Resource Management Plan
for
Sycamore Canyon & Goodan Ranch Preserve
San Diego County





June 2013

PARKS AND RECREATION
COUNTY OF SAN DIEGO
Where having fun is natural.

SYCAMORE CANYON AND GOODAN RANCH PRESERVE

RESOURCE MANAGEMENT PLAN

June 30, 2013

Approved by:

B. Albright

Brian Albright, Director
County of San Diego
Department of Parks and Recreation

7/15/13

Date

TABLE OF CONTENTS

1.0 INTRODUCTION 1
1.1 Purpose of Resource Management Plan 1
1.1.1 MSCP Background 3
1.1.2 County Subarea Plan 4
1.1.3 Framework Management Plan and Area-Specific Management Directives 4
1.2 Implementation 5
1.2.1 Management Approach 5
1.2.2 Responsible Parties/Designation of Land Manager 6
1.2.3 Regulatory Context 6
1.2.4 Limitations and Constraints 6

2.0 PROPERTY DESCRIPTION 7
2.1 Legal Description 7
2.2 Geographical Setting 7
2.2.1 Site Access 7
2.2.2 MSCP Context 9
2.3 Physical and Climatic Conditions 12
2.3.1 Geology and Soils 12
2.3.2 Climate 16
2.3.3 Hydrology 17
2.3.4 Fire History 17
2.4 Land Use 20
2.4.1 On-Site Land Use 20
2.4.2 Adjacent Properties 20
2.4.3 Easements or Rights 20
2.5 Trails 20

3.0 BIOLOGICAL RESOURCES DESCRIPTION 23
3.1 Vegetation Communities/Habitat 23
3.2 Plant Species 43
3.2.1 Plant Species Present 43
3.2.2 Rare, Threatened, or Endangered Plant Species Present 43
3.2.3 Rare, Threatened, or Endangered Plant Species not Observed but with High Potential to Occur 47
3.2.4 Non-native and/or Invasive Plant Species 49
3.3 Wildlife Species 59
3.3.1 Wildlife Species Present 59
3.3.2 Rare, Threatened, or Endangered Wildlife Species Present 63
3.3.2.1 Herpetofauna 63
3.3.2.2 Birds 68
3.3.2.3 Mammals- Small Mammals 75
3.3.2.4 Mammals – Medium and Large Mammals 77
3.3.2.5 Mammals – Bats 79
3.3.3 Rare, Threatened or Endangered Wildlife with High Potential to Occur 82
3.3.3.1 Invertebrates 82
3.3.3.2 Herpetofauna 83

3.3.3.3 Birds 83
3.3.4 Non-native and/or Invasive Wildlife Species 85
3.4 Overall Biological and Conservation Value 85
3.4.1 Wildlife Linkages and Corridors 86

4.0 CULTURAL RESOURCES 87
4.1 Site History 87
4.1.1 Pre-Contact 87
4.1.2 Post-Contact 88
4.1.2.1 Spanish Period (1769-1821) 89
4.1.2.2 Mexican Period (1821-1848) 89
4.1.2.3 American Period (1848 to Present) 89
4.1.3 Historic Overview of the Sycamore Canyon and Goodan Ranch Preserve 91
4.2 Native American Consultation 96
4.3 Cultural Resource Descriptions 97
4.3.1 Prehistoric Resources 97
4.3.1.1 Prehistoric Isolates 102
4.3.2 Historic Resources 104
4.3.3 Multi-component Site 107
4.4 Resource Significance 107

5.0 RESOURCE MANAGEMENT 112
5.1 Management Goals and Objectives 112
5.1.1 MSCP-Related 112
5.1.2 Management Directives and Implementation Measures 112
5.2 Biological Resources Element (A) 113
5.2.1 Biological Monitoring 113
5.2.2 MSCP Covered Species-Specific Monitoring and Management 115
5.2.3 Non-Native Invasive Wildlife Species Control 122
5.2.4 Future Research 123
5.3 Vegetation Management Element (B) 124
5.3.1 Habitat Restoration 124
5.3.2 Non-Native Plant Species Removal and Control 124
5.3.3 Fire Prevention, Control, and Management 125
5.3.4 Public Access 128
5.3.5 Fencing and Gates 130
5.3.6 Trail and Access Road Maintenance 131
5.3.7 Signage and Lighting 132
5.4 Operations and Facility Maintenance Element (D) 133
5.4.1 Litter/Trash and Materials Storage 133
5.4.2 Hydrological Management 133
5.4.3 Emergency, Safety and Police Services 134
5.4.4 Adjacency Management Issues 134
5.5 Cultural Resources Element (E) 135

6.0 REFERENCES 138
6.1 Personal Communications 147

TABLES

Table 1. Preserve Fire Interval Data 17
Table 2. Vegetation Communities/Land Cover Types within the Preserve 24
Table 3. Vegetation Communities/Land Cover Types within the Preserve –Holland Code 32
Table 4. Target Invasive Non-Native Plant Species 49
Table 5. Eligibility Status of Resources within the Preserve 108

FIGURES

Figure 1. Regional Location 5
Figure 2. Preserve Vicinity Map 8
Figure 3. MSCP Designations 10
Figure 4. Conserved Land 11
Figure 5. Soils Map 13
Figure 6. Hydrology Map 18
Figure 7. Fire History 19
Figure 8. Trails, Gates, and Fences 22
Figure 9a. Vegetation Communities Inset Areas 28
Figure 9b. Vegetation Communities and Land Cover Types 29
Figure 9b. Vegetation Communities and Land Cover Types 30
Figure 9d. Vegetation Communities and Land Cover Types 31
Figure 10a. Vegetation Communities Holland Code Map Index 33
Figure 10b. Vegetation Communities Holland Code Map 34
Figure 10c. Vegetation Communities Holland Code Map 35
Figure 10d. Vegetation Communities Holland Code Map 36
Figure 11. Special Status Plant Locations 45
Figure 12a. Invasive Species and Restoration Sites 51
Figure 12b. Invasive Species and Restoration Sites 52
Figure 12c. Invasive Species and Restoration Sites 53
Figure 12d. Invasive Species and Restoration Sites 54
Figure 13. Special Status Wildlife Locations 64
Figure 14. Vegetation Management Units 127

APPENDICES

Appendix A Management Directive and Implementation Measure Summary Table
Appendix B Baseline Biological Resources Evaluation, Sycamore Canyon and Goodan Ranch Preserves
Appendix C Baseline Biodiversity Survey for the Sycamore South and Hagey Study Areas
Appendix D Cultural Resources Phase I Survey and Inventory, Sycamore Canyon and Goodan Ranch Preserves, San Diego County, California (*Confidential*)
Appendix E Archaeological Survey Report for the Hagey and Sycamore South Properties, Additions to the Sycamore Canyon and Goodan Ranch Preserves, San Diego County California (*Confidential*)
Appendix F Sycamore Canyon and Goodan Ranch Preserves Vegetation Management Plan

LIST OF ACRONYMS

AMSL	above mean sea level
ASMD	area-specific management directive
CAL FIRE	California Department of Forestry and Fire Protection
Cal-IPC	California Invasive Plant Council
CDFW	California Department of Fish and Wildlife
CESA	California Endangered Species Act
CNPS	California Native Plant Society
CRPR	California Rare Plant Rank
DPR	County of San Diego Department of Parks and Recreation
FESA	Federal Endangered Species Act
FRAP	Fire and Resource Assessment Program
HCP	Habitat Conservation Plan
MCAS	Marine Corps Air Station
MSCP	Multiple Species Conservation Program
MSCP SAP	Multiple Species Conservation Program Subarea Plan
NAHC	Native American Heritage Commission
NCCP	Natural Community Conservation Plan
PAMA	Pre-Approved Mitigation Area
RMP	resource management plan
SANDAG	San Diego Association of Governments
SDG&E	San Diego Gas and Electric
SDMMP	San Diego Management and Monitoring Program
SLF	Sacred Lands File
SRA	State Responsibility Area
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VCM	Vegetation Classification Manual

1.0 Introduction

Sycamore Canyon and Goodan Ranch Preserve (Preserve) consist of approximately 2554-acres located just east of the Marine Corps Air Station (MCAS) Miramar and approximately two miles north of Santee within an unincorporated area of San Diego County (Figure 1). The original 2,272 acre Preserve was considered baseline preserve when the Multiple Species Conservation Program (MSCP) was adopted in 1997. The County Department of Parks and Recreation (DPR) acquired the adjacent Sycamore South and Sycamore North (formerly known as Hagey) properties in 2010-2011 for inclusion in the MSCP preserve system.

1.1 Purpose of Resource Management Plan

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

This RMP will:

a) guide the management of vegetation communities/habitats, plant and animal species, cultural resources, and programs described herein to protect and, where appropriate, enhance biological and cultural values;

b) serve as a guide for appropriate public uses of the property;

c) provide a descriptive inventory of the vegetation communities/habitats, plant and animal species, and the archaeological and/or historical resources that occur on this property, and;

d) establish the baseline conditions from which adaptive management will be determined and success will be measured; and

e) provide an overview of the operation and maintenance requirements to implement management goals.

Chapter 5 of this RMP includes guidance ASMD's (ASMD's) for Sycamore Canyon and Goodan Ranch Preserve.

Basic land management/stewardship, as detailed in this RMP, will be ongoing. However, detailed monitoring methods are beyond the scope of this document. It is commonly understood that monitoring needs to answer specific questions, should be



DUDEK

6680-08

FIGURE 1

Regional Map

Sycamore Canyon and Goodan Ranch Preserves - Vegetation Management Plan

Path: Z:\Projects\6680\06680008 - Sycamore County Park\MAPDOC\MAPS\Vegetation Management Plan\Figure1_Regional.mxd

prudently designed and should not just be conducted for the sake of collecting data. The San Diego Management and Monitoring Program (SDMMP) along with the Institute of Ecological Management and Monitoring (IEMM), both funded by the San Diego Association of Governments (SANDAG), have been instrumental in educating land managers on the importance of repeatable, scientifically defensible monitoring actions. The IEMM is currently developing an Integrated Management and Monitoring Framework with the intent to assist land managers in the preparation and implementation of their management and monitoring programs. Concurrently, the County is preparing a Comprehensive Monitoring Plan (CMP) that prioritizes monitoring needs and details monitoring methods to answer specific goals and objectives for various County owned/managed Preserves that have completed Resource Management Plans (RMPs).

Preparation of the CMP will involve research of existing literature including RMPs, meeting and workshop attendance, site visits and interaction with rangers, identification and prioritization of threats and stressors for each Preserve. Identifying threats and stressors at the individual Preserve level, and in the context of regional concerns, will help to determine the monitoring needs of each Preserve. Goals and objectives will be defined and will be SMART: Specific; Measurable; Achievable; Results-oriented and Time fixed. Conceptual models will be developed that will help link natural drivers, human stressors, and management actions such that adaptive management needs can be identified.

As mentioned above, this RMP serves as a resource inventory and guide for resource monitoring and management of resources and facilities. The CMP will prioritize specific resource monitoring needs and provide associated detailed monitoring methods for County owned/managed Preserves within the MSCP South County Subarea.

It is recognized that the County owned land is only a small portion of the MSCP preserve system. The County does ensure management of other lands that are dedicated as a conservation easement for discretionary project mitigation, through requiring land developers to prepare Resource Management Plans. The County will spearhead a larger coordinated effort to ensure that other conserved lands in the area that make up the MSCP Preserve are also being monitored and managed consistent with this RMP and the overall goals of the MSCP Plan and County's MSCP Subarea Plan when a regional funding source is identified pursuant to Section 10.9C of the Implementing Agreement.

1.1.1 MSCP Background

The MSCP is a cooperative habitat program that encompasses 582,000 acres and establishes a 172,000-acre preserve system in southwestern San Diego County. The MSCP covers 85 plant and animal species and 23 vegetation communities. Agencies participating in the MSCP include the County, other local jurisdictions, the U.S. Fish and Wildlife Service (USFWS) and the California Department of Fish and Wildlife (CDFW).

Local jurisdictions and special districts implement their respective portions of the MSCP Plan (City of San Diego 1998) through Subarea plans, which describe specific implementing mechanisms for the MSCP. The combination of the subregional MSCP Plan and Subarea plans serve as a Multiple Species Habitat Conservation Plan (HCP) pursuant to Section 10(a)(1)(B) of the Federal Endangered Species Act (FESA), the Natural Community Conservation Planning (NCCP) Program pursuant to the California NCCP Act of 1991 and the California Endangered Species Act (CESA). Sycamore Canyon, Sycamore North and Sycamore South Preserves are fully owned and operated by the County Department of Parks and Recreation. Goodan Ranch Preserve is owned jointly by DPR, California Department of Fish and Wildlife, City of Poway, and City of Santee. Through a Joint Powers Agreement (November 1995) DPR is identified as responsible for management of the property in cooperation with all parties.

1.1.2 County Subarea Plan

The MSCP Subarea Plan (MSCP SAP) was adopted in October 1997. The MSCP SAP is subdivided into three segments: Lake Hodges, South County, and Metro-Lakeside-Jamul, with the Sycamore Canyon and Goodan Preserve located in the Metro-Lakeside-Jamul segment. In this segment, preserve boundaries were not designated; rather, Pre-Approved Mitigation Areas (PAMA) consisting of high-value habitats were identified and a set of preserve design goals and criteria for cores and linkages were established for consideration during project review.

1.1.3 Framework Management Plan and Area-Specific Management Directives

According to Section 6.3.1 of the MSCP Plan and as a condition of the Implementing Agreement with the Wildlife Agencies (Section 10.10), the County was required to prepare a Framework Management Plan for the portion of the MSCP Preserve within the MSCP SAP's boundaries. The document was submitted to the Wildlife Agencies on August 31, 2001. The Framework Management Plan sets forth management goals and objectives, along with general management directives that apply to all areas of the MSCP SAP.

One of the general management directives of the Framework Management Plan pertains to public access, trails and recreation and states that appropriate recreational activities shall be accommodated in concurrence with the goals of the MSCP and MSCP SAP, as follows:

a) Public access and passive recreation are permitted uses within specified areas of the preserve. Access points, new trails and facilities, and a public control plan will be included in the specific framework habitat management plans and the area-specific management directives.

b) Riding and hiking trails will be allowed within the preserves to allow passive recreational opportunities for the public. Passive recreation includes hiking, scientific research, bird watching, and under specified conditions and locations identified in approved projects and or management plans, mountain biking, horseback riding, sailing, sun bathing, fishing, and swimming.

Equestrian, hiking, and bicycles may be allowed when in accordance with approved management plans and are consistent with the County of San Diego MSCP SAP. All recreational activities will be required to avoid impacts to narrow endemics or unique critical populations of specific species, unless the activities are in "take" authorized areas as identified or allowed under the MSCP.

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

1.2 Implementation

1.2.1 Management Approach

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

It is anticipated that the recommended management actions provided in this RMP will be dynamic in nature. Applying adaptive management, the effectiveness and appropriateness of recommended management actions would be determined through review of management goal and objective achievement so that changes can be made to management directives and implementation measures as needed. Adaptive management techniques depend upon the specific issues impacting the resources. Therefore, the techniques herein may be subject to change or revisions when applied. Additionally, the monitoring protocols/requirements for MSCP covered species and habitats will be revisited periodically by participants of the MSCP and are subject to change based on adoption of updated protocols. It is anticipated that this RMP will be revised once every five years, as needed. The RMP may be revised on a shorter time scale if there is a change in conditions, for example, acquisition of additional Preserve land, new species occurrences, or wildfires.

1.2.2 Responsible Parties/Designation of Land Manager

The County is responsible for management, biological monitoring, and meeting the conditions of MSCP coverage on County-owned lands conserved as part of the MSCP Preserve system within the County's jurisdiction, which includes County-owned land. The Preserve is operated, administered, and managed by the County Department of Parks and Recreation (DPR) and the DPR District Manager assigned to the Preserve as the land manager. The Sycamore Canyon, Sycamore South and Sycamore North properties are fully owned and operated by the DPR while the Goodan Ranch property is owned jointly by DPR, California Department of Fish and Game, City of Poway, and City of Santee. Through a Joint Powers Agreement (November 1995) DPR is identified as responsible for management of the Goodan Ranch property in cooperation with all parties. The entire Preserve is managed together under one DPR Park Manager. DPR (District Manager and staff of the Resources Management Division) will also be responsible for the implementation and enforcement of the RMP.

The Preserve is located in the management district of one full time supervising park ranger, one half time park ranger, one park maintenance worker, and 2 full time and one part time park attendants. The Preserve is patrolled several times a week particularly along the northern, western and eastern property boundaries. It is expected that many of the implementation measures, especially the maintenance tasks, will be carried out by the rangers who are most familiar with the site and currently patrol the Preserve.

1.2.3 Regulatory Context

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

1.2.4 Limitations and Constraints

The County allocates general funds for costs to implement the MSCP, including funding for land management, stewardship, and adaptive management and monitoring. The County Board of Supervisors approved approximately $4.7 million of General Fund allocations for implementation of the MSCP for fiscal years 2012-2013 and 2013-14 (County 2012). Base funding for land management costs will be

maintained for baseline preserves owned by the County and will be increased as lands are acquired in the future.

The County estimates that current funding levels will provide for adaptive management and monitoring on all currently owned lands. Future regional funding sources are also anticipated to fund adaptive management and monitoring activities throughout the preserve system.

2.0 Property Description

2.1 Legal Description

The Preserve is located east of MCAS Miramar, south of Scripps Poway Parkway, east of the City of Poway and west of State Route 67 in unincorporated San Diego County, approximately two miles north of the city of Santee. It is located in the United States Geological Survey (USGS) 7.5-minute San Vicente Reservoir quadrangle within Township 14 South, Range 1 West, Sections 21, 22, 23, 26, 27, 28, 33, 34, and 35 and Township 15 South, Range 1 West, Sections 2, 3 and 4 (Figure 2).

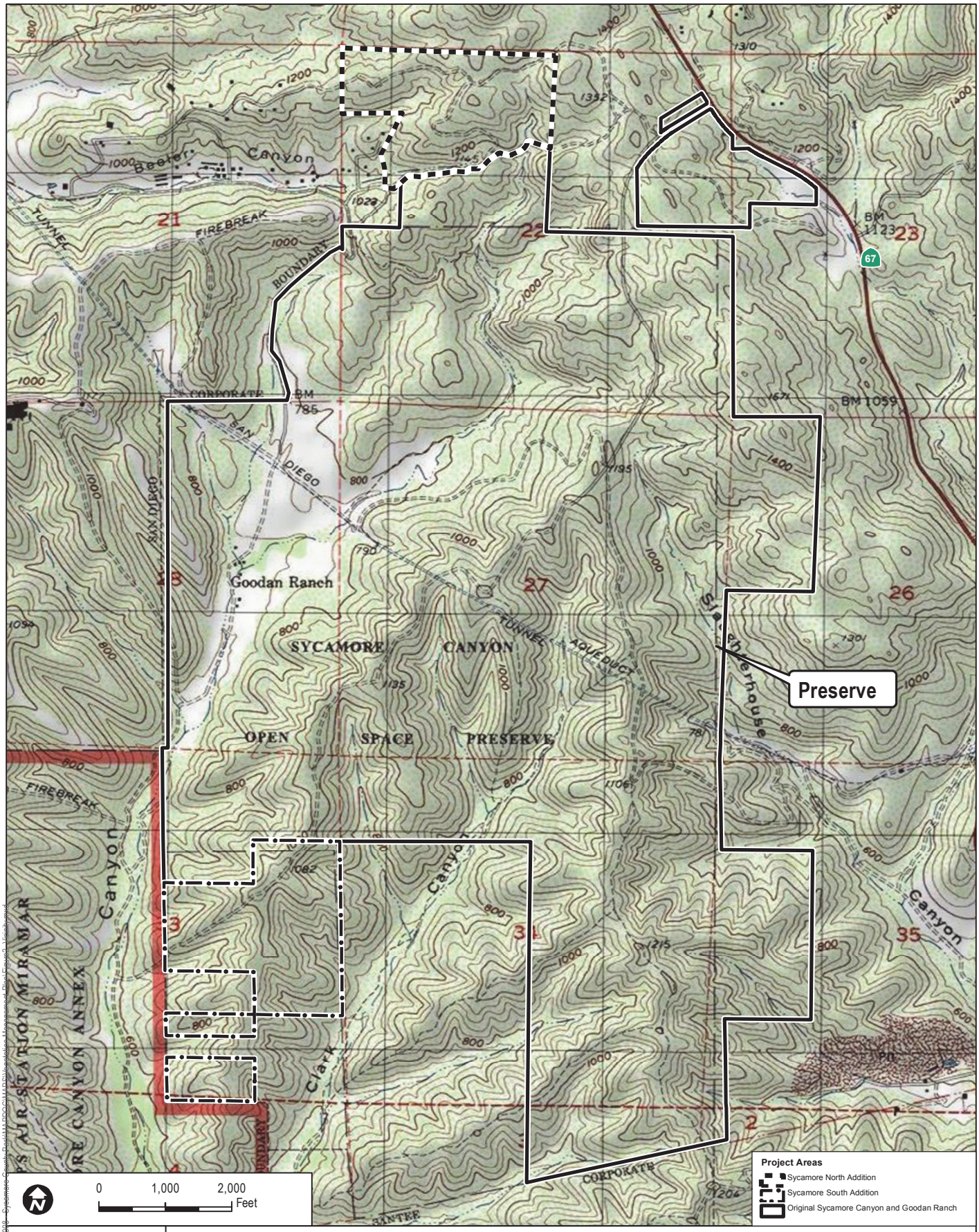
The Assessor's Parcel Numbers for the Preserve are: 323-111-04; 324-040-41; 324-040-42; 324-040-46; 324-040-50; 324-041-01; 324-041-02; 324-050-28; 325-020-01; 325-020-03; 325-060-01; 325-060-02; 325-060-03; 326-021-02; 326-050-18; 326-070-01; 325-060-04; 325-060-05; 325-060-06; 325-060-07; 325-060-10; 325-060-11; 325-060-12; 325-060-17; 325-060-18; 325-060-19; 325-060-20; 325-060-21; 325-060-22, 325-060-23; 325-060-24; 324-040-25; 324-040-26; 342-040-27; 324-040-28; 324-040-31; and 324-040-32.

2.2 Geographical Setting

The Preserve is located in the coastal foothills of the Peninsular Ranges of Southern California and is composed of hilly terrain characterized by foothill uplands with narrow ridgelines separated by numerous steep canyons, ravines, and drainages. Specifically, the western edge of the Preserve is bounded by the Sycamore Canyon drainage with the Sycamore Canyon Preserve extending east to across a ridgeline system to Slaughterhouse Canyon. The Sycamore North property, located at the northern reach of the Preserve, is separated from the rest of the Preserve by Calle de Rob. The Sycamore South parcels are composed of three (3) non-contiguous areas in the southern region of the Preserve. The Preserve has a slope gradient range from flat to 46º. Elevations range between approximately 190 to 460 meters (640-1,530 feet) above mean sea level (AMSL).

2.2.1 Site Access

Road access in the Preserve is fairly limited due to terrain, although several unpaved roads provide access in the northern and central portions of the Preserve. In addition, several hiking trails are located within the Preserve, situated along



DUDEK

6680-08

SOURCE: USGS topo 7.5-Minute Series Quadrangle

FIGURE 2
Vicinity Map

ridgelines and along the bottom of Sycamore Canyon and its tributary to the east. The Preserve's eastern ridge is accessible via Sycamore Park Drive at Highway 67. This road is gated at Highway 67 and provides vehicular access to a ridge top staging area. The western edge of the Preserve is accessible via Sycamore Canyon Road from either Beeler Canyon Road or Garden Road off Poway Road. Scripps Poway Parkway does not connect to Sycamore Canyon Road. Sycamore Canyon Road, which is a two-lane, 24 feet wide asphalt road, provides access to several rural residential properties before entering the Preserve's northern boundary. These two access roads are also connected within the Preserve via the Cardiac Hill road which drops westerly from the ridgeline down to Sycamore Canyon.

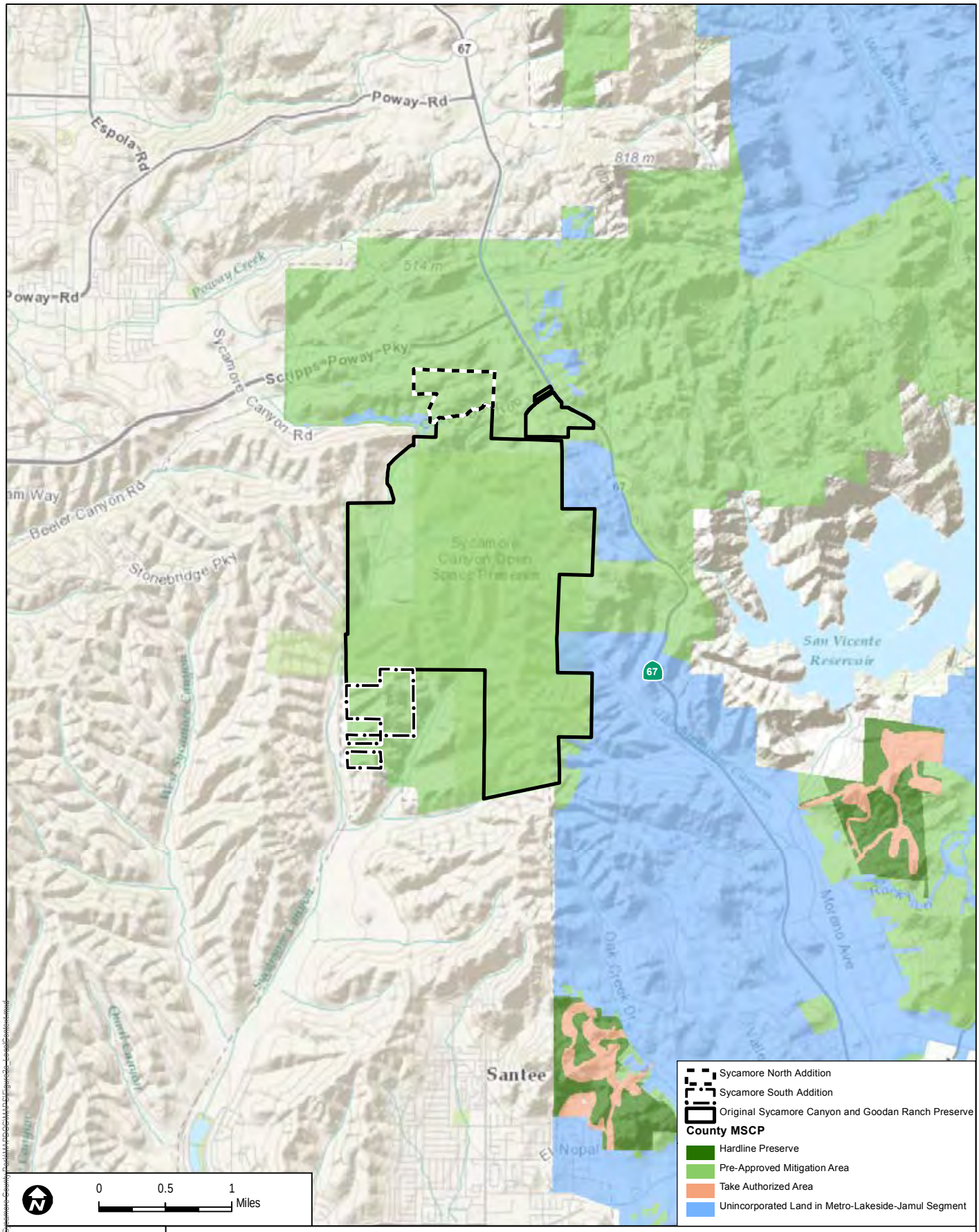
Dirt roads within the Preserve are on the average about 10 feet wide. All roads have been recently graded and are in good condition. Most of the interior roads and trails have been given names and are marked on a Preserve map. The trails have been identified with trail signs; however, signage has not been erected for the dirt roads. Calle de Rob connects Sycamore Park Drive and Sycamore Canyon Road through the northern end of the Preserve and Paragon Mesa Road bisects the northern-most portion of the Preserve. Roads located along the easternmost portion of the Preserve are maintained and used by the San Diego County Water Authority and San Diego Gas and Electric (SDG&E).

In addition to the aforementioned primary access roads, the southern portion of Sycamore Canyon within the Preserve may be reached via Sycamore Canyon Road at the northern end of Fanita Parkway in the City of Santee. This access point is gated at the water treatment facility in Santee.

2.2.2 MSCP Context

The Preserve is located within the jurisdiction of the MSCP SAP, specifically the North Metro-Lakeside-Jamul segment, and is designated as PAMA (County of San Diego 1998). PAMA are areas within the MSCP with high conservation values, and are important to the success of the regional preserve system. Additional MSCP PAMA lands are located to the north, east, and northeast of the Preserve (Figure 3). Open space surrounds the Preserve with scattered rural residences to the northwest and mining operations to the southeast in Slaughterhouse Canyon (Figure 4). Privately owned open space land located to the west of the Preserve is within the City of San Diego and to the south, within the City of Santee. Open space property to the southwest of the Preserve is owned by MCAS Miramar. The optimum future condition envisioned for the Lakeside-Jamul Segment is a network of open and relatively undisturbed canyons, ridges, river valleys, and their associated slopes, containing a full ensemble of native species which provide functional wildlife habitat and movement capability.

The Preserve is also located within the Central Poway/San Vicente Reservoir/North Poway designated MSCP Core Area. The Central Poway/San Vicente Reservoir/North Poway Core Area is connected to two Core Areas to the south – Lake Jennings/Wildcat Canyon-El Cajon Mountain and Mission Trails/Kearny



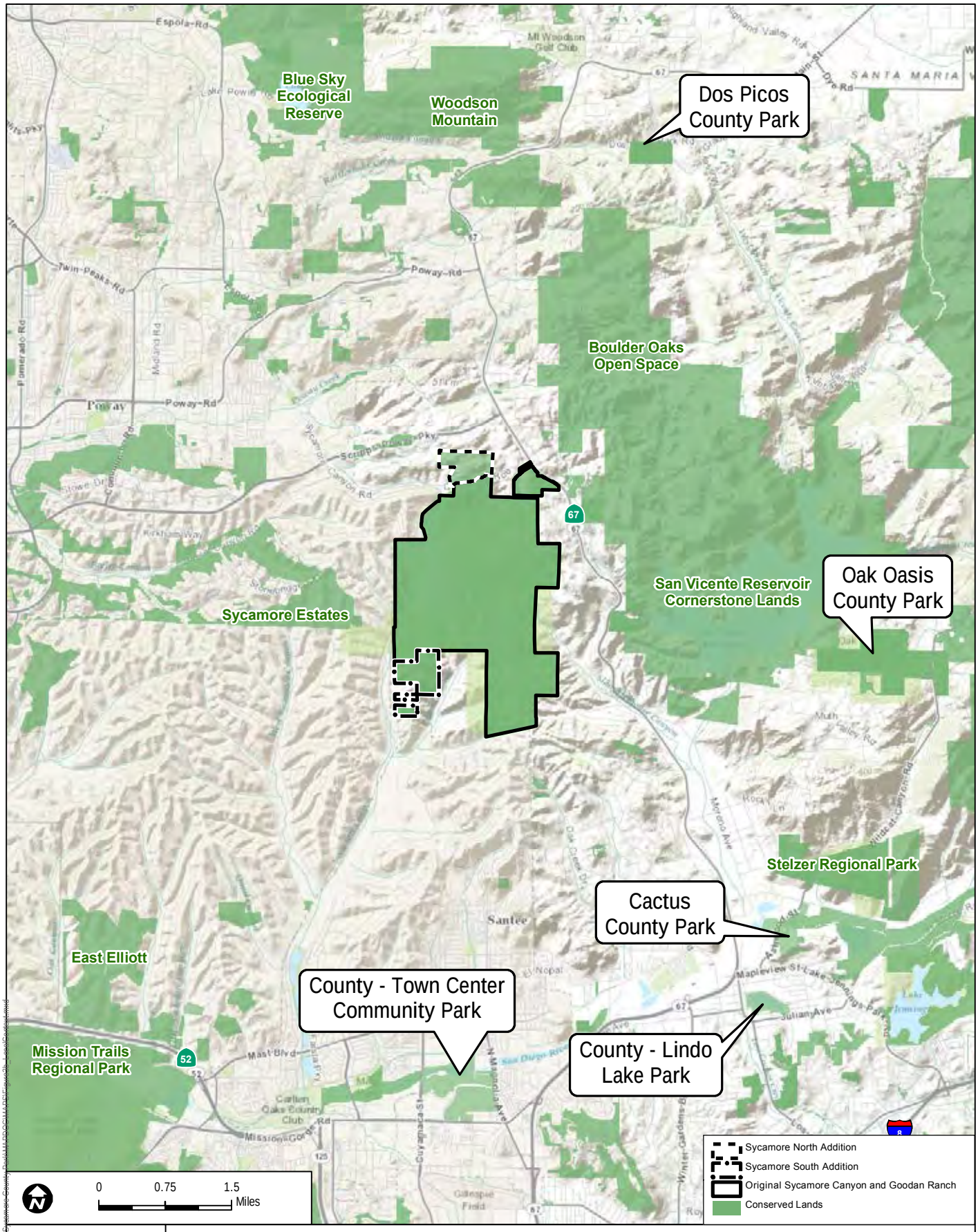
DUDEK

6680-08

SOURCE: USGS

FIGURE 3

MSCP Designations



DUDEK

6680-08

SOURCE: USGS, SanGIS 2012

FIGURE 4

Conserved Lands

Mesa/East Elliot/Santee and the Hodges Reservoir/San Pasqual Valley Core Area to the north. Biological linkages are also found along State Route 67 to the north and south and Poway Road to the west. In addition, the Preserve is an important connection to other large open space preserves including MCAS Miramar, Mission Trails Regional Park, and Iron Mountain.

The habitat within the Preserve varies from very high to medium quality native habitats, as well as areas that have been marginally impacted by human activities including two staging areas, ranger station, and trail system. In general, human disturbance is minimal and constrained to trails, although there are a few unauthorized trails on the Preserve. San Diego Gas & Electric (SDG&E) retains a 100-foot wide electric transmission easement (consisting of three separate easements) running along the northern edge of the northeast portion of Sycamore Canyon Preserve. The easements allow for SDG&E ingress/egress rights via access roads to this easement. The Sunrise Powerlink is also located within this 100-foot transmission easement.

2.3 Physical and Climatic Conditions

2.3.1 Geology and Soils

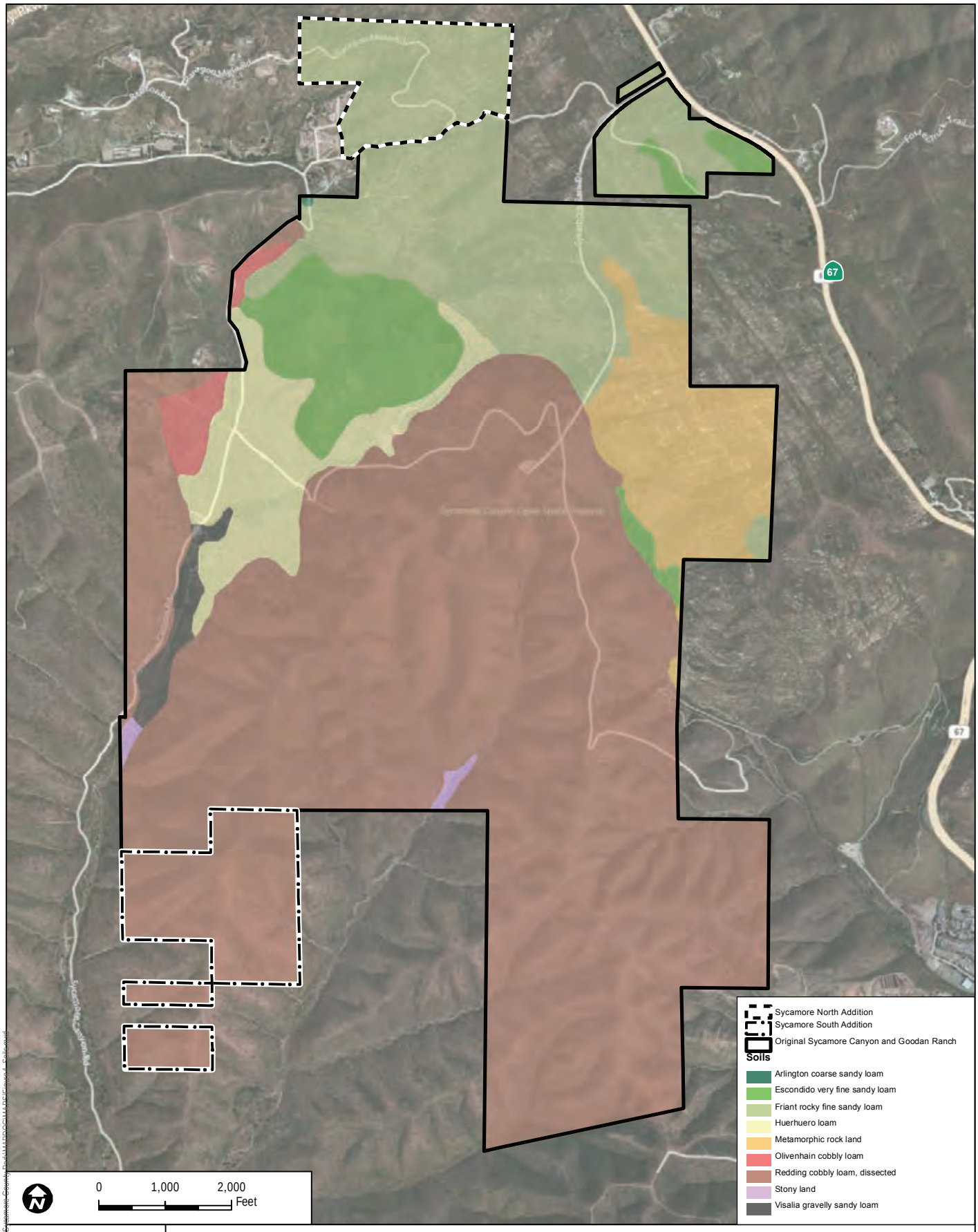
The Preserve contains nine soil types belonging to nine soil series. They are: Arlington coarse sandy loam, Escondido very fine sandy loam, Friant rocky fine sandy loam, Huerhuero loam, Metamorphic rock land, Olivenhain cobbly loam, Stony land, Redding cobby loam, and Visalia gravelly sandy loam (Figure 5) (USDA 2010). A brief description of each soil series and the associated soil type is provided below.

