION AND ADJACENT LAND USES

SVOSP is owned by the California Department of Fish and Game and managed by the County DPR. SVOSP includes portions of Sections 13, 14, 23, and 24 of Township 14 South, Ranges 1 West and 1 East of the San Bernardino Base Meridian, USGS 7.5' San Vicente Quadrangle (Figure 1).

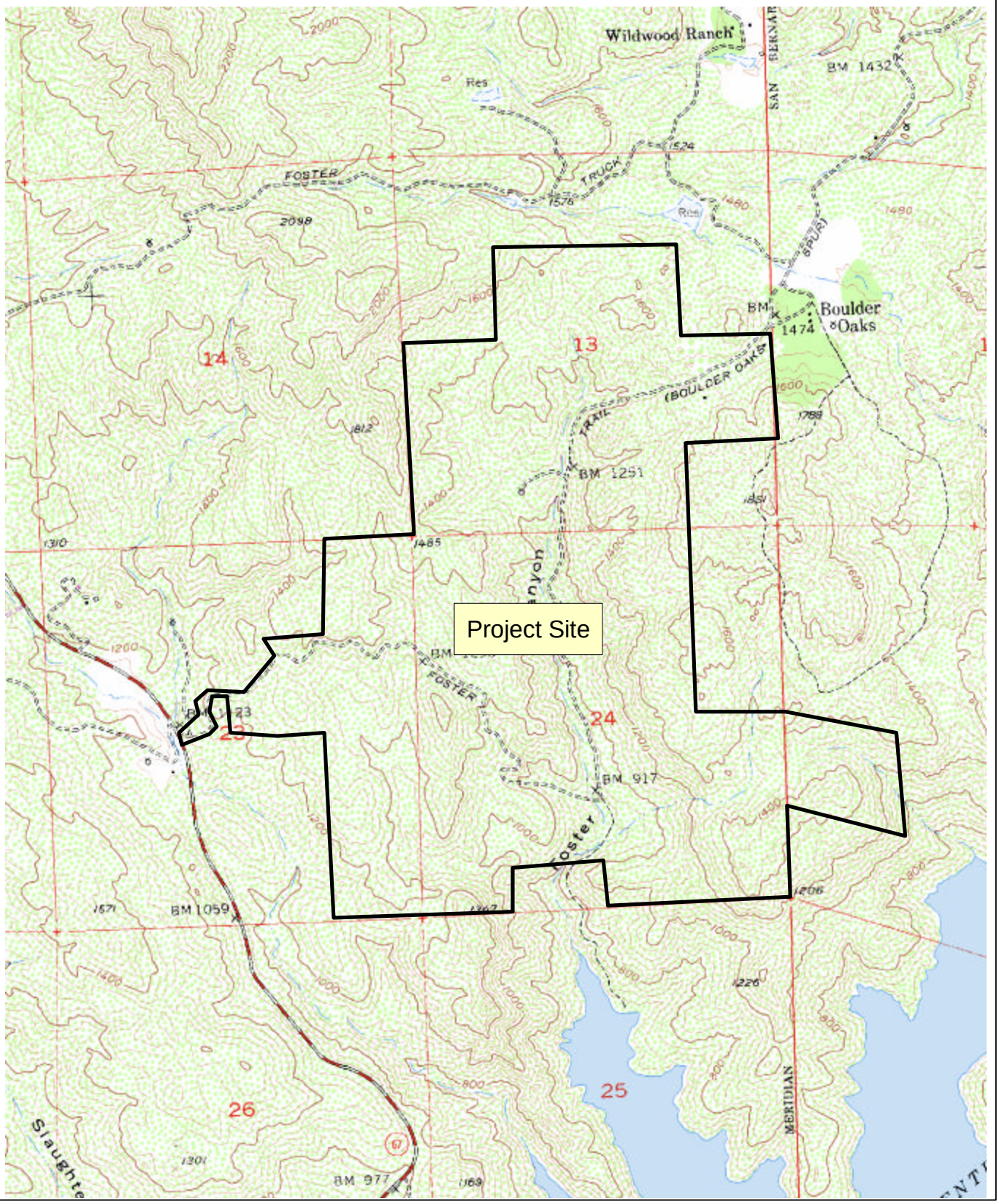
SVOSP is bounded by rural residential and State Route 67 to the west, Boulder Oaks Open Space Preserve to the north, and open space lands to the east and south.

RELATIONSHIP TO THE MULTIPLE SPECIES CONSERVATION PROGRAM AND SAN DIEGO COUNTY SUBAREA PLAN

The MSCP is a comprehensive habitat conservation planning program that addresses multiple species habitat needs and the preservation of native vegetation communities for a 900-square mile area in southwestern San Diego County. The MSCP is one of three subregional planning efforts in the County, which contribute to the preservation of regional biodiversity through coordination with other habitat conservation planning efforts throughout southern California (City of San Diego 1998).

The MSCP was developed to conserve both the diversity and function of the local ecosystem through preservation and adaptive management of large blocks of interconnected habitat and smaller areas that support rare vegetation communities (City of San Diego 1998). Overall performance, relative to the MSCP goals, will be evaluated based on data collection and analysis as part of the MSCP Biological Monitoring Plan (City of San Diego 1998). SVOSP is expected to contribute to the achievement of MSCP goals. The ASMD is expected to provide the framework that supports assessment of MSCP goals through monitoring, and provides management to maximize SVOSP's contribution toward the overall MSCP goals. This ASMD is a required element of the MSCP.

SVOSP lies within the County's MSCP Subarea Plan boundary and is, for the most part, included within the MSCP Central Poway/San Vicente Reservoir/North Poway Core Biological Resource Area (City of San Diego 1998). It consists of very high or high habitat value according to the Habitat Evaluation Model prepared for the MSCP Subarea Plan and is currently committed to permanent preservation. SVOSP, along with the County's Boulder Oaks Open Space Preserve and the City of San Diego owned lands around San Vicente Reservoir, create an important connection between the County's Sycamore Canyon Open Space Preserve and military lands to the west and the County's open space preserves and the Cleveland National Forest to the east.



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Scale: 1:24,000

San Vicente Open Space Preserve
Project Vicinity Map

Source: USGS 7.5' San Vicente Reservoir, CA

Figure 1

PHYSICAL AND CLIMATIC CONDITIONS

Topography

Topographically, SVOSP is characterized by steep, rocky, or shrub-covered slopes, particularly in the western portions. SVOSP is bisected by a narrow north-south canyon (Foster Canyon) with a southern draining creek. Elevations range from approximately 1,680 feet Mean Sea Level (MSL) on the central-western property boundary to 840 feet MSL where the primary drainage exits the site to the south, toward San Vicente Reservoir.

Geology and Soils

The underlying geology within SVOSP is divided between Jura-Trias metavolcanic rocks in the central and southwest portions, and Mesozoic granitic rocks on the eastern and northern portions (Strand 1962).

Friant rocky fine sandy loam is mapped from the south-central portion of SVOSP (30-70% slopes), and Friant fine sandy loam occurs in the north-central area (30-50% slopes). On the western side of SVOSP, Friant rocky fine sandy loam (9-30% and 30-70% slopes) is again dominant, with inclusions of Escondido very fine sandy loam (15-30% slopes). Escondido very fine sandy loam (15-30% slopes) is also found in the center of SVOSP, north and west of Foster Truck Trail. To the east of Foster Truck Trail, lies Cieneba very rocky coarse sandy loam (30-75% slopes) and acid igneous rock land, with smaller areas of Vista rocky coarse sandy loam in the far southeast. To the north, the soils become more diverse. In the far northern portion of SVOSP, Friant soils are present (comparable to the central areas), but in the northeastern corner, Vista rocky coarse sandy loam and Arlington coarse sandy loam occupy flatter terrain (Bowman *et al*. 1973).

The soil association dominant within SVOSP is Friant. The Friant Series consists of shallow and very shallow, well-drained, fine sandy loams that formed in material weathered from fine-grained metasedimentary rock (Bowman *et al*. 1973). The other soil series found on-site are described by Bowman *et al*. (1973) as follows: Acid igneous rock land is rough broken terrain with large boulders covering 50 to 90% of the total area; the Arlington series consists of moderately well drained, moderately deep coarse sandy loams that are underlain by weakly cemented granitic alluvium; the Cieneba series soils are very shallow to shallow coarse sandy loams that formed in material weathered in place from granitic rock; and the Escondido series soils are moderately deep to deep, well-drained very fine sandy loams that formed in material weathered in place from metamorphosed sandstone.

Climate

The climate of San Diego County is dominated by the semi-permanent, Pacific high-pressure cell located over the Pacific Ocean. This high-pressure cell drives the

dominant on-shore circulation, maintaining clear skies for much of the year. Summers in the San Vicente area are typically warm and dry, while winters are mild with occasional rainy periods. The mean annual temperature for the coastal plain of San Diego is approximately 61°F and the mean maximum and minimum temperatures are 78.0°F and 42.0°F, respectively (Bowman *et al*. 1973). Due to its location inland, the mean maximum temperature is expected to be higher at SVOSP. In a normal year, precipitation averages 10-16 inches annually, and falls almost exclusively between November and April (Bowman *et al*. 1973).

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

Fire Cycles

SVSOP is dominated by chaparral and sage scrub vegetation, which are naturally maintained by infrequent brush fires. If the fire frequency is increased, vegetation could potentially tend to shift towards disturbed grassland habitats The fire cycles within the San Vicente area are effected by actions within and adjacent to SVOSP. Surrounding development and brush management actions associated with urban development have altered the fire cycles throughout most of western San Diego County. Additional information regarding fire cycles, the effects of the 2003 San Diego County Wildfires, and fire ecology information pertinent to SVOSP is provided in the SVOSP Fire Management Plan, the companion document to the ASMD.

Hydrology

SVOSP lies within the San Vicente Hydrologic Area of the San Diego River Watershed. Designated beneficial uses for the San Diego River and its tributaries, include municipal and domestic supply (MUN), agricultural supply (AGR), industrial service supply (IND), industrial process supply (PROC), contact and non-contact water recreation (REC1 and REC2), warm freshwater habitat (WARM), cold freshwater habitat (COLD), wildlife habitat (WILD), and rare, threatened, or endangered species (RARE) (California Regional Water Quality Control Board San Diego Region 2003).

The two blue-line drainages on-site drain south toward San Vicente Reservoir; to the north of the site, lies Poway Spring. The primary on-site drainage is associated with Foster Canyon. The San Vicente Reservoir is a steep-sided, deep reservoir; when full, it has 1,069 surface acres, a maximum water depth of 190 feet, and 14 shoreline miles (City of San Diego Water Department 2004). As of March 2004, the reservoir depth stands at approximately 177 feet, and the reservoir is 86% full.

SITE HISTORY

San Diego County is characterized by a rich and varied historical past. The SVOSP includes both natural and cultural resources. Cultural resources, which reflect this rich history, consist of archaeological remains, historic buildings, artifacts, photographs, oral histories, Native American memories and public documents. This Cultural Resources Management Plan (CRMP) identifies the known cultural resources within SVOSP and outlines a management plan for these resources.

Prehistory of San Vicente Open Space Preserve

Research in San Diego County prehistory identified two major cultural traditions: the Early Period/Archaic and Late Period, based upon general economic trends and material culture (Gallegos and Associates 2003). The archaic generally spans the period from 10,000 to 1,300 years ago, while the Late Period spans from 1,300 years ago to historic contact. Sites with prehistoric artifacts and activity areas in SVOSP appear to fall within the Late Period. However, no excavations have been conducted and it is possible there could be evidence of earlier occupation.

Archaic sites from 10,000 to 1,300 years ago within San Diego County include coastal habitations sites, inland hunting and milling camps and lithic quarry sites (Gallegos and Associates 2003). These were people with a hunting/gathering/fishing economy. The earliest dated sites in central and southern San Diego County are found near coastal lagoons and river valleys and date from 10,000 to 8,000 years B.P. Northern San Diego County lagoon sites are larger and date around 6,000 years ago. Assemblages consist of spear points and bifacial tools and milling equipment. Pottery is absent.

Late Period sites (1,300 to historic contact) show major changes in the material culture. The economic patterns show more intensive and efficient exploitation of local resources. Small projectile points, pottery, the establishment of permanent or semi-permanent seasonal village sites, a proliferation of acorn milling sites in the uplands, and interment by cremation are signs of Late Period sites (Gallegos and Associates 2003). The Kumeyaay Indians lived in southern San Diego County and northern Baja, while the Luiseno lived in northern San Diego County. At the time of contact, the SVOSP was in the Kumeyaay territory.

History of San Vicente Open Space Preserve

The Ranchos:

In the last days of Governor Pio Pico's administration, he granted large land holdings to friends and political associates. Juan Bautisto Lopez, a military ally in the 1831 overthrow of Governor Victoria, received Rancho Canada de San Vicente y Mesa del Padre Barona. This was after he had petitioned and received Rancho Secuan near Dehesa where he lived for a short while around the year 1840.

When California became a U.S. Territory in 1848, conditions of the Treaty of Guadalupe Hidalgo provided that land titles held by Mexican citizens would be honored if verifiable. It was the task of the United States Land Commission, formed in 1851, to review and validate the legality of these grants. For this reason, many homesteaders to the region avoided the land grants since settlers were perceived as squatters and greatly discouraged by those attempting to establish legitimate claims.

Don Juan Lopez received title to the rancho at San Vicente on January 25, 1848, after residing in the valley since 1843. On May 13, 1850, he deeded the ranch to his nephew, Domingo Yorba, a young man in his early twenties. Lopez was 64 years old and had "retired" to Old Town, San Diego with his wife, Maria Josefa. Domingo's family had received the land grant for Rancho Santiago de Santa Ana, comprising much of the land now encompassed in Orange County. Domingo's mother and Lopez' wife were sisters. In return for the deed to San Vicente rancho, Domingo agreed to provide for his elderly aunt and uncle.

Rancho Santa Maria was granted to Jose Joaquin Ortega and his son-in-law, Edward Stokes, in 1843. Following the death of Stokes in 1850 and Ortega in 1865, the ranch passed to Stokes three sons Adolfo, Eduardo and Alfredo. Each built an adobe on the ranch; however, before their patent had been confirmed in 1871, Adolfo had purchased his brothers' share. The following year he sold all but 1,000 acres of the ranch to Juan Arrambide.

Homesteads

Many acts of Congress (sale, homesteads, military warrants for military service, timber culture, mining) provided ways for people to acquire land inexpensively, consequently encouraging people to move west. Under the "Cash Act" public land sold for $1.25 an acre and the purchaser could buy up to 640 acres. Several Military Warrant Acts granted public land to soldiers in lieu of pay. The "Homestead Act of 1860" entitled people to settle on no more than 160 acres of public land providing they lived on it for five years and grew crops or made improvements. The only cost in this instance was a filing fee. Due to the tremendous amount of land sold, the distance between local land offices and government headquarters, and the routine volume of paperwork required, it was not unusual for several years to pass between the time an individual purchased

land from the local land office and the time a patent for that tract was finally signed by the land office in Washington, D.C.

Homesteaders began settling between, rather than on, the Santa Maria and the San Vicente Ranchos in the early 1870s, awaiting the settlement of claims made by the dons or their heirs. With minimal difficulty, the Yorba and Ortega/Stokes family grants, first made by Pico, were confirmed by the U.S. Land Commission. Meanwhile, Bernard Echeverry, arrived in San Diego from France, and settled in the Santa Maria Valley to raise sheep. He agreed to oversee the sheep herds owned by Stokes, as well as produce his own flocks of highbred Marino sheep.

Transportation: Atkinson Toll Road and Mussey Grade

In 1870, when gold was discovered in Julian, the backcountry creeks and rivers were overrun with prospectors picking and panning the resources there. Several routes accessed Julian and the mines in the vicinity. One was by way of Poway and Highland Valley; another through Lakeside, San Vicente, and east to Santa Ysabel and Julian; or a third approach, by continuing out past Alpine, Viejas, Descanso to Cuyamaca. Adolph Stokes, owner of Santa Maria Rancho, tried his hand at running a stage line from San Diego to the mines at Julian and competed with the already established Tweed's Stage Lines. This rivalry culminated in free rides, free drinks, overworked horses, and a return to a single stage line.

Lemuel Atkinson arrived in the Julian area with his brother, Henry, from Sacramento to seek their fortune in the gold mines. The brothers worked at the Golden Chariot Mine, and Lemuel rose to the position of mine foreman. During their mining days, they realized that a good road was needed between San Diego and the mines, not just another stage line. So in 1873, just a year after the stagecoach rivalry of Stokes and Tweed, the Atkinson brothers planned to provide a shorter maintained route up the grade from Rea's Station (later called Foster). They homesteaded property at the top of the grade where their road leveled out. Here they built their two-story tollhouse and stage stop. Lemuel took the position of Treasurer of the Oak Valley Toll Road (San Diego Union 3/1/1873). They cleared the western canyon from the base of the mountain and operated a fairly lucrative business, according to Lemuel's daughter. The following year, again showing good business sense, they sold the toll road to the County, who bought it for $1,700; and the district Board of Supervisors appointed Henry Atkinson as the Roadmaster. In 1878, Lemuel became the local postmaster with offices at the roadhouse. Lemuel Atkinson received the patent to his homestead of 160 acres in Section 7 of T14S R1E, on September 15, 1882. (BLM records)

Hattie Kaufman, born in 1872, recalled a trip on the Atkinson Toll Road. "Before I was married, I had one trip over the road they used prior to the Mussey Grade. The old road washed out and they were just surveying the new road through, so I went up that old grade. The river was so high they were bringing the mail across on cable." Hattie was married in 1890, and her husband held the job of road overseer for the new Mussey Grade road (Kaufman, p. 5-6).

The stage stop at the foot of the Atkinson grade, and about three miles beyond Lakeside, was first known as Rea's Ranch. The stage connection here took travelers and goods to Ramona (Nuevo), Ballena, Santa Ysabel, Julian, Banner and Warner's Ranch Hot Springs. Prior to the building of the San Diego, Cuyamaca & Eastern railroad, the stage line traveled the entire distance from San Diego to the backcountry through this stage stop.

The Rea brothers, John and Robert, a couple of Scottish Canadian fellows, were the first to homestead this piece of land. Arriving in the 1870s, Robert married Pauline Eubanks in February 1878. In December of the same year, a son Robert is born to the couple. The following June, brother John took his family for a visit to his old home in Canada, leaving his position as station keeper on the Julian Stage Line in the capable hands of his brother. During the winter of 1879 Robert and his young family retired to Yuma because of failing health. Returning in February, his condition reportedly improved; but at the end of March 1880, at the age of 29, Robert died of consumption. A homestead patent was issued to Pauline and Robert Rea on September 3, 1890, and may have actually been granted to mother and son, since the child was by then almost 12 years old.