Arlington Series

Arlington coarse sandy loam is the representative Arlington series mapped within a small portion of the northwestern corner of the Preserve and supports southern mixed chaparral. Arlington soils are characterized as moderately well drained moderately deep coarse sandy loams and are usually found on alluvial fans with slopes ranging from 2% to 9%. It is found at elevations ranging from 122–335 m (400–1,100 ft). The surface layer is brown in color and coarse sandy loam in texture. The subsoil is yellowish-brown, brown, and light yellowish-brown in color and slightly acidic. The substratum extends to a depth of 122 centimeters (cm) [48 inches (in)] and is weakly cemented, slightly acidic coarse sandy loam. The Arlington series occur from the coastal and intermediate valleys of southern California (NRCS 2012).

Escondido Series

Escondido very fine sandy loams are the representative of the Escondido series found in uplands at elevations ranging from 122-853 m (400-2,800 ft) on 5% to 9% slopes, 9% to 15% slopes, and 15% to 30% slopes. This soil series is characterized



DUDEK

6680-08

SOURCE: Bing, USDA Soils 2010

FIGURE 5
Soils Map

by moderately deep to deep, well drained fine sandy loams. The surface layer is dark brown very fine sandy loam that is usually 15 cm (6 in) thick and slightly acidic. The subsoil is brown very fine sandy loam that is usually 58 cm (23 in) thick and neutral. The layer below this consists of metasedimentary rock. These soils are found in the northwestern portion of the Preserve and supports southern mixed chaparral and non-native grassland and sensitive plant species San Diego thornmint, Palmer's grappling hook, California adder's tongue, and small flowered morning glory. The Escondido series occur mainly in San Diego and Western Riverside counties (NRCS 2012).

Friant Series

Friant rocky fine sandy loam is the representative of the Friant series mapped within the entirety of the Sycamore North property and northwestern most portions of the Preserve. Friant soils are shallow and well drained; they are characterized by medium to very rapid runoff and moderately rapid permeability. Friant soils are found in mountainous uplands with slopes varying from 7% to 90%. Typical vegetation found on this soil series is buckwheat, chaparral, and naturalized grasses and forbs. The layer below this consists of metasedimentary rock. Boulders and rock outcrops are present. The Friant series occurs from the foothills of the east side of the San Joaquin Valley and the southwestern area of Southern California (NRCS 2012).

Huerhuero Series

Huerhuero loam is the representative Huerhuero series located in the western portions of the Preserve. This soil series consists of moderately well drained loams that have a clay subsoil. These soils developed in sandy marine sediment and are typically found on slopes ranging from 2 to 30 percent with elevations ranging from 3 to 122 m (10 to 400 ft). In a representative profile the surface layer is brown and pale-brown, strongly acidic and medium acid loam about 30.48 cm (12 in) thick. The upper part of the subsoil is brown, moderately alkaline clay and extends to a depth of about 104.14 cm (41 in). Below this, and extending to a depth of more than 152.4 cm (60 in), is a brown, mildly alkaline clay loam and sandy loam. The specific soil type found in the Preserve is Huerhuero loam (2 to 9 percent slopes and 9 to 15 percent slopes). Within the Preserve, this soil type supports southern mixed chaparral, non-native grasslands, disturbed freshwater marsh and southern coast live oak riparian woodland. Sensitive plant species found on this soil type include graceful tarplant. The Huerhuero series occurs in San Diego County, Ventura and Los Padres National Forest Area (NRCS 2012).

Metamorphic Rock Land Series

This soil type occurs in excessively drained hilly to mountainous areas within the northeastern portion of the Preserve. Fifty percent to 90% is exposed rock outcrops, angular stones and cobblestones. There is 25 cm (10 in) or less of soil material that consists of very fine sandy loam to silt loam. Within the Preserve, this soil type

supports southern mixed chaparral and the sensitive plant species Palmer's sagebrush.

Olivenhain Series

Olivenhain cobbly loam is the representative of the Olivenhain series on the found in two small areas in the northwestern corner of the Preserve. This soil series is characterized by well drained, moderately deep to deep cobbly loams and is usually found on slopes ranging from 2 to 50 percent. It is found on dissected marine terraces at elevations ranging from 30–183 m (100–600 ft). The surface layer is usually 25 cm (10 in) thick and moderately acidic. The topsoil is brown and reddish-brown and cobbly loam in texture. The subsoil is reddish-brown, red, and pink in color, strongly acidic, very cobbly clay and clay loam and is about 81 cm (32 in) thick. The substratum is pinkish-white in color and strongly acidic. Runoff is medium to rapid and the erosion hazard is moderate to high. The soil type supports southern mixed chaparral and sensitive plant species San Diego thornmint. The Olivenhain series are found in the coastal plains of southern California (NRCS 2012).

Redding Series

Redding cobbly loam, dissected is the representative in the Redding series which is found entirely within the Sycamore South property and the southern and central portions of the Preserve. This series is composed of moderately deep to duripan, well or moderately well drained soils formed in alluvium. This series is found on dissected or level and undulating hilly high terraces at elevations ranging from 61-152 m (200-500 feet), which characterize the Sycamore South property. These soils are well or moderately well drained, have slow permeability, and runoff varies from low to high, although there is typically ponding in intermound areas. This soil series is characterized by well drained, undulating to steep gravelly loams and is usually found on slopes ranging from 2 to 20 percent. The surface layer is usually 38 cm (15 in) thick and medium to strongly acidic gravelly loam. The subsoil is yellowish-red and red in color, very strongly acidic, gravelly heavy clay loam and gravelly clay and is about 76 cm (30 in) thick. Below this is iron-silica cemented hardpan. Annual grasses and forbs are typical native vegetation found on soils in the Redding series (NRCS 2012). Within the Preserve this soil type primarily supports southern mixed chaparral. Sensitive plants found on this soil type include willowy monardella, San Diego thornmint, small flowered morning glory, Palmer's grappling hook, California adder's tongue, and variegated dudleya. Redding series soils are found on high terraces along the northern and eastern edge of the Central Valley in California (NRCS 2012).

Stony Land Series

Stony land series soils occur at the base of cliffs or below steep rocky slopes. The material consists of many stones, in many places there are large boulders 0.9 to 1.8 m (3 to 6 ft) in diameter on the surface. This soil type is found within two areas

within the southwestern portion of the Preserve and is associated with openings in southern mixed chaparral and southern coast live oak riparian woodland.

Visalia Series

Visalia gravelly sandy loam, in the Visalia series, is found near the visitor center within the developed lands and within the southern coast live oak riparian woodland vegetation located in the southwestern portion of the Preserve. This soil series is characterized by moderately well drained, very deep sandy loams and is usually found on slopes ranging from 0 to 15 percent. It is found on alluvial fans and floodplains at elevations ranging from 122 – 610 m (400-2,000 ft). The surface layer is usually 30.5 cm (12 in) thick and slightly acidic. The topsoil is dark grayish-brown in color and sandy loam in texture. The subsoil is dark grayish-brown, slightly acidic, sandy loam and loam and is more than 152.4 cm (60 in) thick. Runoff is very slow to medium and the erosion hazard is slight to moderate. The gravelly sandy loam consists of approximately 15 percent gravel. Visalia series soils occur in San Diego County, western Riverside County, eastern Fresno, Sierra National Forest, and Madera (NRCS 2012).

2.3.2 Climate

As with most of Southern California, the regional climate in the vicinity of the Preserve is influenced by the Pacific Ocean and is frequently affected by a seasonal, migratory, subtropical high-pressure cell known as the Pacific High (WRCC 2012a). Wet winters and dry summers with mild seasonal changes generally characterize the Southern California climate. This climate pattern is occasionally interrupted by extreme periods of hot weather, winter storms, or dry, easterly Santa Ana winds (WRCC 2012a).

There is some local variance in the typical Southern California climate. The inland location of the Preserve affects the degree of influence of the Pacific Ocean, resulting in less-regulated temperatures. The average high temperature calculated from August 1957 to December 2005 for the surrounding Poway Valley area is approximately 75.1º Fahrenheit (F), with higher temperatures in summer and early fall (June through September) reaching up to an average of 83.8°F (WRCC 2012b). The average annual low temperature for the same period is 49.8°F and winter low temperatures routinely range from 38 to 43°F. The mean annual precipitation for the area is 13.24 inches, with most rainfall concentrated in the months of January (2.80 inches), February (2.70 inches), and March (2.30 inches) (WRCC 2012b). Rainfall is much less during summer months of June (0.08 inches), July (0.04 inches), and August (0.07 inches) (WRCC 2012b). In Poway Valley, the 2011-2012 season (July through June) cataloged 23.18 inches of rain, while the 2010-2011 season cataloged 22.24 inches of rain (WRCC 2012b).

2.3.3 Hydrology

The extreme northern portion of the Preserve is located within the Peñasquitos Watershed, while the remaining Preserve area is within the San Diego Watershed (Figure 6). The upper reaches of Sycamore Canyon and Clark Canyon drain southwesterly into Sycamore Creek, and ultimately into the San Diego River. The upper reach of Slaughterhouse Canyon drains southeasterly from the Preserve into San Vicente Creek, which then flows southward into the San Diego River. The San Diego River then flows southwest, ultimately draining into the Pacific Ocean. The upper reach of Beeler Canyon drains northward, into Beeler Creek and ultimately into Peñasquitos Creek. Peñasquitos Creek then flows west, also draining into the Pacific Ocean.

2.3.4 Fire History

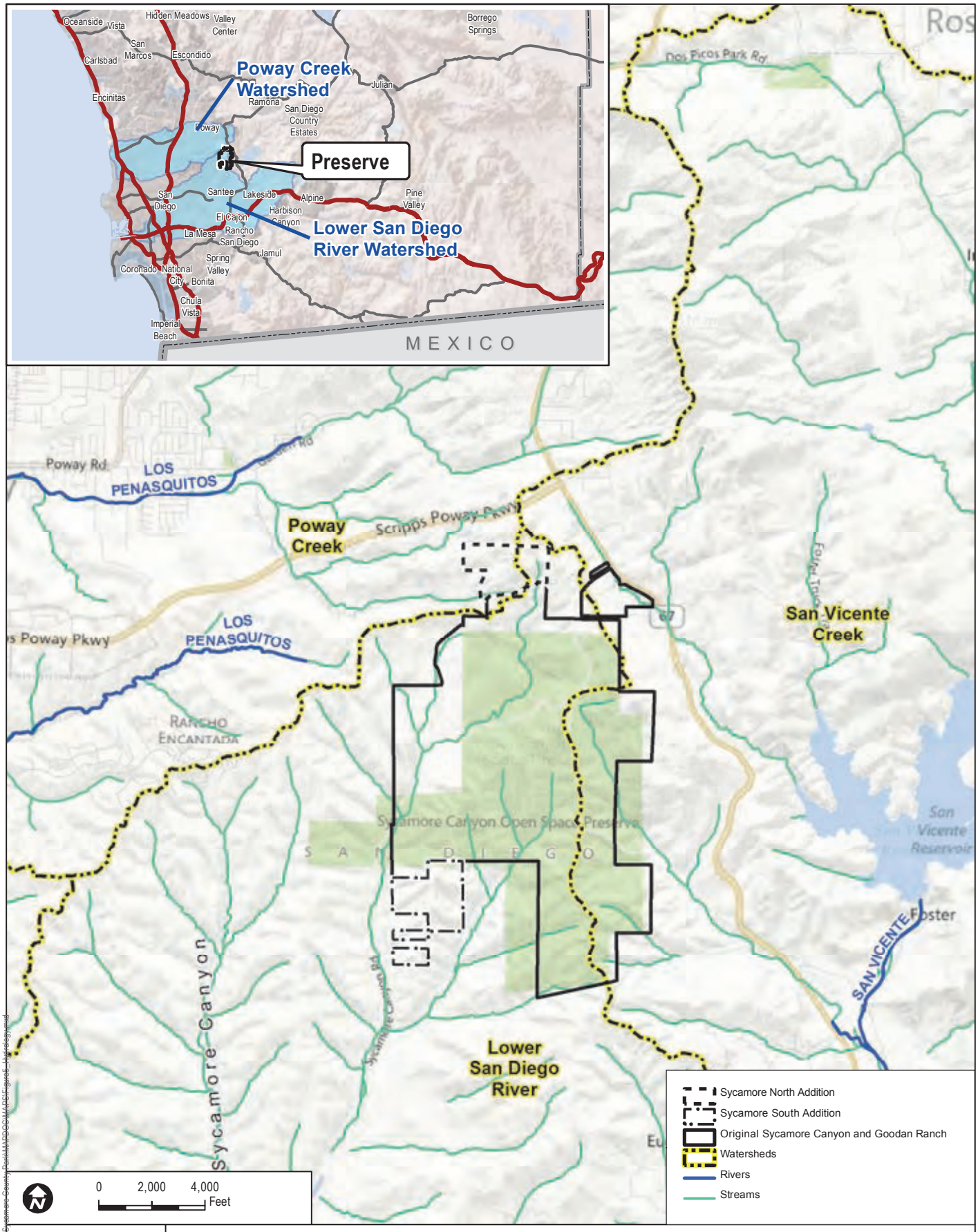
The Preserve is classified as a Very High Fire Hazard Severity Zone by the California Department of Forestry and Fire Protection (CAL FIRE) (FRAP 2012). The entirety of the Preserve is designated a state responsibility area (SRA). Therefore, the Preserve lies within the service area of CAL FIRE and the City of Poway Fire Department.

Based on historical fire perimeter data (FRAP 2012) , all of the Preserve has burned at least once during the recorded data period, with fires occurring in 1913, 1938, 1950, 1955, 1971, 1985, 1986, 1994, and 2003 (Figure 7). Some areas of the Preserve have burned as many as four times over the course of the recorded fire history. Table 12 presents the quantity of times the Preserve has burned by land area (acreage).

Table 1. Preserve Fire Interval Data

Fire Year*	Fire Name	Interval (years)	Acreage Burned	Percent of Preserve Burned**
1913	Unnamed	N/A	14.45	0.6%
1938	Unnamed	25	369.38	14.5%
1950	Elliott Reservation	12	20.17	0.8%
1955	Goat Mtn.	5	414.01	16.2%
1971	Rabbit	16	105.29	4.1%
1985	Sycamore	14	564.99	22.1%
1986	Sycamore #2	1	29.24	1.1%
1994	Rocoso	8	86.77	3.4%
2003	Sycamore	9	245.93	9.6%
2003	Cedar	0	2,278.94	89.2%

*FRAP 2012
**Based on total Preserve acreage of 2,554.67



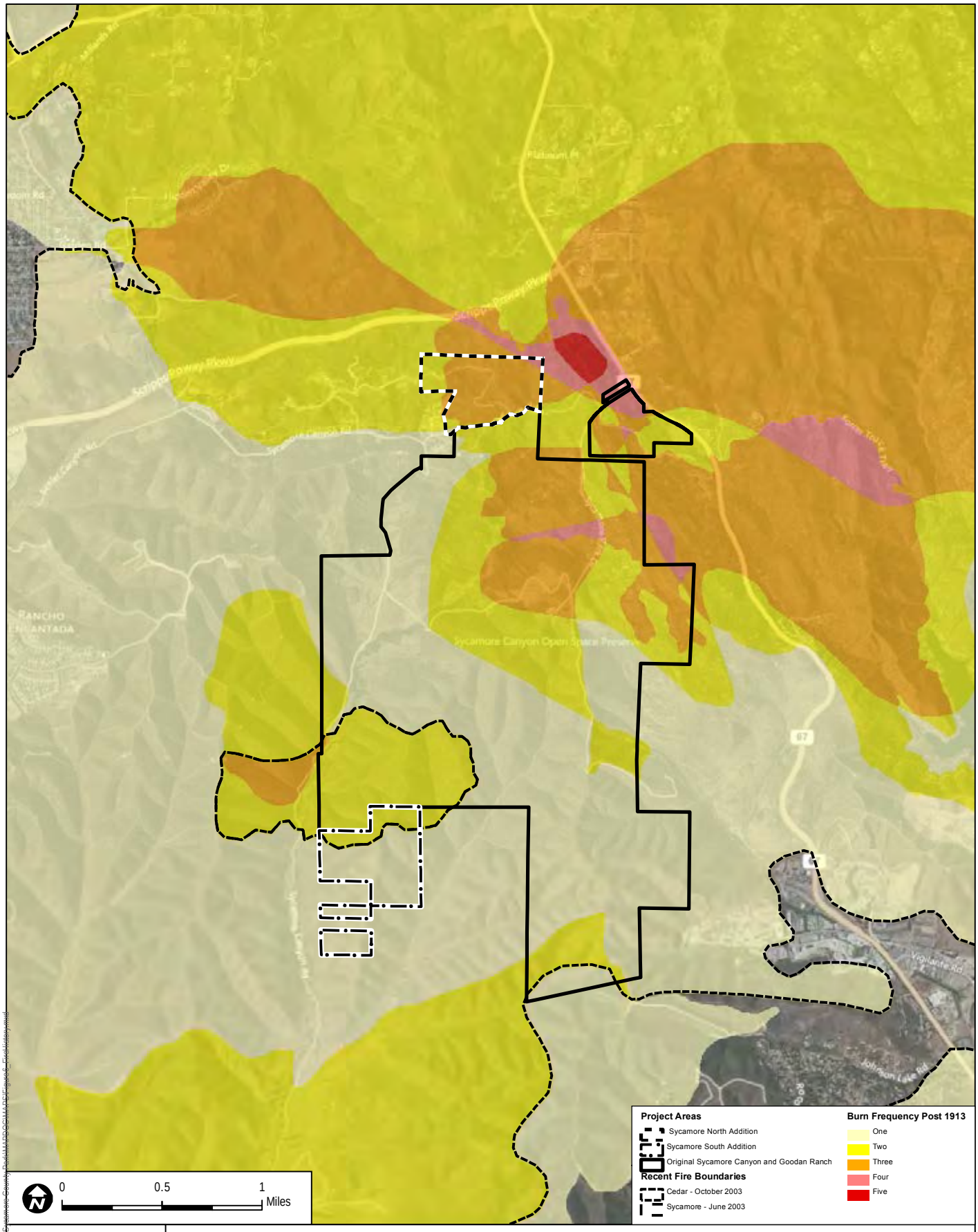
DUDEK

6680-08

SOURCE: Bing 2012, USGS 2012

FIGURE 6

Hydrology Map



DUDEK

6680-08

SOURCE: Bing, SanGIS 2012

FIGURE 7
Fire History

2.4 Land Use

2.4.1 On-Site Land Use

A 13 mile multi-use (hiking, biking, and equestrian use) trail extends north-south across the Preserve originating from a staging area located off of Sycamore Canyon Road in the northern section of the Preserve (Figure 8). In addition to the trails, two staging areas, and a ranger station are located within the Preserve. The northern area of the Sycamore Canyon Preserve can be accessed via a staging area located off of Sycamore Canyon Road. A pull-out area is located off of State Route 67 that provides access from the northeastern area of the Preserve. A second staging area is located in the center portion of Sycamore Canyon Preserve that is accessed from the State Route 67 entrance.

2.4.2 Adjacent Properties

The Preserve lies approximately one mile west of the northernmost portion of San Vicente Reservoir. Open space surrounds the Preserve with scattered rural residences to the northwest in the Cities of Poway and San Diego and mining operations to the southeast (Hanson Aggregates) in Slaughterhouse Canyon. Privately owned open space land located to the west of the Preserve is within the City of San Diego and to the south, within the City of Santee. Open space property to the southwest of the Preserve is owned by MCAS Miramar.

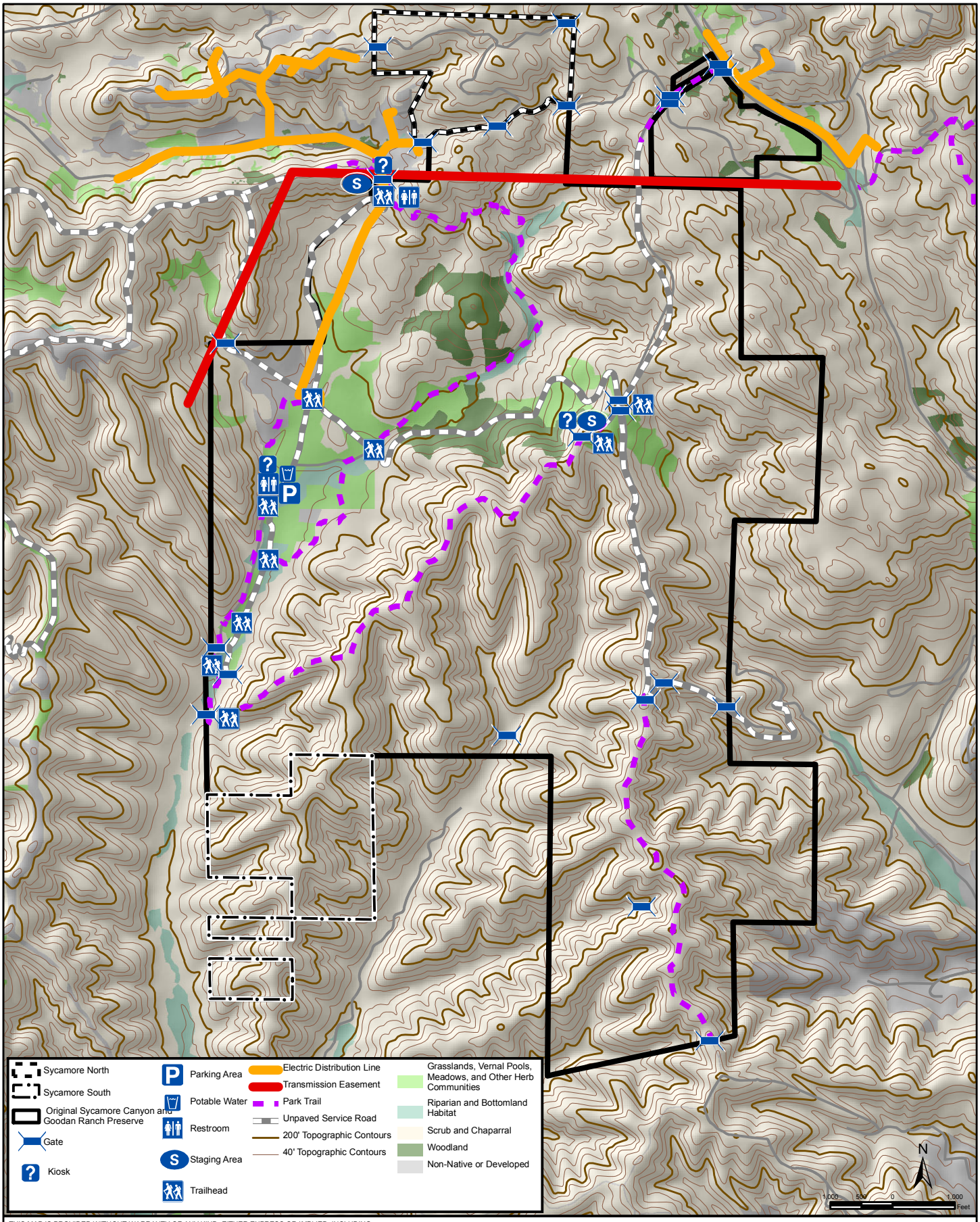
2.4.3 Easements or Rights

Several easements are present within the Preserve. The San Diego County Water Authority retains an easement across the Preserve for water pipelines from San Vicente Reservoir. San Diego Gas and Electric retains a 100-foot wide electric transmission easement, consisting of three separate easements with eight transmission structures, running along the northern edge of the northeast portion of the Preserve (Figure 8). This easement also contains the Sunrise Powerlink Project. The easements allow for SDG&E ingress/egress rights via access roads to this easement. Distribution poles/conductors within a 12-foot easement run from the northwest corner of the Preserve. SDG&E conducts operation and maintenance activities for their facilities consistent with the SDG&E NCCP (SDG&E 1995). The SDG&E NCCP was approved by the wildlife agencies and is compatible with this RMP.

2.5 Trails

The Preserve contains approximately 13 miles of multi-use trails (Figure 8). Portions of the onsite trails are part of the Trans County Trail - an east-west regional trail that will eventually connect coastal bluffs to the desert. The on-site trail ending at the southern boundary of the Preserve is gated and does not currently connect to a designated trail system.

The Sycamore North property is not currently open to the public and there is no designated, formal trail system within the Sycamore North or Sycamore South additions. At this time, there is no authorized access permitted within the Sycamore South or Sycamore North additions.



THIS MAP IS PROVIDED WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

This product may contain information from SANDAG Regional Information System which cannot be reproduced without the written permission of SANDAG.

This product may contain information which has been reproduced with permission granted by ThomasBrothers Maps.

Copyright 2008 Eagle Aerial Imaging, All Rights Reserved.; Copyright SanGIS. All Rights Reserved.

Figure 8
Trails, Gates, Access Roads and Easements
Goodan Ranch/Sycamore Canyon
Open Space Preserve

Path: E:\MXDs\09\09_04_RMP_GoodanSycamore.mxd, 07/03/13, mcasey

3.0 Biological Resources Description

Baseline biological surveys of the original Preserve were first conducted in 2008 (ICF Jones and Stokes 2008). In 2010-2011, DPR acquired two new parcels, Sycamore North and Sycamore South, as additions to the Preserve and baseline biological surveys of these newly acquired parcels were conducted in 2012 (Dudek 2012). The results of these surveys are attached as Appendices B and C. The 2008 and 2012 survey results were incorporated into this RMP.

The surveys documented 28 plant alliances, associations, or semi-natural stands and 582 plant and animal species within the Preserve. The surveys detected 224 animal species which break down into: 81 invertebrate species, 25 herptiles (two amphibians and 23 reptiles), 80 bird species, 38 mammal species (14 bats, 13 small mammals, and 11 medium/large mammals) and 358 plant species. Thirty-nine special-status wildlife species were detected during baseline surveys in 2008 and/or 2012, of which 11 are MSCP-covered species.

3.1 Vegetation Communities/Habitat

The Preserve consists of 28 plant alliances or associations (Table 2; Figures 9a-d). These vegetation community types are described below and organized as they are in the classification key by functional group (e.g., riparian forest and woodlands, upland forests and woodlands, evergreen shrublands, drought-deciduous shrublands, and upland herbaceous vegetation). The Vegetation Classification Manual (VCM) for Western San Diego County does not include unvegetated habitat (e.g. disturbed land and urban/developed); therefore, unvegetated habitat is described using the Oberbauer-modified Holland classification system (Oberbauer et al. 2008, Holland 1986).

Until the VCM was finalized in 2011, MSCP preserve lands were generally mapped using the Holland classification system. To ensure consistency with previous mapping efforts, the Preserve map data layer was cross-walked to the Holland system pursuant to the VCM (AECOM et al. 2011; Table 2). The vegetation types found on the Preserve following the Holland classification system are shown in Table 3 and Figures 10a-i.

Table 2. Vegetation Communities/Land Cover Types within the Preserve

VCM CODE	VCM Alliance/Association	VCM Common Name	Holland Code	Holland Classification	Acres on Site
Drought Deciduous Shrublands					
4.1	*Adenostoma fasciculatum* Alliance	Chamise Chaparral Alliance	37200	Chamise Chaparral	526.24
4.1.4	*Adenostoma fasciculatum – Ceanothus tomentosus* Association	Chamise Chaparral-Woolly-leaved Ceanothus Association	37200	Chamise Chaparral	668.54
4.1.5	*Adenostoma fasciculatum – Acmispon glaber* Association	Chamise Chaparral-Deerweed Association	37200	Chamise Chaparral	8.30
4.18.1	*Ceanothus tomentosus* Association	Woolly-leaved Ceanothus Association	37120	Southern Mixed Chaparral	144.53
4.2	*Adenostoma fasciculatum – Cercocarpus betuloides Alliance*	Chamise Chaparral-Mission Manzanita Alliance	37120	Southern Mixed Chaparral	8.96
4.2.3	*Adenostoma fasciculatum – Cercocarpus betuloides – Ceanothus tomentosus* Association	Chamise Chaparral-Mission Manzanita-Woolly-leaved Ceanothus Association	37120	Southern Mixed Chaparral	74.96
4.2.6	*Adenostoma fasciculatum – Xylococcus bicolor – Quercus (berberidifolia,* x*acutidens*) Association	Chamise Chaparral-Mission Manzanita-Scrub Oak Association	37120	Southern Maritime Chaparral	3.61
4.7.1	*Artemisia californica – Eriogonum fasciculatum – Malosma laurina* Association	California Sagebrush - California Buckwheat - Laurel Sumac Association	32500	Diegan Coastal Sage Scrub	198.67
4.8	*Artemisia californica – Salvia mellifera* Alliance	California Sagebrush - Black Sage Scrub Alliance	32500	Diegan Coastal Sage Scrub	14.30
4.20.1	*Cercocarpus minutiflorus* Provisional Association	Mountain-Mahogany Provisional Association	37120	Southern Mixed Chaparral	0.34
4.23.1	*Eriogonum fasciculatum* Association	California Buckwheat Scrub Association	32500	Diegan Coastal Sage Scrub	12.10

4.29.1	*Isocoma menziesii* Provisional Association	Menzies' Golden Bush Scrub Provisional Association	32000	Coastal Scrub	8.52
4.32.1	*Acmispon glaber* Association	Deerweed Association	42200	Non-Native Grassland	1.13
4.35.1	*Malosma laurina – Acmispon glaber* Association	Laurel sumac – Deerweed Association	32000	Coastal Scrub	170.79
4.37	*Quercus (berberidifolia, xacutidens)* Alliance	Scrub Oak Chaparral Alliance	37900	Scrub Oak Chaparral	92.94
4.37.2	*Quercus* (*berberidifolia, xacutidens*) *–Cercocarpus minutiflorus* Association	Scrub Oak -Mountain-Mahogany Association	37900	Scrub Oak Chaparral	22.49
4.38.1	*Quercus (berberidifolia, xacutidens) – Adenostoma fasciculatum* Association	Scrub Oak - Chamise Chaparral Association	37900	Scrub Oak Chaparral	1.07
4.43.1	*Salvia apiana* Provisional Association	White Sage Provisional Association	32500	Diegan Coastal Sage Scrub	4.28
4.44	*Salvia mellifera* Alliance	Black Sage Scrub Alliance	32500	Diegan Coastal Sage Scrub	154.94
4.44.1	*Salvia mellifera – Eriogonum fasciculatum* Association	Black Sage - California Buckwheat Scrub Association	32500	Diegan Coastal Sage Scrub	37.73
4.44.2	*Salvia mellifera – Malsosma laurina* Association	Black Sage - Laurel Sumac Association	32500	Diegan Coastal Sage Scrub	159.76
				Drought Deciduous Shrublands Total	*2,314.20*
			Upland Herbaceous Vegetation		
5.21	Mediterranean California Naturalized Annual and Perennial Grassland Semi-Natural Stands	Mediterranean California Naturalized Annual and Perennial Grassland Semi-Natural Stands	42200	Non-Native Grassland	5.03
5.5	*Avena (barbata, fatua)* Semi-Natural Stands	Wild Oats Grasslands Semi-Natural Stands	42200	Non-Native Grassland	4.17
5.8	*Bromus* (*diandrus, hordaceus*)- *Brachypodium distachyon* Semi-Natural Stands	Annual Brome Grasslands Semi-Natural Stands	42200	Non-Native Grassland	163.91
				Upland Herbaceous Total	*173.11*

Riparian Vegetation					
3.2	*Eucalyptus (globulus, camaldulensis)* Semi-Natural Stands	Eucalyptus Woodland Semi-Natural Stands	79100	Eucalyptus Woodland	0.05
3.4.1	*Platanus racemosa - Baccharis salicifolia* Association	California Sycamore – Mulefat Association	62500	Southern Riparian Woodland	2.66
3.6	*Quercus agrifolia* Alliance	Coast Live Oak Woodland Alliance	71160	Coast Live Oak Woodland	22.35
3.10.1	*Salix lasiolepis* Association	Arroyo Willow Thickets Association	63320	Southern Willow Scrub	0.86
				Riparian Vegetation Total	*25.92*
Unvegetated					
N/A	N/A	N/A	11300	Disturbed Habitat	38.66
N/A	N/A	N/A	12000	Urban/Developed	1.46
				Unvegetated Total	*40.12*
General Agriculture					
N/A	N/A	N/A	18100	Orchards and Vineyards	1.20
				General Agriculture Total	*1.20*
				Total	**2554.55**[2]

[1] Vegetation Community descriptions based on the VCM (SANDAG 2011)
[2] Numbers may not sum due to rounding

Chamise Chaparral Alliance (4.1)

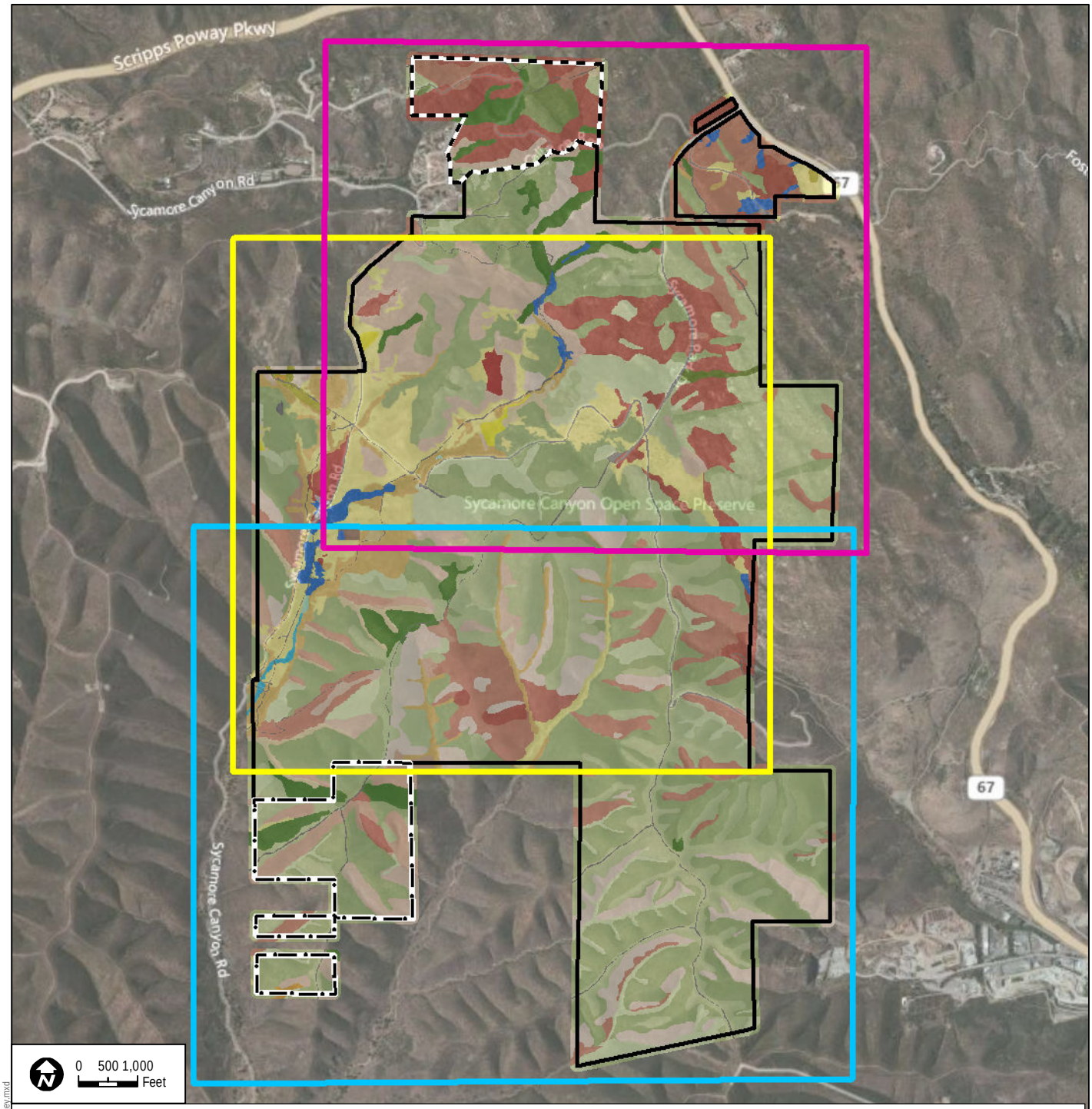
The Chamise Chaparral Alliance is widespread throughout California, and is dominated by chamise (*Adenostoma fasciculatum*) in the shrub canopy, along with other shrubs such as manzanita (*Arctostaphylos sp*.), yerba santa (*Eriodictyon californicum*), oaks (*Quercus sp*.), and sages (AECOM et al. 2011). Other shrubs may occur as associates, or co- or sub-dominants. Due to recent high intensity and frequent fires in San Diego County, much of this alliance is at risk of conversion to post-fire vegetation stands of laurel sumac or deerweed, or to non-native grasslands (AECOM et al. 2011). The Chamise Chaparral Alliance is mapped on 526.24 acres within the Preserve. This alliance is found throughout the Preserve, and is frequently bordered by other associations within this alliance.

Chamise Chaparral-Woolly-leaved Ceanothus Association (4.1.4)

Chamise and woolly-leaved ceanothus (*Ceanothus tomentosus*) are codominants in this association, and form a mostly continuous shrub layer (AECOM et al. 2011). Other species commonly found in this association include oaks, manzanita, sages, and other species of ceanothus (e.g., *C. leucodermis, C. oliganthus*). This association is commonly found on slopes of cismontane foothills (AECOM et al. 2011). The Chamise Chaparral-Woolly-Leaved Ceanothus Association is mapped on 668.54 acres and is the dominant vegetation community mapped within the Preserve.

Chamise Chaparral-Deerweed Association (4.1.5)

The Chamise Chaparral – Deerweed Association is characterized by more open cover than other associations within this alliance. It is a transitional association to other chaparral types that usually occurs due to fire or other disturbance (AECOM et al. 2011). Other species found at low densities within this association include laurel sumac, California sagebrush, peak rush rose (*Helianthemum scoparium*), and phacelia (*Phacelia cicutaria, P. paryii*). Approximately 8.30 acres of Chamise Chaparral – Deerweed Association is mapped within the Sycamore North addition of the Preserve.