Joseph Foster was born in Sacramento in 1857, and arrived in San Diego County in November 1866 as a young boy. Little is known about his parents and it is believed he was an orphan; reportedly it was the Foster family of San Dieguito valley who provided a home for him during his youth. As young men, Joe Foster and friend Frank Frary operated a stage line that ran from San Diego to the mines at Julian taking passengers and supplies, and returning with ore. In February 1880, Joe married Martha Swycaffer of Ballena, whose family was one of the oldest settlers to the area, and considered settling down at the Rea station.

In his journal shortly after marriage, an entry dated March 20th, 1880, is as follows: "Ballena: Today I went down as far as Rea place. Martha my wife and Pauline [Swycaffer] her sister went down as far as Mr. Atkinson Station [the toll house] to see his wife. I went to try and make a bargain with Rea for his ranch. He offers me his place for $1400 and let the bees pay for the place. There is a house with seven rooms and a barn 20x24 with shed and corral and a large honey house, 150 stands of bees, 100 empty hives, a garden, well, fence. I consider the place is very cheap as I can let the bees pay for the ranch. I told him I would except [sic] his offer." The bargain was struck, and in 1885, the *Union* reported that 51 cases of honey had been shipped to San Diego from Foster's apiary. (San Diego *Union* 7/30/1885:3)

Within a couple of years of marriage, Joe settled down to farming and raising bees. Frary, in turn, had married a San Francisco girl, and in 1901 was elected Mayor of San Diego. Meanwhile, both maintained the stage line partnership, with Frank's office located in San Diego, and Joe's office at his ranch, now known as Foster.

In 1883, Joe Foster was appointed overseer of roads for the Vicente district, and the former Atkinson Toll Road, now county property, created a serious challenge (San Diego *Union* 5/25/1883:3). Maintenance meant long hours of repairing washed out sections, leveling rutted spot, and removing boulders, and more. Since the road was under his governance, it was probably at this time that both road and canyon became known as Foster Canyon and Truck Trail. Also at this time an alternate route was considered by way of the canyon beyond Mussey's place. A.W. Mussey had a homestead at the base of the canyon to the east of Fosters Station and there were several homes dotting the landscape approaching his house. In 1889, the San Diego, Cuyamaca & Eastern railroad was completed through to Lakeside and shortly after continued on to Foster, another 3.3 miles.

"The two daily trains were met by Frary and Foster's four-horse stages which provided a direct service to Julian and Banner. The two mining districts had been combined into one and by 1894 twenty mines were in operation, mostly under new and stronger companies." (Pourade) Katherine Leng, Joe Foster's niece, lived at Foster in the 1890s. "At first the stageline ran from San Diego to Julian. Then the San Diego-Cuyamaca Railroad was built as far as Foster … and from then on the stages ran from Foster Station to Julian. The train ran four times a day, two passenger and two freight trains. The stage left about ten in the morning and pulled into Julian at seven or eight that evening." (Leng, p. 4) The stage would return the following day. On this ten-hour trip, there would be dinner in Ramona and a change of horses at Ballena before the stage reached its destination in Julian. (Crawford)

Nuevo, now Ramona

In 1886, Milton Santee, a civil engineer from Los Angeles, purchased several thousand acres of Santa Maria ranch land from Bernard Etcheverry, incorporated as the Santa Maria Land and Water Co., and launched a massive sales campaign nationwide. Capitalizing on Helen Hunt Jackson's 1884 publication, he changed the town name from Nuevo to Ramona. Advertising "double the rainfall" of that on the coast, a climate well above the fog line so that asthma sufferers could find relief here, soil that required no irrigation, and "cold sparkling springs" of water no deeper than 25 feet below the surface, the place appeared a veritable paradise. He even compared the soil to the "rich red loam so highly prized by the wine-makers of Napa and Sonoma counties." For the next two years, the backcountry steadily increased in population as persons purchased ten acre tracts offered by Santee's company or homesteaded the outlying government lands. (San Diego Union 3/4/1887)

In January 1901, the growth and beauty of the area could be seen from the town of Lakeside, for the "higher slopes and hills are covered with orange, lemon, and olive groves, enveloping the hills with the dark green foliage of the citrus tree or the pale green of the olive." (San Diego Union 1/1/1901) Ground water and rainfall had been adequate to meet the needs of these outlying groves, and irrigation had proven thus far unnecessary.

In 1902, Mr. Hage of Hage's Creamery in San Diego assisted E.W. Woodward in the establishment of a creamery at Ramona. This new industry encouraged dairy production locally. And the feeding of surplus hay and grains to the dairy cattle in the area made more sense to the local residents who felt that without a direct rail line, the haul over rough mountain roads to uncertain markets was a precarious investment. So the boom in hay production found a local market. Orchards, on the other hand, experienced some neglect, and one anonymous orchard owner explained that without a cannery in San Diego or the rail lines to get it there quickly his efforts were unprofitable. (San Diego Union 7/11/1902:3)

<u>The Alymer Keith Homestead</u>

The Aylmer Dennison Keith family arrived in San Diego County in 1887 from Healdsburg, California. They brought their four children with them; Kitty Hill, born in 1870, Miltona May, 1872, Ruth Elizabeth, 1875, and Aylmer Wylie, born in 1885. The three oldest girls were born in Arkansas City, Kansas, where their father had served as postmaster from 1872 to 1875, and mayor in 1873. Aylmer W. had been born in Healdsburg.

The senior Keith had been born in New York and served in the civil war. He had received the rank of Captain and had led Company "A" of the Cowley County Guards during the Kansas border troubles (San Diego *Union* 6/30/1905). He married the widow Elizabeth Emily Hill of New Hampshire in 1869, the same year he was elected to the Kansas College of Pharmacy. On arriving in San Diego, the family lived in the vicinity of downtown, while Mr. Keith took employment as the proprietor of the Bancroft Building, containing furnished rooms for rent (1887-88), a druggist (1889-90), co-owned and operated the South Pacific Nursery (1892-93) and finally, before moving to their homestead near Foster, he was a Fruit Inspector (1893-94). Aylmer Hill, son of Aylmer Wylie, relates that the family moved to San Diego during the land boom, which broke in 1889, and as the result of a "disastrous business venture" after arriving further complicated matters. It was about 1890 that the whole family moved to the backcountry. They took up residence on 160 acres in section 13 of T14S R1W, four miles north of Foster.

"To be nearly self-sufficient the family had a wide variety of crops and live stock: a vegetable garden, lemon, orange, apple, peach and pomegranate trees and an olive orchard; horses, cows and steers, pigs, chickens, ducks and bees that I know about. They raised wheat to provide flour" (Keith, AH, p. 3).

Twice in the 1890s Mr. Keith took out a mortgage loan; first in the amount of $400 in July 1895, then $300 in June of 1899; the grantor of the second loan was Mrs. E.P. Williams who held the farm just to the northeast of the Keith property. It was grandmother Lizzie who named their homestead Vernal Vale Farm. Kitty married George Nichols on January 1, 1894, in National City and honeymooned at the ranch (Chaffey 2003). Aylmer D. Keith received the patent to his homestead dated July 24,

1895. All reminiscences by the grandchildren and great grandchildren indicate that the house was already built when they moved there in 1890. Grandson Aylmer H. reports that in 1903, his grandfather continued to increase his holdings by purchasing the Williams' place.

Miltona, known as Millie to her school mates at Russ High, attended 9th through 12th grades there and received high marks. Upon completion of 11th grade in June 1991 she sat for the teachers' exam. The San Diego County Board of Education awarded her a two-year certificate to teach primary school in July 1891. Upon graduation, she returned to her family's homestead located on the old Jones-Atkinson road, south of the Ramona town site and taught the children in the vicinity.

In January 1897, Miltona received her "Grammar Grade" certificate from the county entitling her to teach both grammar and primary school. That year she applied for a position as assistant teacher for the Hualapai Day Schools in Hackberry, Arizona. While teaching in the Oneonta School District she was notified by the Commissioner of Indian Affairs of her appointment to teach in Arizona. Following her appointment in Arizona, she taught two years in the Stowe School District and then another two years at Lakeside, just down the grade from her home. The letters of recommendation always contained high praise of her dedication as a teacher.

In July 1901, the Ballena School District engaged her to teach at a salary of $50 per month, commencing that September. This was followed by two years of teaching in the Earle School District, closer to home. Earle had been the family name of Bernard Etcheverry's wife, and the school district had been established in 1889. The 1896 schoolhouse still stands on Mussey Grade Road. At the young age of 18 or 19, Millie homesteaded her own 80 acres, in section 24 (T14S R1W), a quarter mile from her parents' place. (Lingscheid 2003) Located a little further south on the Foster Truck Trail, an early 1901 topographic map shows a possible structure on the west side of the same road, within the bounds of her homestead. Title to her homestead was granted August 13, 1904. She again took employment as a teacher for the Department of Interior, Office of Indian Affairs, at the Oraibi Day School in Arizona. This time for the Spring term 1903.

On June 26, 1905, Aylmer Dennison was shot by an unknown person and died in a field near the homestead. He was 67 years old. The inquest that took place within a couple of days of his death revealed no suspect and no motive. Mr. Keith was a member of the Heintzelman post No. 33, G.A.R. and they immediately stepped in to assist the family with all arrangements. The family buried him at the Grand Army plot in Mt. Hope cemetery. (San Diego Union 6/30/1905: 7)

On October 10, 1905, while still in Arizona, this time at the Moqui Reservation at Oraibi, Miltona checked on the tax status of her parents' homestead. The county auditor replied that no delinquent state or county taxes were due. On November 28, 1905, she paid for several lots at Mt. Hope Cemetery in the Grand Army Plot, including the one in

which her father had been buried. Probably at this time she also made arrangements for the headstone that reads: Q. M. SGT. / AYLMER KEITH / CO. G. / 2 COLO. CAV.

In an interview with Emily Lingscheid, she stated that her parents met on the Hopi Indian Reservation where Miltona served as teacher, and Peter Staufer performed duties as a general mechanic. Her oldest brother, Milton Keith, was born on the reservation, then the family moved to Reedley, California (near Fresno), where there was a community of German Mennonite people, which was Mr. Staufer's background. There a second son, John Jacob, was born, and then Emily in 1912.

Shortly after the death of her husband, Elizabeth Keith spent time with her son at Berkeley, keeping house while he completed his degree there. He graduated in 1908 and took an engineering job in Arizona. Mrs. Keith returned to the ranch, living at the Williams' place in the summer. When her son returned to San Diego in 1915, she started spending winters with his family in San Diego. In 1909, The *El Cajon Valley News* ran an ad that the Keith Ranch of 680 acres between Foster and Ramona was for rent. The inquirer should apply with references to Mrs. Ruth Powell, living on H Street [Market] in San Diego. In 1918, tenants for the ranch were more difficult to find so Elizabeth moved back to Vernal Vale Farm. A photo of the two-story house with several generations of family sitting on the front steps shows the structure sometime in the early 1900s.

She would often take the train into town, though, to stay with family and visit grandchildren (Chaffey). In 1920, she wrote a simple will bequeathing the property to her son; and to her daughters, she directed Aylmer to give "any articles they may desire as keepsakes and mementoes." It is here that the name of the home is identified as Vernal Vale Farm. And it is on this document that she identified her homestead with the small community of Foster. Mrs. Keith died in 1927 and is buried next to her husband at Mt. Hope.

The Aylmer D. Keith house, located on the homestead, was in "dilapidated condition" in 1973, but still standing (Bowen 1975); the structure is thought to have burned sometime between 1984 and 1993 (Gross 1993). It was a side gabled home with a dormer in the second story, centered over the entrance. A covered porch extended along the front and sides of the building. Two bedrooms were upstairs with the main living quarters downstairs: kitchen, living and dining room. Bowen reports that it was "occupied during the depression" as the walls were papered with newspapers from that era, readable even in the 1970s. Other structures on the property included a one-story room with windows and located northeast of the house. Early school furniture was located in a nearby shed in the 1970s. Grandson Aylmer H. refutes the story that there was a school on the property, and believes that the school furniture arrived after the Keith's sold the property. Besides the shed, a stone walled milk house and barn remained. Helen M. Bowles received title to land in Sections 13 and 24 in 1953. Following ownership by Mrs. Bowles, the Boys and Girls Club took over the property. In 1993, remains of the 1880s homestead were identified as "a wooden structure, possibly a barn, and a rock structure, possibly a root cellar" (SDi-12,820H). An historic site (SDi-

12,818H), 180 m. to the west of the house and also within the original homestead property, contains elements dating to the 1880s, as well as remains of a structure thought to be from the 1940s (Gross: 45-46).

The John Kernan Homestead

Another early owner of property in Section 24 was John Kernan. He arrived about the same time as the Keiths and first filed a cash-sale claim for the 160 acres, receiving title to the land July 30, 1891. This was followed by his homestead claim to the same property granted by the U.S. government on March 19, 1895. His property included the intersection of the east-west trending Foster Truck Trail as it abuts the old Atkinson Toll Road.

A map of this area drawn by B. B. Moore shows a cluster of circles, which Helen Bowles states was the original Atkinson home site. According to her, there was still evidence of a fireplace and foundation at this juncture in the road in the 1970s. More likely it was the structure associated with John Kernan's homestead, though he may have lent it to the Atkinson brothers as a checkpoint or stage stop, since travelers could have headed along the west trending fork in the road without stopping at the toll house. Or, another reason for having a station here might be that assistance and refreshment were required sooner than the toll house 3 miles further ahead after climbing the grade. Kernan's homestead was sold to the State of California on June 25, 1900 for delinquent taxes in the amount of $12.34. L.A. Blochman of San Diego paid the debt and took ownership in March 1911. He, in turn, sold the southwest quarter of section 13 (T14S R1W SBM) to Mrs. Susie T. Lisk who took ownership in August 1911.

Mussey Road

On and off, from the renewed talks in 1903 of extending the railroad from Foster to Ramona, through proposals and counter-proposals made by Ramona citizens and railroad executives, no progress was made and another five years had elapsed without improvement to the road or transportation service between these two communities. According to the Keith grandson, the old Jones-Atkinson Toll road that passed in front of their house was considered a potential railroad route, but economics drove those concerned with securing an easier access between Foster and Ramona to pursue improving the roads.

Headed by Postmaster Thomas Jerman, a petition was circulated to include Ramona as a recipient of the funds for good roads bond issue. He stated that the "road between Fosters and Julian should be put in first class condition. Automobile travel through this valley to the back country is increasing rapidly and should be encouraged…." He cited Rufus Choate, member of the chamber of commerce boulevard committee, who admitted that the back country had reason to complain. "Our greatest desire is a railroad, but the small population and the expense of reaching your valley does not seem to allow capital to enter into the venture. The county cannot issue bonds to build railroads, but we can issue bonds for the next best thing, and that is good roads,

constructed on proper grades." And so he went on with the details of the proposal for road improvement not railroad.

In 1909, when all attempts at gaining a railroad up the Mussey Grade had halted, efforts were successful in the direction of beautifying the country highways. Arthur B. Foster of Pamo began the planting; the Ramona Improvement Club threw their full support behind the project. Sugar gums and red and blue gums were the varieties of eucalyptus decided upon, and Col. D. C. Collier of San Diego, with property in the Ramona area, donated the plants. Labor was supplied by the enthusiastic local folks, and Joe Foster, county supervisor, offered county support for the watering and maintenance of the young plants until they were established (*Union*, 9/14/1909:5).

Steadily the population in the rural areas grew. With the introduction of the automobile and the popularity of the Pan Pacific Exposition, San Diego was not only a place to visit, it became the place to live. The Automobile Club of Southern California provided motorists with short day trip drives all over the county and the Mussey grade was part of the 16.8 mile Lakeside to Ramona adventure. Mussey, at the foot of hill, reportedly had good campgrounds, gasoline and oil. The auto club's short description included the following: "the grade is winding, but excellent roadway and no heavy grades. Scenery varied and beautiful."

With rainfall and drought an unpredictable resource in San Diego County, the City has always been actively building reservoirs to capture and contain runoff. The County has in excess of a dozen major dams, one of which is San Vicente, which now captures the runoff from the two canyons known as Foster's and Mussey's. In 1943, the San Vicente Dam was one of two upstream dams that were erected during World War II, Loveland on the Sweetwater River being the other.

Previous Cultural Resource Assessments at San Vicente Open Space Preserve

A variety of cultural resources were found on the San Vicente Highland property (Gallegos and Associates 2003). A literature review and field survey identified ten sites and two isolates within SVOSP. Five of the sites (CA –SDI-5892, CA-SDI-12818H, CA-SDI-12819H, CA-SDI-12820H, and CA-SDI-12821H) were previously known and five (CA-SDI-16938, CA-SDI-16939, CA-SDI-16940, CA-SDI-16941, and CA-SDI-16942) were discovered by Gallegos and Associates. San Vicente Highland sites include two historic homesteads (CA-SDI-12818H and CA-SDI-12820H) with houses and outbuildings, the historic Boulder Oaks Spur of the Foster Truck Trail (CA-SDI-12821H), three sites associated with ranching activities (CA-SDI-12819, CA-SDI-16939, and CA-SDI-16972), and four prehistoric sites CA-SDI-5892, CA-SDI-16938, CA-SDI-16940, and CA-SDI-16941).

CA-SDI-12818H and CA-SDI-12820H and CA-SDI-16941 are sites in need of immediate evaluation and stabilization, according to Gallegos and Associates. The two historic homestead sites, CA-SDI-12818H and CA-SDI-12820H, were impacted by the Cedar Fire of October 2003. Only the rock buildings remain standing. Since photo

documentation was not part of the Phase 1 evaluation, there is no record of what was destroyed by the Cedar Fire. Site CA-SDI-16941 is located at the bottom of Foster Canyon and is a prehistoric habitation site. This site was noted as eroding due to road use and drainages cutting through the site. This site will need testing to determine site size, depth, content, integrity, and site significance as well as stabilizing and capping using clean fill to prevent further site degradation.

EXISTING LAND USE

Activities allowed within the preserve must be consistent with the Habitat Management Plan and Framework Management Plan.

The following activities are typically precluded on land which is dedicated as an open space easement to the County: grading, excavation, placement of soil, sand, rock, gravel or other material, clearing of vegetation, construction, erection or placement of any building or structure, vehicular activities, trash dumping or use for any purpose other than as open space, or planting of vegetation materials.

The exceptions to these prohibitions generally include the following:

- Selective clearing of vegetation by hand to the extent required by the fire authorities for the express purpose of reducing an identified fire hazard.
- Activities required to be conducted pursuant to a revegetation, habitat management or landscaping plan approved by the Director of Planning and Land Use.
- Vegetation removal or application of chemicals for vector control purposes where expressly required by written order of the Department of Environmental of the County of San Diego, in a location and manner approved in writing by the Director of Planning and Land Use of the County of San Diego.
- Existing uses and Recreational Activities identified in the plans which generate the preserve areas.
- Policing by local, State and Federal law enforcement agencies and fire protection agencies as necessary.
- Scientific and biological uses.
- Necessary infrastructure.
- Trails including equestrian, hiking and bicycles in accordance with the management plan.

Unauthorized Uses

In order to protect the cultural and biological resources in the SVOSP, the following are prohibited inside the SVOSP:

- Off-road vehicles
- Domestic animals, except horses and leashed dogs
- Smoking
- Campfires
- Firearms
- Air guns
- Archery devices
- Slingshots
- Fireworks
- Explosive devices
- Screens for sifting soils
- Littering
- Dumping
- Open flames
- Paintball activities

Utility Easements

The San Diego Gas and Electric Company (SDG&E) has an existing easement on a portion of SVOSP. These utility lines generally run in an east-west direction through the northern portion of the site. SDG&E easement maintenance responsibilities may include some minor grading/brushing of roads to access their equipment.

BIOLOGICAL RESOURCES

SVOSP ASMD presents an opportunity to maintain and further restore one of the largest tracts of preserved, high quality, native/semi-native habitats within the region. Natural habitats, such as those found within SVOSP, have historically been destroyed or damaged by agriculture and urban development throughout the County. As a result of the losses suffered, few such large areas of contiguous natural habitat remain as intact representations of the County's natural communities. Adding to its biological value, SVOSP supports several sensitive floral and faunal species, and functions as a significant biological resource core area.

VEGETATION COMMUNITIES/HABITATS

Nine distinct vegetation categories were delineated on the site in 2003, before the Cedar Fire: Non-native Vegetation, Eucalyptus Woodland, Disturbed Lands, Diegan Coastal Sage Scrub, Southern Mixed Chaparral, Native Grasslands, Non-native Grasslands, Southern Coast Live Oak Riparian Forest, and Coast Live Oak Woodland (Figure 2). Also present are extensive areas of Rock Outcrops and some areas of

intergrading habitats, such as Diegan Coastal Sage Scrub/Non-native Grassland Ecotone.

The vegetation map provided herein is based on pre-2003 fire conditions (vegetation mapping was performed in 2002). Prior to the Cedar Fire (2003), the vegetation on SVOSP was well established and not in a transitional stage, with the exception of a few small areas of disturbance. According to the Draft 2003 San Vicente Open Space Biological Resources Report, "fluctuations in future mapping should be minimal unless fire or another form of disturbance occurs within the preserve" (Merkel &Associates 2003). Since fire did sweep through the entire SVOSP in October 2003, the vegetation communities may not appear as depicted on the Vegetation Community Map. However, the vegetation communities are generally expected to return to their former configuration unless otherwise manipulated or disturbed (by disease, another fire, the introduction of invasive non-natives, etc.).

A February 2004 survey indicated the emergence or sprouting of a variety of native species (Table 1). The February 2004 fieldwork, however, did not include a complete botanical assessment of the entire site. Due to a downed tree, the northeast portion of the site could not be accessed; thus, the table below is not expected to provide a comprehensive list of post-fire species presence.

Table 1. Species Observed Sprouting or Emerging During February 2004, Post-fire Surveys of SVOSP

Common Name	**Scientific Name**	**Vegetation Community Association**
California Polypody	*Polypodium californicum*	Southern Mixed Chaparral
California Maiden-hair	*Adiantum jordanii*	Southern Mixed Chaparral
Laurel Sumac	*Malosma laurina*	Diegan Coastal Sage Scrub
Western Poison Oak	*Toxicodendron diversilobum*	Southern Coast Live Oak Riparian Forest
Sharp-tooth Sanicle	*Sanicula arguta*	Diegan Coastal Sage Scrub
Western Ragweed	*Ambrosia psilostachya*	Diegan Coastal Sage Scrub
California Sagebrush	*Artemisia californica*	Diegan Coastal Sage Scrub
Mule Fat	*Baccharis salicifolia*	Diegan Coastal Sage Scrub
Broom Baccharis	*Baccharis sarothroides*	Southern Mixed Chaparral
Saw-toothed Goldenbush	*Hazardia squarrosa* ssp. *grindelioides*	Diegan Coastal Sage Scrub
Slender Sunflower	*Helianthus gracilentus*	Diegan Coastal Sage Scrub
Nievitas, Cryptantha	*Cryptantha intermedia*	Diegan Coastal Sage Scrub/ Southern Mixed Chaparral
London Rocket	*Sisymbrium irio*	Non-native Grassland/Disturbed
California Goosefoot	*Chenopodium californicum*	Diegan Coastal Sage Scrub/Non-native Grassland
Wild-Cucumber	*Marah macrocarpus* var. *macrocarpus*	Southern Cottonwood Willow Riparian Forest/Southern Mixed Chaparral
Coastal Deerweed	*Lotus scoparius* var. *scoparius*	Diegan Coastal Sage Scrub
Stinging Lupine	*Lupinus hirsutissimus*	Non-native Grassland
San Diego Sweetpea	*Lathyrus vestitus* ssp. *alefeldii*	Diegan Coastal Sage Scrub
Scrub Oak	*Quercus berberidifolia*	Southern Mixed Chaparral
Dovefoot Geranium	*Geranium molle*	Non-native Grassland

Common Name	Scientific Name	Vegetation Community Association
Caterpillar Phacelia	*Phacelia ramosissima* var. *latifolia*	Diegan Coastal Sage Scrub
White Sage	*Salvia apiana*	Diegan Coastal Sage Scrub
Checker-bloom	*Sidalcea malviflora* ssp. *sparsifolia*	Diegan Coastal Sage Scrub
California Wishbone Plant	*Mirabilis californica*	Diegan Coastal Sage Scrub/ Southern Mixed Chaparral
California Peony	*Paeonia californica*	Southern Mixed Chaparral
Padre's Shooting Star	*Dodecatheon clevelandii* ssp. *clevelandii*	Non-native Grassland/Native Grassland
Narrow-leaf Bedstraw	*Galium angustifolium* ssp. *angustifolium*	Southern Coast Live Oak Riparian Forest
Dark-tip Bird's-beak	*Cordylanthus rigidus* ssp. *setigerus*	Diegan Coastal Sage Scrub/ Southern Mixed Chaparral
Triangular-fruit Sedge	*Carex triquetra*	Southern Mixed Chaparral
Blue-eyed Grass	*Sisyrinchium bellum*	Native Grasslands
Wild Hyacinth	*Dichelostemma capitatum* ssp. *capitatum*	Native Grasslands
Our Lord's Candle	*Yucca whipplei*	Southern Mixed Chaparral

Each of the on-site vegetation communities is described below according to pre-fire conditions.

Non-Native Vegetation (Oberbauer Code 11000)

The Non-native Vegetation within SVOSP consists of an olive grove in the northeastern portion of the site. The Mission olive trees (*Olea europea*) appear to be remnants of a former agricultural operation that ceased production years ago.

The northeastern corner of SVOSP, where the olive grove was located, burned in its entirety and left behind little to no vegetative structure. Since the Cedar Fire, the olive trees have begun to recover.

Eucalyptus Woodland (Oberbauer Code 11100)

An expansive grove of Eucalyptus trees (*Eucalyptus* sp.) occurs in the southeastern portion of the site associated with former and current disturbance. Understory plants are absent from portions of the stand, likely due to the allelopathic nature of the Eucalyptus trees. However, in some areas, Southern Mixed Chaparral vegetation has pioneered in the Eucalyptus understory. The grove appears to be expanding, based on the presence of scattered sapling Eucalyptus trees in the vicinity of, but outside the historical grove.

As with the other on-site vegetation communities, the entire Eucalyptus Woodland area was impacted by the Cedar Fire. The Eucalyptus trees exhibited signs of fire recovery, with both basal and crown sprouting during the 2004 survey. It is expected that the Eucalyptus Woodland will persist on-site and expand unless otherwise managed. However, the presence of the Eucalyptus Woodland presents another factor to consider

relative to future management; the eucalyptus leaf litter that builds up within woodlands/groves, contains oil which increases the litter's flammability. The oil also slows the decomposition process, which creates a persistent fire hazard (Santos 1997). The large quantity of litter that typically accumulates beneath a Eucalyptus Woodland is extremely flammable and can significantly fuel a fire.

Disturbed Habitat (Oberbauer Code 11300)

Areas mapped as Disturbed Habitat on-site are essentially limited to roads (Foster Truck Trail, power line access roads, and roads or trails created by illegal off-road activities). Areas of historical clearing or grazing can be found in several areas on-site that have largely recovered to support native vegetation or Non-native Grasslands. Materials associated with historic structures and activities, such as fences, cisterns, foundations, walls, and other debris, as well as rusted cars and old shooting targets, are scattered throughout the site, but have not been mapped.

The Disturbed Habitats on-site were not affected by the Cedar Fire, with the exception of the loss of some on-site debris and historical structures.

Diegan Coastal Sage Scrub (Holland/Oberbauer Code 32500)

Diegan Coastal Sage Scrub includes a dominance of soft-woody sub-shrubs that are typically drought deciduous. California sagebrush (*Artemisia californica*) and flat-top buckwheat (*Eriogonum fasciculatum*) are most common with significant inclusions of laurel sumac (*Malosma laurina*) and white sage (*Salvia apiana*). The sage scrub also includes coastal deerweed (*Lotus scoparius* var. *brevialatus*), caterpillar phacelia (*Phacelia cicutaria* var. *hispida*), and non-native grasses.

SVOSP's sage scrub was effectively, entirely burned by the Cedar Fire. However, during the winter 2004 surveys, sprouting vegetation was noted throughout most of the burn area. California sage and buckwheat are strong re-colonizers and also regenerate from seed after fire (Winter undated).

Based upon the documented effects of fire on SVOSP's dominant sage scrub components, post-fire observations, and the retention of the majority of the site's topsoil, recovery of the sage scrub is expected. If the Cedar Fire recovery is comparable to that documented for the Laguna and Boulder Fires (Keeley *et al*. 1981), herbaceous cover may be expected to reach 30 to 80 percent within the first year.

Monitoring of Diegan Coastal Sage Scrub is necessary to definitively determine the composition of recovering and mature sage scrub (as discussed within subsequent sections) and to provide sufficient information to address any invasive, non-native successional species issues.

Diegan Coastal Sage Scrub/Non-native Grassland Ecotone

Areas where sage scrub associates do not dominate, but are more or less equally present with non-native grasses have been mapped as Diegan Coastal Sage Scrub/Non-native Grassland Ecotone. These areas are transitional, likely recovering from disturbance, either historic or natural (flooding), and may continue to develop into Diegan Coastal Sage Scrub habitat or, if disturbed again, return to Non-native Grasslands.

The ecotonal areas would require post-fire monitoring to assess their future composition. Depending upon SVOSP's history of disturbance, the Cedar Fire may result in the dominance of non-native grasses within these areas. Alternatively, the fire may provide an advantage to native grasses and forbs associated with the sage scrub. It is not possible to make a determination as to the short- or long-term effects of the Cedar Fire on these areas without further monitoring.

Southern Mixed Chaparral (Holland/Oberbauer Code 37120)

In general, this habitat is dominated by broad-leaved, deep rooted, woody shrubs and occurs on dry, rocky, often steep slopes with sparse soils. Shaded, north-facing slopes are generally where the densest vegetation occurs, while south-facing slopes are more open. Chaparral dominates the northern and eastern portions of the site.

In many locations, a dense canopy is formed by woody shrubs such as scrub oak (*Quercus berberidifolia*), Mission manzanita (*Xylococcus bicolor*), whitebark wild-lilac (*Ceanothus leucodermis*), holly-leaf cherry (*Prunus ilicifolia* ssp. *ilicifolia*), and chamise (*Adenostoma fasciculatum*). Included in this vegetation are infrequent individual coast live oaks (*Quercus agrifolia*), as well as Our Lord's candle (*Yucca whipplei*) and Spanish bayonet (*Yucca schidigera*).

The northeastern portion of SVOSP supports a higher percentage of chamise within the chaparral, but still maintains species characteristic of Southern Mixed Chaparral.

Chaparral is a fire-adapted community. Fire adaptations of some chaparral species include the following:

- their ability to produce seeds at an early age;
- seed dimorphism, where some chaparral plants produce two types of seeds, one that germinates under "normal" conditions and one which requires scarification or another cue (such as smoke, charred wood, or high temperatures) in order to germinate; and
- the ability to sprout after a fire from underground woody plant structures called lignotubers (woody tap-roots), basal burls, or root-crown burls.

According to Expected Vegetation Recovery of the Cedar Fire (Winter undated), all chaparral species have the ability to regenerate rapidly after fire through seed germination or resprouting (Keeley 1977 cited in Winter undated). Fire usually kills

seeds on the soil surface. However, buried seeds remain insulated from extremely high temperatures, provided that the soil is relatively dry (summer and fall conditions). Some seeds, especially those of ceanothus and fire-following herbs, only germinate after fire. Chaparral species that are obligate seeders after fire are resilient to fire-free intervals of 100 years or more (Keeley 1976 cited in Winter undated).

In the Cedar Fire, the chaparral that burned was dominated by chamise, manzanita (*Arctostaphylos glandulosa*), and scrub oak. All of these species sprout vigorously after fire. Minor components of whitebark ceanothus (*Ceanothus leucodermis*), redshank (*Artemisia sparsifolia*), California Sage, and buckwheat were also present. Whitebark ceanothus, redshank, California sage, and buckwheat are strong sprouters and also regenerate from seed after fire.

However, according to Brown and Smith (2000), succeeding chaparral species composition can shift drastically, depending on whether the fire occurred before or after seed set for a given species (e.g., the season of burn) and the degree of depredation by rodents, ants, and birds (Quinn 1980 cited in Brown and Smith 2000). There is some evidence that sage scrub will replace chaparral following unusually hot, stand-replacing fires which kill the chaparral sprouting species or when the interval between fires is too short (e.g., less than 10 years) and shrub species cannot adequately recover (Epling and Lewis in Howard 1993). Fire frequency and timing can tip the balance so that chaparral can be overtaken by herbaceous vegetation types, such as annual grasses (Brown and Smith 2000). Finally, in studies by Keeley (1984), annual grass seeds were uncommon in mature chaparral soils, whereas they were abundant in the second year burn soil, suggesting that these species invade recently burned areas but their residence time in the soils is low in the absence of fire.

Based on observations of recovering chaparral species, it is expected that the Southern Mixed Chaparral will recover within SVOSP with no significant changes in overall species composition. However, future monitoring would be necessary to determine if, or the extent to which, non-native grasses invade chaparral areas, and management should address the need to prevent frequent fires that could result in habitat conversion. One area that could not be examined during post-fire fieldwork was the northeastern portion of SVOSP, which supported a higher percentage of chamise under pre-fire conditions. Since chamise germination may be affected by fire intensity (Moreno and Oechel 1991 cited in Winter undated) this northeastern area may be more likely than other areas to experience a shift in species dominance within the chaparral.

Native Grasslands (Holland/Oberbauer Code 42100)

Small tracts of Native Grassland dominated by purple needlegrass (*Nassella pulchra*) are situated within broader tracts of disturbed Non-native Grasslands or as isolated elements within sage scrub, generally where inclusions of clay restrict the growth of competing shrubs. Typically these stands of native bunchgrasses are found on seeps or on vernally moist, flatter terrain. Blue-eyed grass is often a component of such seepage areas. In some instances, the size of these grassland microhabitats may be

smaller than the minimum mapping units that were utilized to map SVOSP; therefore, some may have gone unmapped but included in larger units of Non-native Grassland or sage scrub.

The response of Native Grasslands to fires is dependent upon fire season, fire frequency, and the larger vegetative context/composition of adjacent habitats. Most of the perennial grasses have a perennating bud at or near ground level, often protected by bunched stems that act as insulators; often, tufts of these stems remain after fire (Brown and Smith 2000). Perennial grassland species have been observed to successfully re-sprout and vigorously set flower the first season following burning.

Where Native Grassland pockets occur within sage scrub, there is a high probability that these areas will recover to support the grasses, although ultimately, sage scrub elements may ultimately out-compete the grasses. Where Native Grasslands occur within Non-native Grasslands, the future vegetation status of these areas is, in part, dependent upon the level of future disturbance and the re-occurrence of fire. As is the case for other SVOSP vegetation communities, monitoring is the recommended method to assess the ultimate impacts to and recovery of this vegetation community.

Non-native Grasslands (Holland/Oberbauer Code 42200)

Non-native Grasslands are sporadically distributed in the west-central, central, and northeastern portion of the site. Such communities most commonly develop where native sage scrub has been disturbed by construction, grazing, discing, or burning.

Local grasslands have a preponderance of non-native grasses and forbs, such as the Eurasian bromes and wild oats with only occasional representation from native elements. On-site non-native grasslands are limited in size and consist of areas that have been historically disturbed and/or on an intermittent basis created by continual off-road vehicle activity.

Fire effects on Non-native Grasslands are dependent upon fire season and frequency, and effects are, to an extent, species-specific [e.g., wild oat (*Avena barbata*) has been noted to respond favorably to late season burns] (Bell undated). According to Bell (undated), prescribed burns on the Santa Rosa Plateau severely reduced all alien annual grasses. However, where the fire frequency increases beyond that under which native communities have evolved (as is the case in many parts of coastal southern California), the annual, invasive grasses have a competitive advantage (Keeley 2004). Based on the fire history of SVOSP, it is not anticipated that Non-native Grasslands will significantly expand on-site, but this will be, in part, determined by future fire frequency and fire management actions.

Southern Coast Live Oak Riparian Forest (Holland/Oberbauer Code 61310)

Southern Coast Live Oak Riparian Forest is mapped in the southwestern edge of the site, just north of the reservoir. It is associated with the primary drainage on-site. Here coast live oaks grow with scattered, large western sycamores (*Platanus racemosa*).

Where streambeds underlie the oak canopy, a lush understory may occur. Locally dominant plants may include western poison oak, California blackberry (*Rubus ursinus*), and California rose (*Rosa californica*).

The effects of fire on oaks are discussed under Coast Live Oak Woodland, below. Sycamores may be more susceptible to fire damage due to their shallower root system but, fire effects within the riparian forest are frequently less severe, due to the lack of shrub-based fuels and (in some cases) the presence of a water source. February 2004 observations of Southern Coast Live Oak Riparian Forest indicated that oaks were exhibiting crown re-sprouting and show good overall potential for recovery.