Inset Areas
- Figure 9a
- Figure 9b
- Figure 9c

Project Areas
- Sycamore North Addition
- Sycamore South Addition
- Original Sycamore Canyon and Goodan Ranch Preserve

SycamoreCP_MappedVeg_SDVCM_20120314

Drought-Deciduous Shrublands
- 4.44, BSS - Black Sage Scrub Alliance
- 4.44.2, BS-LS - Black Sage - Laurel Sumac Association
- 4.44.1, BS-CBW - Black Sage - California Buckwheat Scrub Association
- 4.8, CSB-BSS - California Sagebrush - Black Sage Scrub Alliance
- 4.7.1, CSB-CBW-LS - California Sagebrush - California Buckwheat - Laurel Sumac Association
- 4.23.1, CBW - California Buckwheat Scrub Association
- 4.35.1, LS-DW - Laurel Sumac - Deerweed Association
- 4.29.1, MGB - Menzies' Golden Bush Scrub Provisional Association
- 4.43.1, WS - White Sage Provisional Association

Evergreen Shrublands
- 4.18.1, WLC - Woolly-leaved Ceanothus Association
- 4.1, CC - Chamise Chaparral Alliance
- 4.1.4, CC-WLC - Chamise Chaparral - Woolly-leaved Ceanothus Association
- 4.1.5, CC-DW - Chamise Chaparral - Deerweed Association
- 4.2, CC-MM - Chamise Chaparral - Mission Manzanita Alliance
- 4.2.6, CC-MM-Oak - Chamise Chaparral - Mission Manzanita - Oak Association
- 4.2.3, CC-MM-WLC - Chamise Chaparral - Mission Manzanita - Woolly-leaved Ceanothus Association
- 4.32.1, DW - Deerweed Association
- 4.20.1, MTNM - Mountain-mahogany Provisional Association
- 4.37, SOC - Scrub Oak Chaparral Alliance
- 4.38.1, SO-CC - Scrub Oak - Chamise Chaparral Association
- 4.37.2, SO-MTNM - Scrub Oak - Mountain-mahogany Association

Upland Herbaceous Vegetation
- 5.8, ABG - Annual Brome Grasslands Semi-Natural Stands
- 5.21, NNG - Non-Native Grassland Semi-Natural Stands
- 5.5, WOG - Wild Oats Grasslands Semi-Natural Stands

Riparian Forests and Woodlands
- 3.10.1, ARW - Arroyo Willow Thickets Association
- 3.4.1, CAS-MF - California Sycamore - Mulefat Association
- 3.6, CLOW - Coast Live Oak Woodland Alliance

Upland Forests and Woodlands
- 3.2, EUC - Eucalyptus Woodland Semi-Natural Stands

Disturbed or Developed Areas (Holland/Oberbauer Classification)
- ORC - Orchards and Vineyards
- DH - Disturbed Habitat
- DEV - Urban/Developed

DUDEK

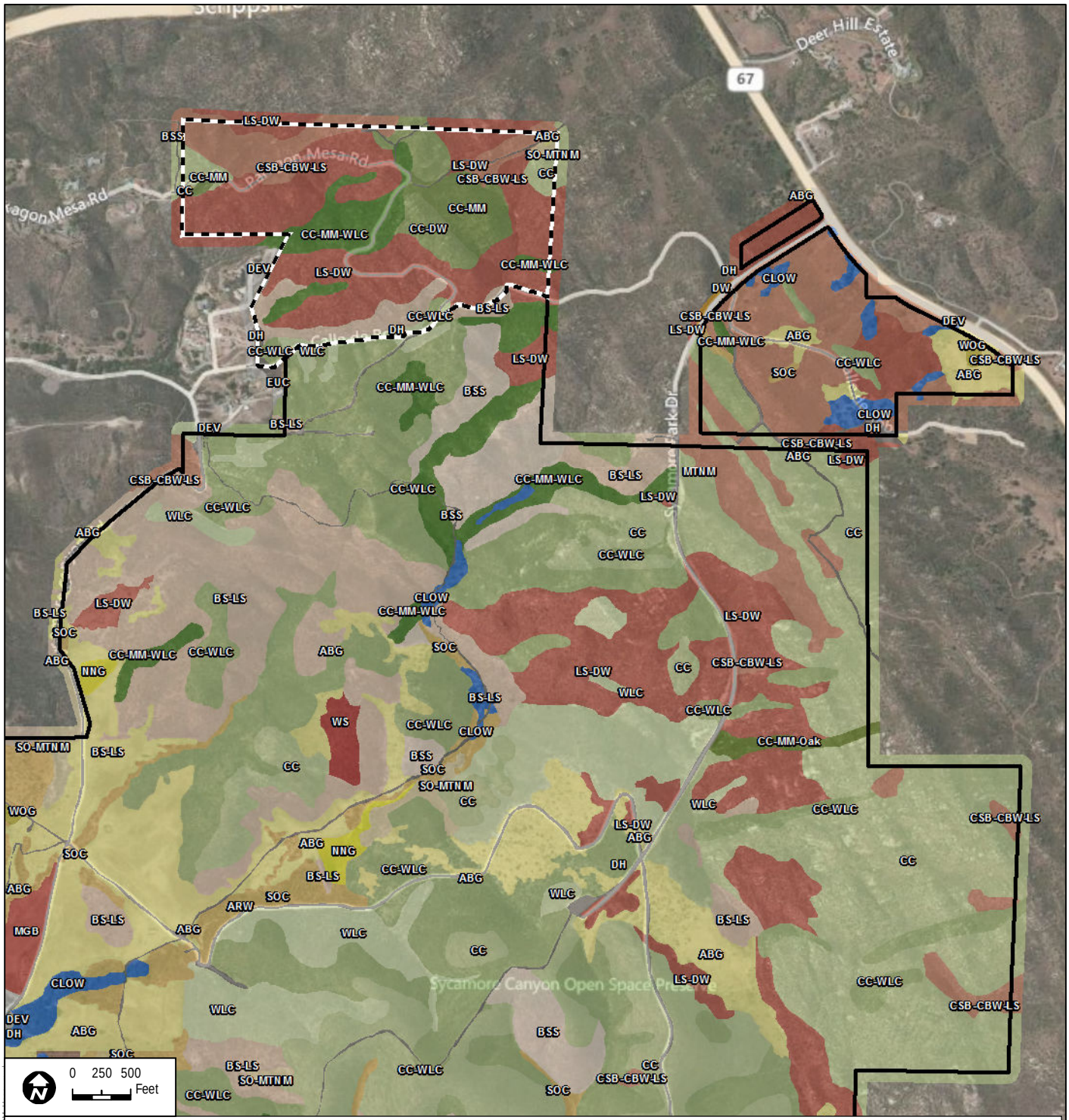
6680-08

SOURCE: Bing

FIGURE 9a

Vegetation Communities and Land Cover Types - Inset Areas

Z:\Projects\6680\00\668008 - Sycamore County Park\MAPDOC\MAPS\Figure9a_VegComVCM_Haney.mxd



Project Areas

- Sycamore North Addition
- Sycamore South Addition
- Original Sycamore Canyon and Goodan Ranch Preserve

SycamoreCP_MappedVeg_SDVCM_20120314

Drought-Deciduous Shrublands

- 4.44, BSS - Black Sage Scrub Alliance
- 4.44.2, BS-LS - Black Sage - Laurel Sumac Association
- 4.44.1, BS-CBW - Black Sage - California Buckwheat Scrub Association
- 4.8, CSB-BSS - California Sagebrush - Black Sage Scrub Alliance
- 4.7.1, CSB-CBW-LS - California Sagebrush - California Buckwheat - Laurel Sumac Association
- 4.23.1, CBW - California Buckwheat Scrub Association
- 4.35.1, LS-DW - Laurel Sumac - Deerweed Association
- 4.29.1, MGB - Menzies' Golden Bush Scrub Provisional Association
- 4.43.1, WS - White Sage Provisional Association

Evergreen Shrublands

- 4.18.1, WLC - Woolly-leaved Ceanothus Association
- 4.1, CC - Chamise Chaparral Alliance
- 4.1.4, CC-WLC - Chamise Chaparral - Woolly-leaved Ceanothus Association
- 4.1.5, CC-DW - Chamise Chaparral - Deerweed Association
- 4.2, CC-MM - Chamise Chaparral - Mission Manzanita Alliance
- 4.2.6, CC-MM-Oak - Chamise Chaparral - Mission Manzanita - Oak Association
- 4.2.3, CC-MM-WLC - Chamise Chaparral - Mission Manzanita - Woolly-leaved Ceanothus Association
- 4.32.1, DW - Deerweed Association
- 4.20.1, MTNM - Mountain-mahogany Provisional Association
- 4.37, SOC - Scrub Oak Chaparral Alliance
- 4.38.1, SO-CC - Scrub Oak - Chamise Chaparral Association
- 4.37.2, SO-MTNM - Scrub Oak - Mountain-mahogany Association

Upland Herbaceous Vegetation

- 5.8, ABG - Annual Brome Grasslands Semi-Natural Stands
- 5.21, NNG - Non-Native Grassland Semi-Natural Stands
- 5.5, WOG - Wild Oats Grasslands Semi-Natural Stands

Riparian Forests and Woodlands

- 3.10.1, ARW - Arroyo Willow Thickets Association
- 3.4.1, CAS-MF - California Sycamore - Mulefat Association
- 3.6, CLOW - Coast Live Oak Woodland Alliance

Upland Forests and Woodlands

- 3.2, EUC - Eucalyptus Woodland Semi-Natural Stands

Disturbed or Developed Areas (Holland/Oberbauer Classification)

- ORC - Orchards and Vineyards
- DH - Disturbed Habitat
- DEV - Urban/Developed

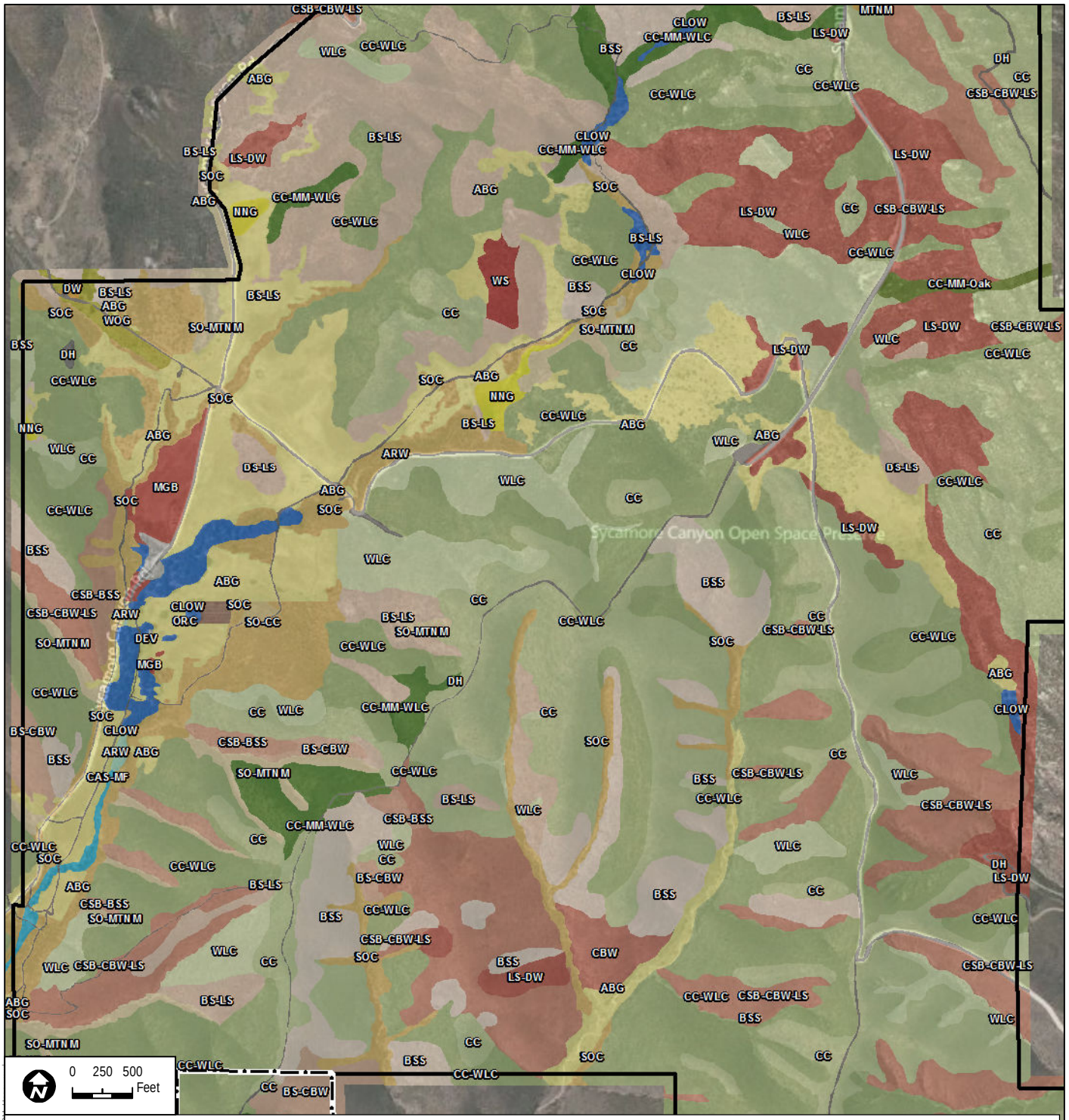
DUDEK

6680-08

SOURCE: Bing

FIGURE 9b

Vegetation Communities and Land Cover Types



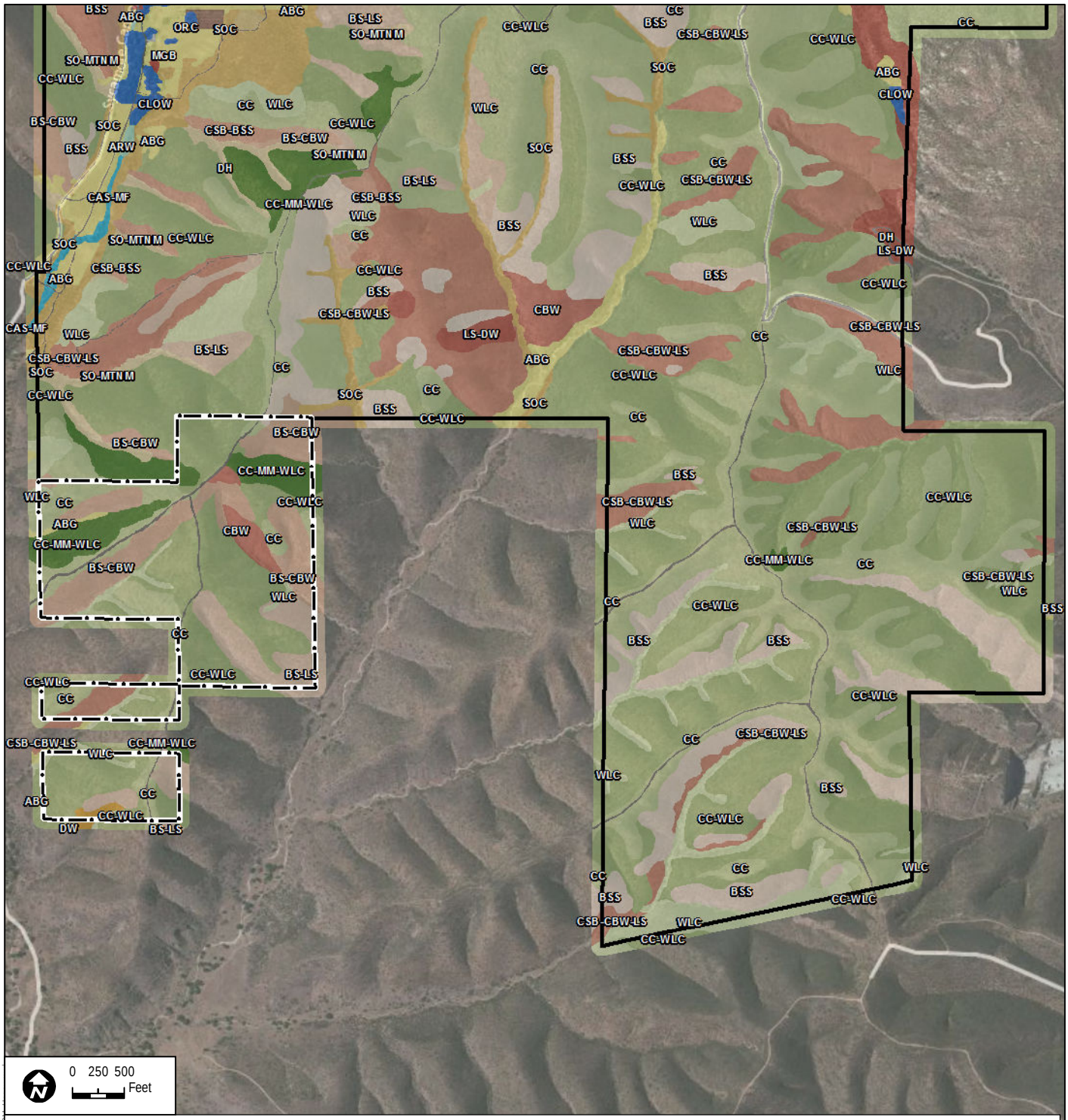
DUDEK

6680-08

SOURCE: Bing

FIGURE 9c

Vegetation Communities and Land Cover Types



Project Areas

- Sycamore North Addition
- Sycamore South Addition
- Original Sycamore Canyon and Goodan Ranch Preserve

SycamoreCP_MappedVeg_SDVCM_20120314

Drought-Deciduous Shrublands

- 4.44, BSS - Black Sage Scrub Alliance
- 4.44.2, BS-LS - Black Sage - Laurel Sumac Association
- 4.44.1, BS-CBW - Black Sage - California Buckwheat Scrub Association
- 4.8, CSB-BSS - California Sagebrush - Black Sage Scrub Alliance
- 4.7.1, CSB-CBW-LS - California Sagebrush - California Buckwheat - Laurel Sumac Association
- 4.23.1, CBW - California Buckwheat Scrub Association
- 4.35.1, LS-DW - Laurel Sumac - Deerweed Association
- 4.29.1, MGB - Menzies' Golden Bush Scrub Provisional Association
- 4.43.1, WS - White Sage Provisional Association

Evergreen Shrublands

- 4.18.1, WLC - Woolly-leaved Ceanothus Association
- 4.1, CC - Chamise Chaparral Alliance
- 4.1.4, CC-WLC - Chamise Chaparral - Woolly-leaved Ceanothus Association
- 4.1.5, CC-DW - Chamise Chaparral - Deerweed Association
- 4.2, CC-MM - Chamise Chaparral - Mission Manzanita Alliance
- 4.2.6, CC-MM-Oak - Chamise Chaparral - Mission Manzanita - Oak Association
- 4.2.3, CC-MM-WLC - Chamise Chaparral - Mission Manzanita - Woolly-leaved Ceanothus Association
- 4.32.1, DW - Deerweed Association
- 4.20.1, MTNM - Mountain-mahogany Provisional Association
- 4.37, SOC - Scrub Oak Chaparral Alliance
- 4.38.1, SO-CC - Scrub Oak - Chamise Chaparral Association
- 4.37.2, SO-MTNM - Scrub Oak - Mountain-mahogany Association

Upland Herbaceous Vegetation

- 5.8, ABG - Annual Brome Grasslands Semi-Natural Stands
- 5.21, NNG - Non-Native Grassland Semi-Natural Stands
- 5.5, WOG - Wild Oats Grasslands Semi-Natural Stands

Riparian Forests and Woodlands

- 3.10.1, ARW - Arroyo Willow Thickets Association
- 3.4.1, CAS-MF - California Sycamore - Mulefat Association
- 3.6, CLOW - Coast Live Oak Woodland Alliance

Upland Forests and Woodlands

- 3.2, EUC - Eucalyptus Woodland Semi-Natural Stands

Disturbed or Developed Areas (Holland/Oberbauer Classification)

- ORC - Orchards and Vineyards
- DH - Disturbed Habitat
- DEV - Urban/Developed

DUDEK

6680-08

SOURCE: Bing

FIGURE 9d

Vegetation Communities and Land Cover Types

Table 3. Vegetation Communities/Land Cover Types within the Preserve – Holland Code

Holland Code	Vegetation Type	MSCP SAP Habitat Tier[1]	Acreage
37200	Chamise Chaparral	Tier III	534.53
37000	Chaparral	Tier III	1.13
71160	Coast Live Oak Woodland	Tier I	22.35
32000	Coastal Scrub	Tier II	179.31
32500	Diegan Coastal Sage Scrub	Tier II	577.51
32520	Diegan Coastal Sage Scrub: Inland Form	Tier II	4.28
11300	Disturbed Habitat	Tier IV	38.66
79100	Eucalyptus Woodland	Tier IV	0.05
42200	Non-Native Grassland	Tier III	173.11
18100	Orchards and Vineyards	Tier IV	1.20
37900	Scrub Oak Chaparral	Tier III	116.51
63320	Southern Willow Scrub	Tier I	0.86
37C30	Southern Maritime Chaparral	Tier I	3.61
37120	Southern Mixed Chaparral	Tier III	897.32
62500	Southern Riparian Woodland	Tier I	2.66
12000	Urban/Developed	Tier IV	1.46
			TOTAL 2554.55

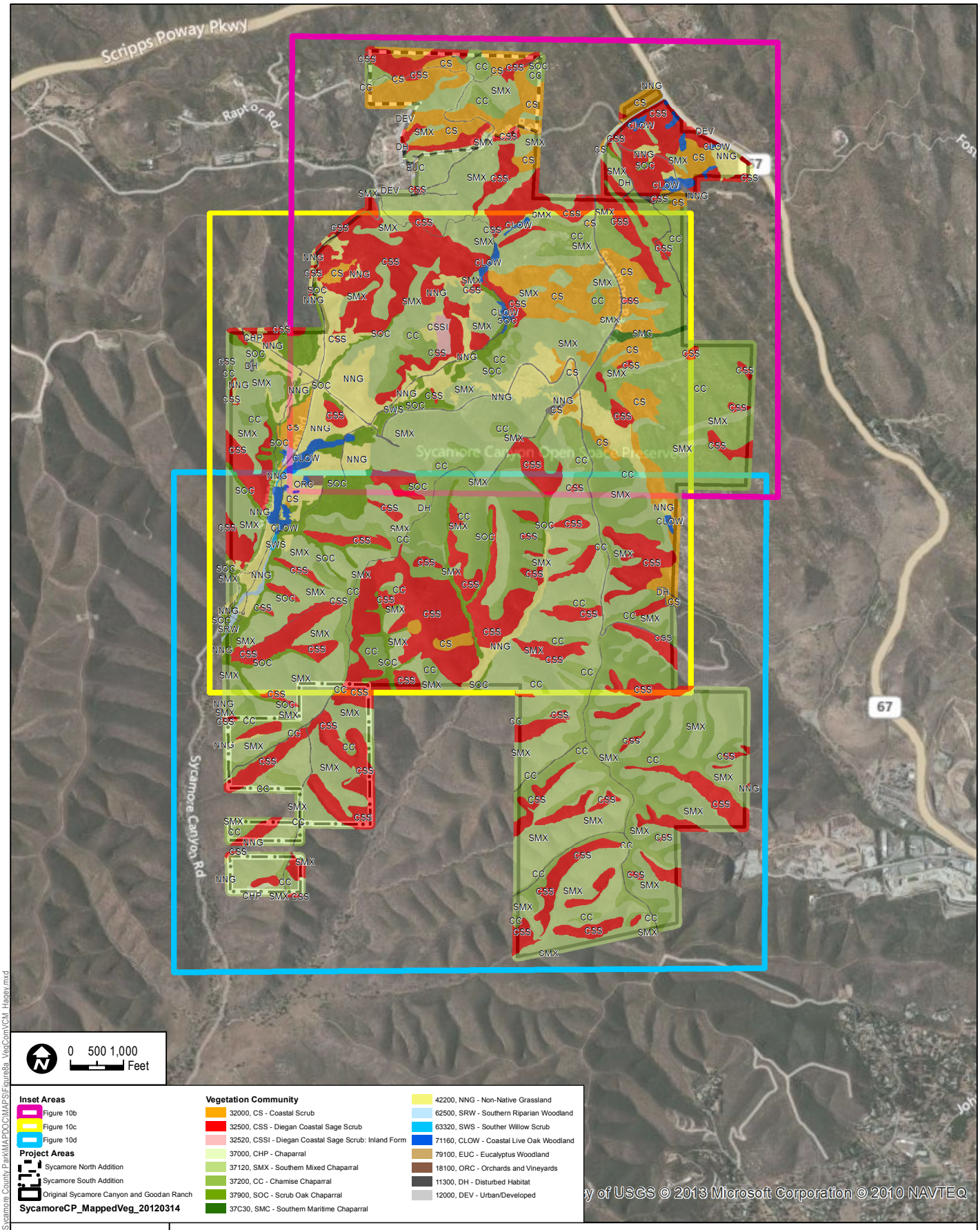
[1] Habitat tier levels rank habitat sensitivity, with Tier I being most sensitive and Tier IV being least sensitive

Woolly-leaved Ceanothus Association (4.18.1)

Woolly-Leaved Ceanothus Association is found on coastal foothills in Southern California. This association has a continuous to intermittent shrub canopy, and the herbaceous layer is sparse in mature stands (AECOM et al. 2011). Woolly-leaved ceanothus comprises at least 30% of the relative cover in the shrub canopy. Subdominant shrubs include oaks, mountain-mahogany, ceanothus, and heartleaf keckiella (*Keckiella cordiflora*) (AECOM et al. 2011). This association is mapped within 144.53 acres throughout the Preserve.

Chamise Chaparral-Mission Manzanita Alliance (4.2)

The Chamise Chaparral – Mission Manzanita Alliance is found along the south coast of California, on primarily mesic slopes from the coast inland (AECOM et al. 2011). Chamise and mission manzanita (*Xylococcus bicolor*) are codominants, with subdominant shrubs including ceanothus, our lord's candle (*Hesperoyucca whipplei*), scrub oak (*Quercus berberidifolia*), and sages. The herbaceous layer in this alliance is sparse or intermittent (AECOM et al. 2011). This alliance is mapped on 8.96 acres within the central region of the Sycamore North property.



Z:\Projects\668000\668008 - Sycamore County Park\MAPDOC\MAPS\Figure8a_VegComVCM_Hagey.mxd

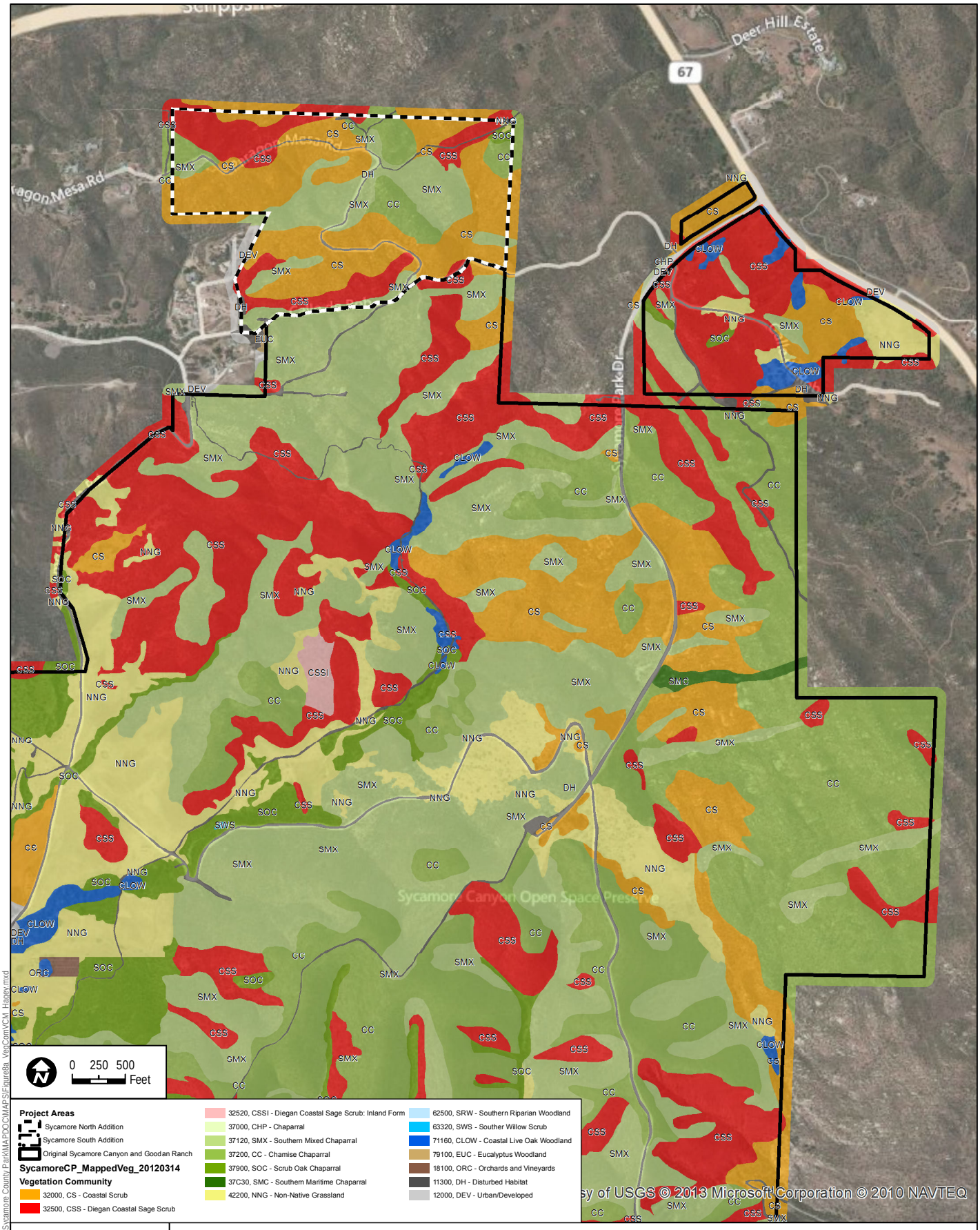
DUDEK

6680-08

SOURCE: Bing

FIGURE 10a

Vegetation Communities Holland Code - Inset Areas



Z:\Projects\6680\08\668008 - Sycamore County Park\MAPDOC\MAPS\Figure8a_VegComVCM_Happy.mxd

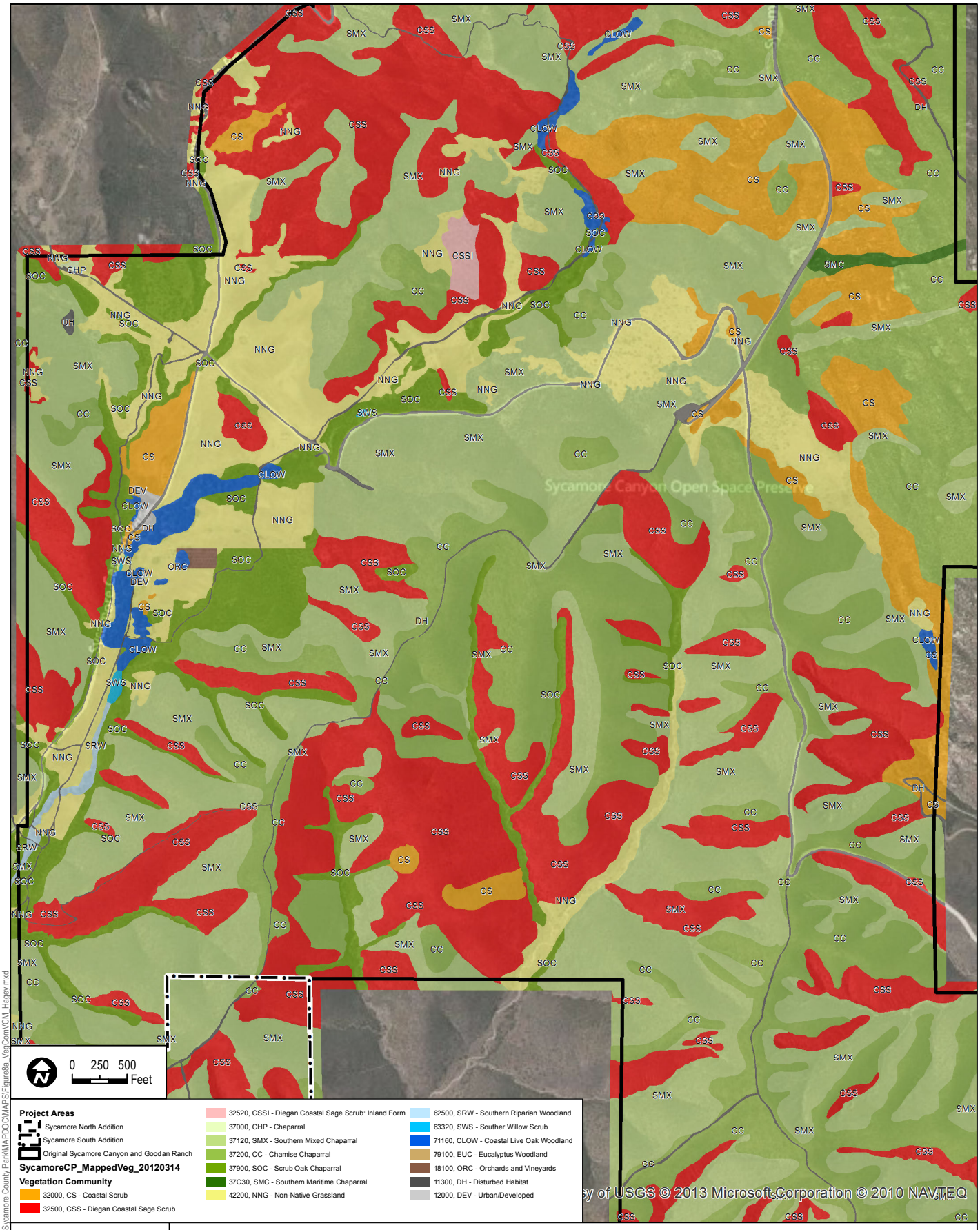
DUDEK

6680-08

SOURCE: Bing

FIGURE 10b

Vegetation Communities and Land Cover Types



Z:\Projects\6680\08\668008 - Sycamore County Park\MAPDOC\MAPS\Figure8a_VegComVCM_Hagey.mxd

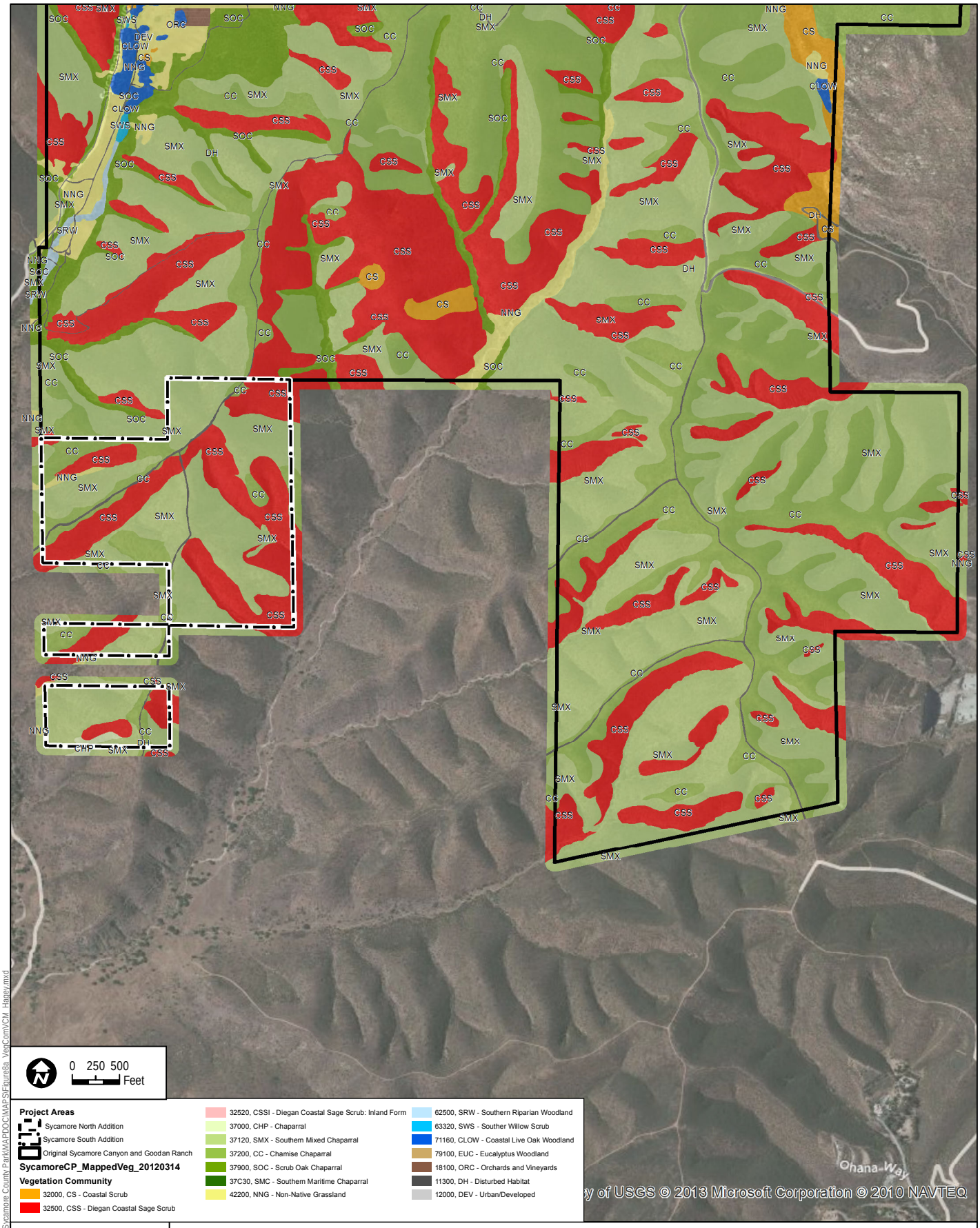
DUDEK

6680-08

SOURCE: Bing

FIGURE 10c

Vegetation Communities Holland Code



Z:\Projects\6680\08\668008 - Sycamore County Park\MAPDOC\MAPS\Figure8a_VegComVCM_Hagey.mxd

DUDEK

6680-08

SOURCE: Bing

FIGURE 10d

Vegetation Communities Holland Code

Chamise Chaparral-Mission Manzanita-Woolly-leaved Ceanothus Association (4.2.3)

This association features chamise, mission manzanita, and woolly-leaved ceanothus as codominant shrubs in an open to continuous canopy (AECOM et al. 2011). A diverse herbaceous layer is found in openings or after fires. Other co- or sub-dominant shrubs include laurel sumac, ceanothus, and white sage (AECOM et al. 2011). The Chamise Chaparral – Mission Manzanita – Woolly-Leaved Ceanothus Association occupies 74.96 acres in the northernmost and southernmost portions of the Preserve.