Coast Live Oak Woodland (Holland/Oberbauer Code 71160)

Patches of Coast Live Oak Woodland are located in association with bottomlands leading to the reservoir, in the northeastern corner of the site, and in limited tracts on north-facing slopes. Coast Live Oaks are the dominant component of this habitat. Understory dominants in these lowland locations may include species such as western poison oak and chaparral honeysuckle (*Lonicera subspiccata* var. *denudata*). Away from drainages, sage scrub, chaparral, and non-native grasses typically surround oaks. A mixture of shrubs, annual grasses, and leaf litter comprises the understory in such areas.

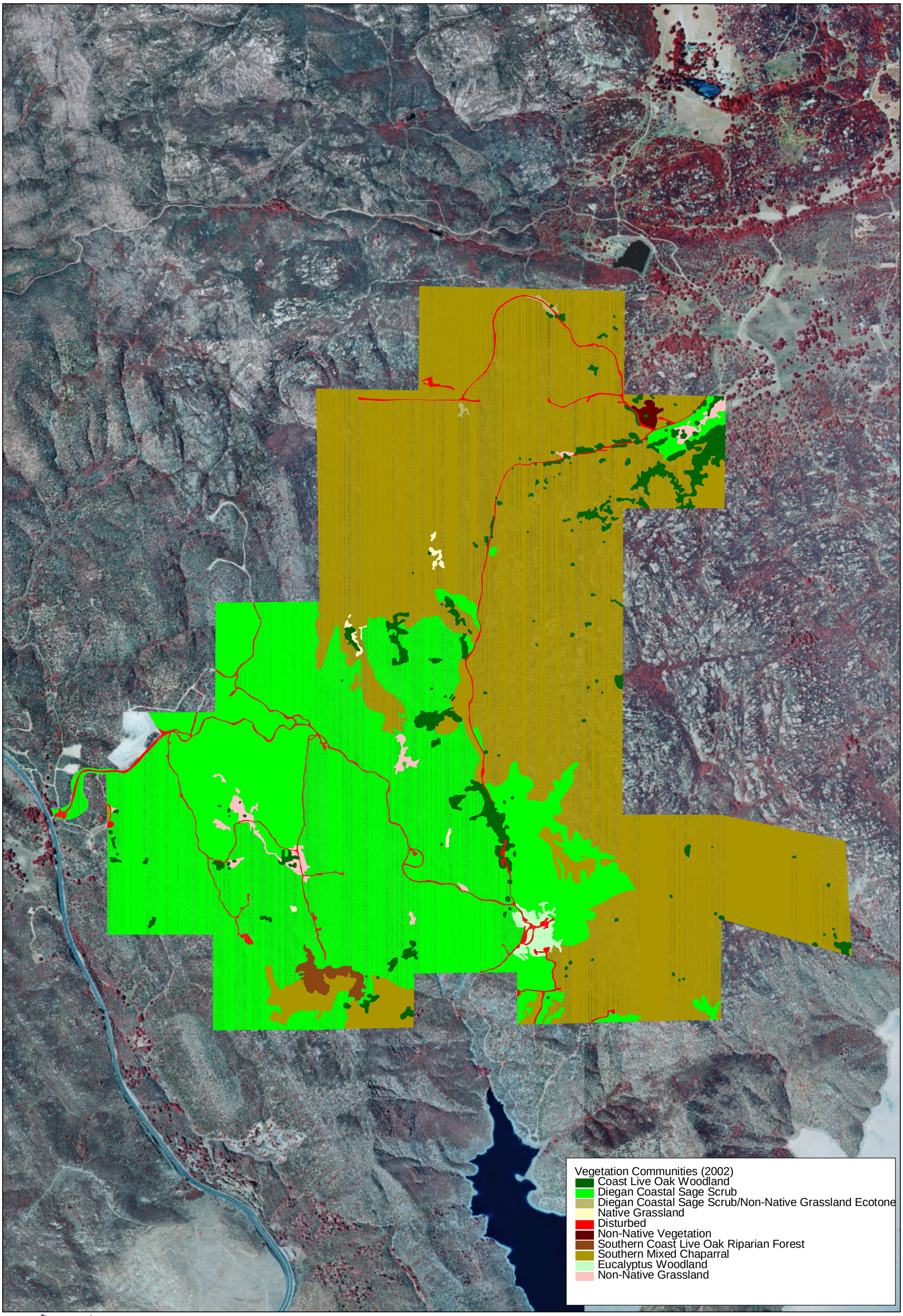
Coast live oak is exceptionally fire resistant, more so than other California oak species; adaptations to fire include thick bark, and enhanced sprouting ability (Steinberg and Howard 2002). ,Mature trees have high fire survival rates, even with crown fire because of their vascular cambium protection (Steinberg and Howard 2002). Heavily charred bark has a checkered appearance and frequently exfoliates, but damage typically extends only 0.5 to 0.8 inch (1.3-1.9 cm) into the bark (Steinberg and Howard 2002). Post-fire monitoring of coast live oaks burned in the 1993 Old Topanga Fire indicates that trees, which retain their branches, can recover (Dagit 2002). However, under the intense heat of the extreme Cedar Fire, some drought stressed oaks may have been killed (San Diego County Biological Resource Researchers 2003). Previous studies have indicated that post-fire oak mortality is related to location relative to fire intensity and flame length (Dagit 2002). It is believed that the fuels of the surrounding chaparral and scrub habitats increased fire intensity outside of riparian forest areas, resulting in increased vegetation mortality to upland oak woodlands or riparian oaks within steep-sided drainages whose canopy lay adjacent to canyon-side scrub or chaparral.

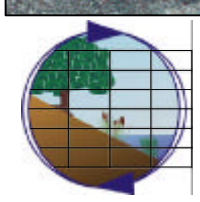
Recovering trees may respond with either basal sprouting or canopy regeneration, and eventually, with increased diameter breast height. The high nutrient availability that follows a fire supports such a recovery (Boerner cited in Dagit 2002). However, severely burned crowns, trunks, and root crowns may require several years to sprout,

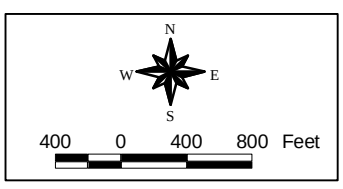
which should be taken into consideration during any future decisions regarding vegetation/tree removal. Additionally, some oaks may re-sprout initially, but under stress from continued drought conditions, they may die within a couple of years. The ability of oak woodlands to “re-establish” is also dependent upon the abundance and survivorship of acorns now and during subsequent years. Acorn survival is known to be high in low- to moderate-severity fire, particularly when acorns have been cached by animals, and low if fire is severe (Steinberg and Howard 2002). Oak woodland re-establishment would need to be assessed through monitoring.

Rock Outcrops

Although individually not delineated as a habitat feature, large boulders, rock slabs, and granitic outcrops are a dominant characteristic of the landscape -- particularly on the eastern half of SVOSP. In chaparral, rocky areas create unvegetated islands that are used by species that may not otherwise occur in dense vegetation. Rock outcrops increase habitat heterogeneity, which is positively correlated with species diversity. Saxicolous species such as California bee-plant (*Scrophularia californica*) and Bigelow's mossfern/common spike-moss (*Selaginella bigelovii*) were noted in rock outcrops.







San Vicente Open Space Preserve
2002 Vegetation Communities

Figure 2

FLORA

Pre-Cedar Fire, SVOSP lacked a diverse floristic array within habitats dominated by Diegan Coastal Sage Scrub and Southern Mixed Chaparral. This may have been due to the age of the stands of the shrublands. Although limited, the floral components on-site are relatively undisturbed.

Sensitive Plant Species

Sensitive plants include those listed by USFWS (1999, 2004), CDFG (2004), and the California Native Plant Society (CNPS) (CNPS 2001). Sensitive floral species were identified on-site by Fred Sproul and Fred Roberts (2001) and Fred Sproul (2001), and the data was provided to M&A in GIS format by the County of San Diego (Figure 4). A total of four sensitive plant species were mapped within SVOSP. The status of these species is addressed in Table 2 below, along with a description of their locations within SVOSP.

There is a potential for additional sensitive plant species to occur onsite. Those species are listed in Appendix A.

Table 2. Sensitive Plant Species Status and Locations

Scientific Name	Common Name	Federal/ State Status	CNPS	MSCP Status	Location within SVOSP
Caulanthus heterophyllus heterophyllus or *Caulanthus stenocarpus*	slender-pod jewelflower or San Diego wild cabbage	None/Rare	None	Covered	Occurs in the Coastal Sage Scrub in the southwestern portion of SVOSP.
Ceanothus cyaneus	Lakeside ceanothus	None/None	1B	Narrow Endemic, Covered	Found in a number of locations within Southern Mixed Chaparral throughout the central portion of SVOSP.
Muilla clevelandii	San Diego goldenstar	None/None	1B	Covered	Located within Southern Mixed Chaparral in the north central portion of SVOSP.
*Selaginella cinerascens**	ashy spike-moss	None/None	None	None	Occurs within the Southern Mixed Chaparral and Coastal Sage Scrub on the southwestern and north central portions of SVOSP.

Notes:

CNPS

List 1A: Plants Presumed Extinct in California
List 1B: Plants Rare, Threatened, or Endangered in California and Elsewhere
List 2: Plants Rare, Threatened, or Endangered in California but More Common Elsewhere
List 3: Plants about Which We Need More Information – A Review List
List 4: Plants of Limited Distribution – A Watch List
*Though this species is not currently listed, it is an indicator of past levels of disturbance as it is highly susceptible to disturbance.

FAUNA

Appendix B contains a list of fauna species observed or detected on SVOSP property during M&A biological investigations; however, this is not a comprehensive faunal list of the property as focused surveys were not conducted for all groups (*e.g.*, butterflies and bats). Conclusion regarding faunal presence are based on records from existing databases; the results of M&A site-specific investigations that included pit fall trapping, small mammal trapping, track plating, and avian point counts; and an evaluation of SVOSP's potential to support additional undetected species. The locations of M&A's focused faunal study sample points are provided in Figure 3.

Butterflies

Butterfly species were not the subject of any focused surveys, nor were general lists of observed butterflies compiled; however, numerous West Coast Ladies (*Vanessa anabella*) were observed within SVOSP during February 2004 (post-fire).

Anise swallowtail (*Papilio zelicaon*), pale swallowtail (*Papilio eurymedon*), checkered white (*Pontia protodice*), cabbage white (*Pieris rapae*), Pacific orangetip (*Anthocharis sara*), western green hairstreak (*Callophrys affinis*), brown elfin (*Callophrys augustinus*), Gray hairstreak (*Strymon melinus*), silvery blue (*Glaucopsyche lygdamus*), Acmon blue (*Icaricia acmon*), Behr's metalmark (*Apodema virgulti*), Gabb's checkerspot (*Chlosyne gabbii*), variable checkerspot (*Euphydryas chaldedona*), California sister (*Adelpha bredowii*), mourning cloak (*Nymphalis antiopa*), Lorquin's admiral (*Basilarchia lorquini*), common buckeye (*Junonia coenia*), West Coast Lady, painted lady (*Vanessa cardui*), common ringlet (*Coenonympha tullia*), and funereal duskywing (*Erynnis funeralis*) all have potential of occurring on-site in chaparral, sage scrub, grasslands, and disturbed habitats.

Western tiger swallowtail (*Papilio rutulus*), mourning cloak, and Lorquin's admiral have potential for occurring within riparian habitats.

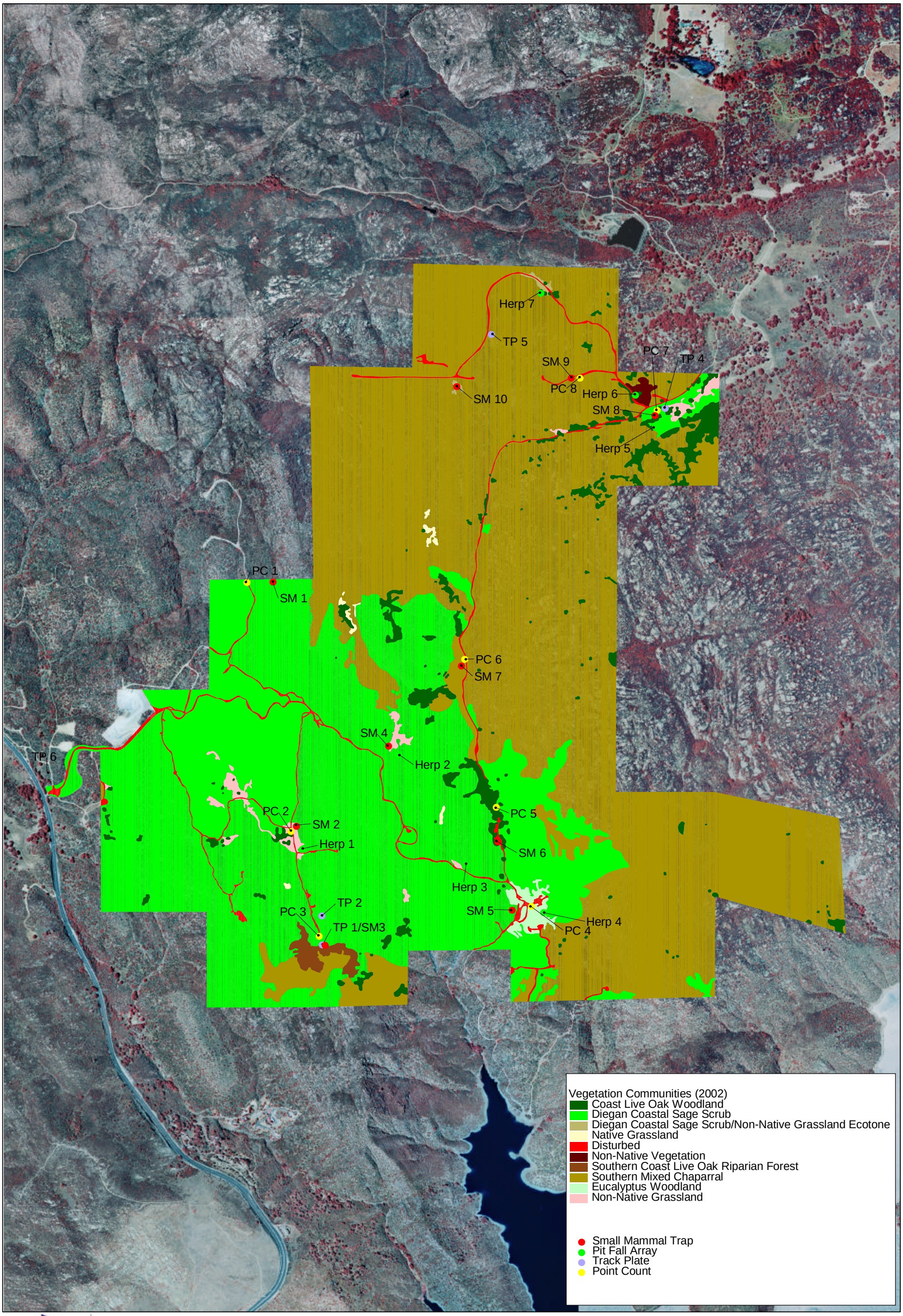
Although not detected on-site or reported from the immediate area in the CNDDB, both the Harbison's dun skipper (*Euphyes vestris harbisoni*) and hermes copper (*Lycaena hermes*) have potential to occur on-site based on the presence of their host plants, San Diego sedge (*Carex spissa*) and spiny redberry (*Rhamnus crocea*), respectively.

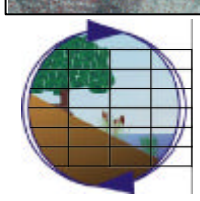
No additional sensitive butterfly species are reported from SVOSP by the California Native Diversity Database (CNDDB), but U.S. Fish and Wildlife Service (USFWS) digital listed species data indicates the presence of Quino checkerspot butterfly (*Euphydryas editha quino*) on-site, reported by Fred Sproul in 2001 (USFWS 2004). Also, GIS sensitive floral data supplied by the County included a location for Quino checkerspot butterfly reported in 2001 by Fred Roberts/Fred Sproul.

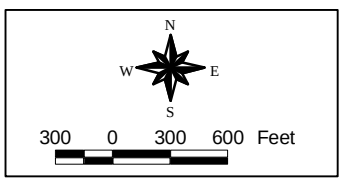
Amphibians

Western spadefoot (*Spea hammondii*) was detected within SVOSP during M&A 2003 sampling. Spadefoot reproduction was noted in a road rut/ponding area near the Eucalyptus Woodland, as determined by the presence of tadpoles and metamorphosed toadlets. In addition, California tree frog, (Pseudacris cadaverina) was observed by David Mayor, California Department of Fish and Game, in 1990 approximately half a mile from the reservoir.

Additional amphibian species expected on SVOSP include Pacific treefrog (*Pseudacris regilla*) and garden slender salamander (*Batrachoseps major major*). Amphibians not







Locations of 2002 and 2003 Focused Faunal Study Sampling Points

Figure 3

necessarily expected but with potential to occur are limited to arboreal salamander (*Aneides lugubris*), and Monterey ensatina (*Ensatina eschscholtzi eschscholtzii*).

Reptiles

A total of nine reptile species, representing five families, were captured by pitfall and funnel trap arrays during the 2002/2003 sampling periods at SVOSP: Coronado skink (*Eumeces skiltonianus interparietalis*), orange-throated whiptail (*Aspidoscelis hyperythra*), coastal whiptail (*Aspidoscelis tigris stejnegeri*), southern alligator lizard (*Elgaria multicarinata*), side-blotched lizard (*Uta stansburiana*), western fence lizard (*Sceloporus occidentalis*), granite spiny lizard (*Sceloporus orcutti*), coast horned lizard (*Phrynosoma coronatum*), and western threadsnake (*Leptotyphlops humilis*).

Additional reptile species observed or detected but not captured in the pit fall arrays included southern Pacific rattlesnake (*Crotalus viridis helleri*), red diamond rattlesnake (*Crotalus ruber*), and California striped racer (*Masticophus lateralis lateralis*).

Additional species expected within SVOSP include those trapped or observed by Lawrence Klauber (unpublished notes) from San Vicente: the rosy boa (*Lichanura trivirgata*), western lyresnake (*Trimorphodon biscutatus*), coast patch-nosed snake (*Salvadora hexalepis virgultea*), speckled rattlesnake (*Crotalus mitchelli*), and nightsnake (*Hypsiglena torquata*). In 1990, during surveys for the San Diego County Water Authority, the two-striped garter snake (*Thamnophis hammondii*), San Diego ringneck snake (*Diadophis punctatus similis*), and rosy boa were observed near the San Vicente Reservoir. No additional sensitive reptile species have been recorded at SVOSP by the CNDDB (CDFG 1997, 2004 data) or USFWS (USFWS 2004).

Based on the presence of suitable habitat, the following additional species may also occur onsite: silvery legless lizard (*Anniella pulchra pulchra*) and San Diego banded gecko (*Coleonyx variegatus abbotti*).

Based on the results of pit fall trapping, SVOSP varies internally in terms of abundance and diversity of reptiles. The highest number of pitfall captures in 2002 occurred at Array #3, which was located within Diegan Coastal Sage Scrub, with approximately 90% cover and a relatively small amount of surface litter. Array #3 was at the lower end of the elevation range on the site and was set on a southwest oriented, “high” slope. This was the only array with 10% bare ground, all other arrays had 5% or less. This array resulted in the greatest abundance on the preserve and had one of the highest species richness results, with four reptile species captured. This high capture rate and diversity (relative to other sampling locations within the same study) was not extended to the spring trapping in 2003 when only two individuals from two species were captured.

Case and Fisher (2001) identified indicator species that “tend to be restricted to high-diversity communities and, when present are found relatively early on with relatively little

sample effort". They propose that, "such species will be efficient indicators of the presence of reptile diversity," (Case and Fisher 2001). They developed three sets of relatively efficient indicators. The first tier, primarily indicated by the banded gecko (*Coleonyx variegatus*), is the richest of the reptile communities; the second tier includes the granite night lizard (*Xantusia henshawi*) and southwestern thread/blindsnake; and the third tier, indicated by the presence of the coastal whiptail, is only a moderately rich community. Based on this theory and the presence of numerous coastal whiptails through much of the site, SVOSP is expected to support a reptile community that is at least moderately diverse, especially the area within the vicinity of Array #3.

Birds

Based on M&A point count results, the following 11 species could be considered ubiquitous within the study area, (they occurred in at least six of the eight point count locations in both spring and fall): Anna's hummingbird (*Calypte anna*), western scrub-jay (*Aphelocoma californica*), common raven (*Corvus corax*), bushtit (*Psaltriparus minimus*), Bewick's wren (*Thryomanes bewickii*), wrentit (*Chamaea fasciata*), California thrasher (*Toxostoma redivivum*), California towhee (*Pipilo crissalis*), rufous-crowned sparrow (*Aimophila ruficeps*), house finch (*Carpodacus mexicanus*), and lesser goldfinch (*Carduelis psaltria*). The canyon wren (*Catherpes mexicanus*) was also detected throughout appropriate habitats within SVOSP.

Red-tailed hawk (*Buteo jamaicensis*), California quail (*Callipepla californica*), mourning dove (*Zenaida macroura*), ash-throated flycatcher (*Myiarchus cinerascens*), Phainopepla *(Phainopepla nitens*), and Lazuli bunting (*Passerina amoena*) were found throughout SVOSP during the spring but not in the fall. Yellow-rumped warblers (*Dendroica coronata*) were detected in high numbers and at all stations during the fall months but not in the spring. The same is true of the Fox sparrow (*Passerella iliaca*), only their numbers were much smaller. These seasonal fluctuations in SVOSP's avian composition are expected.

Additional avian species were detected during fieldwork, which were not recorded during point counts: greater roadrunner (*Geococcyx californianus*), northern harrier (*Circus cyaneus*), and Great horned owl (*Bubo virginianus*) in the northeast corner of SVOSP; barn owl (*Tyto alba*) was flushed from oaks in a central drainage; and western screech owl (*Megascops kennicottii*), northern rough-winged swallow (*Stelgidopteryx serripennis*), and Cassin's kingbird (*Tyrannus vociferans*) were detected within oak woodland habitat in the southwest portion of SVOSP.

Due to the abundance and diversity of San Diego's avifauna community, it is not practical to list all species that could utilize SVOSP; however, sensitive bird species not detected that have potential to occur are addressed within the subsequent Sensitive Wildlife Species Section.

In examining point count data to determine if a discrete area of SVOSP had greater avian value, no significant differences were detected between point count stations

[using paired (averaged) count dates] for the number of individuals. No stations significantly deviated from the expectation of equal observations per point count. Overall, the chi-square test found that stations were not significantly different (Chi=5.88; p=0.55, df=7).

Mammals

Small mammals

Small mammal presence/absence within SVOSP was assessed based on the results of small mammal trapping conducted by M&A in 2002.

Small mammal captures were dominated by cactus mouse (*Peromyscus eremicus*), which comprised 48 of 107 mammals captured, or 44.9%. This species was detected at seven of the ten arrays. In order of decreasing capture abundance, California pocket mouse (*Chaetodipus californicus*) accounted for 23 captures or 21.5%, California mouse (*Peromyscus californicus*) made up 13 captures or 12.1%, western harvest mouse (*Reinthrodontomys megalotis*) represented slightly less with 11 captures, and San Diego pocket mouse (*Chaetodipus fallax*) and agile (Pacific) kangaroo rat (*Dipodomys agilis*) were equally represented with four captures each. Woodrats (*Neotoma* sp.) and desert shrews (*Notiosorex crawfordi*) made up the remaining captures, with totals of three and one, respectively.

Small mammal species richness varied from two (Station #10) to five (Station #5) species per station, and averaged 3.3 species per station across the entire site. The lowest number of captures coincided with the lowest species richness at Station #10, despite the presence of 16 traps at this station. The highest total captures (unique individuals) occurred at Station #1 where species richness was also above average (four), despite the presence of only 10 traps. Since each trapping station did not contain a uniform number of traps, leading to variation in trap effort by station, comparison of total individuals trapped per station may be misleading. A better measure for comparison is total captures by trapping effort. Using this method of comparison, we see the greatest number of captures by trap effort at Station #4, with 0.45 captures per trapnight, followed by 0.40 captures per trapnight at Station #1. Station #10 remains the lowest, in terms of captures, when corrected for trapping effort with only 0.06 captures per trapnight. (See the San Vicente Biological Resources Report for additional details regarding methodology and results.)

Bats

A presence/absence study for bats was not undertaken within SVOSP. However, a number of bat species are anticipated to use the site due to the presence of native and non-native grasslands, oak woodlands, and rock outcrops, as well as the site's location adjacent to the San Vicente Reservoir. Species likely to occur include the Yuma myotis (*Myotis yumanensis sociabilis*), which occurs in oaks and broken chaparral habitat; California myotis (*Myotis californicus californicus*), which regularly occurs near wooded canyons and in chaparral; the small-footed myotis (*Myotis ciliolabrum*) and Mexican free-tailed bat (*Tadarida brasiliensis*), which roost mainly in crevices and forage in

multiple habitats; and the big brown bat (*Eptesicus fuscus pallidus*). Both the long-eared myotis (*Myotis evotis*) and the Townsend's big-eared bat (*Corynorhinus townsendii*) could use SVOSP woodlands for foraging. Known to be present on the San Vicente Reservoir are the pallid bat (*Antrozous pallidus*) and the California mastiff bat (*Eumops perotis californicus*), a sensitive species sometimes associated with chaparral and live oaks (PSBS 1993b). The western pipistrelle (*Pipistrellus hesperus*) is a common bat in San Diego County and has been identified roosting in the vicinity (PSBS 1993a). Finally, the spotted bat (*Euderma maculatum*), big free-tailed bat (*Nyctinomops macrotis*), and pocketed free-tailed bat (*Nyctinomops femorosaccus*) are not expected to roost on-site but may utilize nearby cliff nesting sites. The following species have a high probability of foraging within at least a portion of SVOSP: California myotis, small-footed myotis, Mexican free-tailed bat, big brown bat, long-eared myotis, Townsend's big-eared bat, pallid bat, California mastiff bat, western pipistrelle, and pocketed free-tailed bat (based on pers. com. D. Stokes, conveyed regarding property just north of Boulder Oaks).

Medium & Large Mammals

The presence of medium to large mammals was assessed through track plating and observations of sign. Definitive track impressions were collected from the following mammal species: bobcat (*Lynx rufus*), ringtail (*Bassariscus astutus*), western spotted skunk (*Spilogale gracilis*), and gray fox (*Urocyon cinereoargenteus*). Coyote (*Canis latrans*), mule deer (*Odocoileus hemionus*), striped skunk (*Mephitis mephitis*), and northern raccoon (*Procyon lotor*) tracks were also observed on SVOSP, although not captured on track plates. Brush rabbit (*Sylvilagus bachmani*) and desert cottontail (*Sylvilagus bachmani*) were also observed within SVOSP.

Although not detected, Virginia opossum (*Didelphis virginiana*) and San Diego black-tailed jackrabbit (*Lepus californicus bennetii*) and the mountain lion are expected within SVOSP.

Wildlife Corridors

Wildlife corridors are important in so far as they play a role in preserving species diversity and genetic viability. In the absence of corridors, habitats become isolated islands surrounded by development. Fragmented habitats support significantly lower numbers of species and increase the likelihood of extinction for species restricted to small areas (Soule *et al.* 1988, Belovsky *et al.* 1994). A wildlife corridor can be defined as a linear landscape feature, allowing animal movement between two patches of habitat. Wildlife corridors can be regional or local in nature. Connections between areas of open space are integral in maintaining biological diversity and population viability.

SVOSP, along with the County's Boulder Oaks Open Space Preserve and the City of San Diego owned lands around San Vicente Reservoir and City of Poway's Iron Mountain preserve to the north, create an important connection between the County's

Sycamore Canyon Open Space Preserve and military lands to the west and the County's open space preserves and the Cleveland National Forest to the east

Ceanothus cyaneus
Muilla clevelandii
Caulanthus heterophyllus
Selaginella cinerascens
San Vicente Open Space Preserve

N
W E
S
500 0 500 Feet

San Vicente Open Space Preserve
Sensitive Floral Resources

Figure 4

Sensitive Wildlife Species

Sensitive wildlife species include those listed by USFWS (1999, 2004) and CDFG (2004). Also included here, are MSCP covered species and MSCP narrow endemic species. The following table addresses sensitive species observed or detected (within SVOSP) by M&A or reported from SVOSP in regional databases (*e.g.*, CNDDB and USFWS).

Table 3. Sensitive Wildlife Species Observed or Detected within SVOSP

Scientific Name	Common Name	Federal/ State Status	MSCP Status	Location within SVOSP
Euphydryas editha quino	Quino Checkerspot Butterfly	FE/None	Narrow Endemic	According to the San Diego County GIS information and USFWS Database (USFWS 2004) Quino Checkerspot Butterfly was reported from two locations within SVOSP, both on the western half of the site.
Spea hammondii	Western Spadefoot	None/CSC	None	Detected in the vicinity of the Eucalyptus Woodland, in the southeastern portion of the site. Utilize Disturbed Habitats (dirt road, road rut) and likely occupy adjacent sage scrub, grasslands, and woodlands.
Phrynosoma coronatum	Coast Horned Lizard	None/CSC	Covered	Detected in the southwest portion of the site in Diegan Coastal Sage Scrub, in the southeast corner within Eucalyptus Woodland, and in the northwest portion of the site, within olive grove.
Aspidoscelis hyperythra	Orange-throated Whiptail	None/CSC	Covered	Occurs in south-central and north-central and northeastern corner of the site. Located in Diegan Coastal Sage Scrub, Eucalyptus Woodland, and Coast Live Oak Woodland.
Aspidoscelis tigris stejnegeri	Coastal Whiptail	None/None	None	Coastal Whiptails were found in the southern portion and northwestern corner of the site. In pitfall array traps 1, 2, 3, 4, and 5 found in Diegan Coastal Sage Scrub. Traps 6 & 7 found in Coastal Live Oak Woodland.
Eumeces skiltonianus interparietalis	Coronado Skink	None/CSC	None	Found in the southeast and southwest corner as well as the northwest corner. Located in Diegan Coastal Sage Scrub.
Crotalus ruber	Red Diamond Rattlesnake	None/CSC	None	Detected on the eastern half of the site, in Southern Mixed Chaparral at Foster Canyon.
Circus cyaneus	Northern Harrier	None/CSC (nesting)	Covered	Detected in the northeast corner of the site.
Pandion haliaetus	Osprey	None/CSC (nesting)	None	Detected in the western portion of the site, over Diegan Coastal Sage Scrub, likely an incidental observation related to the presence of San Vicente Reservoir to the south.
Chaetura vauxi	Vaux's Swift	None/CSC (nesting)	None	Detected in the northeast portion of the site, within Non-native Grassland surrounded by Diegan Coastal Sage Scrub.
Calypte costae	Costa's Hummingbird	FSC/None (nesting)	None	Detected in the southwest portion of the site, within Non-native Grassland.

Scientific Name	Common Name	Federal/ State Status	MSCP Status	Location within SVOSP
Selasphorus sasin	Allen's Hummingbird	None/None	None	Detected in northeast portion of the site within Southern Mixed Chaparral, and in the central portion of the site in Disturbed Land surrounded by Southern Mixed Chaparral.
Picoides nuttallii	Nuttall's Woodpecker	FSC/None (nesting)	None	Detected in the central portion of the site in Disturbed Land surrounded by Southern Mixed Chaparral, and in the northeast portion of the site, within Non-native Grassland surrounded by Diegan Coastal Sage Scrub.
Lanius ludovicianus	Loggerhead Shrike	FSC/CSC (nesting)	None	Detected in the southwestern portion of the site, within Non-native Grassland.
Baeolophus inornatus	Oak Titmouse	FSC/CSC	None	This species was detected at several locations on-site, in the southwest portion of the site, within Diegan Coastal Sage Scrub, in the southeast portion of the site, within Eucalyptus Woodland, in the south-central portion of the site, within Coast Live Oak Woodland, and in the northeast portion of the site, within Non-native Grassland surrounded by Diegan Coastal Sage Scrub.
Sialia mexicana	Western Bluebird	None/None	Covered	Detected in the northeast portion of the site, in Southern Mixed Chaparral.
Toxostoma redivivum	California Thrasher	FSC/None	None	This species was found uniformly, throughout the site, in all habitat types.
Dendroica petechia	Yellow Warbler	None/CSC (nesting)	None	Detected in the southwestern portion of the site in Eucalyptus Woodland and Coast Live Oak Woodland, and in the central portion of the site, in Southern Mixed Chaparral.
Aimophila ruficeps	Rufous-crowned Sparrow	FSC/CSC	Covered	This species was found uniformly, throughout the site, in all habitat types.
Spizella atrogularis	Black-chinned Sparrow	None/None	None	Detected in the central and northeast portions of the site, in Southern Mixed Chaparral.
Spizella passerina	Chipping Sparrow	None/None	None	Detected in the southeastern portion of the site, in Eucalyptus Woodlands.
Chaetodipus fallax (fallax)	(Northwestern) San Diego Pocket Mouse	None/CSC	None	Found in the southeast and north central portions of the site, within Diegan Coastal Sage Scrub and Southern Mixed Chaparral.
Odocoileus hemionus	Mule Deer	None/None	Covered	Tracks detected throughout the site, with the highest concentration in the southern portion of the site.

Notes:

Federal	State	CDFG
FE – Federally Endangered	SE – State Endangered	CSC – California Species of Concern
FT – Federally Threatened	ST – State Threatened	CFP – California Fully-Protected Species
FSC – Federal Species of Concern		

SVOSP may support Hermes cooper (*Lycaena hermes*), a sensitive butterfly that occurs in openings in chaparral, associated with the larval host plant spiny redberry (*Rhamnus crocea*) and feeds on nectar from flat-top buckwheat.

No undetected sensitive amphibians are expected within SVOSP.

Undetected, sensitive reptiles with good potential for occurrence are limited to San Diego banded gecko, silvery legless lizard, rosy boa, San Diego ringneck snake, coast patch-nosed snake, and two-striped garter snake.

Sensitive avian species not detected but with potential to occur within SVOSP include Cooper's hawk (*Accipiter cooperii*), sharp-shinned hawk (*Accipiter striatus*), merlin (*Falco columbarius*), and golden eagle (*Aquila chrysaetos*).

The San Diego black-tailed jackrabbit is the only mammalian species expected from the site that was not detected (assuming that small mammal trapping was relatively complete in its assessment of the site).

MANAGEMENT GOALS, OBJECTIVES, RECOMMENDATIONS, AND ENVIRONMENTAL IMPACTS

DEFINITIONS OF MANAGEMENT PROGRAM TERMS USED IN THE ASMD

- ***Policies and Priorities*** – Underpinning decisions and commitments by the public agency property owners that establish the focus of management efforts and direct the process for decision making.

- ***Element*** - An element refers to any biological, public use, or facility maintenance program for which goals and objectives have been prepared and presented within the ASMD.

  - ***Biological Element*** - Biological elements consist of species, habitats, or communities for which specific management goals and objectives have been developed within the ASMD.

  - ***Public Use Element*** - Public use elements are any recreational or other use programs appropriate to and compatible with the purposes for which this property was acquired.

  - ***Facility Maintenance Element*** - This is a general-purpose element describing the maintenance and administrative program which helps maintain beneficial management of the area.

- ***Biological Goal*** - A biological goal is the statement of intended results of management (based upon the feasibility of maintaining, enhancing or restoring species populations and/or habitat).

- ***Public Use Goal*** - A public use goal is the statement of the desired type and level of public use compatible with the biological element goals previously specified within the ASMD.

- ***Objective*** - Objectives are statements of the intended results of management actions that promote the biological, public use, or operations/maintenance goals.

- ***Tasks*** - Tasks are the individual projects or work elements, which implement the objective. Tasks form the subsections under each broader objective. Within these Task subsections objectives for each Task are defined and supported by recommended management actions. These recommended management actions form the basis for day to day management and are useful in planning operation and maintenance budgets.

It is anticipated that the recommended management actions would be dynamic in nature. Applying adaptive management, the effectiveness and appropriateness of

recommended management actions would be determined through review of objective and goal achievement and changes can be made to management actions as needed.

MANAGEMENT POLICIES AND PRIORITIES

In establishing goals and objectives for the ASMD, both short-term and long-term objectives and their compatibility must be considered. Furthermore, not all uses may be established or maintained within a limited area or with limited resources. San Diego's expanding population is expected to produce increased demand for outdoor recreational opportunities and amenities. The following priorities have been provided to assist DPR in balancing the need to provide appropriate passive recreational opportunities while conserving the natural and cultural resources of the SVOSP. These are summarized as follows:

- SVOSP shall be managed first for its ecological and cultural resource values and secondarily for its public use benefits. Where conflicts between resource management and public access arise, these should be resolved in a manner that favors the ecological and cultural resources.