Chamise Chaparral-Mission Manzanita-Scrub Oak Association (4.2.6)

Chamise, mission manzanita, and scrub oak are codominants in this association. There are few, if any, trees, and the shrub layer is mostly continuous with a sparse herbaceous layer (AECOM et al. 2011). Other shrubs that occur in this association include ceanothus (*C. tomentosus, C. leucodermis*), California buckwheat (*Eriogonum fasciculatum*), laurel sumac (*Malosma laurina*), among others. The Chamise Chaparral-Mission Manzanita-Scrub Oak Association is mapped on 3.61 acres within the northwestern region of the Preserve.

Mountain-Mahogany Provisional Association (4.20.1)

Mountain mahogany (*Cercocarpus betuloides* var.*betuloides*) is the dominant species in the Mountain-Mahogany Provisional Association (AECOM et al. 2011). Mountain-mahogany forms an open canopy, with subdominant shrubs including manzanita, chamise, Prunus species, and California sagebrush. This association is found on mesic slopes in cismontane San Diego, Orange and Riverside Counties (AECOM et al. 2011). The Mountain-Mahogany Provisional Association occurs on 0.34 acres within the northern border of the Preserve.

California Buckwheat Scrub Association (4.23.1)

The California Buckwheat Scrub Association occurs on 12.10 acres scattered throughout the Preserve. This association is characterized by California buckwheat scrub as the dominant in an open shrub canopy with California sagebrush, chamise, ceanothus, deerweed (*Acmispon glaber* ssp. *glaber*), and sages (*Salvia* spp.) (AECOM et al. 2011). This association may be an early successional stage to a different shrub community, or it may persist as a stable association. Nonnative grasses and forbs are commonly found in this association (AECOM et al. 2011).

Menzies' Golden Bush Scrub Provisional Association (4.29.1)

Menzies' golden bush is dominant in this association, and is frequently codominant with non-native grasses and herbs. This association is commonly found in ecotones between upland and wetlands, including freshwater and brackish vegetation

(AECOM et al. 2011). Other commonly associated species include Cuman ragweed (*Ambrosia psilostachya)* and perennial ryegrass (*Lolium perenne*) (AECOM et al. 2011). Menzies' Golden Bush Scrub Provisional Association occurs on 8.52 acres within the Preserve. This association is mapped within Sycamore Canyon.

Deerweed Association (4.32.1)

The Deerweed Association is dominated by deerweed, and subdominant shrubs include California buckwheat, California sagebrush, bush mallow (*Malacothamnus fasciculatus*), chamise, and ceanothus. This association frequently occurs in areas after fires (AECOM et al. 2011). A total of 1.13 acres of deerweed association is mapped within the northern and eastern portions of the Preserve.

Laurel Sumac - Deerweed Association (4.35.1)

The Laurel Sumac – Deerweed Association is characterized by high diversity and substantial herbaceous cover, and primarily occurs in openings or other areas of recent fire. Most areas where this association occurs have experienced fire within the past 10 years (AECOM et al. 2011). Laurel sumac and deerweed are codominant, although deerweed is often dominant to laurel sumac. Subdominant shrubs include California sagebrush, ceanothus, sages, and spiny redberry. Herbs common in this association include island false bindweed (*Calystegia macrostegia*), Cucamonga manroot (*Marah macrocarpus*), American wild carrot (*Daucus pusillus*), narrowleaf cottonrose (*Logfia gallica*), and lupines (*Lupinus* spp.) (AECOM et al. 2011). This association occupies 170.79 acres throughout the site and dominates the northern portions of the Preserve.

Scrub Oak Chaparral Alliance (4.37)

The Scrub Oak Chaparral Alliance is dominated by scrub oak in the shrub canopy, with other shrubs occurring as codominants, including manzanita, ceanothus, and prunus (AECOM et al. 2011). Emergent trees may be present, such as pines or coast live oak, although their presence is uncommon (AECOM et al. 2011). Scrub Oak Chaparral Alliance occurs on 92.94 acres within the Sycamore Canyon and Goodan Ranch Preserve. It is mapped throughout the Preserve.

Scrub Oak -Mountain-Mahogany Association (4.37.2)

Scrub oak (*Quercus berberidifolia/Q. xacutidens*) and mountain-mahogany (*Cercocarpus minutiflorus*) are codominant in the shrub canopy of the scrub oak – mountain-mahogany association (AECOM et al. 2011). Scrub oak is typically at least 50% of the relative cover in the shrub canopy. Subdominant species include poison oak (*Toxicodendron diversilobum*), chamise, manzanita, ceanothus, and monkeyflower. Herbaceous diversity and cover is low, and is present primarily in habitat openings. Species diversity increases after fires (AECOM et al. 2011). The

Scrub Oak- Mountain-Mahogany Association occurs on 22.49 acres in the north and western portions of the Preserve.

Scrub Oak - Chamise Chaparral Association (4.38.1)

In this association, scrub oak and chamise are codominant in a continuous shrub canopy (AECOM et al. 2011). Scrub oaks in this association include both *Quercus berberidifolia and x. acutidens*. Other associated shrubs include mountain-mahogany, ceanothus, and black sage (AECOM et al. 2011). The herbaceous layer is sparse, if present, and increases in openings and after fire. Scrub Oak - Chamise Chaparral Association occurs on 1.07 acres adjacent to the Sycamore Canyon within the Preserve.

White Sage Provisional Association (4.43.1)

The White Sage Provisional Association features white sage dominant in the shrub canopy with varied subdominant shrubs, including laurel sumac, California sagebrush and chamise (AECOM et al. 2011). The tree canopy is absent or very sparse in this association. Within the Sycamore Canyon and Goodan Ranch Preserve, the White Sage Provisional Association is mapped on 4.28 acres in the northern region of the Preserve.

Black Sage Scrub Alliance (4.44)

The black sage scrub alliance includes both the Black Sage – California Buckwheat Scrub Association and the Black Sage- Laurel Sumac Association (AECOM et al. 2011). In the black sage scrub alliance, black sage is codominant with other shrubs such as chamise, California sagebrush, California encelia (*Encelia californica*), or white sage (*Salvia apiana*) (AECOM et al. 2011). There are 154.94 acres of black sage scrub alliance mapped within the Preserve.

Black Sage - California Buckwheat Scrub Association (4.44.1)

Approximately 37.73 acres of Black Sage-California Buckwheat Scrub Association is mapped within the Sycamore South property where it occurs on primarily south facing slopes located in the northern parcel. This association does not occur in the Sycamore North property. This association contains black sage and California buckwheat as codominants in the shrub canopy (AECOM et al. 2011). Other shrubs found within this association include coyotebrush (*Baccharis pilularis*), California sagebrush, and coast prickly pear (*Opuntia littoralis*). The black sage-California buckwheat scrub association is found in coastal or inland xeric regions (AECOM et al. 2011).

Black Sage - Laurel Sumac Association (4.44.2)

Black sage and laurel sumac are codominants in the Black Sage – Laurel Sumac Association, which is found throughout the central and southern coasts of California, including the Transverse and Peninsular ranges, and into Baja California. Other shrubs found in this association, at lower percent cover, include California sagebrush (*Artemisia californica*), California buckwheat (*Eriogonum fasciculatum*), orange bush monkeyflower (*Mimulus aurantiacus*), and ceanothus (*Ceanothus sp*.), among others (AECOM et al. 2011). The tree canopy, if present, is sparse, and herbaceous cover is high in openings (AECOM et al. 2011). A total of 159.76 acres of Black Sage-Laurel Sumac Association is mapped on slopes within the southern area. This association is mapped on 7.18 acres along the southern border of the Sycamore North property.

California Sagebrush - California buckwheat - Laurel Sumac Association (4.7.1)

California sagebrush, California buckwheat, and laurel sumac are all codominant in an open shrub canopy of this association. Other species commonly found in this association include lemonadeberry (*Rhus integrifolia*), California ecelia, our lord's candle (*Hesperoyucca whipplei*), and spiny redberry (*Rhamnus crocea*) (AECOM et al. 2011). There is an open herbaceous layer characterized by high diversity. This association is frequently a transitional stage due to fire or other disturbance (AECOM et al. 2011). This association is mapped on 198.67 acres. This association occurs along the northern extent of the Sycamore North property.

California Sagebrush - Black Sage Scrub Alliance (4.8)

This alliance features California sagebrush and black sage as codominants in the shrub layer (AECOM et al. 2011). These two species comprise the majority of the shrub cover, although other species such as chamise or white sage will also be present. The California Sagebrush - Black Sage Scrub Alliance occurs on moderate-to-steep, low-elevation slopes (AECOM et al. 2011). The California Sagebrush - Black Sage Scrub Alliance occurs in the western region of the Preserve. This alliance is mapped on 14.30 acres.

Mediterranean California Naturalized Annual and Perennial Grassland Semi-Natural Stands (5.2.1)

Mediterranean California Naturalized Annual and Perennial Grassland Semi-Natural Stands describes a vegetation community in which several species of non-native grasses are present but none are dominant or codominant (AECOM et al. 2011). These species include oats, bromes, mustards, and others. The semi-natural stands best describes an area subject to common perturbation, such as grazing or mowing (AECOM et al. 2011). Mediterranean California Naturalized Annual and Perennial Grassland Semi-Natural Stands occur on 5.03 acres in the northern region of the Preserve.

Wild Oats Grasslands Semi-Natural Stands (5.5)

Wild Oats Grasslands Semi-Natural Stands is dominated by wild oats, and is found in disturbed areas, waste places, and type-converted chaparral or coastal scrub (AECOM, et al. 2011). Emergent trees or shrubs may be present, but are not common. Other non-native grasses are found in this vegetation community, including bromes and barley. The Wild Oats Grasslands Semi-Natural Stands are found within the northwestern corner of the Preserve.

Annual Brome Grasslands Semi-Natural Stands (5.8)

Annual brome grasslands semi-natural stands is characterized by a dense to sparse cover of annual grasses, particularly bromes (*Bromus diandrus, B. hordaceus, B. madritensis*), which are dominant or co-dominant in the herbaceous layer. There may be trees or shrubs present, although at very low densities (AECOM et al. 2011). This vegetation community frequently results from changes in natural ecosystem processes, which can be caused by maintenance (e.g., mowing, scraping, discing, spraying), grazing, repetitive fire, agriculture, or other mechanical disruption that has altered soils and removed native seed sources from areas formerly supporting native vegetation (AECOM et al. 2011). Annual brome grasslands typically occur adjacent to roads or other developed areas where there has been some historic disturbance (AECOM et al. 2011). This habitat may support special-status species and provide valuable foraging habitat for raptors. Annual brome grasslands semi-natural stands occupy 0.12 acres in the northeastern corner of the Sycamore North property and 0.88 acres along the western border within the Sycamore South property.

Eucalyptus Woodland Semi-Natural Stands (3.2)

This vegetation type has no equivalent in Holland's classification scheme, but is assigned a category in the Oberbauer County revision (Oberbauer 1996). Many species of Eucalyptus have been introduced into California from Australia and several of these species have become naturalized and often form large monotypic groves. One of the largest and most common species is Blue Gum (Eucayptus globulus). Eucalyptus is found on 0.05 acres within the central portion of the Preserve.

California Sycamore – Mulefat Association (3.4.1)

Platanus racemosa is dominant or codominant in an open tree canopy with *Baccharis salicifolia* dominant in an open shrub canopy (AECOM et al. 2011). Associated subdominant riparian shrubs include Western poison oak (*Toxicodendron diversilobum)*, blue elderberry (*Sambucus nigra* ssp. *Caerulea)*, desert broom (*Baccharis sarothroides)*, Southern California wild grape (*Vitis girdiana)*, and California wild rose (*Rosa californica)*. Many upland shrubs may also occur in this association. The herbaceous diversity is low and cover is sparse; characteristic species include Douglas' sagewort (*Artemisia douglasiana)*, Cuman

ragweed (*Ambrosia psilostachya)*, and San Diego sedge (*Carex spissa)*. This habitat is associated with upland shrubs and is present at 2.66 acres within the Preserve.

Coast Live Oak Woodland Alliance (3.6)

Coast Live Oak Woodland Alliance is dominated by a single evergreen species: coastal live oak (*Quercus agrifolia var. oxyadenia*). Canopy height reaches 10 to 25 meters (30 to 82 feet). The shrub layer is poorly developed, but may include toyon (*Heteromeles arbutifolia*), gooseberry (*Ribes* spp.), laurel sumac (*Malosma laurina*), or blue elderberry (*Sambucus nigra* ssp. *caerulea*) (AECOM et al. 2011). The herbaceous component is continuous, dominated by a variety of introduced species (AECOM et al. 2011).

Arroyo Willow Thickets Association (3.10.1)

Arrow willow thickets are an extremely variable species. It is probably the most abundant single riparian willow in California and comprises among the most extensive riparian scrub alliances in the state (AECOM et al. 2011). This association grows on seasonally or intermittently flooded sites. In general, stands of this alliance in California have arroyo willow (*Salix lasiolepis*) dominant or codominant in the shrub or tree canopy with bigleaf maple (*Acer macrophyllum), coyote brush (Baccharis pilularis),* mule fat *(Baccharis salicifolia),* common buttonbush *(Cephalanthus occidentalis), red* osier dogwood *(Cornus sericea),* California wax myrtle *(Morella californica),* California sycamore *(Platanus racemosa),* California poplar *(Populus trichocarpa),* Fremont cottonwood *(Populus fremontii),* willow *(Salix spp).,* and/or black elderberry *(Sambucus nigra)*. Larger tree species may be emergent at low cover. Plants are generally <10 m and the canopy is open to continuous. The herbaceous layer is variable. There is .86 acres of this association within the Preserve.

Disturbed Habitat (Holland 11300)

Disturbed habitat is not described by the VCM, but is described by Oberbauer et al. (2008). Disturbed habitat refers to areas that are not developed, yet lack native vegetation, and generally are the result of severe or repeated mechanical perturbation. This description includes areas that have been graded, repeatedly cleared for fuel management purposes, and/or experienced repeated use that prevents natural revegetation, such as dirt parking lots and well-established trails, recently graded firebreaks, graded construction pads, construction staging areas, off-road vehicle trails, and old home sites. Vegetation, if present, is nearly exclusively composed of non-native plant species, such as ornamentals or ruderal exotic forbs, such as thistles (e.g., *Centaurea spp., Salsola tragus*), horehound (*Marrubium vulgare*), London rocket (*Sisymbrium irio*), wild radish (*Raphanus spp*.), fig-marigold (*Carpobrotus edulis*), garland chrysanthemum (*Glebionis coronarium*), and fennel (*Foeniculum vulgare*) (Oberbauer et al. 2008). Although some grass species may be present in disturbed habitat, most annual grass species are more

typical of non-native grassland and do not dominate vegetative cover in disturbed habitat (Oberbauer et al. 2008). There are 38.66 acres of disturbed habitat within the Preserve consisting primarily of ruderal areas adjacent to dirt roads.

Urban/Developed (Holland 12000)

Land designated as urban/developed is not addressed by the VCM; this description follows Oberbauer et al. (2008). Developed land is generally subject to significant human disturbance associated with development. There are 1.46 acres of developed land in the Sycamore North property. The developed land is composed of dirt roads that run throughout the Preserve.

Orchards and Vineyards (Holland 18100)

Orchards are usually comprised of artificially irrigated habitat dominated by one (or sometimes several) tree or shrub species (Oberbauer 2008). The trees are typically low and bushy with an open understory. Vineyards include single species crops planted in rows that are usually supported by wood and wire trellises. Understory growth of both orchard and vineyard crops often include short grasses and other herbaceous plants between rows. Orchards and vineyards can be found on flat alluvial soils in the valley floors, in rolling foothill areas, or on relatively steep slopes. There is an olive tree grove located southeast of the visitor center consisting of 1.20 acres which provides a shaded picnic area for the public.

3.2 Plant Species

3.2.1 Plant Species Present

A total of 358 plant species were documented within the Preserve during the 2008 and/or 2012 baseline surveys. Appendices B and C provide a complete list of all plant species observed during the 2008 and 2012 surveys.

3.2.2 Rare, Threatened, or Endangered Plant Species Present

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

Eleven special-status plant species have been documented within the Preserve (County of San Diego 2009a; ICF Jones and Stokes 2008; Dudek 2012). These consist of San Diego thornmint (*Acanthomintha ilicifolia*), variegated dudleya (*Dudleya variegata*), Palmer's grappling hook (*Harpagonella palmeri*) , small flowered morning glory (*Convolvulus simulans*), willowy monardella (*Monardella*

linoides ssp. *viminea*), graceful tarplant (*Holocarpha virgata* ssp. *elongata*) , California adder's tongue (*Ophioglossum californicum*), Palmer's sagebrush (*Artemisia palmeri*), rush-like bristleweed (*Xanthisma junceum*), delicate clarkia (*Clarkia delicata*), and ashy spike-moss (*Selaginella cinerascens*). Sensitive plant species locations are presented in Figure 11. Each of these species is addressed below in more detail.

San Diego Thornmint (*Acanthomintha ilicifolia*)

CRPR 1B.1; County List A, MSCP Covered Species

San Diego thornmint is an annual wildflower typically found on friable clay soils in grassy openings within chaparral at elevations ranging from 10 to 960 meters (30 to 3150 feet) (CNPS 2012). This species occurs within the native grasslands found within the northeastern portion of the Preserve. This species blooms from April through June (CNPS 2012). These grasslands support a substantial population of San Diego thornmint. It is estimated that over 10,000 plants occur within the Preserve. This species is found only in San Diego County and Baja California (CNPS 2012)

Variegated Dudleya (*Dudleya variegata*)

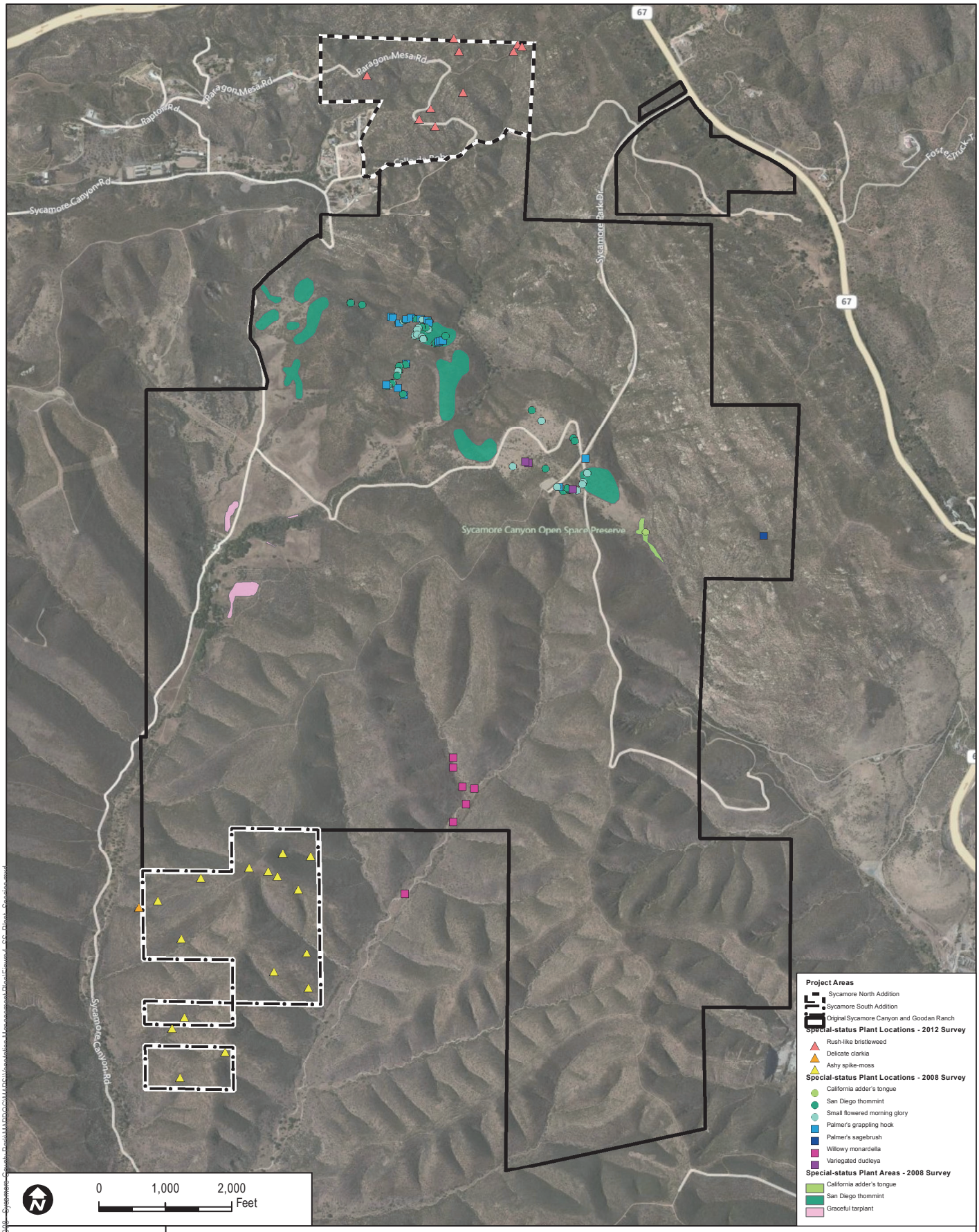
CRPR 1B.2, County List A, MSCP Covered Species

Variegated dudleya is associated with openings within chaparral and coastal sage scrub at elevations ranging from 3 to 580 meters (10 to 1,900 feet) (CNPS 2012). This perennial from a corm (or underground plant stem) prefers clay soils and is typically found within close proximity to vernal pools. On site, this species is found within the native grasslands that support friable clay soils and the federally endangered San Diego thornmint. This species is found in San Diego County and Baja California (CNPS 2012)

Palmer's Grappling Hook (*Harpagonella palmeri*)

CRPR 4.2, County List D

Palmer's grappling hook is associated with clay soils within coastal sage scrub habitats at elevations ranging from 20 to 955 meters (65 to 3,130 feet) (CNPS 2012). Within the Preserve this species is found within the heavy clay soils that support the San Diego thornmint. Palmer's grappling hook blooms from March through May (CNPS 2012). This species is found in Los Angeles County, Orange County, Riverside County, Santa Catalina Island, San Diego County, Arizona, and Baja California and Sonora, Mexico (CNPS 2012).



DUDEK

6680-08

SOURCE: Bing, County of San Diego 2012

FIGURE 11

Special-status Plant Locations

Small Flowered Morning Glory (*Convolvulus simulans*)

CRPR 4.2, County List D

Small flowered morning glory is found on clay soils which are typically devoid of shrubs at elevations ranging from 30 to 700 meters (98 to 2297 feet) (CNPS 2012). This species blooms from May through November (CNPS 2012). Within the Preserve this species is found within the heavy clay soils that also support the federally endangered San Diego thornmint. This species is found in Orange, Riverside and San Diego Counties (CNPS 2012).

Willowy Monardella (*Monardella linoides* ssp. *viminea*)

CRPR 1B.1, County List A, MSCP Covered Species

Willowy monardella, a small subshrub, generally occurs in streambeds that contain cobbles and have limited cover by large shrubs and trees. Within the Preserve, this species occurs in several drainages along the southern portion. This species is found only in San Diego County at elevations ranging from 50 to 220 meters (160 to 730 feet) (CNPS 2012).

Graceful Tarplant (*Holocarpha virgata* ssp. *elongata*)

CRPR 4.2, County List D

Graceful tarplant is an annual wildflower that is typically found within non-native grasslands at elevations ranging from 60 to 1100 meters (190 to 3,600 feet) (CNPS 2012). Within the Preserve this species is found in the middle portion adjacent to the southern coast live oak riparian forest. This species is found in Orange County, Riverside County and San Diego County (CNPS 2012).

California Adder's Tongue (*Ophioglossum californicum*)

CRPR 4.2, County List D

California adder's tongue is associated with chaparral, grasslands, and vernal pools at elevations ranging from 60 to 525 meters (190 to 1,720 feet). This species blooms from January through June (CNPS 2012). Individuals of California adder's tongue were found within the native grassland located along the easternmost portions of the Preserve. This species is found in Amador, Butte, Merced, Monterey, Mariposa, Orange County, San Bernardino, San Diego County, Stanislaus, and Tuolumne Counties and Baja California, Mexico (CNPS 2012).

Palmer's Sagebrush (*Artemisia palmeri*)

CRPR 4.2, County List D

Palmer's sagebrush is typically found along creeks and drainages near the coast and within inland chaparral at elevations ranging from 15 to 910 meters (50 to 3,000 feet) (CNPS 2012). Palmer's sagebrush was found within the northeastern portion of the Preserve. This species is found in San Diego County and Baja California and blooms from May through September (CNPS 2012).

Rush-like Bristleweed (*Xanthisma junceum*)

CRPR 4.3, County List D

Rush-like bristleweed is a perennial herb in the Asteraceae family and occurs at elevations from 240 to 1000 meters (790 to 3,280 feet) and blooms from June to January (CNPS 2012). This species is found in coastal scrub or chaparral habitats in San Diego County, Arizona, and Baja California and Sonora, Mexico (CNPS 2012).

This species occurs in coastal scrub and chamise chaparral communities in the Preserve, particularly on the Sycamore North addition. Several of the locations are situated near Calle de Rob (Figure 9a).

Delicate Clarkia (*Clarkia delicata*)

CRPR 1B.2, County List A

Delicate clarkia (*Clarkia delicata*) is an annual herb typically located in chaparral or cismontane woodlands with gabbroic soils, especially on the periphery of oak woodlands and cismontane chaparral (Reiser 1994). It is found in areas of elevation from 230 to 1,000 meters (770 to 3,280 feet) and blooms from April to June (CNPS 2012). This species is endemic to San Diego County (CNPS 2012).

Populations of delicate clarkia are currently stable in San Diego County, as this species has a broad distribution. Residential construction in rural areas of San Diego is cited as a primary threat to this species (Reiser 1994). Additional threats include invasion of non-native plant species, road improvement and maintenance projects, off-road vehicles, and frequent wildfires (CNPS 2012).

Within the Sycamore South property, the species was mapped in chamise chaparral slightly outside the property. This population had not previously been recorded in the Preserve.

3.2.3 Rare, Threatened, or Endangered Plant Species not Observed but with High Potential to Occur

Four sensitive species described below have been historically documented or have a high potential to occur within the Preserve. Additional information on the species

listed below can be found in the Baseline Biodiversity Surveys (Appendices B and C).

Nuttall's Scrub Oak (*Quercus dumosa*)

CRPR 1B.2, *County List A*

Nuttall's scrub oak has a potential to occur within the chaparral habitat located along the western-most portion of the Preserve as this species is known to occur west of the Preserve on MCAS Miramar. This species blooms from February through April and is found at elevations ranging from 15 to 400 meters (50 to 1300 feet) (CNPS 2012). This species occurs in Orange County, Santa Barbara County, San Diego County, Ventura County and Baja California (CNPS 2012).

Del Mar Manzanita (*Arctostaphylos glandulosa* ssp. *glandulosa*)

CRPR List 1B.1, County List A, MSCP Covered Species

Del Mar manzanita has a potential to occur within the chaparral habitat located along the western-most portion of the Preserve. This species blooms from December through January and is found at elevations ranging from 0 to 360 meters (0 to 1190 feet) (CNPS 2012). This species is known to occur southwest of the Preserve on MCAS Miramar and at Mission Trails Regional Park. Del Mar Manzanita can be found in San Diego County and Baja California (CNPS 2012).

San Diego Goldenstar (*Bloomeria (Muilla) clevelandii*)

CRPR List 1B.1, County List A, MSCP Covered Species

San Diego goldenstar was not detected during focused surveys in 2008 or 2012 but is considered to have a high potential to occur within the native grasslands near the eastern staging area. This species blooms from April through May and is found at elevations ranging from 50 to 460 meters (160 to 1520 feet) (CNPS 2012). San Diego goldenstar is also known to occur less than 0.5 miles east of the Preserve.

Robinson's Peppergrass (*Lepidium virginicum* var. *robinsonii*)

CRPR 1B.2, County List A

Robinson's peppergrass is an annual herb in the Brassicaceae family (CNPS 2012). It grows in openings in chaparral and sage scrub communities in the foothills of Southern California. Dry, exposed areas are typical microhabitat characteristics where this species is found (Reiser 1994). This species blooms from January to July, and is found at elevations from 1 to 880 meters (3 to 2,900 feet) AMSL (CNPS 2012).

Habitat and local site characteristics would support this species, as the Preserve is composed of dry, exposed areas. Robinson's peppergrass is found near the San Vicente Reservoir on the periphery of the coastal plain (Reiser 1994). This species is threatened locally due to development, invasion by non-native plants, and human recreation, although it is generally presumed stable in Southern California (Reiser 1994, CNPS 2012).

3.2.4 Non-native and/or Invasive Plant Species

A total of 25 non-native plant species were identified in the Preserve with 18 identified as target species in need of treatment ranging from high, moderate to low removal priority (Table 4). Target non-native invasive species were selected based on their invasive potential, prevalence throughout the Preserve, discussions with onsite park ranger staff, and ability for management. These target non-native invasive plant species locations are shown on Figures 12a-d and are discussed in Appendix F. In addition, invasive species removal prioritization will be coordinated in accordance with the Management Priorities for Invasive Non-native Plants, A Strategy for Regional Implementation, San Diego County (Dendra Inc, 2012).

Table 4. Target Invasive Non-Native Plant Species

Scientific Name	Common Name	Cal-IPC Rating[1]	Removal Priority
Cortaderia selloana	Pampas grass	High	High
Cynara cardunculus	artichoke thistle	Moderate	High
Dittrichia graveolens	stinkwort	Moderate	High
Lepidium draba	whitetop	Moderate	High
Tamarix ramosissima	saltcedar	High	High
*Cardaria draba**	hoary cress	Moderate	High
Melinus repens	rose Natal grass	None	Moderate
Pennisetum setaceum	crimson fountaingrass	Moderate	Moderate
Centaurea melitensis	Maltese star-thistle	Moderate	Moderate
Brassica nigra	black mustard	Moderate	Moderate
Hirschfeldia incana	shortpod mustard	Moderate	Moderate
Carduus pycnocephalus	Italian plumeless thistle	Moderate	Low
Cirsium vulgare	bull thistle	Moderate	Low
Cynodon dactylon	Bermuda grass	Moderate	Low
Olea europaea	olive tree	Limited	Low
Rumex crispus	curly dock	Limited	Low
Silybum marianum	milk thistle	Limited	Low
Eucalyptus camaldulensis	river red gum	Limited	Low

[1] **Source:** Cal-IPC California Invasive Plant Inventory Database, updated June 2012. Overall rating listed for southwest region, factoring impact, invasiveness, distribution, and documentation level.
Inventory Categories
High: Species have severe ecological impacts, are conducive to moderate to high rates of dispersal/establishment, and most are widely spread.
Moderate: Species have substantial and apparent, but generally not severe, ecological impacts; are conducive to moderate to high rates of dispersal, though establishment is generally dependent on ecological disturbance; and distribution may range from limited to widespread.

Limited: Species are invasive, but their ecological impacts are minor on a statewide level, or there was not enough information to justify a higher score; have low to moderate rates of invasiveness; and are generally limited but may be locally persistent and problematic.
None: Species has not been listed by Cal-IPC.

*****Hoary cress was recently identified by the onsite Park Ranger and thus not mapped in 2012 in Figures 12b-d**.**

Pampas grass

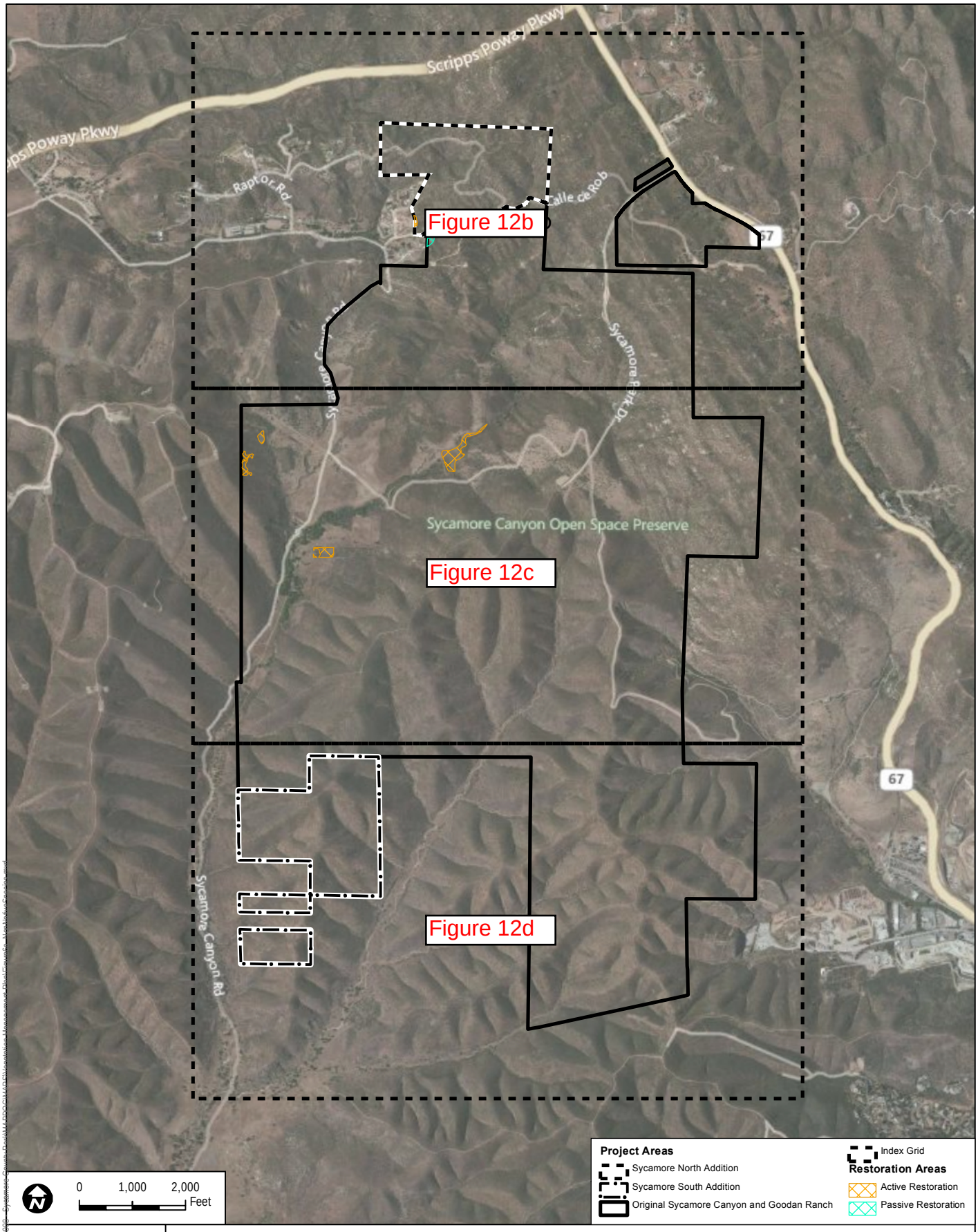
Pampas grass is a large, clumping grass, about 6–8 feet (1.8–2.4 meters) tall. It is an aggressive spreading, ornamental species that produces significant amounts of biomass, which is extremely flammable, thus increasing the potential for fire ignition and/or spread. This species produces an abundance of seed, which is light, and can be windblown into the surrounding areas (Cal-IPC 2012).

The Cal-IPC inventory categorizes pampas grass as having an overall rating of "high", and it is ranked as a high priority for removal/control within the Preserve because of its ability to spread rapidly and contribute to the spread of wildfire (Cal-IPC 2012). This species was observed scattered in the creeks north and south of the visitor center in the western portion of the Preserve. Only 5 individual plants(approximately 500 square feet) were observed and mapped within the Preserve during the 2012 survey, but it is likely that there are more individuals along the riparian corridor of Sycamore Creek (Figures 12a–d and Appendix F).

Artichoke thistle

Artichoke thistle is a large perennial thistle found at lower elevations throughout multiple regions of California. It prefers areas of disturbance, in vegetation communities lacking a dense canopy, such as non-native grasslands, chaparral, sage scrub, and more open canopy riparian areas. Artichoke thistle is an ornamental plant, and is available commercially. It reproduces by seed and sometimes by re-sprouting from root fragments.

The Cal-IPC inventory categorizes artichoke thistle as having an overall rating of "moderate" (Cal-IPC 2012). This species is ranked as a high priority for removal/control in the Preserve because of its tendency to spread and establish rapidly, and for the difficulty in complete control. Within the Preserve, artichoke thistle is located in a meadow north of the visitor center in the western portion of the site along Aquaduct Road. Approximately 10 individual plants (approximately 100 square feet) were mapped within the Preserve during the 2012 survey (Figures 12a-d; Appendix F).



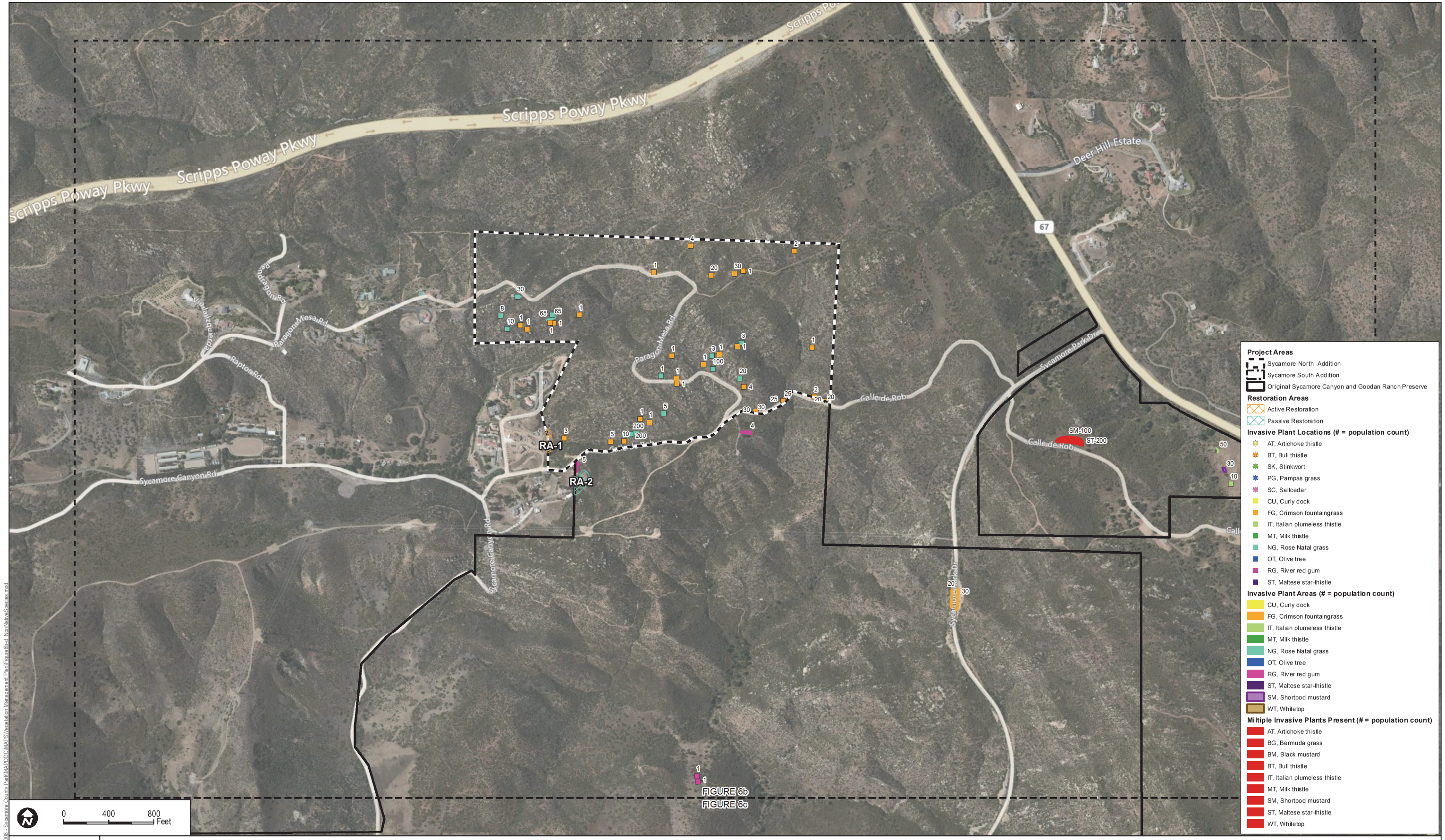
DUDEK

6680-08

SOURCE: Bing

FIGURE 12a

Target Invasive Non-native Plant Species Locations and Potential Habitat Restoration Sites



Path: Z:\Projects\6680\6680808_Sycamore County Park\MAPDOC\MAPS\Vegetation Management Plan\Figure6b-d NonNativeSpecies.mxd

DUDEK

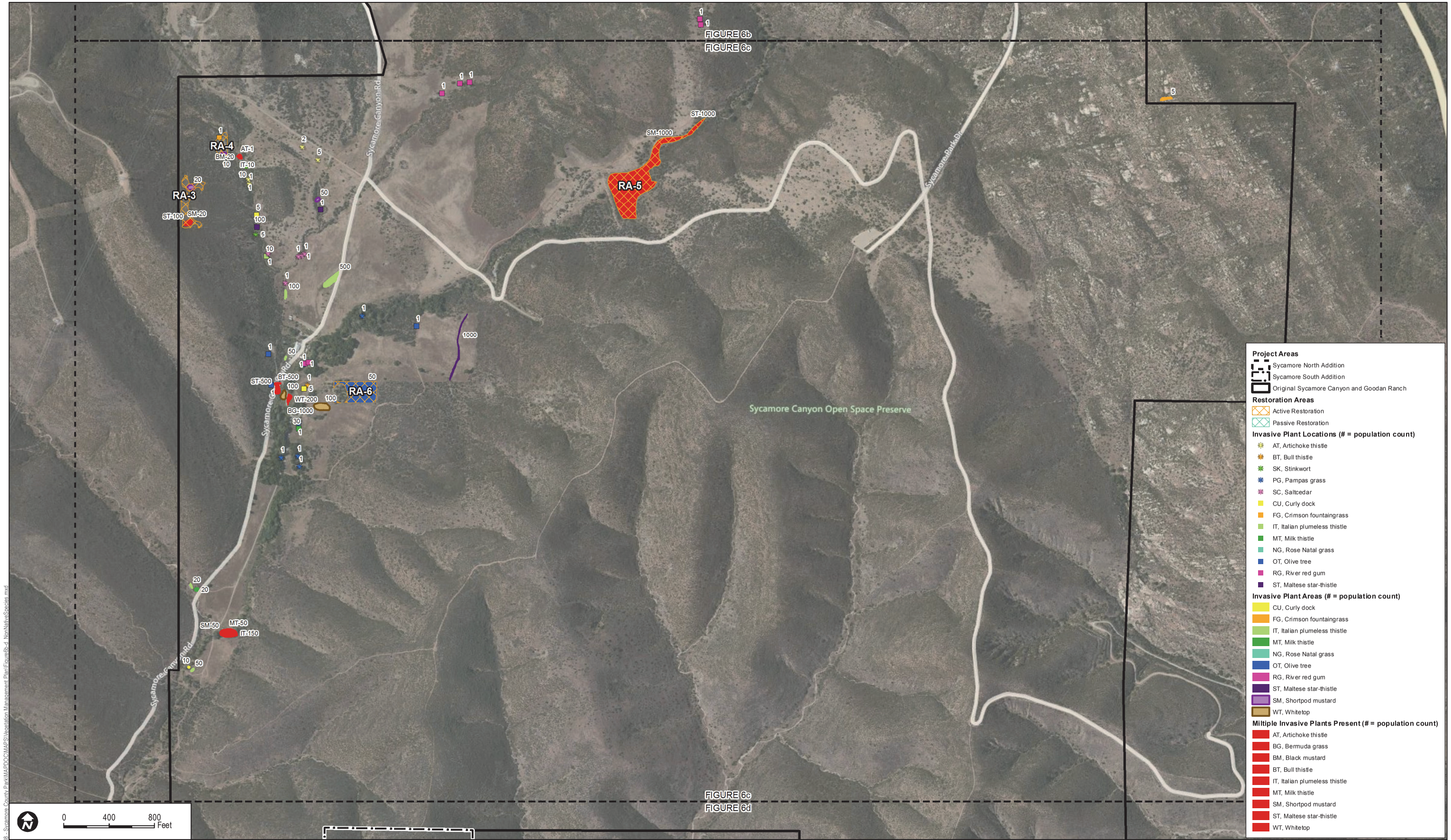
6680-08

SOURCE: Bing

FIGURE 12b

Target Invasive Non-native Plant Species Locations and Potential Habitat Restoration Sites

Sycamore Canyon and Goodan Ranch Preserve



SOURCE: Bing

DUDEK

6680-08

FIGURE 12c

Target Invasive Non-native Plant Species Locations and Potential Habitat Restoration Sites

Sycamore Canyon and Goodan Ranch Preserve

Path: Z:\Projects\6680008\668008_Sycamore_Canyon_Park\MAPDOC\MAPS\Vegetation Management Plan\Figure8b-4_NonNativeSpecies.mxd

FIGURE 6c
FIGURE 6d

Sycamore Canyon Open Space Preserve

Sycamore Canyon Rd

Sycamore Canyon Rd

Sycamore Canyon Rd

1
5
1
1
1
2

Project Areas
- Sycamore North Addition
- Sycamore South Addition
- Original Sycamore Canyon and Goodan Ranch

Restoration Areas
- Active Restoration
- Passive Restoration

Invasive Plant Locations (# = population count)
- AT, Artichoke thistle
- BT, Bull thistle
- SK, Stinkwort
- PG, Pampas grass
- SC, Saltcedar
- CU, Curly dock
- FG, Crimson fountaingrass
- IT, Italian plumeless thistle
- MT, Milk thistle
- NG, Rose Natal grass
- OT, Olive tree
- RG, River red gum
- ST, Maltese star-thistle

Invasive Plant Areas (# = population count)
- CU, Curly dock
- FG, Crimson fountaingrass
- IT, Italian plumeless thistle
- MT, Milk thistle
- NG, Rose Natal grass
- OT, Olive tree
- RG, River red gum
- ST, Maltese star-thistle
- SM, Shortpod mustard
- WT, Whitetop

Miltiple Invasive Plants Present (# = population count)
- AT, Artichoke thistle
- BG, Bermuda grass
- BM, Black mustard
- BT, Bull thistle
- IT, Italian plumeless thistle
- MT, Milk thistle
- SM, Shortpod mustard
- ST, Maltese star-thistle
- WT, Whitetop

0 400 800 Feet

DUDEK

6680-08

SOURCE: Bing

FIGURE 12d

Target Invasive Non-native Plant Species Locations and Potential Habitat Restoration Sites

Sycamore Canyon and Goodan Ranch Preserves

Path: Z:\Projects\6680\6680808\GIS\MAPDOC\MAPS\Vegetation Management Plan\Figure6b-d_NonNativeSpecies.mxd

Stinkwort

Stinkwort is a fall-flowering, sticky, aromatic non-native annual dicot that appears to be rapidly expanding its range in California. It colonizes disturbance areas through seed dispersal (Cal-IPC 2012). The Cal-IPC inventory categorizes this species as having overall ratings of “moderate” (Cal-IPC 2012). Additionally, Cal-IPC categorizes this species as an “alert” species, which indicates that it has significant potential for invading new ecosystems (Cal-IPC 2012). This species is ranked as a high priority for removal/control in the Preserve because of its tendency to spread rapidly and displace native vegetation communities. Within the Preserve, stinkwort is located northwest and east along roads and creeks extending to the visitor center in the western portion of the Preserve. Approximately 15 individual plants (approximately 50 square feet) were documented in the 2012 survey (Figures 12a-d; Appendix F).

Whitetop

Whitetop is a perennial herb found most commonly in riparian areas and areas of disturbance. It is found in multiple regions in California and in some areas can be very invasive. This plant quickly colonizes in areas of soil disturbance. It reproduces by seed and rhizomatously from its root system. It is possible for new individuals to sprout from root fragments, making manual removal difficult. It produces a large amount of viable seed, which can be dispersed rapidly (Cal-IPC 2012).

The Cal-IPC inventory categorizes whitetop as having an overall rating of “moderate”; however, it is ranked as a high priority for removal/control within the Preserve due to its potential to rapidly spread within the Preserve (Cal-IPC 2012). Within the Preserve, this species is located south of the ranch house area, in the western portion of the site. There were an estimated 400 individuals documented within the Preserve during the 2012 survey (Figure 12a-d; Appendix F).

Saltcedar

Saltcedar is a shrub or tree typically found along waterways, drainages and riparian areas. It is associated with dramatic changes in geomorphology, groundwater availability, soil chemistry, fire frequency, plant community composition, and native wildlife diversity. Saltcedar presents the greatest risk of reducing habitat quality within riparian areas and vegetated ephemeral drainages, which are limited in presence within the Preserve (Cal-IPC 2012). Saltcedar was observed within drainages in the northwestern portion of the Preserve, just north of the ranch house (Figures 12a-d).

The Cal-IPC inventory categorizes saltcedar as having an overall rating of “high” (Cal-IPC 2012). It is ranked as high priority for control due to its ability to spread rapidly and displace native habitat. Within the Preserve, all individuals observed

were small shrubs. Five individuals (approximately 200 square feet) were mapped within the Preserve during the 2012 survey (Figures 12a–d).

Hoary Cress

Hoary cress is a perennial herb found mostly in riparian areas and marshes of the central coast of California (Cal-IPC 2012). This plant colonizes disturbed sites, irrigated agricultural fields, roadsides and ditches quickly (Cal-IPC 2012). Hoary cress was recently identified by the onsite Park Ranger as in need of moderate priority removal (M. Abare-Laudy, personal communication, 2012). Hoary cress was found east of the visitor center primarily south creeping north in the meadows, along the creeks and under the oak woodlands (M. Abare-Laudy, personal communication, 2012). This species was not mapped since it was identified after the VCM was finalized. Hoary cress is identified as a "moderate" species by Cal-IPC (Cal-IPC 2012).

Rose Natal Grass

Rose Natal grass is a perennial grass in the Poaceae family that is native to South Africa but has now been introduced to North and South America (Invaders 2012). In the United States, this species now occurs in states along the Gulf of Mexico, and southwestern states. This species possesses a low ability to displace well-established native upland vegetation communities and will primarily colonize disturbed areas along roads or trails, or areas of naturally occurring sparse vegetation, such as sandy/rocky outcroppings on south-facing slopes.

Rose Natal grass is not rated by the Cal-IPC (Cal-IPC 2012). However, in the Preserve, this species is equally or more abundant than fountain grass, and colonizes the same types of environments. Therefore, it is ranked as a moderate priority for removal/control within the Preserve due to its high abundance within portions of the Preserve, but limited ability to displace established habitats. The number of individuals mapped within the Preserve during the 2012 survey is 718 (approximately 700 square feet) (Figures 12a-d and Appendix F).

Crimson Fountain Grass

Fountain grass is a smaller clumping grass that has spread in large part due to its popularity as an ornamental plant. This species possesses a low ability to displace well-established native upland vegetation communities and will primarily colonize disturbed areas, or areas of naturally occurring sparse vegetation, such as sandy/rocky outcroppings on slopes. Fountain grass is well-adapted to fire and can increase in density following a burn.

The Cal-IPC inventory categorizes fountain grass as having an overall rating of "moderate" (Cal-IPC 2012). It is ranked as a moderate priority for removal/control within the Preserve due to its high abundance within portions of the Preserve, but

limited ability to displace established habitats. Fountain grass is the most widely distributed invasive species in the preserve, and has been mapped within the northern, northeastern, central western and southwestern portions of the Preserve (Figures 12a-d). The quantity of individuals mapped within the Preserve during the 2012 survey is 305 (approximately 300 square feet) (Appendix F).

Maltese star-thistle

Maltese star thistle is widespread in open or disturbed areas in the western United States. This species will occupy grasslands, open woodlands, roadsides, and agricultural fields (Cal-IPC 2012). This species has more invasive potential in southern California and has been designated with a “moderate” Cal-IPC Inventory Ranking. The species is rated as moderate priority for control within the Preserve due to its difficulty for effective control. Maltese star-thistle is a common component of non-native annual grasslands, but was occasionally mapped herein for control where its presence was particularly abundant. As shown in Figure 12a-d, areas for control are located in the northeastern corner, central and western portions of the site. A total of 2,900 plants (approximately 1,500 square feet) were mapped within the Preserve.

Black mustard

Black mustard is a winter annual herb/forb, which can form monotypic stands. It is known to possess allelopathic chemicals that prevent germination of native plants. Due to the relative flammability of dead/dried stalks, it can spread fire rapidly, and over time can contribute to the transition of native communities to annual grasslands (Cal-IPC 2012). Within the Preserve it exists as a component of annual grasslands, but is also observed invading into native non-grassland vegetation communities. The Cal-IPC inventory categorizes black mustard as having an overall rating of “moderate” (Cal-IPC 2012). It is ranked as a moderate priority species for removal/control within the Preserve. Dense areas noted for control are north and south of the visitor center in the western portion of the Preserve and along roads such as Cardiac Hill Road are shown on Figures 12a-d. An estimated 20 individual plants (approximately 20 square feet) were mapped within the Preserve during the 2012 survey, although more are likely present.

Shortpod mustard

Shortpod mustard is a biennial, or occasionally a short-lived perennial, forb found in coastal scrub and grassland habitats (Cal-IPC 2012). This species has a Moderate Cal-IPC Inventory Ranking (Cal-IPC 2012). Shortpod mustard is primarily found in disturbed areas in grasslands within the Preserve. Approximately 1,280 plants (approximately 1,200 square feet) were mapped within the Preserve, most of which occur within an old detention pond in the central portion of the Preserve (Figure 12a-d). The species was ranked as moderate priority for control within the Preserve since the species has the ability to spread and re-establish quickly in disturbed areas.

Other non-native plant species

Ubiquitous non-native annual plant species are also present throughout the Preserve and are found throughout the chaparral communities. Additional non-native plant species include tocalote (*Centauria melitensis*), stork's bill (*Erodium* spp.), oats (*Avena* spp.), bromes (*Bromus* spp.), and festuca (*Festuca* spp.), palms, among others. These non-native plant species were not mapped because of their distribution across the site but are discussed in the VMP in Appendix F. The aforementioned non-native plant species are rated by Cal-IPC to have "Limited to Moderate" invasiveness potential and therefore do not have severe ecological impacts.

3.3 Wildlife Species

3.3.1 Wildlife Species Present

A total of 224 wildlife species were observed or detected within the Preserve during the 2008 and/or 2012 baseline inventory surveys, including two (2) amphibians, 23 reptiles, 80 birds, 38 mammals, and 81 invertebrates. A total of 39 special-status species were observed or detected, including 11 species covered under the MSCP. Appendices B and C provide a complete list of all wildlife species observed during both surveys (Figure 13).

Invertebrates

A complete list of invertebrate species identified on the Preserve below the level of family is included in the faunal list of the baseline biodiversity survey reports found in Appendices B and C. No special-status butterfly species or other invertebrate species were detected during the 2008 and 2012 surveys but two (2) special-status invertebrate species, Quino checkerspot and Hermes copper butterfly, have a high potential to occur on the Preserve.

Butterflies

Thirty-one butterfly species (many of the butterflies on the Preserve were not identified to the species level as detailed in Appendices B and C) were observed during the 2008 and/or 2012 surveys conducted on the Preserve including desert orangetip (*Anthocharis cethura*), Sara's orangetip (*Anthocaris sara*), Behr's metalmark (*Apodemia mormo virgulti*), perplexing hairstreak (*Callophrys affinis perplexa*), brown elfin (*Callophyrys augustinus*), Gabb's checkerspot (*Chlosyne gabbii*), orange sulfur (*Colias eurytheme*), funereal duskywing (*Erynnis funeralis*), southern blue (*Glaucopsyche lygdamus australis*), northern white-skipper (*Heliopetes ericetorum*), acmon blue (*Icaricia acmon*), common buckeye (*Junonia coenia*), dainty sulfur (*Nathalis iole*), mourning cloak (*Nymphalis antiopa*), pale swallowtail (*Papillo eurymedon*), western tiger swallowtail (*Papillo rutulus*), Anise swallowtail (*Papillo zelicaon*), cabbage white (*Pieris rapae*), checkered/common white (*Pontia protodice*), spring white (*Pontia sisymbrii*), white checkered skipper (*Pyrgus albescens*), west coast lady (*Vanessa annabella*), red admiral (*Vanessa atalanta*), painted lady (*Vanessa cardui*), greenish blue (*Plebejus saepiolus*), blue (*Plebejus sp*.), hedgerow hairstreak (*Satyrium saepium*), hairstreak (*Satyrium sp*.), mylitta crescent (*Phyciodes mylitta*), Behr's metalmark (*Apodemia mormo virgulti*), and moth (Family Saturniidae).

No special-status butterflies, specifically Quino checkerspot or Hermes copper, were observed during the 2008 or 2012 surveys. These species are dependent not only on suitable habitat but on distribution of larval host plants.

During the 2012 surveys, the host plant for Quino checkerspot, owl's clover (*Castilleja sp.),* was observed within the Sycamore South property but it was a very

small population (less than one square meter). The other larval host plant, dwarf plantain (*Plantago erecta*), was not mapped within the Preserve. Habitat characteristics, particularly in the Sycamore South property, are suitable for Quino checkerspot, and include open chaparral, ridge tops, sloping hillsides, and crytogamic crusts. Quino checkerspot have been historically documented within the original Preserve; one adult was observed in 2005 within the Preserve, located northeast of the Sycamore South property (County of San Diego 2008a).

No host plants were observed in 2012 for Hermes copper butterfly. However, Hermes Copper have been documented on the Preserve within the last ten years. A Hermes copper was recorded within the original Sycamore Canyon and Goodan Ranch Preserve before the 2003 Cedar Fire (County of San Diego 2008a).

Amphibians

Two amphibian species, the western spadefoot (*Spea hammondii*) and Pacific chorus frog (*Pseudacris regilla*) were detected during the 2008 surveys of the original Preserve. The western spadefoot was captured in three of the pitfall arrays and was captured during every month of sampling except July in 2008 (Appendix B). The majority of the captures occurred in a sandy dry wash, and a pitfall array situated in coastal sage-chaparral scrub approximately 500 feet west of the same sandy wash. Tadpoles of this species were identified during dip netting of a small creek. This species is presumed to breed in areas that pool within the Preserve. Pacific chorus frog was detected during active searches in 2008. It is presumed to be breeding in small pools along Sycamore Canyon Creek.

No focused surveys for amphibians were conducted during the 2012 survey effort for the Sycamore South and Sycamore North additions. As such, no amphibian species were recorded from either property.

Reptiles

A total of 23 reptile species were observed within the Preserve during coverboard surveys, pitfall trappings, herpetological arrays, and as incidental observations in the 2008 and/or 2012 surveys. These include: southern alligator lizard (*Elgaria multicarinata*), San Diego coast horned lizard (*Phrynosoma blainvillei*), western fence lizard (*Sceloporus occidentalis*), granite spiny lizard (*Sceloporus orcutti*), side-blotched lizard (*Uta stansburiana*), Gilbert's skink (*Eumeces gilberti*), Coronado skink (*Eumeces skiltonianus interparietalis*), orange-throated whiptail (*Cnemidophorus hyperythrus beldingi*), coastal western whiptail (*Cnemidophorus tigris stejnegeri*), western rattlesnake (*Crotalus oregonus*), night snake (*Hypsiglena torquata*), granite night lizard (*Xantusia henshawi*), common kingsnake (*Lampropeltis getula*), gopher snake (*Pituophis catenifer*), coastal patch-nosed snake (*Salvadora hexalepis virgultea*), coastal rosy boa (*Lichanura trivirgata roseofusca*), speckled rattlesnake (*Crotalus mitchellii*) , two-striped garter snake (*Thamnophis hammondii*), long-nosed snake (*Rhinocheilus lecontei*), Pacific

rattlesnake (*Crotalus oreganus helleri*), striped racer (*Coluber lateralis*), northern red diamond rattlesnake (*Crotalus ruber ruber*) and granite spiny lizard (*Sceloporus orcutti*).

Eight reptile species observed during the 2008 and/or 2012 surveys are CDFW Species of Special Concern (CSC): San Diego coast horned lizard, Coronado skink, orange-throated whiptail, coastal western whiptail, coast patch-nosed snake, two-striped garter snake, coastal rosy boa, and northern red diamond rattlesnake (Appendices B and C). Two are also MSCP covered, orange-throated whiptail, and San Diego coast horned lizard. Two-striped garter snake is a County of San Diego Sensitive Animal Group 1 Species. San Diego coast horned lizard, coast patch-nosed snake, coastal rosy boa, Coronado skink, and northern red diamond rattlesnake are all County of San Diego Sensitive Animal Group 2 Species. Orange-throated whiptail was the most common reptile species observed in the Preserve.

Birds

Eighty bird species were observed within the Preserve during the 2008 and/or 2012 avian point count surveys and other fieldwork. The most regularly encountered and/or most numerous bird species observed in the surveys were ash-throated flycatcher (*Myiarchus cinerascens)*, common raven (*Corvus corax*), Bewick's wren (*Thryomanes bewickii*), house wren (*Troglodytes aedon*), lesser goldfinch (*Spinus psaltria*), house finch (*Carpodacus mexicanus*), common yellowthroat (*Geothlypis trichas)*, California towhee (*Pipilo crissalis)*, song sparrow (*Melospiza melodia)*, Lazuli bunting (*Passerina amoena)*, spotted towhee (*Pipilo maculatus*), wrentit (*Chamea fasciata*), mourning dove (*Zenaida macroura*), and southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*). These included year-round residents, winter-only species, breeding species that migrate to the Neotropics, and species that are strictly migratory through the Preserve, neither breeding nor wintering there.

Seventeen special-status bird species were observed during the 2008 and/or 2012 surveys: coastal California gnatcatcher (*Polioptila californica californica*), barn owl (*Tylo alba*), Cooper's hawk (*Accipiter cooperii*), golden eagle (*Aquila chrysaetos*), northern harrier (*Circus cyaneus*), osprey (*Pandion haliaetus*), red-shouldered hawk (*Buteo lineatus*), southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*), Bell's sage sparrow (*Amphispiza belli belli*), black-chinned sparrow (*Spizella atrogularis*), burrowing owl (*Athene cunicularia*), California horned lark (*Eremophila alpestris actia*), turkey vulture (*Cathartes aura*), Vaux's swift (*Chaetura vauxi*), western bluebird (*Sialia mexicana*), yellow-breasted chat (*Icteria virens*), and white-tailed kite (*Elanus leucurus*), Seven of these species are MSCP covered species: burrowing owl, coastal California gnatcatcher, Cooper's hawk, golden eagle, northern harrier, southern California rufous-crowned sparrow, and western bluebird.

Many species, such as the Southern California rufous-crowned sparrow or barn owl, are likely permanent residents of the Preserve and are presumed to nest within the

Preserve. Other species, such as red-tailed hawk (*Buteo jamaicensis*), may nest on site but likely use the Preserve primarily for foraging and occasionally for roosting. One red-shouldered hawk nest was detected near the ranger station during the 2008 survey of the original Preserve but this portion of the Preserve was not revisited during the 2012 survey to determine if the nest was successful or not. A western bluebird nest was also observed during the 2008 survey in Sycamore Canyon but this area was also not revisited during the 2012 survey. No species were observed with nests or exhibiting nesting behavior during the 2012 surveys of the Sycamore South or Sycamore North additions.

Mammals

A complete list of mammal species observed within the Preserve during the 2008 and 2012 surveys is included in the faunal list of the Biological Diversity Baseline Reports (Appendices B and C).

Small Mammals

In total, eleven small mammal species were recorded at the Preserve during small mammal trapping and other surveys conducted in 2008 and/or 2012 (Appendices B and C). These species included: Dulzura pocket mouse (*Chaetodipus californicus femoralis*), northwestern San Diego pocket mouse (*Chaetodipus fallax fallax*), Dulzura kangaroo rat (*Dipodomys simulans [=Dipodomys agilis simulans*]), California mouse (*Peromyscus californicus insignis*), Northern Baja mouse (*Peromyscus fraterculus [=Peromyscus eremicus fraterculus]*), American deer mouse (*Peromyscus maniculatus gambelii*), dusky-footed woodrat (*Neotoma fuscipe macrotis*), San Diego desert woodrat (*Neotoma lepida intermedia*), desert shrew (*Notiosorex crawfordi*), California ground squirrel (*Spermophilus beecheyi nudipes*), and California vole (*Microtus californicus*).

Three of the small mammals are special-status species: Dulzura pocket mouse, northwestern San Diego pocket mouse, and San Diego desert woodrat. None of these species are covered under the MSCP.

Medium and Large Mammals

A total of eleven medium and large mammals were detected in the Preserve by direct observation, Sherman traps, and camera stations during the 2008 and/or 2012 surveys including: desert cottontail (*Sylvilagus audubonii*), brush rabbit (*Sylvilagus bachmani*), San Diego black-tailed jackrabbit (*Lepus californicus bennettii*), common raccoon (*Procyon lotor*), coyote (*Canis latrans*), bobcat (*Lynx rufous*), common gray fox (*Urocyon cinereoargenteus*), southern mule deer (*Odocoileus hemionus fuliginata*), domestic dog (*Canis familiaris*), mountain lion (*Puma concolor*), and domestic horse (*Equus caballus*).

Southern mule deer and mountain lion were the only MSCP-covered mammal species detected during the field surveys.

Bats

A total of 14 bat species were identified within the Preserve during the 2008 and/ or 2012 bat monitoring using the Anabat survey system and active surveys. These species were the pallid bat (*Antrozous pallidus*), western mastiff bat (*Eumops perotis*), big brown bat (*Eptesicus fuscus*), western red bat (*Lasiurus blossevillii*), hoary bat (*Lasiurus cinereus*), western yellow bat (*Lasiurus xanthinus*), California myotis (*Myotis californicus*), Yuma Myotis (*Myotis yumanensis*), western small-footed myotis (*Myotis ciliolabrum*), Dark-nosed small-footed myotis (*Myotis melanorhinus*), pocketed free-tailed bat (*Nyctinomops femorosaccus*), big free-tailed bat (*Nyctinomops macrotis*), canyon bat (*Parastrellus hesperus*), and Brazilian free-tailed bat (*Tadarida brasiliensis*). Three of these species are CDFW CSC: pallid bat, western red bat, and pocketed free-tailed bat.

The most common bat species recorded were the Yuma myotis, Brazilian free-tailed bat, canyon bat, and pocketed free-tailed bat. Species detected infrequently consisted of small-footed myotis (*Myotis ciliolabrum*), Hoary bat (*Lasiurus cinereus*), and big free-tailed bat (*Nyctinomops macrotis*).

3.3.2 Rare, Threatened, or Endangered Wildlife Species Present

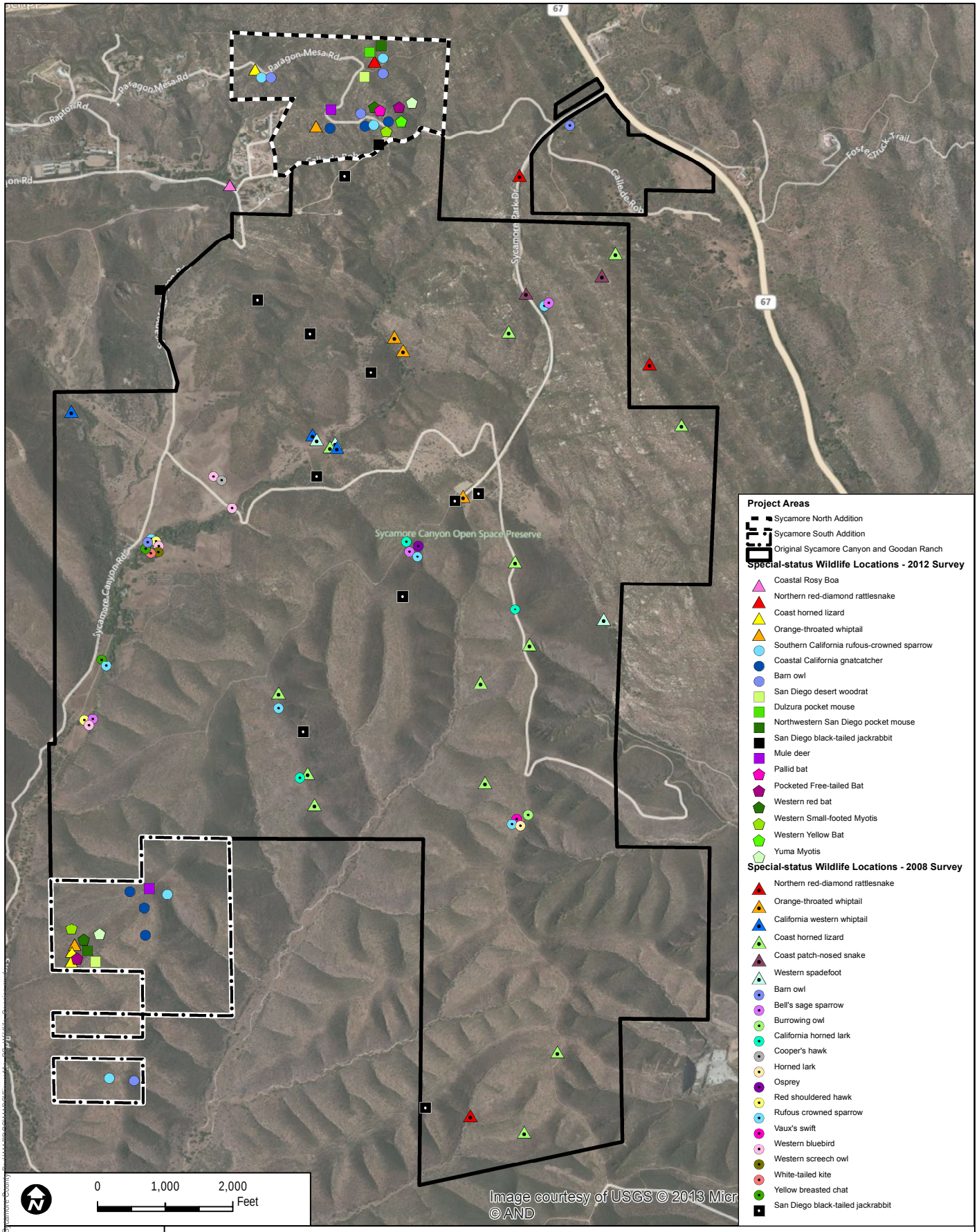
This section discusses special-status wildlife species observed at the Preserve (Figure 13). A special-status wildlife species is one listed by federal or state agencies as threatened or endangered; is included on the County's Sensitive Animal List (Group 1 or 2 Species); or is covered under the MSCP. Thirty-nine special-status wildlife species were detected at the Preserve during the 2008 and/or 2012 surveys. Information on each of these species is provided below.

3.3.2.1 Herpetofauna

<u>San Diego coast horned lizard (*Phrynosoma blainvillii*)</u>

California Species of Special Concern, County Group 2, MSCP Covered Species

The San Diego coast horned lizard occurs throughout most of California in locations west of the desert and Cascade-Sierran highlands in elevations from sea level to around 2,438 meters (8,000 feet) AMSL (Stebbins 2003). Despite a wide-ranging distribution, the San Diego coast horned lizard seems to be restricted to localized populations because of its association with loose soils that have a high sand content (Jennings and Hayes 1994). The species is found in a wide variety of vegetation types with the requisite loose sandy soils, including California sagebrush scrub, annual grassland, chaparral, oak woodland, riparian woodland, and coniferous forest (Klauber 1939; Stebbins 1954). Up to 90% of the diet of the San Diego coast



DUDEK

6680-08

SOURCE: Bing, County of San Diego 2012

FIGURE 13

Special-status Wildlife Locations

horned lizard consists of native harvester ants (Pianka and Parker 1975), and San Diego coast horned lizards do not appear to eat non-native Argentine ants (*Linepithema humile*) (Jennings and Hayes 1994).

The San Diego coast horned lizard was observed on numerous occasions in the more open scrub habitats during the 2008 surveys within the original Preserve while six individuals were recorded during herpetological trapping during the 2012 survey of Sycamore North and Sycamore South additions. The majority of the Preserve supports appropriate habitat for this species.

Orange-throated Whiptail (*Aspidoscelis hyperythra beldingi*)

California Species of Special Concern, County Group 2, MSCP Covered Species

Orange-throated whiptails occur in low-elevation coastal scrub, chamise-redshank chaparral, mixed chaparral, and valley-foothill hardwood habitats (Zeiner et al. 1988). Orange-throated whiptail occurs in Orange, Riverside, and San Diego Counties, west of the crest of the Peninsular Ranges, and in southwestern San Bernardino County near Colton. This species' range extends up to 1,039 meters (3,410 feet) AMSL (Zeiner et al. 1988). Orange-throated whiptails forage on the ground and scratch through surface debris for food. Their diet consists of a variety of small arthropods, especially termites. Orange-throated whiptails likely lay eggs in loose, well-aerated soil under or near surface objects, or at the base of dense shrubs (Zeiner et al. 1988).This species is considered special-status primarily due to loss of suitable coastal sage scrub habitat throughout its range.

This species was captured at five herpetological arrays and observed on several occasions in the chaparral and scrub habitats within the original Preserve boundaries in 2008. Orange-throated whiptails were also recorded at both Sycamore South and Sycamore North additions during all three survey passes in June, July, and August 2012. A total of 17 whiptails were captured during the 2012 herpetological array surveys; this species was the most common reptile captured. High-quality suitable habitat for orange-throated whiptail occurs within the entire Preserve.

Coronado Skink (*Eumeces skiltonianus interparietalis*)

California Species of Special Concern, County Group 2

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

This species was captured in one herpetological array under the oak woodland near Sycamore Canyon Creek during the 2008 surveys of the original Preserve. This species is presumed to inhabit the valleys that support oaks within the Preserve. This species was not observed during the 2012 surveys for the Sycamore North and Sycamore South additions to the Preserve.

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

California Species of Special Concern, County Group 2

The coast patch-nosed snake ranges from west-central Nevada south to the tip of Baja California and northwestern Sonora, and from coastal Southern California to southwestern Utah and central Arizona. The coast patch-nosed snake is found at elevations from below sea level to around 2,130 meters (6,988 feet) AMSL (Goldberg 1995). It is commonly found in semi-arid brush areas, chaparral habitats, and in canyons, rocky hillsides, and plains. As an active, diurnal snake, it will occasionally take refuge in rock crevices, in small mammal burrows, and under vegetation. May and June are the typical months of peak activity; however, in the southern part of its range, activity may extend all year during mild to warm weather. This subspecies is a broad generalist in its diet and an opportunistic feeder that probably preys on anything it can overpower, including small mammals *(Dipodomys*), lizards (*Aspidoscelis, Coleonyx*), and the eggs of lizards and snakes (Stebbins 2003).

This species was observed on two occasions in the southern mixed chaparral within the original Preserve in 2008; however they were not observed during the 2012 surveys of the Sycamore North and Sycamore South additions. They are likely to exist in these additions though since these properties support a large amount of appropriate habitat for this species.

Northern Red Diamond Rattlesnake (*Crotalus ruber ruber*)

California Species of Special Concern, County Group 2

Northern red diamond rattlesnake is distributed along coastal San Diego County to the eastern slopes of the mountains and north through western Riverside County into southernmost San Bernardino County. This species occurs from sea level to 900 meters (3,000 feet) AMSL in chaparral, woodland, and arid desert habitats in rocky areas and dense vegetation (Zeiner et al. 1988). Northern red diamond rattlesnake eats small mammals, including ground squirrels, wood rats, rabbits, lizards, and birds (CaliforniaHerps 2012). Northern red diamond rattlesnake is primarily nocturnal and crepuscular during periods of excessive daytime heat (CaliforniaHerps 2012). Northern red diamond rattlesnake young are live-born from July to September (CaliforniaHerps 2012).

In 2008, this species was observed on the road in the Goodan Ranch Preserve and in the steep rocky canyon on the southern edge of the Sycamore Canyon Preserve. One red diamond rattlesnake was captured within the Sycamore North property during the 2012 small mammal trappings and they were also recorded near the ranger station within the original Preserve (Figure 13). The majority of the Preserve supports appropriate habitat for this species.

Coastal Rosy Boa (*Lichanura trivirgata roseofusca*)

County Group 2

The rosy boa occurs at elevations ranging from sea level to 1,370 meters (5,000 feet) AMSL in the Peninsular and Transverse mountain ranges. Within its range in Southern California, the rosy boa is absent only from the southeastern corner of California around the Salton Sea and the western and southern portions of Imperial County (Zeiner et al. 1988). The rosy boa inhabits rocky shrubland and desert habitats (Stebbins 2003). Rosy boas are active between April and September (Holland and Goodman 1998). Individuals may aestivate in the hottest months and hibernate in the coolest months of the year, remaining inactive in burrows or under surface debris (NatureServe 2012).