- SVOSP shall be managed as a multiple habitat preserve area within the County of San Diego's MSCP Subarea. Management shall not focus exclusively on one or more highly sensitive species at the expense of other resources that presently exist or have the potential to inhabit the site.

The ASMD has been divided into four elements: 1) the biological element, which addresses the biological resources of SVOSP; 2) the cultural resources element, which addresses the cultural resources of the SVOSP; 3) the public use element, which addresses anticipated potential future use demands; and 3) the facility maintenance element, which addresses the general maintenance of SVOSP. Most recommended management actions relate to both biology and cultural resources and another element. Recommendations have been grouped where they appear most suitable.

PLAN IMPLEMENTATION, ENFORCEMENT, AND RESPONSIBILITY

The County of San Diego DPR will be responsible for the implementation and enforcement of the ASMD. The law enforcement activities are assigned to the County's park rangers. In fact, it is expected that many of the management measures, especially the maintenance tasks, will be carried out by the rangers who are most familiar with the site and currently access the site.

BIOLOGICAL ELEMENT

Biological Goal

The primary goal of this section of the ASMD is to identify and implement measures to preserve and enhance the natural biological resources of SVOSP.

Biological Objectives

The objectives of the Biological Element are outlined below and are expected to be achieved through implementation of the more specific tasks (*e.g.*, Habitat Monitoring, Habitat Restoration…) which follow. Additional, task-specific objectives are stated in the task subsections with recommended management actions to achieve the objective and support the overall goal. The overall biological objectives are as follows:

- Maintain a functioning multiple-habitat and multiple-species preserve, implementing NCCP management directives derived from the MSCP.

- Preserve and manage lands to the benefit of the flora, fauna, and native ecosystem functions reflected in the natural communities occurring within SVOSP.

Habitat Monitoring

Habitat Monitoring Objectives

Form the basis for management decisions that maintain the native habitats within SVOSP.

Maintain an updated vegetation community map to be used as a tool for adaptation of management to SVOSP's changing biological needs.

Meet the biological monitoring requirements of the MSCP.

Habitat Monitoring Recommendations

The County will conduct vegetation mapping every 5-years unless otherwise required due to temporary habitat changes (Ogden 1996). MSCP biological monitoring should also address habitat value. Vegetation monitoring for habitat value should be designed to identify adverse changes in the vegetation over time (Ogden 1996).

According to the Biological Monitoring Plan for the MSCP, habitat monitoring is slated to occur at location H-13, Northwest San Vicente Reservoir, within Coastal Sage Scrub (Ogden 1996). The MSCP Biological Monitoring Plan further states the following:

> "Although quantitative monitoring using a large number of transects is the most precise way to identify trends, it is labor-intensive and cost-prohibitive when applied to an area the size of the MSCP preserve. It is therefore recommended that an alternative plot method be used to assess the vegetative trends over time. This alternative method will utilize a combination of cover class estimations and direct counts within plots, allow a larger number of locations to be monitored, and allow monitoring to occur on a more regular basis."

The ASMD incorporates by reference the *Biological Monitoring Plan for the Multiple Species Conservation Program* (Ogden 1996) Sections 3.4.1.2 through 3.4.3. These sections address the following; Sampling Sites, Permanent Point Locations, Digital Orthophotography, Vegetation Map Refinements for Monitoring Plots, Photodocumentation for Monitoring Plots, Habitat Value Monitoring in the Field, Quantitative Monitoring, Qualitative Monitoring, Data Collection, Data Analysis, Schedule, and Products. Vegetation monitoring should, at a minimum meet the requirements set forth within these sections, but may exceed those requirements if there is a clear benefit to additional monitoring and funding is available.

The monitoring should be done by qualified professional personnel with experience assessing and/or monitoring in local habitats particularly Diegan Coastal Sage Scrub.

Habitat Restoration

Habitat Restoration Objective

Restore degraded habitats through stabilization of eroded lands, strategic revegetation, and exotic plant species control.

Manage SVOSP for the benefit of sensitive species and MSCP covered species without substantive efforts to alter or restrict the natural course of habitat development and dynamics.

Habitat Restoration Recommendations

Overall SVOSP is not a candidate for large-scale restoration, unless pest infestation, disease, disturbance, or another organic or non-organic influence prevents is detected. However, where unauthorized off-road activities have occurred, disturbance has resulted. Fencing and signage installation should be considered in areas where off-road activities are identified. Once off-road activities are stopped, the disturbed areas are prime candidates for revegetation. Most of these impacted areas currently (as of February 2004) occur in the southern portion of SVOSP.

Revegetation with a native Diegan Coastal Sage Scrub seed mix would be beneficial within areas of human disturbance. Restoration/revegetation should reduce detrimental edge effects in these areas, reducing the potential for establishment of weedy non-native species and reducing the potential for increased and expanding erosion problems. Following removal of any newly established weeds and preparation of the sites for revegetation efforts, seed should be broadcast. Whenever possible, seeds should be collected onsite. If this is done in early winter irrigation is less apt to be required in order to achieve success. If undertaken in a dry year, hand watering may be necessary during the establishment period. Efforts should be made to re-establish a species composition and a density of native plants comparable to surrounding areas over the course of approximately 5 years.

Exotic Species Control

Exotic Species Control Objective:

Reduce, control, and where feasible eradicate exotic invasive flora and fauna known to be detrimental to native species and/or the local ecosystem.

Exotic Avian Species Control Recommendations:

Monitoring for the presence of exotic species of management concern should be conducted in conjunction with MSCP covered species monitoring.

The Brown-headed Cowbird (*Molothrus ater*) is a brood parasite that lays its eggs in the nests of other species that selectively raise the earlier hatching and larger cowbirds over their own young. This species can adversely impact a number of species of passerine birds. Cowbirds are often associated with agricultural uses and livestock presence, including cattle and horses, which are common within the vicinity. The cowbird populations should be monitored with the SVOSP along with general avian surveys conducted every three to five years. If an increase in the population is noted, a trapping and removal program should be prepared and implemented.

Exotic Floral Species Control Recommendations:

Monitoring for invasive, non-native floral species should be conducted in conjunction with the habitat/vegetation community mapping that is suggested to occur every five years.

Control efforts should be prioritized based on the threat to sensitive habitats or species and the likelihood of success of an effort. Control or removal efforts that aggressively attack invasive species problems early on, while they are manageable, typically result in greater success. Therefore, monitoring and rapid reaction to potential threats is essential. Based on existing conditions and regional trends, the following “target” species should be considered high priority for exclusion and/or eradication: eucalyptus trees, cardoon (*Cynara cardunculus*), slender wild oat (*Avena barbata*), red brome (*Bromus madritensis* ssp. *rubens*), tree tobacco (*Nicotiana glauca*), garland (*Chrysanthemum coronarium*), pampas grass (*Cortaderia selloana*), castor bean (*Ricinus communis*), and tamarisk (*Tamarix sp*.) and Fennel (*Foeniculum vulgare*).

Of these target species, only eucalyptus poses an immediate significant threat. The eucalyptus grove in the southeastern portion of SVOSP appears to be expanding, posing a threat to adjacent native habitats and an area of high reptile diversity and abundance. In addition to the obvious potential for this Non-native Woodland to expand into native habitats reducing their value, it serves as a fire hazard. Eucalyptus leaf litter builds up within woodlands/groves and contains oil which increases the litter's flammability. The large quantity of litter that typically accumulates beneath a Eucalyptus

Woodland is extremely flammable and can significantly fuel a fire. However, the mature trees serve as an avian perch site and potential nesting site.

It is recommended that a control effort be undertaken that removes all small diameter breast height (dbh) trees, especially those on the outer edge of the grove. The grove should be reduced in overall size. Where trees are removed, native species should be planted, depending on availability of funding. Eventually, the goal should be to remove all eucalyptus trees and replant the area with native tree species.

Herbicide use might be necessary to control and/or completely eradicate other exotic target species in the future. Herbicide use should be conducted under the supervision of a licensed pest control advisor, who would inspect the site and make recommendations to the State Agriculture Department prior to use of herbicides. Care must be taken not to accidentally spray herbicide (*e.g*., on a windy day) on any native plants. Other target exotics can be hand pulled if they are small enough and the entire root system can be removed. Large individuals can be cut with a spade. Any seeds found on the ground around the plant location should be bagged and disposed of off-site. Larger specimens should be treated with herbicide under the supervision of a licensed pest control advisor.

Follow-up control should be required following any removal efforts to maintain control of any remaining resprouts or new specimens that have volunteered into the site. If exotic removal is undertaken, each follow-up year, control efforts should occur in the spring and late summer/fall depending on the species blooming and/or seeding period.

With the removal of the exotics, native species should be able to take advantage of available water, space, and nutrients and expand naturally into areas that were previously occupied by target exotics. Supplemental planting of native species is not considered necessary; however, if funds are available, revegetation with a site-appropriate mix is recommended. Monitoring of volunteer native plant colonization rates is recommended.

Wildlife Corridors

Wildlife Corridor Objectives

Ensure that SVOSP continues to provide a fully functional connection to habitats adjacent to the site and allows for the movement of a variety of wildlife to support dispersal, recruitment, and maintenance of healthy, genetically diverse fauna populations.

Provide protection for local movement corridors to ensure corridor functionality and support of daily and seasonal wildlife movements.

Wildlife Corridor Discussion and Recommendations

The literature on corridors is contradictory because of the ambiguous use of the term "corridor", which is often used to describe landscape components with divergent functions (Rosenberg *et al*. 1997). Explicit criteria that can differentiate between a linear habitat patch and a biological corridor have not been formulated (Rosenberg *et al*. 1995). However, Rosenberg, Noon, and Meslow attempted to clarify the concept of a biological corridor within *Towards a Definition of Biological Corridor* (1995). Their definition requires that immigration via a corridor be greater than if the corridor were absent, emphasizing its functional role as a facilitator of movement, not simply as habitat (Rosenberg *et al*. 1995). Although a linear landscape feature may function solely as habitat for some residential species, the ASMD uses the term "corridor" to specifically address linear features allowing animal movement between two patches of habitat. A corridor is not expected to provide sufficient space and resources to meet all of the life history needs of a target species.

Potentially significant local movement pathways have been identified in SVOSP based on topography, vegetation, and wildlife sign (evidence of regular wildlife movement). It is not possible to assess the intensity of use for these areas or the degree to which they perform a critical function without further corridor specific studies. However, based on the corridor definition being applied herein, they have been selected as potential local and regional movement corridors. Within SVOSP, movement corridors include Foster Canyon, existing roads and trails, and several ridgelines that lead southward toward San Vicente Reservoir. However, a wildlife movement study was not completed for the SVOSP. Therefore, additional wildlife corridors could exist within the preserve.

Protection of areas identified as corridors should be a biological priority for SVOSP. Protection of these areas is expected to influence biological diversity and abundance throughout the site. Foster Canyon already has an established road within the vicinity, probably due to the topographic characteristics that provide for easy movement of humans as well as wildlife. Use of this road during the day for transitory access is not expected to substantially impact corridor use.

Use of the SVOSP should be limited to the daylight hours to avoid potential conflicts between users and medium and large mammal species that may utilize the corridor. This should avoid most potential conflicts.

To prevent corridor impacts, the following actions are recommended where future recreational roads/trails exist adjacent to a corridor:

- Signage should be provided prohibiting picnicking and/or other stationary recreational endeavors.
- Regular Vehicular patrol of corridor areas activities should be scheduled.

There is no corridor monitoring requirement for SVOSP under the Biological Monitoring Plan for the MSCP. As funding becomes available, corridor monitoring should be conducted for SVOSP. The scope of work for the plan should be prepared in by the County in conjunction with the resource agencies..

Species-specific Management

Species-specific Objectives

Manage SVOSP for the benefit of sensitive species and MSCP covered species that can reasonably be expected to persist in the area without substantive efforts to alter or restrict the natural course of habitat development and dynamics.

Provide for appropriate biological monitoring and research to determine, direct, and refine habitat or species-specific management activities.

Species-specific Recommended Management Directives for MSCP Covered Species

As part of the MSCP monitoring, climatic data is to be collected throughout the County. This data should be used to analyze population trend data obtained from monitoring activities (Ogden 1996).

Not all species occurring within SVOSP are expected to require species-specific management. It is expected, rather, that the other management recommendations under the Biological Element should be sufficient to protect and manage optimal habitat conditions for most, if not all, species to maintain and/or thrive within SVOSP. There are some species, however, listed as MSCP covered species in the County's Subarea Plan which require additional management measures, particularly if monitoring indicates that the general guidelines are not sufficient to maintain acceptable population levels.

In order to determine whether specific management directives should be implemented, quantitative and qualitative monitoring must be preformed to determine the status of the sensitive species and its habitat. The County is responsible for all monitoring required within SVOSP. M&A's 2002 and 2003 vegetation and faunal survey work and Fred Sproul's floral survey work provide a qualitative and quantitative basis which should be expanded upon to determine the specific status of sensitive floral and faunal species.

Before conducting any of the species-specific management directives provided below, each action shall be evaluated to ensure that the proposed action would not result in adverse impact to any other population of a MSCP-covered or a listed species.

Management Directives for MSCP Covered Floral Species Observed within SVOSP

Of the 4 sensitive plant species found on SVOSP, 3 are covered species under the MSCP: Slender-pod Jewelflower/San Diego Wild Cabbage, Lakeside Ceanothus/Lilac, and San Diego Goldenstar. SVOSP is not a site selected for MSCP Covered Plant Species Monitoring (Ogden 1996); however, management directives are required to meet the conditions of coverage. Site-specific information and management directives for SVOSP's covered species are listed below.

Slender-pod Jewelflower/San Diego Wild Cabbage (*Caulanthus heterophyllus heterophyllus* or *Caulanthus stenocarpus*)

Site Location
Found in a number of locations within Southern Mixed Chaparral throughout the central portion of SVOSP.

On-site Habitat
Southern Mixed Chaparral

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

MSCP Monitoring
None required (Ogden 1996)

SVOSP Prescribed Management Directives
SVOSP directives for this species include adherence to SVOSP Fire Management Plan to avoid catastrophic fires but allow a healthy fire frequency, habitat monitoring and management to avoid type conversion of habitats following fire, and exotic species monitoring and control to avoid adverse impacts from competition.

Lakeside Ceanothus/Lilac (*Ceanothus cyaneus*)

Site Location
Occurs in the Coastal Sage Scrub in the southwestern portion of SVOSP.

On-site Habitat
Coastal Sage Scrub

MSCP Conditions
Area specific management directives must include specific measures to address the autoecology and natural history of the species and to reduce the risk of catastrophic fire.
MSCP Monitoring
A second priority plant species for monitoring, Lakeside Ceanothus is slated for photo plot monitoring every 5 years (Ogden 1996). Though monitoring of lakeside ceanothus is not required under the MSCP, it should be monitoring every five years during the vegetation mapping.

SVOSP Prescribed Management Directives
SVOSP directives for this species include adherence to SVOSP Fire Management Plan to avoid catastrophic fires but allow a healthy fire frequency, habitat monitoring and management to avoid type conversion of habitats following fire, and exotic species monitoring and control to avoid adverse impacts from competition.

San Diego Goldenstar (*Muilla clevelandii*)

Site Location
Located within Southern Mixed Chaparral in the north central portion of SVOSP.

On-site Habitat
Southern Mixed Chaparral

MSCP Conditions
Area specific management directives must include monitoring of the transplanted population(s), and specific measures to protect against detrimental edge effects to this species.

MSCP Monitoring
A second priority plant species for monitoring, San Diego Goldenstar will be monitored every 2 years through field monitoring at Del Mar Mesa, Sycamore Canyon, East Otay Mesa, and Northeast San Ysidro Mountains (Ogden 1996).

SVOSP Prescribed Management Directives
SVOSP directives for this species include habitat monitoring and management to avoid edge effects and exotic species monitoring and control to avoid adverse impacts from competition.

Management Directives for MSCP Covered Faunal Species Observed within SVOSP

Orange-throated Whiptail (*Aspidoscelis hyperythra*)

Site Location
Relatively ubiquitous throughout the site, but more prevalent in the southern portion of the site, in association with sage scrub.

On-site Habitat
The Orange-throated Whiptail occurs on-site, primarily in Diegan Coastal Sage Scrub. Individuals were found in Eucalyptus Woodland but there were sage scrub and chaparral components present in these areas. Individuals were also present in Southern Mixed Chaparral habitat where sage scrub edge was present nearby.

MSCP Conditions
Area specific management directives must address edge effects.

MSCP Monitoring
Site specific pit fall traps at 12 locations throughout MSCP area to monitor reptile diversity.

SVOSP Prescribed Management Directives
SVOSP directives for this species include habitat monitoring and management to avoid edge effects. If funding is available, repetition of the 2002 and 2003 pit fall (and ant) trapping within SVOSP is recommended on a semi-annual basis. Although not required by the MSCP for the purpose of program tracking, it would be advantageous to assess reptile and ant diversity and abundance for the purposes of adjusting SVOSP management to meet the biological needs of SVOSP.

In the event that monitoring indicates a drop in the population, management actions should be reviewed to remove impacts or threat of impacts and restrict activities within the preserve that could degrade Orange-throated Whiptail habitat. These activities include off-road vehicle activity and depredation by introduced predators or an overabundance of meso-predators.

Also, to support SVOSP whiptail population, management actions should minimize and manage effects from introduced ant species that may exclude the termite prey base. Non-native ants that penetrate native habitats appear to be partially supported by artificial irrigation associated with landscaping (Suarez *et al.* 1998). Therefore, run-off from any future adjacent development should be minimized and managed.

Coast Horned Lizard (*Phrynosoma coronatum*)

Site Location
Detected in the southwest portion of the site in Diegan Coastal Sage Scrub in the southeast corner within Eucalyptus Woodland, and in the northeast portion of the site, within olive grove.

On-site Habitat
A variety of habitats on-site, but pit-fall trapping data showed it was most prevalent within non-native habitat with a native component. (However, captures for this species were low and it is expected that the species utilizes a number of native habitat areas throughout SVOSP.)

MSCP Conditions

Area specific management directives must include specific measures to maintain native ant species, discourage Argentine Ant (*Linepithema hamile*), formerly *Iridomyrmex humilis*, and protect against detrimental edge effects.

MSCP Monitoring

Site specific pit fall traps at 12 locations throughout MSCP area to monitor reptile diversity.