The rosy boa preys on small mammals (including pocket mice and young woodrats), reptiles, amphibians, and birds (Holland and Goodman 1998; Stebbins 2003). Rosy boas eat lizards in captivity and may also do so in the wild (Zeiner et al. 1988).

Although this species was not observed during the 2008 surveys of the original Preserve it was observed by onsite park rangers at that time. In addition, one coastal rosy boa was observed crossing Sycamore Canyon Road before the north entrance to the Preserve (Figure 13). This species has the potential to occur in any of the habitats found on the Preserve.

Coastal Western Whiptail (*Aspidoscelis tigris stejnegeri)*

County Group 2

Coastal western whiptails are found in Southern California in chaparral, woodland, and riparian areas and, within the Preserve, were found primarily in southern mixed chaparral or Diegan coastal scrub. This species is diurnal and forages around the base of vegetation for invertebrates, including grasshoppers, beetles, ants, and spiders, among others (Zeiner et al. 1988). Whiptails generally avoid open areas to prevent exposure to potential predation. Principal threats result from habitat fragmentation and destruction (Zeiner et al. 1988).

This species was captured at four herpetological arrays and observed on several occasions in the chaparral and scrub habitats within the original Preserve in 2008. This species is presumed to be abundant within the Preserve even though they were not identified in 2012 within the Sycamore South and Sycamore North properties

because there is high-quality suitable habitat for this species in these additions to the Preserve.

Two-striped Garter Snake (*Thamnophis hammondii hammondii*)

California Species of Special Concern, County Group 1

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

Although this species was not observed by biologists during the 2008 surveys of the original Preserve it was observed by park rangers during that time. This species is usually associated with a permanent or relatively permanent water source and would likely be present in and near Sycamore Canyon Creek. The species was not identified during the 2012 surveys for the Sycamore South and Sycamore North additions.

3.3.2.2 Birds

Barn owl (*Tyto alba*)

County Group 2

Barn owls are found in many open habitats, including grassland, chaparral, riparian, and developed or urban habitats (Zeiner et al. 1990a). Barn owls are residents of much of continental United States, including California, although they are mostly absent from the Great Plains. This species will roost in barns, caves, dense trees, or other structures and hunt for small mammals on the wing or from a perch. Barn owls retain their home range throughout the year and are not migratory in California (Zeiner et al. 1990a).

Four barn owls were recorded during the evening avian point count surveys on the original Preserve during the 2008 surveys (Figure 13). The oak woodland riparian corridors offer suitable roosting and nesting habitats for this species, as well as plenty of open habitats for foraging. Barn owls were heard during night avian point count surveys in 2012 at both Sycamore South and Sycamore North properties. Specifically, barn owls were heard at avian point count locations during the surveys on May 24 and June 25, 2012 (refer to Figures 8a and 8b in Appendix C).

Turkey Vulture (*Cathartes aura*)

County Group 1

Turkey vultures are found throughout Central America and the United States and are residents of much of Southern California (Kirk et al. 1998). This species typically inhabits farmland or other open areas suitable for scavenging carrion. Habitat for perching, roosting, or nesting is generally located nearby and is characterized by undisturbed forest with cliff ledges or rocky outcrops (Kirk et al. 1998). This species specializes in aerial soaring over roads, fields, and open forests in search of carrion, as it rarely eats live birds or mammals. Turkey vultures are common during the breeding season in most of California (Zeiner et al. 1990a). Because this species feeds in pastureland or near roadsides, it is threatened by vehicular collisions, electrocution, shooting, or lead contamination from animals killed with lead bullets (Kirk et al. 1998).

Turkey vultures were observed foraging over the original Preserve in 2008 and were recorded soaring over the Sycamore South property in 2012 (Figure 13). There is suitable open habitat and foraging areas for turkey vultures within the Sycamore North and Sycamore South properties, but no nesting habitat was seen during the 2012 surveys.

Osprey *(Pandion haliaetus)*

County Group 1

Ospreys usually breed close to water sources such as lakes, rivers, estuaries and the coast. This species has adapted to the urban environment to some extent in that they will build nests on man-made structures such as floodlights for sports fields, cell phone towers, and tall cranes. Distance from a water source to a nest site has been recorded as far as 10 miles (Unitt 2004).

One osprey was observed during the 2008 surveys of the original Preserve. This species is also often seen foraging at San Vicente Reservoir, which is southeast of the Preserve; however, breeding has not been documented in the vicinity of the reservoir or the Preserve (Unitt 2004). Ospreys were not observed during the 2012 surveys of the Sycamore North and Sycamore South additions.

White-Tailed Kite (*Elanus caeruleus*)

California Fully Protected Species (nesting), County Group 1

The white-tailed kite is found in lower elevations in open grasslands, agricultural areas, wetlands, and oak woodlands. Their primary source of food is the California Vole (*Microtus californicus sanctidiegi*) (Unitt 2004). It typically forages in open undisturbed habitats and nests in the top of a dense oak, willow or other large tree

(Unitt 2004). The white-tailed kite population is on the decline mostly due to urban sprawl.

One white-tailed kite was seen perched and foraging near Sycamore Canyon Creek during the 2008 surveys of the original Preserve. This species could breed in the riparian habitat within the Preserve but no nests were observed during the 2008 survey. White tailed kite were not observed within the Sycamore North and Sycamore South additions during the 2012 surveys.

Northern Harrier (*Circus cyaneus*)

California Species of Special Concern, County Group 1, MSCP Covered Species

The Northern Harrier is associated with open grassland and marshes. This species typically forages in open, undisturbed habitat and nests on the ground in areas of dense low-growing vegetation to help conceal the nest. As with other ground nesting grassland birds, the Northern Harrier population is on the decline due to urban sprawl (Unitt 2004).

A northern harrier was observed foraging over the original Preserve in 2008. This species likely nests in the surrounding area and forages over the Preserve. This species was not observed during the Sycamore North and Sycamore South addition surveys in 2012.

Cooper's Hawk (*Accipiter cooperii*)

County Group 1, MSCP Covered Species

The Cooper's hawk is a resident of riparian deciduous habitats and oak woodlands but in recent times has become adapted to urban park environments (Unitt 2004). This species hunts their primary source of food, passerines, in broken woodlands and forest margins and they are also known to take fish and mammals. The Cooper's hawk population has declined due to hunting and loss of habitat; however, this species is making a comeback through its adaptation to the urban environment (Unitt 2004).

One Cooper's hawk was observed in August and one in September during the 2008 surveys of the original Preserve. This species may nest within the Preserve but there were no observations of this species during peak raptor nesting periods in 2008. Cooper's hawks were not observed during the Sycamore South and Sycamore North surveys in 2012.

Red-shouldered Hawk (*Buteo lineatus*)

County Group 1

Red-shouldered hawks inhabit low-elevation (below 5,000 feet or 1,524 meters AMSL) riparian woodlands, particularly in areas with interspersed swamps and emergent wetlands. Red-shouldered hawks forage primarily along wet meadow, swamp, and emergent wetland edges for a variety of prey including mammals, snakes, lizards, amphibians, small or young birds, and large insects. Red-shouldered hawks were mostly residents of riparian woodland habitats but have now moved into oak woodlands at all elevations and have begun to nest in eucalyptus trees (Unitt 2004).

Red-shouldered hawks were recorded building a nest near the ranger station within the original Preserve in 2008. This species was also observed in April, July and August, 2008. However, this species was not observed during the 2012 surveys of the Sycamore South and Sycamore North properties.

Coastal California gnatcatcher (*Polioptila californica californica*)

Federally Threatened, California Species of Special Concern, County Group 1, MSCP Covered Species

The coastal California gnatcatcher occurs in coastal Southern California and northern Baja California year round, where it depends on a variety of arid scrub habitats. The California gnatcatcher occurs mainly on cismontane slopes (coastal side of the mountains) in Southern California, ranging from Ventura and northern Los Angeles counties south through the Palos Verdes Peninsula to Orange, Riverside, San Bernardino, and San Diego counties. Most California gnatcatcher locality records occurred at or below an elevation of 984 feet AMSL (Atwood 1990), although they may occur as high as 3,000 feet AMSL (65 FR 63680). The California gnatcatcher typically occurs in or near coastal scrub vegetation, which is composed of relatively low growing, dry season deciduous and succulent plants. Characteristic plants of this community include California sagebrush, various species of sage, California buckwheat, lemonadeberry, California bush sunflower (*Encelia californica*), and cactus (e.g., *Opuntia spp*.). California gnatcatchers glean insects and spiders from foliage of shrubs, primarily California buckwheat and coastal sagebrush (Atwood 1993). The California gnatcatcher has declined due to widespread destruction of its coastal scrub habitat (Atwood 1990).

Coastal California gnatcatchers have historically been detected at the Preserve but were not recorded during the 2008 surveys of the original Preserve. As the coastal sage scrub recovers in the Preserve following the 2003 Cedar Fire, this species will have high potential to occur at the Preserve. There is suitable coastal sage scrub habitat for California gnatcatcher within both the Sycamore North and Sycamore South properties. Two males were heard calling from avian point count location in

the northern portion of the Sycamore South property on April 26, 2012, but were not visually observed (Figure 13). A third individual was heard calling near an avian point count location within the Sycamore North property on May 24, 2012 (Figure 13). No nesting gnatcatchers were observed during the 2012 surveys.

Southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*)

CDFW Watch List Species, County Group 1, MSCP Covered Species

Southern California rufous-crowned sparrows are found primarily in coastal sage scrub habitats in Southern California, although this species will also occupy sparse mixed chaparral or other coastal scrub habitats (Zeiner et al. 1990a). Steep and often rocky hillsides are preferred. Rufous-crowned sparrows are secretive and are frequently hidden in shrub patches or near rocky outcrops. Rufous-crowned sparrows forage on the ground for insects, spiders, seeds, and other vegetation. This species does very little migrating, although it may occasionally migrate upslope in other areas of its range (Zeiner et al. 1990a). Like many other species that inhabit coastal scrub habitats, this species is threatened primarily by habitat loss and fragmentation. Brown-headed cowbird (Molothrus ater) parasitism has also been recorded for this sparrow (Zeiner et al. 1990a).

Southern California rufous-crowned sparrows were detected throughout the original Preserve during the 2008 surveys. In 2012 surveys of Sycamore North and Sycamore South, several rufous-crowned sparrows were observed in coastal sage scrub or southern mixed chaparral habitats near avian point count locations (Figure 13). This species was recorded during all three avian point count surveys and during general biological surveys in 2012 of the Sycamore North and Sycamore South properties.

Yellow-breasted Chat (*Icteria virens*)

California Species of Special Concern, County Group 1

The yellow-breasted chat is a common summer breeding visitor that prefers to nest in extensive dense thickets of riparian habitat (Unitt 2004). This species is very secretive so finding their nests is a challenge. The decline of this species is due to the loss of riparian woodlands in the coastal lowland as a result of development, agriculture, and channeling rivers (Dudek 2000).

At least one yellow-breasted chat was detected between point count stations 2 and 3 in 2008 within the original Preserve (Figure 13). This bird was heard singing often in the early morning and prior to sunrise in April, May and June, 2008. This species was not observed during the 2012 surveys of the Sycamore North and Sycamore South properties.

Golden Eagle (*Aquila chrysaetos*)

Bald and Golden Eagle Protection Act (16 U.S. 668-668c), California Fully Protected Species, County Group 1, MSCP Covered Species

Golden eagles nest on cliff ledges or trees on steep slopes and forage in grasslands, sage scrub, or broken chaparral (Unitt 2004). Development of the habitats forage over has taken a toll on the numbers of this species present in San Diego County.

A first year golden eagle was seen flying overhead during the 2008 surveys of the original Preserve and this species has historically been detected foraging at the Preserve (Figure 13). The golden eagle was not observed during surveys of the Sycamore North and Sycamore South properties in 2012.

Bell's Sage Sparrow (*Amphispiza belli belli*)

CDFW Watch List Species; County Group 1

The special-status subspecies Bell's sage sparrow occurs as a non-migratory resident on the western slope of the central Sierra Nevada Range and in the coastal ranges of California southward from Marin County and Trinity County, extending into north-central Baja California (County of Riverside 2008).

The sage sparrow occupies semi-open habitats with evenly spaced shrubs that are one to two meters (3.3 to 6.6 feet) high (County of Riverside 2008). For site selection, specific shrub species may be less important than overall vertical structure, habitat patchiness, and vegetation density (Wiens and Rotenberry 1981). Bell's sage sparrow is uncommon to fairly common in dry chaparral and coastal scrub along the coastal lowlands, inland valleys, and lower foothills of the mountains within its range. The Bell's sage sparrow often occupies chamise chaparral in the northern part of its range (Gaines 1988; Unitt 1984) and in coastal San Diego County (Bolger et al. 1997). Sage sparrows primarily forage on the ground, usually near or under the edges of shrubs (Zeiner et al. 1990a; County of Riverside 2008). During the breeding season, the species consumes adult and larval insects, spiders, seeds, small fruits, and succulent vegetation (County of Riverside 2008).

The main threat to Bell's sage sparrow is the loss and fragmentation of appropriate shrub habitat. Like other species, it has lost suitable habitat to urbanization and agricultural conversion, especially in Southern California (County of Riverside 2008). Fragmentation of shrubland habitats, whether by wildfire, shrub die-off, or human-caused disturbance, significantly affects Bell's sage sparrows. This species is more likely to remain in an area that has high shrub cover, low disturbance, large patch sizes, and high within-site spatial similarity.

Bell's sage sparrows were observed at stations 1, 6, 8 and 9 during the 2008 surveys of the original Preserve. In addition, successful breeding was observed near

point count station 6 in 2008 (Figure 13 and Appendix B and C). This species was not observed during the 2012 survey of the Sycamore South and Sycamore North properties but there is suitable dry chaparral and coastal scrub habitat within both properties for them to live onsite.

Burrowing Owl (*Athene cunicularia*)

California Species of Special Concern, County Group 2, MSCP Covered Species

Burrowing owls are found in prairies, grasslands, lowland scrub, agricultural lands, coastal dunes, desert floors, and some artificial open areas (Unitt 2004). This species requires large open expanses of sparsely vegetated areas on gently rolling or level terrain with an abundance of active small mammal burrows. They use rodent or other burrows for roosting and nesting cover and also are known to use pipes, culverts, and nest boxes when burrows are scarce. As with other grassland species, the burrowing owl population in San Diego County is on the decline due to loss of habitat to development and habitat fragmentation (Unitt 2004).

One burrowing owl was observed along a ridge top road during the 2008 survey of the original Preserve (Figure 13). The bird was flushed from the road and flew away. The species was not detected in the area again and was probably a migrant (ICF Jones and Stokes 2008). No burrowing owls were observed during the Sycamore South and Sycamore North surveys in 2012.

Vaux's Swift (*Chaetura vauxi)*

California Species of Special Concern

Vaux's swift is a migrant and winter visitor to San Diego County (Unitt 2004). This species can be seen in low numbers flying across any habitat type in the County. Spring migration is typically between April and May and fall migration is typically September and October. This species breeds in old growth forests and changes in forest structure and fragmentation in its nesting range have led to the species decline (Dudek 2000).

One Vaux's swift was seen at point count station 8 during the September 2008 sampling periods of the original Preserve (Figure 13). The bird flew overhead and did not stop to forage. This species was not observed within the Sycamore North and Sycamore South properties during the 2012 surveys.

California Horned Lark *(Eremophila alpestris actia)*

CDFW Watch List Species, County Group 2

The California horned lark is a resident of a variety of open habitats, usually where trees and large shrubs are absent (Zeiner *et al.* 1990). This species primarily breeds in open fields and grasslands and is found along the coastal slope of San Diego

County east to Jacumba (Unitt 2004). Continuing threats to this species include habitat destruction and fragmentation.

California horned larks were observed at point count station 8 during the 2008 surveys of the original Preserve where an adult was observed with food for chicks (Figure 13). This species was not observed during the 2012 surveys of the Sycamore North and Sycamore South additions to the Preserve.

Western Bluebird (*Sialia mexicana*)

County Group 2, MSCP Covered Species

Western bluebirds are fairly common throughout most of California, with the exception of high mountains and eastern deserts (Zeiner et al. 1990a). This species inhabits oak woodlands, coniferous forests, valley foothill hardwood-conifer habitats, and open or mature forests. Edges of habitats are utilized by this species, in particular. Western bluebirds eat small insects, such as grasshoppers, caterpillars, beetles, and ants (Zeiner et al. 1990a). During the nonbreeding season, bluebirds will also consume berries of elderberry or mistletoe, among other species. Western bluebird numbers are declining due to loss of nesting cavities to logging, fire suppression, and competition with non-native species such as European starling and house sparrow (*Passer domesticus*) (Unitt 2004).

A western bluebird pair was observed nesting in Sycamore Canyon Creek near point count station 3 during the 2008 surveys of the original Preserve (Figure 13). The species was not observed during the 2012 surveys of the Sycamore North and Sycamore South properties and there is no suitable woodland or forested habitats within these areas.

3.3.2.3 Mammals- Small Mammals

Dulzura Pocket Mouse (*Chaetodipus californicus femoralis*)

California Species of Special Concern, County Group 2

Dulzura pocket mouse inhabits coastal scrub, chamise-redshank, montane chaparral, sagebrush, grassland, valley foothill hardwood, valley foothill hardwood-conifer, and montane hardwood habitats from San Francisco Bay to Mexico (Zeiner et al. 1990b). Dulzura pocket mouse eats the seeds of annual grasses and forbs, and insects and leafy vegetation in brushy areas, while foraging mainly from the ground (Zeiner et al. 1990b). This species is nocturnal and reduces activity during cold winters (Zeiner et al. 1990b). Between April and June, usually four offspring are born in the burrows pocket mice dig in soft soil (Zeiner et al. 1990b).

During the 2008 trapping program within the original Preserve, 36 of the 230 animals captured were the Dulzura pocket mouse. One individual Dulzura pocket mouse was captured during small mammal trapping in the Sycamore North addition in 2012

(Figure 13). This species was only detected during the first trapping session in July 2012.

Northwestern San Diego Pocket Mouse (*Chaetodipus fallax fallax*)

California Species of Special Concern, County Group 2

San Diego pocket mouse occurs mainly in the arid coastal and desert border areas of San Diego County, but also occurs in parts of Riverside and San Bernardino Counties, from sea level to 1,829 meters (6,000 feet) AMSL (Zeiner et al. 1990b). It inhabits coastal scrub, chamise-redshank chaparral, mixed chaparral, sagebrush, desert wash, desert scrub, desert succulent shrub, pinyon-juniper, and annual grassland, usually in sandy herbaceous areas with rocks or coarse gravel (Zeiner et al. 1990b). San Diego pocket mouse feeds mostly on seeds of forbs, grasses, and shrubs, but also eats some insects. This species carries seeds in cheek pouches and stores them in and around the burrow (Zeiner et al. 1990b). San Diego pocket mouse generally breeds from March to May with an average of four young per litter (Zeiner et al. 1990b).

No San Diego pocket mice were observed within the original Preserve in 2008. During the 2012 surveys, nine individual northwestern San Diego pocket mice were captured during small mammal trapping in both the Sycamore South and Sycamore North properties (Figure 13). More individuals were trapped within the Sycamore South property than in Sycamore North. This species was detected during both trapping sessions at all trapping locations.

San Diego Desert Woodrat (*Neotoma lepida intermedia*)

California Species of Special Concern, County Group 2

Desert woodrats are found in a variety of shrub and desert habitats and are primarily associated with rock outcroppings, boulders, cacti, or areas of dense undergrowth (Bleich 1973; Bleich and Schwartz 1975; Brown et al. 1972; Cameron and Rainey 1972; Thompson 1982). Desert woodrats are noted for their opportunistic and flexible behavior in using various materials, such as twigs and other debris (sticks, rocks, dung), to build elaborate dens or “middens,” which typically include several chambers for nesting and food as well as several entrances. Desert woodrats are primarily herbivorous, and their diet may include leaves, seeds, berries, parts of flowers, and yucca shoots (Cameron and Rainey 1972). This species is impacted by edge effects, primarily relating to increased predation from cats or other mesopredators.

During the 2008 trapping program within the original Preserve, 12 of the 230 animals captured were San Diego desert woodrat. In 2012, a total of seven (7) San Diego desert woodrats were observed during small mammal trapping; four (4) were recorded in the Sycamore South property and three (3) were recorded in the

Sycamore North property (Figure 13). San Diego desert woodrats were recorded during both July and August surveys in 2012.

3.3.2.4 Mammals – Medium and Large Mammals

San Diego Black-tailed Jackrabbit (*Lepus californicus bennettii*)

California Species of Special Concern, County Group I

The subspecies San Diego black-tailed jackrabbit, which is one of nine subspecies of black-tailed jackrabbit (Dunn et al. 1982), is confined to coastal Southern California. The black-tailed jackrabbit occupies many diverse habitats, but primarily is found in arid regions supporting short-grass habitats. Black-tailed jackrabbits usually are not found in high grass or dense brush where it is difficult for them to move freely, and the openness of open scrub habitat is probably preferred over dense chaparral. Black-tailed jackrabbits are considered generalist herbivores (Johnson and Anderson 1984). The San Diego black-tailed jackrabbit is particularly sensitive to habitat fragmentation and isolation of populations. Other documented threats to jackrabbits related to urban development are vehicle collisions and pet, stray, and feral dogs (Lechleitner 1958).

During the 2008 surveys this species was documented throughout the original Preserve. In 2012, one jackrabbit was observed crossing the main road within the Sycamore North property (Figure 13). However, this species was not recorded during focused surveys in 2012.

Southern Mule Deer (*Odocoileus hemionus fuliginata)*

County Group 2, MSCP Covered Species

Mule deer occur throughout California and much of the Western United States and Great Plains, north into Canada, and south to the southern end of the Mexican Plateau. Mule deer inhabit a broad range of habitats including agricultural and suburban areas, desert, woodlands, forests, grassland, herbaceous vegetation communities, savanna, shrubland, and chaparral. Mule deer are herbivorous and browse on a variety of woody plants, grasses, and forbs (NatureServe 2012). Breeding typically peaks late November to mid-December (NatureServe 2012).

Although this species is not considered special-status or declining in its range, mule deer is covered under the MSCP because it is San Diego County's only large herbivore, and it performs important ecosystem functions. This species also has aesthetic and intrinsic conservation values. Southern mule deer prefer edge habitats, rarely travel or forage far from water and are most active around dawn and dusk.

Southern mule deer were documented throughout the original Preserve in 2008 and are known to use the wildlife corridors along State Route 67 to the east and beneath Scripps Poway Parkway to the north. Mule deer were observed on wildlife cameras installed at both Sycamore South and Sycamore North properties in 2012 (Figure 13); mule deer were recorded during all three camera survey periods. In addition, in 2012 mule deer tracks were observed throughout both Sycamore North and Sycamore South properties. Adults and juveniles were captured on cameras within the Sycamore South property; only adults were recorded within the Sycamore North property in 2012.

Mountain Lion (*Puma [=Felis] concolor)*

County Group 2, MSCP Covered Species

The mountain lion, an MSCP covered species, had an expansive range over much of North and South America, but hunting and habitat fragmentation have resulted in a severe constriction of the range to mostly mountains and unpopulated areas (Zeveloff and Collett 1988; Harlow et al. 1992).

Mountain lions are most abundant in riparian areas (Dickson and Beier 2002) and brushy habitats, although their historic range included diverse habitats such as montane coniferous forests, swamps, and lowland forests (Zeveloff and Collett 1988; Harlow et al. 1992). Grasslands are avoided, and home ranges are generally located away from high- and low-speed two-lane paved roads, although they will occupy habitats near active roads if riparian habitats are present (Dickson and Beier 2002).

Mountain lions typically prey on deer and elk, although they are known to be opportunistic and consume bighorn sheep, moose, beaver, badger, coyotes, ground squirrels, pocket gophers, and voles (Ross and Jalkotzy 1992). Mountain lions are mostly solitary, with the exception of courtship and reproduction, and occupy large territories (Nowak and Paradiso 1983; Ross and Jalkotzy 1992). The primary threats to mountain lions are habitat loss and fragmentation of existing habitat. Home ranges are quite large, and vary from 30 square kilometers to almost 300 square kilometers (12 to 120 square miles) (Nowak and Paradiso 1983), making this species especially vulnerable to habitat fragmentation, especially if necessary habitat corridors are eliminated.

Mountain lion were not detected during the 2008 baseline survey season of the original Preserve; however, they were detected on two separate occasions by onsite park rangers in 2008. Mountain lions were not recorded in 2012 on wildlife cameras during biological surveys for the Sycamore North and Sycamore South properties but likely use these properties.

3.3.2.5 Mammals – Bats

Pallid bat (*Antrozous pallidus*)

California Species of Special Concern, County Group 2

The pallid bat is locally common in arid deserts (especially the Sonoran life zone) and grasslands throughout the western United States and also occurs in shrublands, woodlands, and forests at elevations up to 2,440 meters (8,000 feet) (Hermanson and O'Shea 1983; Hall 1981). Although this species prefers rocky outcrops, cliffs, and crevices with access to open habitats for foraging, it has been observed far from such areas (Hermanson and O'Shea 1983). Pallid bats forage for a variety of insects, including flightless arthropods picked up from the ground (e.g., scorpions and ground crickets), insects gleaned from vegetation (e.g., cicadas), insects taken in flight, and small vertebrates such as horned lizards and pocket mice that are taken on the ground.

Pallid bat was not observed during the 2008 surveys of the original Preserve. However, the species was detected in 2012 during the second bat survey pass in August within the Sycamore North property (Figure 13).

Pocketed Free-tailed Bat (*Nyctinomops femorosaccus*)

California Species of Special Concern, County Group 2

Pocketed free-tailed bat inhabits pinyon-juniper woodlands, desert scrub, desert succulent shrub, desert riparian, desert wash, alkali desert scrub, Joshua tree, and palm oasis. Pocketed free-tailed bats roost in rock crevices, caverns, or buildings, and they feed on flying insects, especially large moths, detected by echolocation (Zeiner et al. 1990b). Pocketed free-tailed bat occurs in San Diego, Riverside, and Imperial counties and is more common in Mexico. Pocketed free-tailed bats bear a single litter with one young in June and July, peaking in late June (Zeiner et al. 1990b).

This species was seen foraging during the 2008 surveys of the original Preserve. In 2012, pocketed free-tailed bat was detected during both passes of passive bat surveys at both survey locations within the Sycamore North and Sycamore South properties (Figure 13).

Big Free-tailed Bat (*Nyctinomops macrotis*)

California Species of Special Concern, County Group 2

Big free-tailed bats are typically found in desert and arid grasslands with rocky outcrops, canyons, or cliffs (BCI 2008). This species roosts on cliffs and occasionally in buildings. Isolated populations can be found throughout the southwestern U.S. into

Mexico. The regional status and species trends are unclear, but it is likely vulnerable to disturbance, especially at roosts, and perhaps also to threats to food supply from man-made toxins.

This species was observed foraging within the original Preserve in 2008 but was not observed during 2012 surveys of the Sycamore North and Sycamore South properties.

Western Red Bat (*Lasiurus blossevillii*)

California Species of Special Concern, County Group 2

The western red bat occurs in California from Shasta County to the Mexican border and west of the Sierra Nevada/Cascade crest and deserts. Roosting habitat includes forests and woodlands from sea level up through mixed conifer forests (Zeiner et al. 1990b). The species feeds over a wide variety of habitats including grasslands, shrublands, open woodlands, forests, and croplands. The western red bat is not found in desert areas. It roosts primarily in trees, and less often, shrubs, in edge habitats adjacent to streams, fields, or urban areas. The western red bat prefers edges or habitat mosaics that have trees for roosting and open areas for foraging.

This species was observed in 2008 within the original Preserve and there is suitable roosting and foraging habitat within the entire Preserve. In 2012, western red bats were detected during the second bat survey pass at both the Sycamore South and Sycamore North properties (Figure 13).

Western Yellow Bat (*Lasiurus xanthinus*)

California Species of Special Concern

The western yellow bat is known only in Southern California, from Los Angeles and San Bernardino Counties south to Mexico. This species is commonly found below 600 meters (2,000 feet) AMSL in riparian habitats, including valley foothill riparian, desert riparian, desert wash, and palm oasis (Zeiner et al. 1990b). Western yellow bat will roost in trees and riparian habitats, and will forage in riparian habitats.

This species was not observed within the original Preserve in 2008. In 2012, the western yellow bats were recorded in the Sycamore South property during both survey passes (Figure 13).

Western Small-Footed Myotis (*Myotis ciliolabrum*)

County Group 2

Western small-footed myotis is found from coastal California south of Contra Costa County to the Mexican border, and occurs throughout the Central Valley, slopes of

the Sierra Nevadas, and desert habitats (Zeiner et al. 1990b). Arid habitats are generally preferred by this species, including brushy uplands near water sources. Caves, buildings, mines, bridges, and other crevices are frequent roosting areas, and may be occupied by individuals or a larger group (Zeiner et al. 1990b).

This species was infrequently observed on the original Preserve in 2008. In 2012, western small-footed myotis were detected within the Sycamore North property during both survey passes, and at the Sycamore South property during the August survey pass (Figure 13).

Western Mastiff Bat *(Eumops perotis)*

California Species of Special Concern, County Group 2

Western mastiff bats are the largest native bats in the United States. This subspecies occurs from the western foothills of the Sierra Nevada and the coastal ranges (south of San Francisco Bay) southward into Mexico (BCI 2008). In Southern California, they are found throughout the coastal lowlands up to drier mid-elevation mountains, but avoid the Mohave and Colorado deserts (Zeiner et al. 1990). Habitats include dry woodlands, shrublands, grasslands, and occasionally even developed areas. This bat forages in flight and most prey species are relatively small, low to the ground, and weak-flying.

For roosting, western mastiff bats appear to favor rocky, rugged areas in lowlands where abundant suitable crevices are available for day roosts (BCI 2008). Roost sites may be in natural rock or in tall buildings, large trees or elsewhere. The reasons for this species' decline are poorly understood but probably are related to disturbance, habitat loss, and perhaps widespread use of pesticides.

This species was observed foraging within the original Preserve in 2008 but were not observed within the Sycamore North or Sycamore South additions during the 2012 surveys.

Yuma Myotis (*Myotis yumanensis*)

County Group 2

Yuma myotis occurs throughout California, but is uncommon in the Mojave and Colorado desert regions, except the mountain ranges bordering the Colorado River Valley. They can be found in many habitat types, but prefer open forests and woodlands with sources of water they can forage over (Zeiner et al. 1990b). Yuma myotis ranges from sea level to 3,353 meters (11,000 feet) AMSL, but is generally found below 2,438 meters (8,000 feet) (Zeiner et al. 1990b). Yuma myotis roosts in groups of several thousand individuals in caves, buildings, mines, and under bridges (Zeiner et al. 1990b). Reproduction for Yuma myotis begins in the fall, and a single litter of one young is born sometime between May and June (Zeiner et al. 1990b).

This species was observed foraging within the original Preserve in 2008. In 2012, Yuma myotis were detected during both passes of passive bat surveys at both the Sycamore North and Sycamore South survey locations (Figure 13).

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

Ten special-status wildlife species have a high potential to occur within the Preserve as described below. Additional information on these species can be found in Appendices B and C.

3.3.3.1 Invertebrates

Quino checkerspot butterfly (*Euphydryas editha quino*)

Federally Endangered, County Group 1

Quino checkerspot butterfly is a medium sized butterfly in the Nymphalidae family, and is a subspecies of checkerspot butterfly that is currently restricted to southern Riverside and San Diego Counties, and Baja California, Mexico (NatureServe 2012). There are six known populations of this species within the United States, and one population is extant outside Tecate, Mexico (Black and Vaughan 2005). This species occupies open chaparral and coastal sage scrub habitats, including on ridgetops or other areas with crytogamic crusts.

Adults are active from late February to mid-April, and larvae pupate on either dwarf plantain (*Plantago erecta*) or owl's clover (*Castilleja sp.)* (Black and Vaughan 2005). As such, this species is dependent not only on suitable habitat but on distribution of larval host plants. Adults nectar on annual plant species, such as goldfields (*Lasthenia sp*.), cryptantha (*Cryptantha sp*.), gilia (*Gillia sp*.), linanthus (L*inanthus sp.)*, and trefoil (*Lotus sp*.) (Black and Vaughan 2005).

Quino checkerspot butterflies have been recorded within the vicinity of the Preserve historically although they were not observed in 2008 or 2012. One adult was observed in 2005 on the ridgeline immediately east of the Sycamore South property (County of San Diego 2008a). During the 2012 focused butterfly surveys, a small patch of suitable habitat was observed, although the surveys did not cover the entirety of the Sycamore North and Sycamore South properties. Owl's clover was recorded within the Sycamore South property, but it was a small population of less than one square meter.

Harbison's Dun Skipper Butterfly (*Euphyes vestris harbisoni*)

Federal Species of Concern, County Group 1

The species is restricted to riparian areas and intermittent streams, particularly oak woodlands where the larval host plant, San Diego sedge (*Carex spissa*), occurs. San Diego sedge was identified during 2008 surveys within the Southern Coast Live

Oak Riparian Forest habitat along Sycamore Canyon creek within the existing Preserve. In addition, the species was observed on the Preserve in 2001 associated with the creek north and east of the ranger station. In the 2012 surveys of the Sycamore North and Sycamore South properties, this species was not observed.

Hermes copper butterfly (*Lycaena hermes*)

County Group 1

This species has a high potential to occur onsite because it was documented on the original Preserve before the 2003 Cedar Fire (County of San Diego 2008a). No host plants were observed in 2012 for Hermes copper butterfly on the Sycamore North or Sycamore South additions.

3.3.3.2 Herpetofauna

San Diego Ringneck Snake (*Diadophis punctatus similis*)

County Group 2

The San Diego Ringneck Snake is a small, thin snake that prefers moist habitats, including wet meadows, rocky hillsides, gardens, farmland, grassland, chaparral, mixed coniferous forests, and woodlands (Stebbins 2003). It is secretive in its behavior, usually found under the cover of rocks, wood, bark, boards, and other surface debris. Ringneck snakes eat small salamanders, tadpoles, small frogs, small snakes, lizards, worms, slugs, and insects. This species' range includes San Diego County along the coast and into the Peninsular range, southwestern San Bernardino County, and barely south into northern Baja California (Stebbins 2003). Threats to this species include habitat degradation and fragmentation from urban development. This species has high potential to occur throughout the Preserve although it was not been observed during either the 2008 or 2012 surveys.

3.3.3.3 Birds

Merlin *(Falco columbarius)*

San Diego County Group 2

The merlin is most often seen in grasslands but has the potential to occur in any vegetation community except dense woodland (Unitt 2004). This species is a rare winter visitor to San Diego County that feeds mostly on small birds and can be found where small birds flock (Unitt 2004). This species has high potential to occur as a migrant within the Preserve as it was detected at the Preserve in 2007. This species was not observed during the 2008 surveys of the original Preserve or 2012 additions to the Preserve.

Prairie Falcon (*Falco mexicanus*)

California Species of Special Concern, County Group 1

Prairie Falcons forage over open terrain and nest in canyons, cliffs, escarpments, and rock outcrops (Dudek 2000). They prefer annual grasslands, alpine meadows, perennial grasslands, savannahs, rangeland, some agricultural fields, and desert scrub areas. In California, the Prairie Falcon is an uncommon permanent resident and migrant that ranges from southeastern deserts northwest along the inner Coast Ranges and Sierra Nevada. The largest threat to Prairie Falcons is disturbance at the nest site. This species has high potential to occur within the Preserve due to the presence of suitable foraging habitat. This species was not observed in the 2008 or 2012 surveys.

Long-eared Owl (*Asio otus*)

California Species of Special Concern, County Group 1

Long-eared owls are rare residents of oak woodlands and broad riparian forests. Ideal nesting habitat has a closed canopy and open lands adjacent for foraging. Long-eared owls have historically been detected in Sycamore Canyon (Unitt 2004) but this was prior to the 2003 Cedar Fire. The status of the species in the Preserve is unknown as surveys in 2008 and 2012 did not observe this species.

Loggerhead Shrike (*Lanius ludovicianus*)

California Species of Special Concern, County Group 1

Loggerhead shrikes are found near grassland, open sage scrub and chaparral, and desert scrub (Unitt 2004). They nest in dense vegetation adjacent to their open foraging habitats. The species is still found throughout the County on the coastal plain and into the desert. Loggerhead shrikes have been documented in the general vicinity (Unitt 2004) and have high potential to forage and nest at the Preserve. The species was not observed during the 2008 and 2012 surveys.

Least Bell's Vireo (*Vireo belli pusillus*)

Federally Endangered, State Endangered, County Group 1, MSCP Covered Species

Least Bell's vireo has high potential to occur in the patch of southern willow scrub along Sycamore Canyon Creek in the existing Preserve boundary. This species has been documented in Sycamore Canyon, south of the Preserve near Santee Lakes. There is high potential for this species to use the riparian habitat at the Preserve as the population's numbers increase. This species was not observed during the 2008 or 2012 surveys.

Grasshopper Sparrow (Ammodramus savannarum)

California Species of Concern, County Group 1, MSCP Covered Species

Grasshopper sparrows have been documented in the vicinity prior to the 2003 Cedar Fire (Unitt 2004). Within the Preserve this species has a high potential to occur in areas with native grasses. This species was not observed during the 2008 or 2012 surveys.

3.3.4 Non-native and/or Invasive Wildlife Species

Two non-native or invasive species were detected during the 2008 surveys of the original Preserve boundary: European starling (*Sturnus vulgaris*) and brown-headed cowbird (*Molothrus ater*). There were 16 sightings of European starling in 2008 and these birds were at an avian point count station near the ranger station.

Brown-headed cowbird, an obligate brood parasite was present only as a migrant and wanderer on the Preserve in 2008. Seven sightings of individuals, mainly males, were recorded on or over the original Preserve at that time.

Brown-headed cowbirds were also detected during general biological surveys within the Sycamore North and Sycamore South properties in 2012. The number of individual brown-headed cowbirds observed was not recorded in 2012, and therefore, the extent of potential nest parasitism cannot be evaluated. Many avian species present within the Preserve, such as the coastal California gnatcatcher, serve as suitable hosts for brown-headed cowbirds. The entire Preserve would provide suitable breeding resources for cowbirds.

3.4 Overall Biological and Conservation Value

The Preserve is located within the Central Poway/San Vicente Reservoir/North Poway designated MSCP Core Area. Sixteen Core Areas and associated habitat linkages were identified in the MSCP study area. According to the MSCP Plan, Core Areas are defined as generally supporting a high concentration of sensitive biological resources which, if lost or fragmented, could not be replaced or mitigated elsewhere.