SVOSP Prescribed Management Directives

The Argentine Ant displaces less aggressive species, which are the preferred food item for the San Diego Horned Lizard. Loss of native ant species, the San Diego Horned Lizard's sole food source, would naturally be detrimental to the lizard. The presence and abundance of Argentine Ants has also been linked to decreased diversity and abundance of other species. To discourage Argentine Ants, objects such as boards, construction materials, trash, etc. should be removed from the preserve, since Argentine Ants may potentially colonize under these materials. Excessive irrigation should be discouraged since it attracts the Argentine Ant. Particular efforts to monitor for signs of these ants should be made around any structures, including roads and signs.

If detected, Argentine Ant colonies should be treated to prevent further infestation. Treatment consists of drenching the mounds with high volume of Cypermethrin under low pressure. Simply "fan-spraying" the surface of individual mounds has proven not to be effective in eradicating the ants. Cypermethrin will not harm vegetation, pets, or wildlife once it is allowed to dry (Professional Pest Control Products 2000). Treatment of Argentine Ant nests should be conducted by a professional, licensed to apply pesticides. The applicator will receive clearance from the preserve manager for all treatments and will be provided with sufficient information to avoid impacts to any sensitive biological or cultural resource identified adjacent to ant nests. If necessary, treatment of a nest may be delayed, if it is determined by the city staff or preserve biologist that such treatment would cause an adverse impact to an adjacent sensitive species, particularly during the breeding season. Signage that prohibits disturbance and/or collection of animals should be provided at all access points.

SVOSP directives for this species to protect against detrimental edge effects include habitat monitoring and management.

If funding is available, repetition of the 2002 and 2003 pit fall (and ant) trapping within SVOSP is recommended on a semi-annual basis. Although not required by the MSCP for the purpose of program tracking, it would be advantageous to assess reptile and ant diversity and abundance for the purposes of adjusting SVOSP management to meet the biological needs of SVOSP.

In the event that monitoring indicates a drop in the population, which is unrelated to climate or another natural condition, SVOSP management actions should be reviewed to remove impacts or threat of impacts and restrict activities within the preserve that could degrade Coast Horned Lizard habitat. These activities include off-road vehicle activity and depredation by introduced predators or an overabundance of meso-predators.

The San Diego Horned Lizard is particularly subject to depredation by feral and domestic cats (*Felis catus*), as it often relies upon its coloration rather than escape as a means of survival. This tactic is often not successful with the domestic cats. Currently there does not appear to be a need for predator control on-site that targets domestic pets. However, if any substantial housing development occurs on the boundary of SVOSP or if a feral cat population develops, a predator control program should be developed and implemented.

Northern Harrier (*Circus cyaneus*)

Site Location

This species was detected in the northeast corner of the preserve.

On-site Habitat

The Northern harrier may utilize the more open areas of sage scrub and chaparral, as well as grasslands for foraging. The harrier is not expected to nest on-site.

MSCP Conditions

Area specific management directives must manage agricultural and disturbed lands (which become part of the preserve) within 4 miles of nesting habitat to provide foraging habitat; include an impact avoidance area (900 feet or maximum possible within the preserve) around active nests; and include measures for maintaining winter foraging habitat in preserve areas in Proctor Valley, around Sweetwater Reservoir, San Miguel Ranch, Otay Ranch east of Wueste Road, lake Hodges, and San Pasqual Valley. The preserve management coordination group shall coordinate to manage for wintering harriers' foraging habitat within the MSCP preserves.

MSCP Monitoring

Grassland (raptor) monitoring for this species (under the MSCP) calls for monitoring of grassland plots at 10 locations, through surveying 8 times for raptor use from July through September. Survey will be conducted once every 3 years.

SVOSP Prescribed Management Directives

Measures undertaken to maintain habitat quality (habitat monitoring and restoration) are expected to be sufficient to support continued use of the site by harriers for the purposes of foraging. No additional management directives are recommended.

Golden Eagle (*Aquila chrysaetos*)

Site Location

This species is expected to occur on-site, based on the fact that it historically nested in the San Vicente area and continues to nest in the vicinity. The status of the "San Vicente" pair/territory is unknown, but a pair persists in the Foster area. It has been addressed herein as if it was observed because of reasonable certainty that it occurs on-site.

On-site Habitat

SVOSP lies within the foraging range of several pairs of eagles and is expected to provide a crucial foraging resource within a region that is experiencing increasing urbanization.

MSCP Conditions

Area specific management directives for areas with nest sites must include measures to avoid human disturbance while the nest is active, including establishing a 4,000 foot disturbance avoidance area within preserve lands. Areas specific management directives must also include monitoring of nest sites to determine use/success.

MSCP Monitoring

Grassland (raptor) monitoring for this species (under the MSCP) calls for monitoring of grassland plots at 10 locations, through surveying 8 times for raptor use from July through September. Survey will be conducted once every 3 years. Nest sites within preserve areas must be monitored to determine use/success

SVOSP Prescribed Management Directives

Currently, SVOSP is not known to support a Golden Eagle nest; however, since the area surrounding San Vicente Reservoir was historically occupied, SVOSP could host a future (or current undetected) nest site.

It is recommended that the County coordinate with CDFG and USFWS to obtain annual eagle nest/territory location data. In the event that a nest site is identified within 4,000 feet of SVOSP, site activities should be evaluated relative to the requirement for a 4,000 foot disturbance avoidance area. The closure of any future trails and restrictions on future public use/recreational activities should be considered within the 4,000 foot avoidance area during the breeding season. Any change in the availability of the site for recreational use should be accompanied by education materials or programs to foster the understanding and support of the public.

Western Bluebird (*Sialia mexicana*)

Site Location

Observed in the northeastern portion of SVOSP during fall point counts.

On-site Habitat
Southern Mixed Chaparral

MSCP Conditions
None

MSCP Monitoring
No species specific monitoring requirements.

SVOSP Prescribed Management Directives
Management directives specific to this species are not necessary. The Western Bluebird will opportunistically utilize SVOSP habitats where dirt roads, grasslands, or more open shrubby habitats co-exist with suitable perches. Maintenance of SVOSP is anticipated to be sufficient to support migratory and winter use of the site by a small number of bluebirds.

California Rufous-crowned Sparrow (*Aimophila ruficeps canescens*)

Site Location
This species is well dispersed throughout much of the project site.

On-site Habitat
The California Rufous-crowned Sparrow occurs in a variety of habitats on-site. It is primarily present within Coastal Sage Scrub and chaparral, but also occurs within Non-native Grassland, Coast Live Oak Woodland, and Eucalyptus Woodland where chaparral or sage scrub elements persist within or adjacent to these habitats.

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

MSCP Monitoring
No species specific monitoring requirements.

SVOSP Prescribed Management Directives
In the event that a disproportionate amount of Coastal Sage Scrub does not retain the open canopy associated with Southern California Rufous-crowned Sparrow habitat, management actions to open the canopy may be necessary. Controlled burns are recommended to open the canopy. However, the recent Cedar Fire is expected to address the issue of open habitat for the next 7 to 10 years. After this time prescribed burns may be considered as a management

tool or the site may be managed through an easing on the control of natural fires. Overall, SVOSP fire-related directives for this species include adherence to SVOSP Fire Management Plan, which should allow for burns which maintain native habitats and do not result in type conversion of habitats.

This species is tolerant of edge effects, small habitat patches, low shrub volume, and short-term habitat disturbance and is; thus, not expected to require additional management actions.

Mule Deer (*Odocoileus hemionus*)

Site Location

Mule Deer tracks were detected through much of SVOSP, but were more evident within the southern portion of the site.

On-site Habitat

Chaparral, sage scrub, and open forest habitats with abundant edge and interspersed riparian habitat.

MSCP Conditions

None

MSCP Monitoring

No species specific monitoring requirements. Monitoring will be covered through habitat and corridor monitoring.

SVOSP Prescribed Management Directives

Maintenance of high quality native habitats within SVOSP is expected to support the continued presence of Mule Deer. Additional management measures are not recommended at this time.

Mountain Lion (*Felis concolor*)

Site Location

Expected to inhabit the preserve, at least as a portion of home range.

On-site Habitat

Known to use all vegetation communities.

MSCP Conditions

Area-Specific management directives must include measures to avoid direct human impacts to this species if it is present or likely to be present.

MSCP Monitoring

No species specific monitoring requirements. Monitoring will be covered through habitat and corridor monitoring.

SVOSP Prescribed Management Directives

Maintenance of high quality native habitats within SVOSP is expected to support the continued presence of mountain lion. Signage should be posted in gathering areas, such as staging areas to educate people of the potential for mountain lion to be present within SVOSP and how to react if a mountain lion approaches.

CULTURAL RESOURCES ELEMENT

Cultural Resource Element Goals

Management – The DPR will preserve and maintain the cultural resources balancing the need for public access with the need to preserve cultural and natural resources. In addition, the DPR will identify mechanisms to manage these resources before, during, and after wildfires.

Access –The DPR will employ a wide range of methods and technologies to make the SVOSP cultural resources more accessible to the public and make it more important to the various communities that the site serves.

Education –The DPR will inform the public about the cultural resources as a site of national significance and the accomplishments of the Kumeyaay Indians, Spanish, Californios, and American ranchers who lived and worked at these resources. The DPR will also communicate the importance of preserving the cultural resources and will work to foster respect for the Native American cultures that built some of these resources and for the spiritual nature of the site for many Native Americans.

Research – The DPR will foster research at SVOSP in order to discover and disseminate knowledge about the cultures that have lived in this location.

Cultural Resource Element Objectives

Provide for public access where the type and magnitude of such access would not result in substantive short or long-term detriment to cultural resources.

Cultural Resource Element Recommendations

The following Management Plan is based on the document by Gallegos & Associates, 2003. A Cultural Resource Management Plan (CRMP) is designed to identify the reasons and mechanisms to preserve and protect significant cultural resources. It is noteworthy that this study was done the year before the worst fire season in San Diego County history, the October 2003 fires. Many of the historic resources in the SVOSP were destroyed in this fire.

Development of this management plan identifies phases to implement the goals. Four phases of planning are:

Phase 1 – Background Study and Inventory
Phase 2 – Determination of Site Significance
Phase 3 – Managing known significant Cultural Resources and Preplanning for Potential Fire and Fire-Fighting Impacts

Phase 4 – Fire and Post Fire Protection Measures

Phase 1 – Background Study and Inventory

Phase 1 provides a review of extant information, followed by a field survey, and synthesis of the information. Potential sites include prehistoric habitation, camps, lithic scatters, rock art, and other activity sites. Traditional cultural properties important to local tradition tribes may also be discovered. Contact with the Native American Heritage Commission will help identify sacred or ceremonial sites located within the project area. Historic sites can be found on historic maps, records, newspapers, material remains, homesteads, mines, roads and trails, or through discussions with local people and descendents of the people who owned or worked the land. This phase was completed for SVOSP and reported by Gallegos and Associates (Gallegos and Associates 2003). The report consists of a literature review, record search, review of early maps and records as well as discussions with Native Americans and descendents of early homesteaders. In addition, the report documents 10 cultural resource sites located on the SVOSP.

To ensure protection of cultural resources background studies, field surveys and significance-testing programs need to be conducted prior to development of the park and before the onset of a fire (Gallegos and Associates 2003). Phase 1 was conducted for the SVOSP in 2002 by Gallegos and Associates. They identified 10 sites (CA –SDI-5892, CA-SDI-12818H, CA-SDI-12819H, CA-SDI-12820H, CA-SDI-12821H, CA-SDI-16938, CA-SDI-16939, CA-SDI-16940, CA-SDI-16941, and CA-SDI-16942). Two isolates were also discovered. Gallegos and Associates also made recommendations for immediate evaluation and stabilization on three sites CA-SDI-12818H and CA-SDI-12820H and CA-SDI-16941. The Cedar Fire of 2003 ran through SVOSP and destroyed any remaining structures located on the two homestead sites. The prehistoric site (CA-SDI-16942) still needs the evaluation and potential stabilization and protection noted in the report.

Implementation of Phase I involves:

- Survey the for cultural resources
- Complete recordation of these resources by recording the resources in compliance with the California Office of Historic Preservation guidelines.
- Evaluate SVOSP for significance as a Cultural Landscape
- Conduct oral histories of the descendants of recent owners.

Phase 2 – Determination of Site Significance

Not all cultural resources qualify as significant. An evaluation must be performed to determine which sites are significant and eligible for protection, and which sites are not significant and not eligible for protection (Gallegos and Associates 2003). Significance evaluations follow the guidelines of the California Register of Historic Places or the National Register of Historic Resources. Significant cultural resources need to be protected from primary and secondary impacts. Sites identified as not significant, need not be addressed with respect to impacts related to park management or fire or fire

suppression. No significance evaluations have been conducted for the cultural resources located on the SVOSP.

Prehistoric sites may be tested for significance through collection of surface artifacts and GPS mapping, excavation of shovel test pits and/or 1X1 meter units to determine site size, depth, content, integrity, and potential contribution to the archaeological record. Historic sites may be evaluated through additional research to identify past ownership, family records and photos as well as recording extant features (structures, cisterns, privies, etc.). Subsurface excavation may be need on historic sites to determine the presence or absence of buried features. An archaeological consultant must be hired to conduct the significance evaluations. At that time the consultant will determine, in consultation with the County Historian, which techniques will provide the information need for the San Vicente Highland cultural resources.

As part of Phase 2 all cultural resource sites identified as significant will need to be mapped using Global Position System (GPS) to ensure accurate location information. GPS mapping will help to ensure that, in the event of a fire, significant cultural resources can be quickly located and thereby identified for avoidance during the fire-fighting activities. Any standing structures need to be photo documented to establish a baseline of information for future management.

Implementation of Phase 2 involves:

- Assess each site for eligibility as an Historical Landmark for the County of San Diego
- Assess each site for eligibility to the CRHR/NRHP
- No ground disturbing activities are allowed on or in any cultural resource site in SVOSP until the impacts have been assessed and mitigation measures established.
- Any person conducting research of any kind within SVOSP shall obtain a Right of Entry Permit, which outlines the precautions to be taken to preserve and protect cultural resources.
- Educate the public regarding the importance of preservation of the significant cultural resources

Phase 3 – Managing known significant Cultural Resources and Preplanning for Potential Fire and Fire-Fighting Impacts

Protection and avoidance of impacts to cultural resources is the goal of preplanning for potential fires. Impacts occur not only from fire damage but fire-fighting activities as well, such as the staging of heavy equipment, grading of fire breaks, and air dropping of

chemical fire suppressants (Gallegos and Associates 2003). Impacts can also occur as a result of post-fire activities, such as grading, revegetation, and stabilization of slopes.

The first measure to take as part of the fire planning is to identify staging areas for the property. Locations for fire-fighting staging should avoid cultural resources. If cultural resources cannot be avoided, then mitigation of potential impacts would be needed. The exact type of mitigation would be determined by the type of site and the extent of the impacts. It is impossible to know where grading of fire breaks might take place during a fire, but knowledge of the location of significant cultural resources can open areas to fire fighters where no sites will be impacted.

A second preplanning effort involves working with the GIS staff to identify how electronic files can be transmitted to the Incident Command Center during a fire. Where human life and property are not being threatened, cultural resources must be protected. Since confidentiality of site locations is a requirement (California Government Code section 6254(r)) this must be discussed in advance of a fire. A new technique recently recommended is to have GPS systems on the bulldozer that contain the confidential site location information. This would alert the bulldozer operator that a significant cultural resource is in the direction of the bulldozer and the driver could (potentially) avoid the site.

Implementation of Phase 3 involves:

- Signs shall be stationed at all trail heads that notify users that sensitive cultural resources cannot be damaged
- Signs shall be posted throughout SVOSP indicating that removal of any archaeological material is prohibited by law.
- When people are identified who are suspected of vandalism to cultural resources the appropriate law enforcement authorities shall be notified.
- Natural impacts to cultural resources (fire, erosion, floods, etc) shall be identified and impacts prevented or mitigated.
- All trails and roads in SVOSP shall avoid impacts to any cultural resources
- Safeguards against incompatible land and resource uses shall be identified to protect all cultural resources
- Consultation with the appropriate Native American Tribe(s) shall be conducted frequently in order to identify appropriate management of precontact and ethnographic cultural resources.
- Traditional uses by the tribes shall be encouraged
- All activities by Native Americans shall be conducted with a Right of Entry Permit specifically designed for SVOSP

- The tribes shall be encourage to participate in evaluation, recordation, protection and preservation of cultural resources

Phase 4 – Fire and Post Fire Protection Measures

Cultural resources are a non-renewable resource. The goal of a Cultural Resource Management Plan is to protect and preserve significant cultural resources. The following protection measures are designed to assist in this goal.

At the onset of a fire on the SVOSP, the County Historian should be notified immediately. The Historian will gather maps, site forms, and electronic information to take to the Incident Command Center or to the Fire Manager. Maps and GPS location information are to be used to assist in avoiding significant cultural resources from fire-fighting impacts such as grading fire breaks, grading staging areas, or other mechanical impacts. During a fire, should impacts happen to a cultural resource from the fire-fighting activities, this should be communicated immediately to the County Historian. The Historian will then begin documentation of the impact and begin planning for ways to mitigate the impact.

After the fire, a field visit will need to be conducted to evaluate damage that may have occurred to cultural resources as a result of the fire or fire-fighting, and to update the site forms and site data. If the resource is damaged as a result of fire, or as a result of fire-fighting activities, then mitigation of impacts may be necessary. Mitigation may include site excavation and artifact analysis, and/or site stabilization.

A survey is also needed to identify additional cultural resources that may have been exposed as a result of the fire. New sites should be recorded and evaluated for significance. The results of the post-fire cultural resource evaluation will be provided in a report (State of California cultural resource report format) and submitted to the County and the local State of California Information Center (South Coastal Information Center at San Diego State University).

Implementation of Phase 4 includes:

- Close coordination with the incident command center during a fire
- Post fire surveys to find previously unidentified sites
- Education of the public regarding fire impacts to archaeology sites

PUBLIC USE ELEMENT

As the population of San Diego County continues to grow, there will be increasing pressure on remaining open spaces to provide recreation for residents and visitors alike.

Currently, SVOSP is not open to use by the public. However, appropriate recreational activities shall be accommodated in concurrence with the goals of the MSCP and County Subarea Plans. Per the County's Subarea Plan section 1.9.2, "Public access and passive recreation are permitted uses within specified areas of the preserve. Access points, new trails and facilities, and a public control plan will be included in the …area specific management directives."

In addition, all scientific, research, monitoring and habitat restoration and enhancement activities are permitted within SVOSP, subject to approval by the County and acquisition of any necessary permits. All such activities shall be consistent with the ASMD and carried out under a regional program implemented by the resource agencies or County of San Diego. Prior to beginning any research activities, County approval must be obtained.