The Central Poway/San Vicente Reservoir/North Poway Core Area is connected to two Core Areas to the south – Lake Jennings/Wildcat Canyon-El Cajon Mountain and Mission Trails/Kearny Mesa/East Elliot/Santee and the Hodges Reservoir/San Pasqual Valley Core Area to the north. Biological linkages are found along State Route 67 to the north and south and Poway Road to the west.

To define the core and linkage areas, an extensive geographic information system database of vegetation communities, species locations, elevation, slope, soils, drainages, and other physical parameters were used to develop a habitat evaluation map for the study area. The habitat evaluation map ranks habitat areas as Very

High, High, Moderate, or Low based on their potential to support priority coastal California gnatcatcher habitat, and wildlife corridors. According to the MSCP Habitat Evaluation Model, the majority of the habitat within the Preserve is rated as very high to high value with some smaller disturbed areas rated as medium to low in value.

The southern coast live oak riparian forest found within Sycamore Canyon Creek that drains the Preserve from the northeast to the southwest is considered MSCP Tier I habitat and supports several special status species including Bell's sage sparrow, red shouldered hawk, white-tailed kite, and orange-throated whiptail. Native grassland also considered MSCP Tier I habitat is found associated with heavy clay soils located along the ridge tops within the northern and eastern portions. This habitat supports special status species including San Diego thorn-mint, California Adder's tongue, and San Diego black tailed jackrabbit. Coastal sage – chaparral scrub, an MSCP Tier II habitat, is present on south facing slopes within the Preserve and supports San Diego thorn-mint and San Diego horned lizard considered special status species.

3.4.1 Wildlife Linkages and Corridors

The Preserve serves as an important connection to other large open space preserves including MCAS Miramar, Mission Trails Regional Park, and Iron Mountain. The San Diego Tracking Team has documented the use of a number of wildlife crossings that surround the Preserve including a few along State Route 67 to the east and underneath Scripps Poway Parkway to the north. It can be assumed that larger mammals regularly move on, off of, and across the Preserve, to and from adjacent open space.

The Preserve is generally surrounded by other PAMAs or undeveloped areas, thereby increasing the conservation values associated with the Preserve. The Preserve is situated such that it should be considered part of an important regional wildlife movement corridor that connects open space in the inland portions of San Diego County with the Cleveland National Forest, located east of the Preserve. This corridor is somewhat fragmented given the development of the Ramona region to the north. Specifically, low-density residential development borders this corridor in some areas, which constricts wildlife movement. For example, the Sycamore North property is constricted to the west by residential and equestrian facilities and to the north by Scripps Poway Parkway.

The general area functions to convey large and small mammals within and through the Preserve as evidenced through wildlife camera data, track and scat observations, and visual observations of mule deer, coyote, and a radio-collared bobcat.

4.0 CULTURAL RESOURCES

Archaeological evidence reveals that San Diego County has a long cultural history beginning approximately 10,000 years ago. The following cultural background discusses the characteristics of each cultural period of prehistory and history. The information provided in Section 4.1 includes excerpts from the County of San Diego Guidelines for Determining Significance: Cultural Resources: Archaeological and Historic Resources (County 2007), the Cultural Resources Phase I Survey and Inventory, Sycamore Canyon and Goodan Ranch Preserves (ICF Jones and Stokes 2008, Appendix D) and Archaeological Survey Report for the Sycamore North and Sycamore South Properties, Additions to the Sycamore Canyon and Goodan Ranch Preserves (ASM 2012, Appendix E).

San Diego County is characterized by a rich and varied prehistoric and historic past. Cultural resources which reflect this history consist of: archaeological sites, historic structures, artifacts, rock art (i.e., pictographs and petroglyphs), photographs, traditional tribal cultural knowledge and oral traditions, oral histories, ethnographic accounts, sacred sites, traditional cultural properties, and public documents. This RMP discusses the known cultural resources within the Property and describes management recommendations for handling these sensitive resources.

Archaeological surveys of the original Preserve and Preserve additions were completed in 2008 and 2012 in compliance with the County of San Diego Guidelines for Determining Significance: Cultural Resources: Archaeological and Historic Resources (County 2007) to assist in land use and resource protection planning. These Phase I inventories involved site records searches, literature reviews, Native American consultation, historic map review, field surveys and resource documentation (ICF Jones and Stokes 2008; ASM 2012). The information provided in the report was used in the preparation of this RMP.

4.1 Site History

The body of current research of Native American (Pre-Contact) occupation in San Diego County recognizes the existence of at least two major cultural traditions, Early Period/Archaic and Late Period, based upon general economic trends and material culture. Within San Diego County, the Early Period/Archaic includes the period from 10,000 to 1,300 years ago, while the Late Period is from 1,300 years ago to historic (Spanish) contact. The Post-contact/Historic Period covers the time from Spanish contact to present.

4.1.1 Pre-Contact

The antiquity of human occupation in the New World has been the subject of considerable debate over the last few decades. The most widely accepted model currently is that humans first entered the western hemisphere between 13,000 and 10,000 B.C. The generally accepted archaeological record begins with the Clovis

pattern, a widespread phenomenon in North America. Noted for its distinctive tool kit characterized by fluted projectile points, Clovis occupation dates to the end of the Pleistocene, around 11,500 B.C. (Meltzer 1993). Although no substantial Clovis sites are documented in the region, occasional isolated fluted points have been recovered in Southern California (e.g., Kline and Kline 2007; Rondeau et al. 2007).

Early Period/Archaic

Within San Diego County, Early Period/Archaic archeological sites date from 10,000 to 1,300 years ago and include coastal and inland valley habitation sites, inland hunting and milling camps, and quarry sites. Though various culture traits developed or disappeared during the long span of 10,000 to 1,300 years ago, there is a clear pattern of cultural continuity during this period. The absence or near-absence of milling tools in during this time was often viewed as a major difference between the Early Period/Archaic and the lifeways which characterized the Late Period. Other distinctions between the two periods include: a high frequency of shaped manos; the presence of finely worked small domed scrapers; the presence of knives and points and discoidals and cogged stones; a predominance of deep basin metates over slab metates; a predominance of volcanic rock over quartzite as a source material for flaked lithics; an extreme scarcity of obsidian; and flexed burials.

Late Period

A material culture pattern, similar to that of historic Native Americans, first becomes apparent in the archaeological record during the Late Period (circa 1,300 to historic contact). The economic pattern during this period appears to be one of more intensive and efficient exploitation of local resources. The prosperity of these highly refined economic patterns is well evidenced by the numerous Kumeyaay/Diegueño and Luiseño habitation sites scattered throughout San Diego County. This increase in Late Period site density probably reflects both better preservation of the more recent archaeological record and a gradual population increase within the region. This period was characterized by the appearance of small, pressure-flaked arrow points (Cottonwood triangular, Desert side-notched, and Dos Cabezas serrated forms) indicative of a bow-and-arrow technology, the appearance of ceramics, the establishment of permanent or semi-permanent seasonal village sites, the presence of obsidian from the Imperial Valley source Obsidian Butte, the replacement of flexed inhumations with cremations, extensive use of the mortar and pestle, and an emphasis on collecting and processing inland plant foods, especially acorns

4.1.2 Post-Contact

The history of San Diego County is commonly presented in terms of Spanish, Mexican, and American periods. Certain themes are common to all periods, such as the development of transportation, settlement, and agriculture.

4.1.2.1 Spanish Period (1769-1821)

The Spanish Period represents exploration, the establishment of the San Diego Presidio and missions at San Diego (1769) and San Luis Rey (1798), and *asistencias* (chapels) to the San Diego Mission at Santa Ysabel (1818) and to the San Luis Rey Mission at Pala (1816). Horses, cattle, agricultural foods and weed seeds, and a new architectural style and method of building construction were also introduced. Spanish influence continued after 1821 when California became a part of Mexico. For a period of time under Mexican rule, the missions continued to operate as in the past, and laws governing the distribution of land were also retained.

4.1.2.2 Mexican Period (1821-1848)

The Mexican Period includes the initial retention of Spanish laws and practices until shortly before secularization of the missions in 1834, a decade after the end of Spanish rule. Although several grants of land were made prior to 1834, vast tracts of land were dispersed through land grants offered after secularization. Cattle ranching prevailed over agricultural activities, and the development of the hide and tallow trade increased during the early part of this period. The Pueblo of San Diego was established and transportation routes were expanded. The Mexican Period ended in 1848 as a result of the Mexican-American War.

4.1.2.3 American Period (1848 to Present)

The American Period began when Mexico ceded California to the United States under the Treaty of Guadalupe Hidalgo. Terms of the treaty brought about the creation of the Lands Commission, in response to the Homestead Act of 1851 that was adopted as a means of validating and settling land ownership claims throughout the state. Few Mexican ranchos remained intact because of legal costs and the difficulty of producing sufficient evidence to prove title claims. Much of the land that once constituted rancho holdings became available for settlement by immigrants to California. The influx of people to California and the San Diego region resulted from several factors including the discovery of gold in the state, the conclusion of the Civil War, the availability of free land through passage of the Homestead Act, and later, the importance of San Diego County as an agricultural area supported by roads, irrigation systems, and connecting railways. The growth and decline of towns occurred in response to an increased population and the economic boom and bust cycle in the late 1800s.

Automobiles became increasingly popular as they became affordable, prompting San Diego County to grade roads to open up the backcountry (Etulain and Malone 1989:40; Kyvig 2004:27). Glenn H. Curtiss flew the first seaplane from North Island in 1911, initiating a growing interest in aviation technologies in San Diego that would later be heightened by Charles Lindbergh's historic flight on the Spirit of St. Louis from Rockwell Field in San Diego to St. Louis, Missouri in 1927. Balboa Park and the San Diego Zoo remained after the Panama-California Exposition in 1915, leaving

San Diegans with city-defining legacies. In 1917, the U.S. Army established Camp Kearney as part of the nationwide campaign for World War I (Engstrand 2005).

While ranching and farming had long been important livelihoods in San Diego County, agriculture increasingly became an important economy. Beekeeping, an agricultural specialty, had long been a part of San Diego's economy, first introduced to Southern California in 1869. Sage honey became an important export industry, with shipments sent to eastern and foreign destinations from small or large apiaries located across the county, especially in the backcountry areas of Campo, Poway, Morena, Julian, Potrero, Ramona, Jamul, Flinn Valley, Rainbow Valley, Alpine, Wynola, Sycamore Canyon, and Lakeside (Heilbron 1936:232-234). Avocado and other subtropical fruits were primary crops in coastal San Diego areas and Escondido. Winter vegetables were primarily grown in the southern part of the county, from La Mesa to Flinn Springs and Chula Vista. San Diegans began raising chickens and chicken egg production increased significantly between 1908 and 1912, until demand could no longer be met by local supply. Large producers during the heyday of chicken production (1908-1935) were in Lemon Grove, La Mesa Heights, Spring Valley, Sunnyside, Chula Vista, El Cajon, Lakeside, Escondido, and Ramona (Heilbron 1936; LeMenager 1989:207).

Flourishing agricultural communities existed across the county, with federal and state water development projects, harbor improvements, and high levels of construction curbing some of the effects of the Great Depression. Construction projects for the Navy and Army helped sustain the area. Social changes such as the construction of San Diego State College (1931), the transition from coal-derived gas to natural gas, and the planning and hosting of the World's Fair (1935) also aided in sustaining the San Diego area (Engstrand 2005:147-155). A significant economic impact during the 1929 financial crisis was Reuben H. Fleet's decision to move Consolidated Aircraft from Buffalo, New York to San Diego, a more suitable climate for testing planes. The company brought 800 employees and $9 million in orders (Consolidated Aircraft 2004; Engstrand 2005:151).

Infrastructure improvements to both roadways and railroads in San Diego County became necessary to accommodate new residents, again primarily near defense centers (Oceanside Daily Blade-Tribune, 25 February 1941:1, 20 August 1941:1). In 1956, President Eisenhower authorized an interstate highway system with the Federal-Aid Highway Act, an act that further interconnected multiple state routes for increased interstate traffic flow. According to Iris Engstrand (2005:165), "the automobile affected almost every major decision regarding the direction taken by San Diego planners during the post-World War II decades." A new trend of constructing retail stores outside the city center provided suburban enclaves as more houses filled in the outskirts of the city (Engstrand 2005:165-166). By 1960, 1,033,011 people lived in the county, and between 1950 and 1970, bedroom communities such as El Cajon, Escondido, Chula Vista, and Oceanside experienced a tremendous growth rate (between 214 and 833 percent) (Engstrand 2005:166).

4.1.3 Historic Overview of the Sycamore Canyon and Goodan Ranch Preserve

Early Land Ownership and Uses on Sycamore Canyon and Goodan Ranch

Sycamore Canyon and Goodan Ranch Preserve

The Goodan Ranch was first been patented in 1885 and 1894. After a series of land transactions, the Goodans bought the land in the Sycamore Canyon area and acquired more acreage in 1943. They populated their ranch with cattle and horses, and used the land as a ranch retreat for family and friends (Crafts and Young 2002:16; Jordan et al. 2008:20).

Historic remains located within the original Preserve include the ruins of the Joseph Fischer homestead and Stowe Post Office, the historic farm site, a shooting range, a stacked-rock dam, water cisterns, a dam/levee constructed ca. 1950, and the Stowe wagon trail, which is incorporated into the Stowe Trail (Jordan et al. 2008).

The Preserve is directly north of the boundary of the Rancho El Cajon land grant which encompassed El Cajon, Bostonia, Flinn Springs, Lakeside, Santee and areas east. The discovery of gold in 1869 near Julian brought newcomers to the backcountry hoping to prospect their way to wealth, and making effective transportation between the area and the San Diego metropolis a new resource. The Homestead Act of 1862 also drew settlers, and new residents began arriving in the lands between the original ranchos.

The earliest Anglo habitation documented in the Preserve is a small adobe referred to on an 1876 survey map as “Francisco’s house” in the area of Goodan Ranch. While a man named Charles F. Francisco owned a lumber business in the El Cajon Valley and resided in Lakeside, it is not known whether he is associated with this structure and no further information has been found to identify the owner.

Historic occupation of the Preserve, however, is most visible beginning with the community of Stowe, established in the late 1880s. A detailed history of Stowe and the later occupation at Goodan Ranch is provided by Jacques and Quillen (1983) and will be summarized below with specific reference to the features identifiable on the present landscape of the area.

At its height, the Village of Stowe had 12 families who were immigrants of German and Prussian origin, with most residing in present-day Beeler Canyon and a small number in Sycamore Canyon (Jacques and Quillen 1983). Stowe’s post office was established in 1889 and its school district and one-room wooden schoolhouse at the junction of Beeler and Sycamore Canyons in 1890 (Jacques and Quillen 1983). The post office was located on the homestead of Joseph Fischer. Stowe’s history, however, is short-lived; the post office was terminated in 1905 and the school district followed in 1906, with a drought and a broken promise of railroads through the area driving habitants elsewhere. The school building no longer stands; it was auctioned

off in 1906 and disassembled, with its wood contributing to the construction of a new home elsewhere. Its location has been documented as site CA-SDI-9711 situated on private property near the northern entrance of Goodan Ranch Preserve. The Fischer's, however, were one of the last families to leave the area as they had developed wells to access the water supply. A similar fate befell other small local communities like Fernbrook, which was later absorbed into the growing Ramona community.

During these years, a number of ranches in the Beeler Canyon area did remain active, including those of A.F. Holmes in the present-day Goodan Ranch area, James Doyle north of Goodan Ranch, and M. Joy in Fischer Canyon (Jacques and Quillen 1983). In 1922, the Goodan Ranch area was deeded to Charles Bookprinter, a rancher who eventually purchased the Doyle property among others in the area (Jacques and Quillen 1983). The land fell under its namesake's ownership in 1938, when the land was purchased by B.B. and Iris M. Margolis and then granted to Roger and Mary Chandler Goodan of Los Angeles. The sale made the Goodan's sole owners of all property encompassing Sycamore Canyon. According to Jacques and Quillen (1983), the remnants of an adobe were cleared by the Goodan's after their purchase of the land in order to construct their new one-story stone and wood ranch house. Jacques and Quillen describe the adobe structure as having walls only 2-4 feet in height and speculate that these walls may have been the remnants of what was known as "Francisco's House" in the 1970s.

Based on this information, the adobe wall footings discovered beneath the floor of the recently (2003) burned-out Goodan ranch house could be the remnants of this adobe. By the 1939 El Cajon 15' quadrangle, the appellation "Stowe" had been replaced by "Goodan Ranch". In 1943, the family added further acreage to their holdings in 1943 at the head of Sycamore Canyon. The Goodan's used their rural ranch for weekend visits and it was supported using well water, with no dedicated irrigation system (Jacques and Quillen 1983). Fred Allbee was brought on as ranch caretaker in the early 1940s, and lived at the ranch with his family, constructing barns, outbuildings and sheds and raising cattle as well as various agricultural products. Some mention of lumber from the old Stowe school being incorporated into Albee's house exists, but it is highly unlikely as the lumber was sold off in 1906 well before his residence. Unfortunately, following an evaluation of Albee's house in approximately 2000, it was destroyed by fire. Of the remaining structures at the time, all but the walls of the stone ranch house burned in the 2003 Cedar Fire.

In the meantime, caretaker of the ranch, Fred Allbee, participated in the construction of a concrete dam at the reservoir in lower Fischer Canyon, in conjunction with the development of a large seepage reservoir in Fischer Canyon funded by the Soil Conservation Service (Jacques and Quillen 1983). By implementing conservation on individual properties, the service contributed to the overall quality of the life in the regional watershed (NRCS 2008).

Wartime saw changes in land use, as the military stored equipment on the ranch and the San Diego Aqueduct was constructed through the present-day Preserve. The aqueduct, known officially as the San Jacinto-San Vicente Project, became necessary to support the thirst of the burgeoning population of wartime San Diego and was intended to alleviate severe water shortages like one experienced in 1944. This historic structure consists of two pipelines: one built in 1947 and the other built in 1954. The pipeline delivered water to San Vicente Reservoir, 1.25 miles east of this portion of the resource, 71 miles from the Colorado River Aqueduct (Autobee 2008). The two pipelines combined had a capacity of 196 cubic feet per second, and ran underground trending northwest-southeast just north of Goodan Ranch bisecting both Preserve (Pourade 1977). Six-foot diameter tunnels were drill bored through the area mountains; the aqueduct's Poway tunnel sits at the northwest corner of Goodan Ranch Preserve, and the 5,700-foot long Fire Hill Tunnel underlies the heart of Sycamore Canyon Preserve.

Fred Allbee served as caretaker of the Goodan Ranch until 1991, when the property was sold to the Cities of Santee and Poway, the State Wildlife Conservation Board, and the County of San Diego. The Goodan Ranch and Sycamore Canyon Preserves were established by the County of San Diego DPR to preserve natural landscapes and the Goodan Ranch that developed in the late 1930s and early 1940s. In 2000, the California State Office of Historic Preservation found two of the buildings on the property, a small red-painted wooden house known as Catalpa Cottage and Fred Allbee's house, eligible for the National Register based on their presumed association with Stowe. Unfortunately, Albee's House was burned sometime following this evaluation and before the 2003 Cedar Fire that destroyed all other buildings save the stone ranch house. No further discussion of evaluation before the County Historical Site Board advanced.

Stowe Trail

A significant element to the Preserve today is the Stowe Trail. Designated in 2000 as a Community Millennium Trail, the recreational path incorporates the old wagon trail used for travel between the Santee area at San Diego River up Sycamore Canyon into the Poway area (Crafts and Young 2002). The history of this route includes a possible beginning as a wood transportation road that traversed south of what is believed to be Francisco's adobe home that was later incorporated into the Goodan Ranch house. The road from San Diego River at Santee Lakes Regional Preserve north through Sycamore Canyon, through Stowe, and into Beeler Canyon to the northwest of the Preserve was clearly delineated on the 1898 Official Map of San Diego County. Continuing into the early 1900s, this route through Stowe was recorded on USGS maps from 1903 through 1955 as a dirt road and noted on the 1920 Thurston's Auto Road Map as one of the main roads in San Diego County.

Early Settlement and Transportation

Backcountry valleys such as Poway and ex-rancho lands such as El Cajon developed as a result of San Diego's population boom of the 1880s. Poway alone boasted a population of nearly 800 people, many of whom were crop, grain, or dairy farmers, ranchers, or apiarists (Jacques and Quillen 1983:B2). Transportation in the backcountry in those early days was essential for connecting relatively isolated areas with mail, goods, and services in San Diego. Early stages and wagons from San Diego took the Government Highway (Poway route) through Mission Valley and Poway into San Pasqual Valley before crossing into the Santa Maria Valley.

Travelers could head north to Warner's Ranch and then Temecula and San Bernardino, or east onto the mines in Julian. The first backcountry stage coach was established by William Tweed, and it traveled the Poway route in 1871. Another important transportation route was St. Vincent's trail (a horse trail) that extended from the El Cajon pass, crossed the San Diego River at Lakeside, then extended northward to the Barona Valley into the San Vicente Valley, where it joined the main road to Ballena. Chester Gunn used this trail for his express pony mail service in 1871. By 1873, the slow and difficult Poway route prompted Lemuel and Henry Atkinson to create a new and faster route, the Atkinson Toll Road. The County acquired it a year later, but the steep route remained a challenge to maintain for Joseph Foster. After a series of false starts and delays, the final contract for a new road, Mussey-Matthew Cañon Road (Mussey Grade), had been authorized in 1886. When it was completed in 1888, Mussey Grade Road provided the essential link between San Diego and Ramona. Another transportation artery for the backcountry was the San Diego, Cuyamaca, and Eastern Railroad completed in 1889 and extended from San Diego to the Foster Depot at Joseph Foster's ranch near Lakeside. After maintaining the Atkinson's Toll Road for the county, Foster provided a stage coach service from Ramona (Nuevo) down Mussey Grade to the Foster Depot at his ranch, which allowed backcountry settlers to travel to San Diego in one day (LeMenager 1989:59-71, 91-94, 103).

Early Land Ownership and Uses on Sycamore North and Sycamore South

The Preserve additions, Sycamore North and Sycamore South, were part of Stowe that developed in the 1880s and was on the decline by the early 1900s. Although land in the Sycamore North Preserve addition was homesteaded during that period, land in the Sycamore South Preserve additions was not.

Earliest Euro-Americans settled into the Sycamore North property during the 1880s at a time when recently platted towns developed around San Diego County and attracted homesteaders interested in ranching, farming, and real estate investments. Promises of independent railroad lines often enticed settlers into backcountry or remote areas, such as Poway Valley and the Sycamore/Beeler Canyon area, now remembered as Stowe. Real estate promoters assured settlers of a railroad connection from El Cajon to Poway via Sycamore Canyon, but, as was common at

the time, the expected railroad did not materialize. Only the S.D.C.&E.R.R. provided a railroad connection with San Diego from nearby Foster. One of those early German cattle ranchers was Julius F. Buehler, the namesake of Beeler Canyon, who patented land west of the Sycamore North addition (Fetzer 2005; General Land Office 1898; Jacques and Quillen 1983:B2). Other families included the Adams, Bottorof, Danielson, Kirkham, Lummis, McClellan, Morris, Rettzeke, Soldan, Toy, and Woodburn (Fisher et al. 1899).

Homesteaders settled and patented land around the Sycamore North property addition, largely in the late 1890s, though properties to the east and southeast were patented decades later. The local schoolhouse (1890) initially served settlers in the Fischer, Beeler, and Sycamore canyons at the junction of Sycamore and Beeler canyons, outside the project area. By 1897, the school district had been expanded to include the eastern area of Camp Elliott; Clark, Slaughterhouse, and Foster canyons; and upper Poway Creek. Drought and the national financial crisis of the 1890s affected many farming and ranching communities around the county, including Stowe. Homesteaders started vacating the area, prompting the closure of the Post Office in 1905 and the school in 1906. Although some people stayed in the Beeler and Sycamore canyons, a drought in 1913 may have pushed most settlers out of the area (Alexander 1910; Crafts and Young 2002:16; General Land Office 1911; Jordan et al. 2008:20; Jacques and Quillen 1983:B3-B4; San Diego Union 1940; USGS Cuyamaca 1903).

The Sycamore North property was patented in 1911 by Fredaricka Stabenou Kirkham, but she and her husband, Benjamin Franklin Kirkham, had lived in the area since February 1891. The Kirkhams were one of the German families that lived in Poway until at least 1915. By 1917, Fredaricka had been widowed, and she lived in the city of San Diego with two of her sons, Benjamin Franklin and Isaac Newton. Her son Andrew Stabenou still worked their ranch in Poway. In 1920, Fredaricka and her son Benjamin returned to Poway and lived with Andrew on their family ranch. While the Sycamore North property was patented by Fredaricka in 1911, she was not listed on a 1910 plat map. Instead, a “F. Kerkham” or Frank Kirkham (Fredaricka’s husband Benjamin Franklin) settled on the E½ E½ of Section 19, Township 14 South, Range 1 West. James Kirkham, the brother of Fredaricka’s husband Benjamin, may have owned property to the south of their ranch. Andrew Kirkham remembered that a portion of the family ranch was taken over by the government during World War I for bombing practice as part of Camp Elliott, though it is outside the current military boundaries. Today, the road Kirkham Way in Poway, near the Kirkham ranch, remains as the family’s namesake (Alexander 1910; California 1892, 1896; San Diego Directory Co. 1915, 1917; United States Census Bureau 1900, 1920). The 1928 aerials do not indicate structures in the Sycamore North property, though there was a homestead near the southwestern edge of the property (Tax Factor 1928).

Present-day Calle de Rob is part of the western spur of the Foster’s Truck Trail known as the Boulder Oaks Spur, and it was estimated that the spur was

constructed in 1878 (Gross et al. 2002). It is most likely that the road was a trail that existed by 1875 but was not mapped as a result of the survey methodology of the General Land Office (General Land Office 1876). Certainly by 1891, the present-day Calle de Rob Road extended through Beeler Canyon. To the west of the Sycamore North property addition, the trail through Beeler Canyon connected with the Stowe Trail and provided the Stowe community access to Poway, and to the east it linked Stowe with Ramona and Foster via the early stage coach route of Atkinson's Toll Road (1873-1888) along present-day Foster Canyon. In 1888, Mussey Grade Road superseded the Atkinson's Toll Road as the main route between Ramona and San Diego via Foster. Today, the Atkinson's Toll Road east of Highway 67 is known as Foster's Truck Trail after Joseph Foster who maintained the road for several years (General Land Office 1876; Jordan et al. 2008:16; LeMenager 1989:64-71; United States Geological Survey 1903).

The Sycamore South additions were patented in 1962. Land located within Section 33 of Township 14 South, Range 1 West was made available to the United States Army Air Corps by Executive Order of President Roosevelt before the U.S. entered World War II, but it was patented by the military in 1962 (Bureau of Land Management 1962). The 1928 aerials do not indicate structures in the steep terrain of the Sycamore South Preserve (Tax Factor 1928).

4.2 Native American Consultation

A letter was sent to the Native American Heritage Commission (NAHC) on February 6, 2008 to search their Sacred Lands File (SLF) to determine if the Preserve contained sacred lands, traditional properties or heritage sites. A response letter from Mr. Dave Singleton of the NAHC was received on February 11, 2008 which failed to indicate the presence of resources in the immediate project area. On May 14, 2008, letters were sent to the local Native American contacts provided by the NAHC, requesting further consultation. No responses were received. Clint Linton of the Santa Ysabel Band of Diegueño Indians, was retained contractually to provide Native American monitoring services during the 2008 field survey, through his company Red Tail Monitoring & Research.

On March 26, 2012, a follow-up request was sent to the NAHC for a search of their SLF for the Sycamore North and Sycamore South additions. On April 2, 2012, the NAHC responded that Native American cultural resources were not identified in the additions. On April 2, 2012, letters were sent to the tribes identified by the NAHC to solicit further information. To date, no responses to these letters have been received. All documentation pertaining to the NAHC and tribal representatives is included in Appendices D and E. Justin Linton of Redtail Monitoring and Research participated as a Native American monitor throughout the field survey.

4.3 Cultural Resource Descriptions

4.3.1 Prehistoric Resources

CA-SDI-119

This resource consists of core tools and a blade. The site was visited and updated by several subsequent archaeological surveys historically which identified many more lithic tools. During the 2008 ICF Jones & Stokes survey only five small volcanic flakes and one possible mano fragment could be identified. The 2008 survey recorded a new resource (CA-SD-19,186) approximately 250 meters northeast of this resource. This new site has a similar artifact-content to previous site descriptions for this site and as such they may be part of the same resource.

CA-SDI-9704

This resource was originally recorded as a lithic scatter consisting of 12 waste flakes from the reduction of a single basalt cobble. During the 2008 ICF Jones & Stokes survey three flakes were re-identified in the previously recorded location on the west side of the road and three clustered flakes were observed on the east side of the road, thereby expanding the site boundary.

CA-SDI-9705

This resource consists of 10 bedrock milling features and an associated lithic scatter. During the 2008 ICF Jones & Stokes survey, nine bedrock milling features with at least 15 milling slicks and one mortar, and an associated lithic scatter were re-identified.

CA-SDI-9706

This resource consists of two bedrock milling features with one milling slick each and an associated lithic scatter of quartzite flakes and debitage. During the ICF Jones & Stokes survey in 2008 the two bedrock milling features were identified, but the associated lithic scatter could not be re-identified.

CA-SDI-9708

This resource is a temporary camp containing bedrock milling features and associated artifacts.

CA-SDI-12,842

This resource consists of one bedrock-milling feature with 4 milling slicks and a ring of stones that are a possible granary base. During the ICF Jones & Stokes survey in 2008 the bedrock milling feature with four milling slicks and the possible granary

base were re-identified. An additional bedrock milling feature with one milling slick was identified near the original bedrock milling feature.

CA-SDI-12,839

This resource was re-located during the 2012 survey. However, the location of the resource was previously inaccurately mapped as a much larger site. CA-SDI-12,839 consists of two to three courses of local bedrock fragments stacked on a bedrock outcrop, jutting out of a steep, south-facing slope. During the original recordation of CA-SDI-12,839, it was noted that the resource was a rock ring, probably a granary base. Currently the rock alignment consists of a slightly curved stretch of local bedrock fragments, approximately 1.5 m long and two to three courses high. No artifacts were identified, and no evidence confirming that the rock alignment is a granary base was found. Rather, it is possible the rock feature is a hunting blind, due to its location in the middle of a steep slope overlooking a shallow valley.

CA-SDI-12,843

This resource was originally recorded as two bedrock milling features with one milling slick apiece. During the 2008 ICF Jones & Stokes survey the two bedrock milling features were re-identified. A lithic scatter of quartz debitage is located approximately 10 meters south of the bedrock outcrops.

CA-SDI-13,221

This resource was originally recorded as a lithic scatter. The site was subsequently visited by Bischoff et al. (1995) and was not re-identified. This was attributed to the disturbance from a multi-use trail running through the middle of the resource. During the 2008 ICF Jones & Stokes survey the lithic scatter was also not re-identified. The construction of a multi-use trail has completely disturbed the integrity of the portion of the site within the Preserve.

CA-SDI-13,223

This resource was originally recorded as a sparse lithic scatter. It was relocated during the 2008 survey.

CA-SDI-13,636

The resource was originally recorded as one bedrock-milling feature with one milling slick and no associated artifacts. During the 2008 ICF Jones & Stokes survey the milling feature was re-identified. In addition, one grey metavolcanic domed scraper was observed.

CA-SDI-13,850

This resource was originally recorded as a lithic scatter and was re-identified during the 2008 survey. The artifact assemblage at this site may be associated with Archaic occupation in the area

CA-SDI-16,515

This resource is a lithic scatter. It was re-identified during the 2008 survey.

CA-SDI-16,516

This resource is a lithic scatter. During the 2008 ICF Jones & Stokes survey the lithic scatter was re-identified.

CA-SDI-16,517

This resource was originally recorded as a lithic scatter. Also noted during the 2008 survey was a nearby concrete dam and earthen embankment structure within the Sycamore Creek drainage. This dam and structure are mentioned by Jacques and Quillen (1983) as having been constructed, circa 1950, by the Soil Conservation Service.

CA-SDI-16,518

This resource was originally recorded as a lithic scatter and was relocated during the 2008 survey. Based on the type of artifacts at this site, this may represent an Archaic occupation site.

CA-SDI-17,151

This resource was originally recorded as a temporary camp consisting of six bedrock milling features with at least 16 milling slicks and basins, and three associated pottery sherds. During the 2008 ICF Jones & Stokes survey, the six bedrock milling features and two pottery sherds were re-identified.

CA-SDI-17,152

This resource was originally recorded as a site containing four bedrock milling features with at least six milling slicks, and three associated manos. The six milling features originally noted were re-identified during the 2008 ICF Jones & Stokes survey.

CA-SDI-17,155

This resource was originally recorded as one bedrock milling feature containing one milling slick and one basin. During the 2008 ICF Jones & Stokes survey, this bedrock milling feature was re-identified. An additional bedrock milling feature with

one milling slick was also identified, located approximately five meters west of the original feature.

CA-SDI-19,170

The resource consists of one bedrock-milling feature containing one milling slick.

CA-SDI-19,171

The resource consists of one bedrock-milling feature containing two milling slicks.

CA-SDI-19,172

The resource consists of one bedrock-milling feature containing three milling slicks.

CA-SDI-19,173

The resource consists of two bedrock milling features containing at least four milling slicks.

CA-SDI-19,174

The resource consists of one bedrock-milling feature with two milling slicks.

CA-SDI-19,175

The resource consists of one bedrock-milling feature containing a single mortar.

CA-SDI-19,176

This resource is a sparse lithic scatter that consists of one metavolcanic flake, one metavolcanic core, and one jasper flake.

CA-SDI-19,177

The resource is a bedrock milling feature with one milling slick.

CA-SDI-19,178

The resource consists of two bedrock milling features containing a total of three milling slicks.

CA-SDI-19,179

The resource consists of a bedrock milling feature containing one milling slick.

CA-SDI-19,180

The resource consists of two bedrock milling features with at least four milling slicks and one associated volcanic flake.

CA-SDI-19,181

This resource consists of a sparse lithic scatter that includes one jasper cortex flake, a chunk of jasper, and three pieces of white quartz debitage.

CA-SDI-19,182

This resource consists of a sparse lithic scatter including one black volcanic flake, one green volcanic flake, three volcanic flakes, five quartzite flakes, and at least four white quartz flakes.

CA-SDI-19,183

This resource is a lithic scatter consisting of at least 20 flakes of various lithic materials.

CA-SDI-19,184

This resource is a bedrock milling feature with one basin and one milling slick.

CA-SDI-19,185

This resource is a bedrock milling feature with one milling slick and an associated unifacial mano.

CA-SDI-19,186

The resource consists of a considerable number of prehistoric artifacts including at least 15 metavolcanic flakes, three jasper flakes, one quartzite flake, four volcanic scrapers (including one scraper plane), one mano, one mano fragment, and one Cottonwood point. Several of the metavolcanic flakes contain a slight patina. The construction of a large earth dam and overflow channel, circa 1950, appears to have disturbed the site, as the eastern edge of this resource extends to the western side of the channel. This resource resembles the description and location given originally by Treganza on his 1950 site form for CA-SDI-119, suggesting that this resource may possibly be CA-SDI-119.

CA-SDI-19,187

The resource is a bedrock milling feature with one milling slick.

4.3.1.1 Prehistoric Isolates

P-37-015294

This isolate is a flake.

P-37-024963

This isolate is a cobble smoothing/burnishing tool. It was not relocated during the 2008 survey.

P-37-024964

This isolate is a quartzite flake. It was not relocated during the 2008 survey.

P-37-024965

This isolate is a lithic scatter with one core/spokeshave and one quartzite core. It was not relocated during the 2008 survey.

P-37-024966

This isolate is a quartzite flake. It was not relocated during the 2008 survey.

P-37-024967

This isolate was a hammerstone and other lithic tools. It was not relocated during the 2008 survey.

P-37-024968

This isolate is a quartzite domed scraper. It was not relocated during the 2008 survey.

P-37-024969

This isolate is a mano fragment. It was not relocated during the 2008 survey.

P-37-024271

This resource consists of two volcanic flakes and later a metavolcanic flake and core were found nearby.

P-37-030078

This resource was recorded in 2008 and consists of a broken isolated prehistoric Brownware pottery sherd.

P-37-030079

This isolate consists of a unifacial volcanic tool.

P-37-030083

This isolate consists of a quartz flake.

P-37-030084

This isolate consists of a green metavolcanic flake.

P-37-030091

This isolate consists of a jasper flake.

P-37-030094

This isolate consists of a Lusardi chopper and one metavolcanic flake.

P-37-030096

This isolate consists of a green metavolcanic flake.

P-37-030098

This isolate consists of a quartzite core.

P-37-030102

This isolate consists of a mano.

P-37-030104

This isolate consists of a Lusardi flake.

P-37-032647

P-37-032647 is an isolated granitic metate fragment recorded in 2012. The concave, polished portion and the edge of the metate fragment were possibly shaped. The metate fragment measured 20 x 18 x 12 cm.

P-37-032648

P-37-032648 is an isolated interior quartzite flake recorded in 2012.

4.3.2 Historic Resources

CA-SDI-9707H

Joseph Fischer claimed a homestead in 1896 that encompasses this site (Crafts and Young 2002). This resource was originally recorded by Quillen (1983) as the remains of the Joseph Fischer homestead and the Stowe Post Office of the early 1880's to 1900. The 2008 ICF Jones & Stokes survey determined that the previously recorded features that were identified appear to remain as previously recorded.

CA-SDI-12,821H

CA-SDI-12,821 was first recorded by Gross in 1992 as the Boulder Oaks Spur of the Foster Truck Trail, originally constructed in 1878. Subsequently portions of the trail have been recorded by Guerrero in 2003, Craft in 2007, Patterson and Glenny in 2008, Williams in 2009, and Morgan in 2010. The Foster Truck Trail and the Boulder Oaks Spur were parts of the main route north to Ramona prior to the construction of Highway 67, to the east of the Sycamore North and South properties. It was noted that portions of the trail were still passable with a four-wheel drive vehicle, but erosion and vegetation have made most of the Boulder Oaks Spur of the Foster Truck Trail impassable. This resource was revisited during the 2012 survey.

CA-SDI-12,861H

This resource was originally recorded as the remains of a historic structure. This resource was present by 1939 as shown on the El Cajon 15' USGS map. This resource was reviewed in 2008, with the additional historic trash scatter, appears to remain intact as previously recorded. Crafts and Young (2002) note a homestead claim by Frederick Reetzke in 1896 near the site.