Public Use Element Goal

The secondary goal of this management plan, subordinate to biological and cultural goals, is to provide opportunities and guidelines for appropriate passive recreation opportunities within SVOSP. This plan has adopted a philosophy of allowing for these opportunities where the type and magnitude of such recreation would not result in substantive short or long-term detriment to the natural environments.

Public Use Element Objectives

The general public use objectives of the ASMD are as follows:

To the extent practical, determine appropriate passive recreational opportunities that are compatible with the preservation of the biological and cultural resources within the SVOSP.

Roads

Road Objectives

Provide for public access where the type and magnitude of such access would not result in substantive short or long-term detriment to the natural or cultural resource environment.

Road Discussion, Monitoring and Management Recommendations

Currently, a limited network of roads persists within SVOSP. The primary road, Foster Truck Trail, provides access through most of the site, originating at Highway 67. Smaller roads, some of which are associated with utility easements, branch off of Foster Truck Trail, some of these are passable, while the vehicular utility of others is questionable. Although Foster Truck Trail also accesses the site from the northeast corner at Boulder Oaks this access point is currently blocked. Upon completion of the ASMD for Boulder Oaks Open Space Preserve, DPR may open this access site to the public.

Vehicular access within SVOSP shall be restricted to emergency vehicles, maintenance, monitoring, and patrol vehicles.

Trails

Trails Objectives

Provide for public access where the type and magnitude of such access would not result in substantive short or long-term detriment to the natural or cultural resource environment.

Restore degraded habitats and reduce detrimental edge effects through stabilization of eroded trails and strategic revegetation.

Trail Discussion, Monitoring, and Management Recommendations

Existing Conditions

Initially, there will be one multi-use trail (i.e. hiking, horseback riding and mountain biking) through the SVOSP. This trail will generally follow the alignment of the Foster Truck Trail. Please see Figure 5. The County may decide to construct loop trails at some future time. Currently, there is no funding available for the planning or construction of loop trails.

Multi-Use Trails

The multi-use trail system initially will consist of a loop in the western edge of the park. See Figure 5. Eventually, possibly in conjunction with the opening of the Boulder Oaks Open Space Preserve, the entire trail system, including the Foster Truck Trail, will also be opened. Opening of the trail system is contingent on funding and resource protection measures. In the future, the department may open additional loop trails or realign segments of the trail system consistent with the ASMD.

A multi-use trail system has advantages and disadvantages and requires continuous monitoring and adaptive management. The challenges faced by multi-use trail managers include maintaining user safety, protecting natural and cultural resources, and providing high-quality user experiences. These issues can be addressed through trail design, public education, user involvement such as volunteer trail patrol, and enforcement.

The benefits of a multi-use trail system include:

- Multi-use trails can accommodate the needs of most trail users. Single activity use or restriction tends to concentrate specific types of trail users, in some cases increasing environmental impacts.
- A common resource is protected on multi-use trails by building a trail community that has common goals. Encountering other users in the trail offers opportunities to establish mutual respect, courtesy, and education. Separate trails can breed ill will, territoriality, and rivalries.
- Multi-use trails are most cost effective for land managers. Monitoring and enforcement is simplified.
- Responsible and experienced trail users can educate novices and outlaws. Because they share the same trail system, the opportunity for peer regulation is enhanced.

The impacts of differing uses on multi-use trails have been the subject of much debate. A review of the available literature indicates that more than use, the design of a trail is what will determine its sustainability to erosion. A trail that is not used and is poorly designed will erode more quickly than a well designed trail with heavy use by any type of trail user. The impact of all users is significantly less than the impact of erosion due to water runoff.

All trail users displace soil which can result in trail impacts if trails are not properly maintained. Horses, hikers and bikers, may loosen hillside soils and initiate erosion on poorly designed or mismanaged trails but horses may maintain permeability of level or hard surfaces. To avoid and minimize any potential impact from trail use, trails will be properly maintained.

Exotic invasion has been observed along some trails. People, horses, bikes, and maintenance equipment can carry viable invasive seeds. The dispersal process is complex and the facts are largely unknown.

Monitoring, and Maintenance Recommendations

The most important factor influencing damage caused by trail users is the quality of the trail design. Good trail design considers: soil characteristics (type, texture, organic content, and moisture), slope of surface and topography, elevation, ecosystem type, wildlife presence/absence, vegetation type, level of use, season of use, and difficulty of

terrain. Where trail location/design cannot conform to the objectives additional monitoring and maintenance will be required.

Remediation Triggers and Remediation Actions

Normal trail use may create a berm along the downhill edge of trails that traverse a slope. If these berms occur, the trail will be repaired and maintained by pulling the berm back into the trail tread.

Where water has eroded a rut perpendicular to the trail, appropriate trail maintenance activities will be used to divert water and stabilize the trail.

Trails may be closed seasonally at the recommendation of the Park Ranger, District Park Manager, or designee. Signs will be posted in the staging areas of the SVOSP and the gates to the staging area will be closed and locked. Ranger patrol of the Park will continue during these closures.

Trail Signage and Fencing

Proper trail signage can be an effective management tool. Directional signage would be provided wherever two trails meet.

Where trails approach water sources, the trails may be fenced with split rail fencing to encourage visitors to remain on the trail. Signage will be provided near sensitive resources instructing users to stay on trail as to not impact the resources.

Trail Closures

Where closure of a trail is recommended for maintenance or remediation, closure actions must be accompanied by educational support.

The trail should be posted with signage that indicates the closure and the primary reason for the closure (steep slopes leading to erosion issues, sensitive biological resource impacts, etc.). Whenever possible, postings should also include a suggested substitute route. Finally, signs should provide contact information for anyone wishing to provide input on trail use or gain additional information regarding closures. One of the easiest ways to provide a venue for public input is to establish an e-mail box/address where comments and questions can be directed. The e-mail system should provide an automatic verification of receipt for any comment with a stipulation that comments and questions will be addressed to the extent feasible based on e-mail volume.

Once posted, closed trails should be blocked with split rail fencing or rock borders. These blocks should be constructed in a manner that helps to prevent circumvention. Enforcement of these closures would require increased patrols of these areas and investigations to determine if the closures are effective.

Public Access

Public Access Objectives

Ensure that all members of the community have an opportunity to enjoy SVOSP (once open to the public)

Provide for safe daily access and the requisite emergency access

Public Access Discussion and Recommendations

SVOSP can be accessed currently from Foster Truck Trail at Highway 67 and from north via Boulder Oaks Open Space Preserve. No open access point to the east exists.

Entering or exiting SVOSP from Highway 67 south may induce traffic problems and safety concerns. A traffic analysis is recommended prior to any public access. An analysis of potential access issues from Mussey Grade Road is not provided, as this potential access point could not be assessed.

Parking

Currently, there are no parking facilities at SVOSP. There is an area available at the entrance which could accommodate a small number of cars without resulting in substantial impacts to native vegetation. This area has a history of disturbance and dumping. Due to the presence of a culvert under Highway 67, which facilitates wildlife movement, parking area designation and habitat clearing are only recommended for the south side of the entrance. Signage and boulders or fencing should block human intrusion to the north. Lighting should not be installed at parking area and regulations should restrict use of the area to daylight hours.

Access Signage

Managers can influence user safety, resource protection, and user experience by providing education and information, involving the users, and enforcing regulations. High quality recreation experiences can be attained in conjunction with resource protection through effective communication. Educating the public and encouraging them to act responsibly on trails should be effective strategies for positive trail etiquette. Providing information that it is catered to the user, easily received, provided early in the decision making process, and presented in an interesting and understandable way should help in maintaining a successful multiple trail use program.

In addition to signage at access points, SVOSP rules and regulations should be printed on trail maps and provided on an internet web page. It is further recommended that development of an internet web page for the preserve include access to a pdf version of the trails map, a regularly updated list of any Designated Trail closures, and a list of

special events. (If visitors are made aware of rules and regulations prior to their arrival on-site they may be better prepared to comply.)

Access for Persons with Disabilities

The Americans with Disabilities Act (ADA) contains regulations that apply to "buildings". The Regulatory Negotiation Committee on Accessibility Guidelines for Outdoor Developed Areas was organized to develop similar regulations for "outdoor developed areas". The Regulatory Negotiation Committee reached consensus on the accessibility guidelines for newly constructed and altered outdoor-developed areas covered by the ADA. The guidelines proposed by the committee include consideration of the latest information, design, and construction practices in existence (The Access Board 1999). There are also disabled access regulations for outdoor facilities currently in effect at the state level.

It is outside the purview of the ASMD to provide detailed recommendations, as they require extensive engineering input. However, all newly designed and constructed pedestrian trails connecting to designated trailheads or accessible trails should comply with the proposed ruling unless (as specified in the proposed ruling) one of the conditions permitting departure from the ruling is present. Departures from specific technical provisions shall be permitted where specified, and where at least one of the following conditions is present.

1. Where compliance would cause substantial harm to cultural, historic, religious, or significant natural features or characteristics; or,

2. Where compliance would substantially alter the nature of the setting or the purpose of the facility, or portion of the facility; or,

3. Where compliance would require construction methods or materials that are prohibited by federal, state, or local regulations or statutes; or,

4. Where compliance would not be feasible due to terrain or the prevailing construction practices (The Access Board 1999).

Public Education and Enforcement

Public Education and Enforcement Objectives

Develop and promote outreach, educational, and volunteer opportunities that advance the management, monitoring, and stewardship resources available and objectives of the ASMD.

Public Education and Enforcement Recommendations

Previous discussion under the public access signage recommendations about development of an internet site would support the Public Education objective. A web site could be an effective tool for conveying information on the rules and regulations, special events, special biological/seasonal happenings (*e.g.*, spring flowers in bloom, bird migration peaks, butterfly flight season), and volunteer opportunities. Opportunities for educational trail-side signage and educational kiosks should be identified. In addition, signage provided at access points and on trail maps provides a form of education.

FACILITY MAINTENANCE ELEMENT

Facility Maintenance Element Goal

Develop an ASMD whose required maintenance tasks can be implemented in a coordinated manner, are manageable within the fiscal resources of the County DPR, and conform to the requirements of the MSCP.

Facility Maintenance Element Objectives

Provide an overview of the property's operation and maintenance and establish the foundation for future application of management funding.

Maintain sufficient access and coordination to, in the event of a fire, protect human lives.

Emergency Access and Fire Management

The interface between current and future urban development and the preserve areas requires increased coordination between the preserve managers and agencies responsible for public safety. The MSCP preserve system, including the County's portion of the system, must accommodate access for emergency response, fire control and management.

Law enforcement and fire control agencies, the National Guard, the Immigration and Naturalization Service (INS), the Border Patrol and organizations and agencies which respond to natural disasters shall be permitted to perform their activities within any preserve system subject to all applicable requirements of state and federal law. MSCP shall create no additional permit requirements beyond those of existing state and federal law for the activities of these agencies.

The take of covered species incidental to emergency response activities is provided for based upon the County's MSCP Subarea Plan.

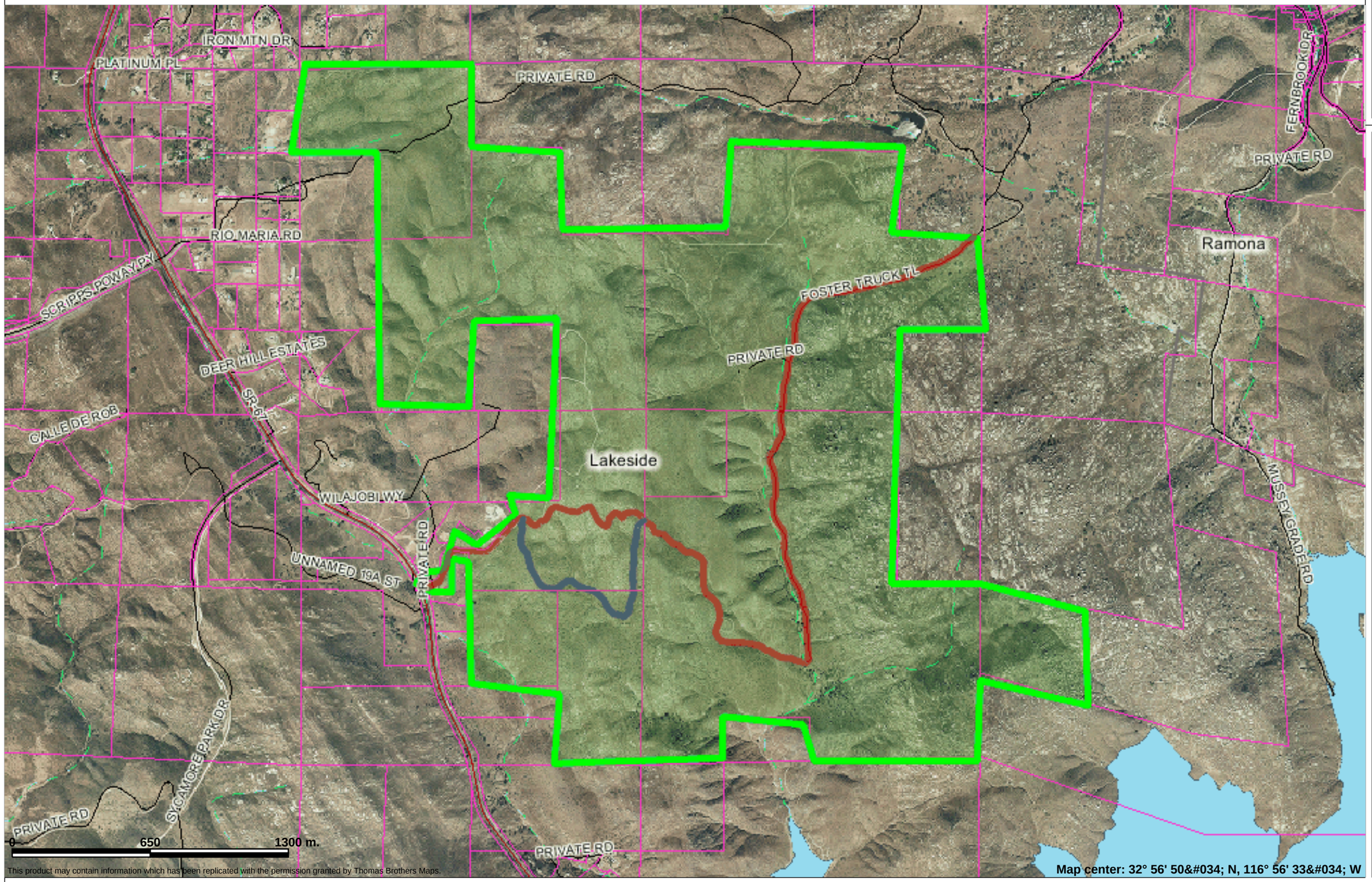
Emergency Access and Fire Management Recommendations

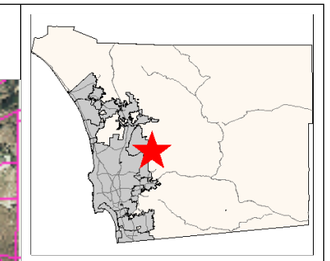
The existing access point should remain gated, as well as any future, additional access points. Furthermore, any agencies that may have a need to drive emergency vehicles through the site should be given keys to the gate(s).

The roads on-site should be regularly patrolled and monitored to ensure that there are no hindrances/obstacles along the roads that would preclude the access of emergency vehicles.

An area on-site should be cleared of woody vegetation and maintained in this fashion for emergency helicopter access (it may consist of Native or Non-native Grassland or

Figure 5: SVOSP Multi-Use Trails





Legend

- Parcels w/out labels
- Highways
- Freeways
- Streets
- Creeks
- Rivers
- Water Bodies
- Water Bodies
- Sponsor Groups
- Sponsor Groups
- Other
- Community Planning Area
- Community Planning Areas
- 2005 Orthophoto South West
- 2005 Orthophoto South East
- 2005 Orthophoto North West
- 2005 Orthophoto North East

County of San Diego
Department of Planning and Land Use
DPLU GIS
Geographic Information System
SANGIS
San Diego Geographic Information Source

N

Scale: 1:18,193

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Disturbed Habitat). Due to the rugged landscape of SVOSP, helicopter response would be the best means for immediate, emergency assistance. The helicopter access site should occur where access is the least hindered both by air (*e.g.*, clear of power lines) and by foot for persons that require emergency assistance. It should also be located in an area that is the least environmentally sensitive.

SVOSP fire management is dealt with exclusively within SVOSP Fire Management Plan (KTU+A 2004).

Trail and Access Road Maintenance

Trail and Access Road Maintenance Objectives:

The objectives of trail and access road maintenance are the same as those discussed in the Public Use Element roads and trails sections.

In addition, maintenance should minimize the need for corrective management actions or trail and road closures.

Trail and Access Road Maintenance Recommendations:

The County of San Diego Parks and Recreation Department will have management responsibility for day to day activities. Funds for annual operation and maintenance expenses should be identified within the Parks and Recreation budget. Repair work involving reconfiguration and/or regrading of trails will require consultation with the County's Department of Planning and Land Use staff. Trail maintenance and road maintenance should be undertaken outside of the breeding season, to minimize disturbance.

Fencing and Gates

Fencing and gates were previously discussed under the Trail Closure Recommendations discussion within the Public Access Section. They are, in part recaptured here. Fencing of the property in its entirety is not recommended due to expense and potential wildlife movement impacts. Temporary split rail fencing should be installed around restoration areas to protect these areas from off-road vehicle activity. Gates should prevent the entry of vehicles including off-road vehicles, horses, and bicycles to the extent feasible. Entry by key should be provided for the necessary easement access, maintenance work, fire clearance, site inspection, patrols, or any other official use. Any unauthorized, access points to SVOSP used by off-road vehicles should be blocked-off with boulders or some other effective, natural material. All of the above fencing and signage recommendations should be monitored for vandalism, breakage, or weathering by the rangers on a weekly basis. Problems should be reported to the appropriate maintenance staff and addressed on an as needed basis.

Trash and Litter Removal

Since SVOSP is currently closed to public access and recreational uses, trash and litter are not significant problems. However, the following recommendations have been included for future implementation in conjunction with any future recreational use.

In general, trash receptacles are recommended at all parking areas and picnic areas adjacent to the site. They should also be located at the entrance/exit point(s). Trash receptacles should be designed to be secure from corvids and opportunistic meso-predators. Department of Parks and Recreation staff or other SVOSP maintenance staff should regularly empty trash receptacles, perhaps twice a week or more/less as deemed necessary.

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APPENDICES