CA-SDI-17,153H

This resource was originally recorded as a small historic period dam constructed of stacked rocks along the Fischer Creek bed. During the 2008 ICF Jones & Stokes survey the remnants of this stacked rock dam were re-identified and it appears to remain as originally recorded.

CA-SDI-17,154/H

This resource was originally recorded as a historic stone foundation, along with one mano fragment and one core hammerstone. During the 2008 ICF Jones & Stokes

survey the stacked rock stone foundation was re-identified, but the mano fragment and core hammerstone could not be re-identified due to the thick vegetation.

CA-SDI-17,156H

This resource was originally recorded as the location of the homestead of Cornelius Butler, which currently consists of three large eucalyptus trees in a cultivated field and an associated Quaker glass bottle with metal lid. During the 2008 ICF Jones & Stokes survey the eucalyptus trees were re-identified, but no associated artifacts were observed as the vegetation was very thick in this area.

CA-SDI-17,157H

This resource was originally recorded as a historic trash scatter consisting of bottle and jar glass, blue glass, metal cans, an abandoned Plymouth car, a large broken ceramic item, and sewer pipes. During the 2008 ICF Jones & Stokes survey the historic scatter was re-identified with bottle glass, the abandoned car, a bird cage stand, metal cans, metal fragments, a metal turntable, and ceramic crockery fragments. The resource appears to extend up the small drainage bottom, off of the Preserve. The vegetation was very thick and visibility was only fair to poor within the drainage basin.

CA-SDI-17,158H

This resource was originally recorded as the Frontiersman Black Powder Club target shooting range consisting of one cement foundation, three engraved cement post hole pads, and a target berm. During the 2008 ICF Jones & Stokes survey these features were re-identified and it appears to remain as originally recorded.

P-37-030106

This resource is an artificially constructed dam and reservoir that does not appear on the 1939 El Cajon USGS 15' quadrangle, but appears to be present on the 1955 San Vicente Reservoir 7.5' USGS quadrangle. This dam was indicated by Jacques and Quillen (1983) to have been constructed by the Soil Conservation Service, circa 1950. Two features are present on the 1955 map: a small reservoir and a larger feature that appears to be recorded as a diversionary structure such as a levee. Recent aerial views of this resource show evidence of the larger structure possibly serving as a reservoir as described by Albee (Jacques and Quillen 1983). It seems possible that the larger feature was blown out from erosion at some time in the past and consequently destroyed any evidence of the smaller feature.

San Diego Aqueduct/ P-37-0300107

This resource is a portion of the first San Diego Aqueduct. This historic structure consists of two pipelines: one built in 1947 and the other built in 1954. The pipeline

delivered water to San Vicente Reservoir, 1.25 miles east of this portion of the resource, from the Colorado River Aqueduct. The entire portion of the aqueduct recorded here is subsurface. Several features along the pipeline are likely associated. The construction of the aqueduct was important due to a severe water shortage in 1944. The water shortage at this time influenced the forming of the San Diego Water Authority and the US Navy's initial construction phase of the aqueduct (Pourade 1977).

Stowe Road/ P-37-030197

This resource is a dirt road that has been in use since at least 1898 based on early San Diego County maps and USGS 1903 maps. This wagon route followed Sycamore Canyon from Santee at San Diego River north through the turn-of-the-20th-century community of Stowe and into Poway. The recorded portion of the road includes the Goodan Ranch entrance as the north end, south along the dirt trail where the path leaves the Preserve about 1 ¾ miles south-southwest. The resource continues south-southwest beyond the Preserve down Sycamore Canyon to the San Diego River. The road, or parts of it, may have been present earlier than 1898 considering the possibility of an even older log or wood transport road potentially associated with Francisco's home (Jacques and Quillen 1983). The route is also present in much the same place on the 1955 San Vicente Reservoir 7.5' USGS quadrangle. The associated community of Stowe is still evident in nearby archaeology sites along this route. Today, the south portion of the early road is incorporated into the Stowe Trail that was designated a Community Millennium Trail in 2000 by the White House Millennium Council.

CA-SDI-12,821

CA-SDI-12,821 was relocated during the 2012 survey in the same general condition as its previous recordations by Morgan in 2010, Williams in 2009, Patterson and Glenny in 2008, Craft in 2007, Guerrero in 2003 and Gross in 1992. The portion of the Boulder Oaks Spur of the historic Foster Truck Trail within the Sycamore North and Sycamore South properties has been maintained and remains drivable. The resource is currently in use by SDG&E as an access road and for construction of the Sunrise Power Link. Modern gravel and erosion prevention have been added to the resource.

CA-SDI-20,691

The site was recorded in 2012 and consists of a scatter of bricks, historic rubble, and cans, located on a small, flat valley floor, along the edge of Calle De Rob. The site contains an approximately 4-x-4-x-1-ft. brick scatter consisting of whole and fragmented bricks with mortar and several concrete chunks. Many of the bricks have spots of white paint on them. Several rectangular-shaped slate fragments, possibly building material, are also present. A total of six rotary-opened sanitary cans are present across the site. No structures are present at this site on historic aerials from

1953 to the present (U.S. Department of Agriculture 1953, 1964, 1968, 1971, 1980, 1989, 2003, and 2005) and on historic USGS 7.5' San Vicente Reservoir Quad maps from 1956 to the present (U.S. Geological Survey 1956, 1960, 1973, 2001). The brick, rubble, and cans were probably a single dumping event related to nearby ranching activities.

4.3.3 Multi-component Site

CA-SDI-9712H

This resource was originally recorded as the Goodan Ranch complex. Jacques recorded the main Goodan Ranch house constructed of stone and wood, one two-story wooden water tank house, three small wooden cottages, five to six tin equipment sheds and garages, one hay and dairy barn, two active wells (one of which has a windmill), a two acre olive orchard, one concrete dam on Sycamore creek, two large native oak groves, and scattered ranch equipment which dates from the nineteenth century. In 1938, the Goodan family purchased all of the land within Sycamore and Fischer Canyons, which included the community of Stowe (CA-SDI-9707H) and the remains of an adobe structure located at the present site of the main Goodan Ranch house. In 2003, the Cedar Fire burned down all of the previously recorded structures in the complex. In 2004 a prehistoric artifact scatter was recorded. During the 2008 ICF Jones & Stokes survey, the stone wall remains of the main Goodan Ranch house, a stacked rock water tank platform with adjacent rectangular concrete pads, one metal windmill, one concrete dam along Sycamore Creek, an olive orchard, and one corrugated metal shed were identified. Adobe foundations were observed under the burned-out floors of the main Goodan Ranch house, and appear to be the remains of the "Francisco House" that was razed in 1938 during the construction of the main Goodan Ranch house (Jacques and Quillen 1983). The previously recorded prehistoric artifact scatter was not identified during the 2008 survey, possibly due to obscuring vegetation in the area.

4.4 Resource Significance

Table 4 summarizes the current eligibility status of resources within the Preserve. The fifty cultural resource sites and nineteen isolates identified within the Preserve have not been evaluated for eligibility under CEQA. The nineteen isolates are not considered CEQA significant and thus no further analysis is required. As the significance of the fifty cultural resource sites has not been determined through a program of significance testing, they are considered to be significant resources under County guidelines (County of San Diego 2007).

Table 5. Eligibility Status of Resources within the Preserve

Site Number	Era	Site Contents	Eligibility Status
Sites			
CA-SDI-119	Prehistoric	Lithic scatter and ground stone	Not evaluated - must be treated as significant
CA-SDI-9704	Prehistoric	Lithic scatter	Not evaluated - must be treated as significant
CA-SDI-9705	Prehistoric	Ten milling features, lithic scatter	Not evaluated - must be treated as significant
CA-SDI-9706	Prehistoric	Milling site – two features	Not evaluated - must be treated as significant
CA-SDI-9707H	Historic	Joseph Fischer homestead and Stowe post office	Not evaluated - must be treated as significant
CA-SDI-9708	Prehistoric	Sixteen milling features, lithic scatter	Not evaluated - must be treated as significant
CA-SDI-9712H	Multi-component site	Goodan Ranch structural ruins and other features; prehistoric artifact scatter	Not evaluated - must be treated as significant
CA-SDI-12,821H	Historic	Foster Truck Trail	Not evaluated - must be treated as significant
CA-SDI-12,842	Prehistoric	Two milling features, granary basin	Not evaluated - must be treated as significant
CA-SDI-12,843	Prehistoric	Two milling features, lithic scatter	Not evaluated - must be treated as significant
CA-SDI-12,861H	Historic	Trash scatter and stacked rock wall	Not evaluated - must be treated as significant
CA-SDI-13,221	Prehistoric	Lithic scatter	Not evaluated - must be treated as significant
CA-SDI-13,223	Prehistoric	Lithic scatter	Not evaluated - must be treated as significant
CA-SDI-13,636	Prehistoric	Milling site – one feature with one slick and thumb scraper	Not evaluated - must be treated as significant
CA-SDI-13,850	Prehistoric	Lithic scatter including two domed scrapers	Not evaluated - must be treated as significant
CA-SDI-16,515	Prehistoric	Lithic scatter	Not evaluated - must be treated as significant
CA-SDI-16,516	Prehistoric	Lithic scatter	Not evaluated - must be treated as significant

Site Number	Era	Site Contents	Eligibility Status
CA-SDI-16,517	Multicomponent	Lithic scatter and Historic concrete dam	Not evaluated - must be treated as significant
CA-SDI-16,518	Prehistoric	Lithic scatter	Not evaluated - must be treated as significant
CA-SDI-17,151	Prehistoric	Six milling features, lithic scatter	Not evaluated - must be treated as significant
CA-SDI-17,152	Prehistoric	Eight milling feature, lithic and ceramic scatter	Not evaluated - must be treated as significant
CA-SDI-17,153	Historic	Dam constructed of stacked rock	Not evaluated - must be treated as significant
CA-SDI-17,154	Historic	Stone foundation and Prehistoric mano and hammerstone	Not evaluated - must be treated as significant
CA-SDI-17,155	Prehistoric	Milling site – one milling feature includes a basin	Not evaluated - must be treated as significant
CA-SDI-17,156	Historic	Farm site consisting of three eucalyptus trees in a cultivated field	Not evaluated - must be treated as significant
CA-SDI-17,157	Historic	Trash scatter	Not evaluated - must be treated as significant
CA-SDI-17,158	Historic	Target shooting range	Not evaluated - must be treated as significant
CA-SDI-19,170	Prehistoric	Milling site – one feature with one slick	Not evaluated - must be treated as significant
CA-SDI-19,171	Prehistoric	Milling site – one feature with two slicks	Not evaluated - must be treated as significant
CA-SDI-19,172	Prehistoric	Milling site – one feature with three slicks	Not evaluated - must be treated as significant
CA-SDI-19,173	Prehistoric	Milling site – two features with four slicks and possible mano	Not evaluated - must be treated as significant
CA-SDI-19,174	Prehistoric	Milling site – one feature with two slicks	Not evaluated - must be treated as significant
CA-SDI-19,175	Prehistoric	Milling site – one feature with one mortar	Not evaluated - must be treated as significant
CA-SDI-19,176	Prehistoric	Lithic scatter with two metavolcanic flakes and one jasper flake	Not evaluated - must be treated as significant
CA-SDI-19,177	Prehistoric	Milling site – one feature with one slick	Not evaluated - must be treated as significant

Site Number	Era	Site Contents	Eligibility Status
CA-SDI-19,178	Prehistoric	Milling site – two features with three slicks	Not evaluated - must be treated as significant
CA-SDI-19,179	Prehistoric	Milling site – one feature with one slick	Not evaluated - must be treated as significant
CA-SDI-19,180	Prehistoric	Milling site– one feature with four slicks, one flake	Not evaluated - must be treated as significant
CA-SDI-19,181	Prehistoric	Lithic scatter - three quartz flakes, one jasper flake, & one jasper chunk	Not evaluated - must be treated as significant
CA-SDI-19,182	Prehistoric	Lithic site - five volcanic flakes and five quartzite flakes	Not evaluated - must be treated as significant
CA-SDI-19,183	Prehistoric	Lithic scatter consisting of over twenty flakes	Not evaluated - must be treated as significant
CA-SDI-19,184	Prehistoric	Milling site – one feature including a basin	Not evaluated - must be treated as significant
CA-SDI-19,185	Prehistoric	Milling site – one feature with one slick, one associated mano	Not evaluated - must be treated as significant
CA-SDI-19,186	Prehistoric	Lithic scatter – over twenty flakes and three mano fragments (possibly CA-SDI-119)	Not evaluated - must be treated as significant
CA-SDI-19,187	Prehistoric	Milling site – one feature with one slick	Not evaluated - must be treated as significant
CA-SDI-20,691	Historic	Brick, refuse, and can scatter	Not evaluated - must be treated as significant
CA-SDI-12,861*	Prehistoric	Rock Feature	Not evaluated - must be treated as significant
CA-SDI-12,821	Historic	Boulder Oaks Spur of the historic Foster Truck Trail	Not evaluated - must be treated as significant
P-37-024967	Prehistoric	Lithic scatter including one hammerstone- originally recorded as an isolate	Not evaluated - must be treated as significant
P-37-030197	Historic	Stowe Road, a wagon trail of at least 110 years of age incorporated in the Stowe Trail	Not evaluated - must be treated as significant
Isolates			
P-37-015294	Prehistoric	Flake	Isolate - not considered significant
P-37-024271	Prehistoric	Two volcanic flakes; updated metavolcanic flake and core	Isolate - not considered significant

Site Number	Era	Site Contents	Eligibility Status
P-37-024963	Prehistoric	Cobble smoothing/burnishing tool	Isolate - not considered significant
P-37-024964	Prehistoric	Quartzite flake	Isolate - not considered significant
P-37-024965	Prehistoric	One core/spokeshave and one quartzite core	Isolate - not considered significant
P-37-024966	Prehistoric	Isolate quartzite flake	Isolate - not considered significant
P-37-024968	Prehistoric	Isolate quartzite domed scraper	Isolate - not considered significant
P-37-024969	Prehistoric	Mano fragment	Isolate - not considered significant
P-37-030084	Prehistoric	Green metavolcanic flake	Isolate - not considered significant
P-37-030091	Prehistoric	Jasper flake	Isolate - not considered significant
P-37-030094	Prehistoric	One Lusardi (LSV) chopper and one metavolcanic flake	Isolate - not considered significant
P-37-030096	Prehistoric	Green metavolcanic flake	Isolate - not considered significant
P-37-030098	Prehistoric	Quartzite core	Isolate - not considered significant
P-37-030102	Prehistoric	Mano	Isolate - not considered significant
P-37-030104	Prehistoric	Lusardi (LSV) flake	Isolate - not considered significant
P-37-030078	Prehistoric	One broken pottery sherd	Isolate - not considered significant
P-37-030083	Prehistoric	Quartz flake	Isolate - not considered significant
P-37-030079	Prehistoric	Unifacial volcanic tool	Isolate - not considered significant
P-37-032647	Prehistoric	Metate fragment	Isolate - not considered significant

5.0 RESOURCE MANAGEMENT

5.1 Management Goals and Objectives

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

5.1.1 MSCP-Related

The MSCP Plan and the County's SAP provide both general and segment-specific goals and objectives. The Preserve is located within the Metro-Lakeside-Jamul Segment of the MSCP SAP and, as discussed in Section 3.4, is located within an area of the Central Poway/San Vicente Reservoir/North Poway Core Biological Resource Area, which is adjacent to biological linkages along State Route 67 to the north and south and Poway Road to the west. The overall MSCP goal is to maintain and enhance biological diversity in the region and conserve viable populations of endangered, threatened, and key sensitive species and their habitat, thereby preventing local extirpation and ultimate extinction. This is intended to minimize the need for future listings, while enabling economic growth in the region.

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

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

5.1.2 Management Directives and Implementation Measures

Based on the above management goals and objectives, recommended management directives have been identified. In accordance with the Framework Management Plan, the guidance ASMDs have been designated as Priority 1 or Priority 2. This designation recognizes the fact that many of the directives cannot be immediately implemented, but instead will occur over the life of the MSCP. The ability to

implement and the timing of many of the management directives will be directly related to the availability of funding in any fiscal year and on the priority. The priorities are, therefore, intended to assist in decisions on where and how to spend limited funds. Priority designations are as follows:

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

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

This RMP includes management directives and implementation measures to meet MSCP SAP goals and objectives under the following five elements: A) Biological Resources, B) Vegetation Management, C) Public Use, Trails, and Recreation, D) Operations and Facility Maintenance, and E) Cultural Resources.

5.2 Biological Resources Element (A)

5.2.1 Biological Monitoring

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

Monitoring at a preserve scale is focused on obtaining information for management purposes, but can be useful for subregional and ecoregional monitoring assessment as well. DPR will monitor the covered species in accordance with the MSCP's Table 3-5, the SAP's Framework Management Plan and the DPR's Comprehensive Monitoring Plan (CMP - under preparation) and collect data on key environmental resources within the Preserve to select, prioritize, and measure the effectiveness of management activities. In most instances, the array of threats or stressors on preserved habitats, their mechanisms of action, and the responses of the habitats and associated species are not completely understood at this time. Therefore, ASMDs must comprehensively address resource management issues for each preserve. Information collected within each preserve will be aggregated for analysis at the subregion and ecoregion scales.

The key to successful monitoring at the individual preserve level is: close coordination with stakeholder groups that are performing subregional monitoring; sharing of data, future plans, and schedules; and keeping abreast of monitoring

methods as they are developed. To ensure uniformity in the gathering and treatment of data, a San Diego Association of Governments (SANDAG) land management working group, San Diego Management and Monitoring Program (SDMMP), has been formed and will designate a land manager who will assist jurisdictions in coordinating monitoring programs, analyzing data, and providing other information and technical assistance. A Connectivity Monitoring Strategic Plan has been developed by SDMMP for the San Diego Preserve System (SDMMP 2011). This Plan provides direction for connectivity monitoring that helps assess if the dual goals of the MSCP and the Multiple Habitats Conservation Program (MHCP) are being achieved, and for identifying and informing adaptive management actions to maintain, restore or improve connectivity between conserved core areas in San Diego County. The Plan will be reviewed with relevance to the Preserve.

The County is an active participant with SDMMP in the development of revised monitoring methods for the MSCP SAP. Concurrently, DPR is preparing a CMP that prioritizes monitoring methods and management directives for County owned preserves in the MSCP SAP. The CMP will utilize references, such as USGS monitoring protocols for rare plants (McEachern et al. 2007), SDSU habitat and vegetation monitoring protocols (Deutschman and Strahm 2009), and USFWS monitoring protocols for animals (USFWS 2008).

The guidance ASMDs below currently follow the habitat- and species-specific monitoring requirements outlined in Table 3-5 of the Subregional MSCP Plan (City of San Diego 1998) and the San Diego State University (SDSU) Grouping and Prioritization Report for MSCP covered species (Regan et al, 2006). Detailed monitoring methods will be included in the Comprehensive Monitoring Plan.

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

***Implementation Measure A.1.1*:** DPR will conduct habitat monitoring at five-year intervals within the Preserve, and annually for five (5) years after a burn. Ongoing monitoring within the Preserve will identify any adverse changes in vegetation community distribution and habitat quality, such as changes from fire, invasion by nonnative plants, or decline of existing species, and indicate if modifications to current management actions are needed. The primary focus should be on minimizing impacts to sensitive habitats, particularly black sage scrub alliance and associations, and California sagebrush-California buckwheat-laurel sumac associations, which are important to the California gnatcatcher and southern California rufous crowned sparrow, among other species. The main product of this monitoring will be a report that will include a discussion of monitoring objectives, monitoring methods to meet those objectives, and an updated vegetation community map.

***Implementation Measure A.1.2*:** DPR will conduct general wildlife and rare plant surveys annually utilizing and refining baseline monitoring methods to assess

trends, relative abundance, and distribution status. In particular, future rare plant surveys should be conducted at appropriate times to maximize the detection of sensitive plant species. Sensitive plant species with high potential to occur onsite are discussed in Section 3.2.3. Wildlife surveys will be performed during the flight season of Quino checkerspot and Hermes copper butterfly, if feasible. Particular focus will be paid to wildlife species with a high potential to occur as listed in Section 3.3.3. This information will be included in the monitoring report as described in A.1.5. In addition, DPR will annually monitor the SANDAG restoration sites for utilization and occurrence by threatened, endangered and species of concern as identified in the MSCP. DPR staff will also monitor the restored areas for signs of plant stress and mortality.

***Implementation Measure A.1.3*:** DPR will conduct monitoring for invasive non-native plant species on an annual basis to assess invasion or re-invasion by invasive nonnative plants such as crimson fountain grass and rose Natal grass within the Preserve. These surveys will focus on areas where invasive nonnative plants have been detected in the past, but also look for new occurrences in the Preserve. This information will be included in the monitoring report described in A.1.5. In addition, annual monitoring will occur at the SANDAG restoration sites to ensure that treatment and restoration efforts were effective in managing invasive non-native plant infestation. As part of the grant, DPR will visit treated sites at 3-6 month intervals for resprouts or reinfestation of invasive species and determine necessary follow up treatment. In the long term, DPR staff will annually inspect the condition of the restored sites and do follow-up treatments or adaptive management actions, as necessary.

***Implementation Measure A.1.4*:** DPR will conduct corridor monitoring at five-year intervals in conjunction with habitat monitoring and general wildlife and rare plant surveys (as described in implementation measures A.1.1 and A.1.2). The scope of monitoring will be sufficient to determine if corridors are being utilized, but not to determine the extent of use (i.e., how many individuals of any given species use a corridor). The results of the assessment of habitat linkage function, including a list of species detected, will be included in the monitoring report.

Implementation Measure A.1.5: DPR will prepare a biological monitoring report that summarizes the monitoring goals, objectives, methodology, and results of the biological monitoring efforts described in implementation measures A.1.1 to A.1.4. The report will also address the effectiveness of current stewardship and management actions, identify the need for corrective actions, and include recommendations for adaptive management.

5.2.2 MSCP Covered Species-Specific Monitoring and Management

Not all species occurring within the Preserve are expected to require species-specific management. It is expected, rather, that other management directives and implementation measures outlined under the Biological Resources and Vegetation

Management elements should be sufficient to protect and manage optimal habitat conditions for most, if not all, species to maintain and/or thrive within the Preserve.

However, there are some special-status species listed as MSCP-covered and County-listed species, require additional measures. Table 3-5 of the Subregional MSCP Plan (City of San Diego, 1998) provides specific management and/or monitoring measures that are conditions of coverage for MSCP covered species.

In addition, in the document *San Diego Multiple Species Conservation Program Covered Prioritization* (Regan et al, 2006), SDSU has prioritized the MSCP covered species for monitoring. The species were classified as Risk Group 1 (most endangered), Risk Group 2 (moderately endangered), and Risk Group 3 (less endangered). Next, the threats/risk factors facing the species were identified and ranked as high, moderate, or low degree of threat to the species. Only management conditions addressing high and moderate threats for Risk Group 1 species will be discussed in this RMP. Two Risk Group 1 species currently occur within the Preserve.

Management Directive A.2 - Comply with applicable conditions of coverage for MSCP Covered Species (*Priority 1*)

***Implementation Measure A.2.1*:** DPR will implement habitat based and, in some cases, species specific monitoring and management as outlined in Table 3-5 of the Subregional MSCP Plan and *San Diego Multiple Species Conservation Program Covered Species Prioritization* (Regan et al., 2006) for all MSCP Covered Species detected within the Preserve.

In order to avoid repetition in the species discussions below, the following is a list of common risk/threats to MSCP Covered Species that are found to benefit from habitat based management and the corresponding management directives or implementation measures to address these factors:

- ***Invasive non-native plants*:** Implementation measure A.1.3, B.1.2 and multiple implementation measures under management directives B.2.

- ***Invasive non-native animals*:** Multiple implementation measures under management directive A.4.

- ***Wildfires*:** Multiple implementation measures under management directive B.4.

- ***Edge effects*:** Multiple implementation measures under management directives D.6, D.7, and D.8.

- ***Hydrological Management*:** Implementation measure D.3.1 and multiple implementation measures under management directives D.4.

San Diego Thorn-mint (*Acanthomintha ilicifolia*)

Monitoring: Table 3-5 – Management Plans/Directives, SDSU – Risk Group 1

Management Conditions: Table 3-5 states area-specific management directives must include specific measures to protect against detrimental edge effects from surrounding development. Edge effects are addressed through multiple implementation measures under management directives D.6, D.7 and D.8.

SDSU identifies the following threats for San Diego thorn-mint: (1) habitat loss due to urban development and (2) nonnative invasive plant species. Habitat loss threats will be identified through habitat monitoring as described under implementation measure A.1.1. Non-native invasive plant species will be addressed under implementation measure A.1.3, B.1.2 and multiple implementation measures in management directives B.2, and B.3.

Variegated Dudleya (*Dudleya variegata*)

Monitoring: Table 3-5 – Management Plans/Directives, SDSU – Risk Group 2

Management Conditions: Table 3-5 states area-specific management directives must include species-specific monitoring and specific measures to protect against detrimental edge effects to this species, including effects caused by recreational activities. Species-specific monitoring is addressed through implementation measure A.1.2. Edge effects are addressed through multiple implementation measures under management directives D.6, D.7, and D.8. Impacts caused by recreational activities are addressed in multiple implementation measures in management directive C.2.

Willowy Monardella (Monardella linoides ssp. viminea)

Monitoring: Table 3-5 - Habitat Based, SDSU - Risk Group 3

Management Conditions: Table 3-5 states area-specific management directives must include specific management measures to increase populations, including specific management measures to address the autecology and natural history of the species and to reduce the risk of catastrophic fire. Management measures to accomplish this may include prescribed fire.

Management measures to reduce the risk of losing habitat due to catastrophic fire are addressed through multiple implementation measures in management directive B.4 and implementation measure A.1.1. Management measures to increase populations and address autecology and natural history of the species

are addressed below in multiple implementation measures in management directives B.1, B.2, and B.3.

San Diego coast horned lizard *(Phyrnosoma blainvillii*)

Monitoring: Table 3-5 - Site Specific, SDSU - Risk Group 3

Monitoring efforts will include habitat monitoring and general wildlife surveys (as described in implementation measures A.1.1 and A.1.2).

Management Conditions: Table 3-5 states area-specific management directives must include specific measures to maintain native ant species, discourage the Argentine ant, and protect against detrimental edge effects to this species.

Argentine ants were not recorded within the Preserve during the 2008 or 2012 surveys, although there is potential for this species to become established. Restriction of litter and food waste, inspection of planting stock if active restoration occurs on site, and education of nearby residents about measures they can take to reduce the risk and extent of invasion are measures that should be considered. Also see management directive A.4 in regards to non-native wildlife species control. Edge effects are addressed through multiple implementation measures in management directives D.6, D.7 and D.8.

Orange-Throated Whiptail (*Cnemidophorus hyperythrus beldingi*)

Monitoring: Table 3-5 - Site Specific, SDSU - Risk Group 3

Monitoring efforts will include habitat monitoring and general wildlife surveys (as described in implementation measures A.1.1 and A.1.2).

Management Conditions: Table 3-5 states area-specific management directives must address edge effects.

The management approach for this species is maintenance of suitable habitat (chaparral and sage scrub) within the Preserve. These habitats will be managed to reduce the threat of fire and invasive non-native species through multiple implementation measures in management directives A.1, B.1 through B.4. In addition, management of these habitats also addresses edge effects through multiple implementation measures in management directives D.6, D.7 and D.8.

Coastal California Gnatcatcher (*Polioptilia californica californica*)

Monitoring: Table 3-5 – Area Specific Management Directives, SDSU – Risk Group 2

Management Conditions: Table 3-5 states that area specific management directives must include measures to reduce edge effects and minimize disturbance during the nesting period, fire protection measures to reduce the potential for habitat degradation due to unplanned fire, and management measures to maintain or improve habitat quality including vegetation structure. No clearing of habitat within the County's Biological Resource Core Areas may occur between March 1 and August 15.

Edge effects are addressed through multiple implementation measures under management directives D.6, D.7 and D.8. Fire management is addressed through implementation measures under management directive B.4. Habitat restoration is addressed through multiple implementation measures under management directive B.1.

Cooper's Hawk (*Accipiter cooperii*)

Monitoring: Table 3-5 - Habitat Based, SDSU - Risk Group 3

Management Conditions: Table 3-5 states area-specific management directives must include 300-foot impact avoidance areas around active nests and minimization of disturbance in oak woodlands and oak riparian forests.

The management approach for this species is maintenance of suitable foraging (upland and riparian habitats) and nesting habitat (oak woodland) within the Preserve (as described in multiple implementation measures under management directives B.1 for restoration). These habitats will be managed to reduce the threat of fire (as described in multiple implementation measures under management directive B.4) and invasive non-native plants (as described under implementation measures A.1.3, B.1.2 and management directive B.2), and maintain hydrology (as described in multiple implementation measures under management directives D.3 and D.4).

No nesting territories were observed within the Preserve during the 2008 and 2012 surveys; however future detection will be addressed through general wildlife surveys (as described in implementation measure A.1.2). Although no future projects are anticipated, any proposed impacts will be conditioned to avoid nests and minimize disturbance to oak and riparian forests present on-site.

Northern Harrier (*Circus cyaneus*)

Monitoring: Table 3-5 - Habitat Based, SDSU - Risk Group 3

Management Conditions: Table 3-5 states area-specific management directives must include an impact avoidance area (900 feet or maximum possible within the preserve) around active nests.

SDSU identifies threats from (1) habitat loss, (2) recreation/human disturbance, and (3) off-road vehicles. No nesting territories were observed within the Preserve during the 2008 and 2012 surveys; however future detection will be addressed through general wildlife surveys (as described in implementation measure A.1.2). In addition, management of these habitats also addresses edge effects through multiple implementation measures in management directives D.6, D.7 and D.8.

Golden Eagle (*Aquila chrysaetos*)

Monitoring: Table 3-5 - Habitat Based, SDSU - Risk Group 2

Management Conditions: Table 3-5 includes conditions for areas with nest sites. No nest sites were observed within the Preserve during the 2008 and 2012 surveys; however future detection will be addressed through general wildlife surveys (as described in implementation measure A.1.2).

SDSU identifies threats from (1) habitat loss, and (2) recreation/human disturbance. Edge effects are addressed through multiple implementation measures under management directives D.6, D.7 and D.8.

Burrowing Owl (Athene cunicularia)

Monitoring: Table 3-5 – Area-specific Management Directives, SDSU – Risk Group 1

Management Conditions: Table 3-5 includes conservation of occupied burrowing owl habitat or conservation of lands appropriate for restoration, management, and enhancement of burrowing owl nesting and foraging requirements.

No nesting territories were observed within the Preserve during the 2008 and 2012 surveys; however future detection will be addressed through general wildlife surveys (as described in implementation measure A.1.2).

SDSU identifies the following threats for burrowing owl: (1) habitat loss due to development and (2) nonnative invasive plant species. Habitat loss threats will be identified through habitat monitoring as described under implementation measure A.1.1. Non-native invasive plant species will be addressed under implementation measure A.1.3, B.1.2 and management directive B.2.

Western Bluebird (*Sialia mexicana*)

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

Monitoring efforts include habitat monitoring, general wildlife and rare plant surveys, and monitoring for invasive non-native plant species (as described in implementation measures A.1.1, A.1.2, A.1.3, and A.1.4).

Management Conditions: Table 3-5 does not include any conditions for coverage of this species as its persistence in the County depends largely on conservation of existing large populations on public lands east of the MSCP SAP. The management approach for this species is maintenance of suitable nesting (oak woodland) and foraging habitat (chaparral and grasslands) within the Preserve (as described in multiple implementation measures under management directive B.1 for restoration). These habitats will be managed to reduce the threat of fire and invasive non-native plants (as described under implementation measure A.1.3 and multiple implementation measures under management directives B.1, B.2 and B.3).

No nesting territories were observed within the Preserve during the 2008 and 2012 surveys; however future detection will be addressed through general wildlife surveys (as described in implementation measure A.1.2).

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

Monitoring: Table 3-5 - Habitat Based, SDSU - Risk Group 3

Management Conditions: Table 3-5 states 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.

This species was observed during the 2012 survey and is assumed to nest on the Preserve. The Preserve burned during the 2003 Cedar Fire and coastal sage scrub onsite is in different stages of recovery. This habitat will be maintained through multiple implementation measures in management directive B.1, B.2 and B.4.

Southern Mule Deer (*Odocoileus hemionus*)

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

Monitoring efforts include habitat monitoring, general wildlife surveys (as described in implementation measures A.1.1 and A.1.2) as well as corridor monitoring (as described in implementation measure A.1.4).

Management Conditions: Habitat Maintenance

Mountain Lion (*Felis concolor*)

Monitoring: Habitat Based and Corridor Sites, SDSU – Risk Group 3

Monitoring efforts include habitat monitoring, general wildlife (including status of prey populations) and rare plant surveys, and monitoring for invasive plant species (see A.1.1, A.1.2 and A.1.3) as well as corridor monitoring (see A.1.4).

Management Conditions: Habitat Maintenance

Table 3-5 does not include any conditions for coverage of this species because it is generally not considered sensitive, but is considered an important species to protect for its aesthetic and intrinsic values. The management approach for this species is maintenance of the open space within the Preserve to facilitate large mammal movement.

The Preserve is within a known wildlife movement corridor and suitable habitat for this species occurs throughout the Preserve. Mountain lions were not recorded on wildlife cameras during 2012 biological surveys. Mountain lion is identified as a primary species that will benefit from the recommended resource management actions for chaparral and black sage scrub alliances. Monitoring of wildlife corridors will be done on a regional scale rather than individual preserve level (as described in implementation measures A.1.4).

Management Directive A.3 – Coordinate with San Diego County Water Authority and San Diego Gas & Electric who retain easements within the Preserve (*Priority 1*)

***Implementation Measure A.3.1*:** DPR will work with San Diego County Water Authority and San Diego Gas & Electric to ensure work crews use established trails to access their infrastructure within the Preserve and avoid and/or minimize tree maintenance where there are known active raptor nests.

5.2.3 Non-Native Invasive Wildlife Species Control

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

As discussed in Section 3.3.4, brown-headed cowbird, a brood parasite, was detected within the Preserve during the 2012 surveys and European starlings (non-native invasive species) were observed in 2008. These species do not currently

appear to be posing an immediate threat to native species and/or the local ecosystem; however, this species has the potential to out compete native species for valuable resources. Argentine ants, European starlings, and goldspotted oak borer (*Agrilus coxalis*) were not observed on the Preserve, but will be monitored as these invasive species can adversely impact sensitive plant and wildlife species.

***Implementation Measure A.4.1*:** DPR will conduct surveys for the presence of cowbirds (brood parasites) and Argentine ants and European starlings (non-native invasive species), at five-year intervals in conjunction with habitat monitoring and general wildlife surveys (as described in implementation measures A.1.1 and A.1.2).

Implementation Measure A.4.2: DPR will post signs to encourage clean up by equestrian users of staging areas to keep it free of non-point source pollutants that may attract cowbirds or other invasive, non-native species.

5.2.4 Future Research

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

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

Management Directive A.5 – Allow for future research opportunities for the academic and professional scientific and biologic activities within the Preserve (*Priority 2*)

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

5.3 Vegetation Management Element (B)

5.3.1 Habitat Restoration

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

***Implementation Measure B.1.1*:** DPR will assess and determine the need for restoration activities within the Preserve. The need for restoration activities will be determined based on the results of habitat monitoring (as described in implementation measure A.1.1 above) and trail maintenance activities (as described in implementation measure C.5.1). Any proposed restoration activities will utilize current, accepted techniques and avoid/or minimize impacts to sensitive species or native habitats. Any proposed revegetation activities will use only local native species. Passive restoration (recovery from fire) is ongoing. Also see management directive B.1.

Implementation Measure B.1.2: DPR staff will perform weed and erosion control as needed in disturbed areas where natural recruitment of native plant species is actively occurring, as described in the Vegetation Management Plan (Appendix F).

5.3.2 Non-Native Plant Species Removal and Control

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

As described in Section 3.2.4 above, native and naturalized plant species primarily dominate the vegetation communities within the Preserve. Some of the Preserve has burned as many as four times over the course of the recorded fire history and most recently burned during the 2003 Cedar Fire. As a result of these fires, the Preserve has become highly infested with twenty-five invasive non-native plant species, six of which were identified as high priority for removal (pampas grass, artichoke thistle, stinkwort, whitetop, hoary cress, and saltcedar) and five as moderate (rose natal grass, palms, star thistle, Italian thistle, and crimson fountaingrass) target species in need of immediate removal and control. Any tree removal would be done outside the breeding season to avoid impacts to nesting birds. Removal of non-natives will be coordinated in accordance with the Management Priorities for Invasive Non-native Plants, A Strategy for Regional Implementation, San Diego County (Dendra Inc, 2012).

***Implementation Measure B.2.1*:** DPR staff will implement the treatment and removal of the high and moderate priority invasive non-native plants as identified in the Vegetation Management Plan (Appendix F) and SANDAG Transnet EMP grant application. The removal and treatment of invasive non-

native plant species will be conducted through mechanical and chemical methods and associated passive restoration. The management techniques for mechanical and chemical methods for invasive removal and restoration should follow guidelines outlined in the Habitat Restoration Plan & Non-native Plant Removal Guidelines for the Otay Valley Regional Park (http://www.sdcounty.ca.gov/reusable_components/images/parks/doc/OVRP_HRP_Final.pdf). A Certified herbicide technician shall treat the non-native vegetation with herbicides. A biological monitor will be onsite during all treatment, removal, and restoration to ensure that other sensitive species and vegetation communities are not negatively affected by the proposed actions.

Implementation Measure B.2.2: DPR staff will coordinate with volunteer groups such as Friends of Goodan Ranch and Sycamore Canyon Open Space Preserve to help report sightings of invasive nonnative plants within the Preserve.

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

***Implementation Measure B.3.1*:** DPR will implement an educational program for visitors and adjacent residents to the Preserve in order to discourage introduction of invasive, non-native plants into the Preserve. Information provided will include identification of invasive plants harmful to the Preserve, and prevention methods. DPR will also implement a program specifically related to equestrian education regarding the potential negative impacts to native ecosystems from the accumulation of non-point source pollutants (e.g., spread of non-native seeds, water quality, etc.) in staging areas and on frequently used trails. This could be accomplished through a signage program/brochures and interaction between rangers and trail users. Specific signage could state, “Don’t Plant a Pest! Feeding horses weed-free feed for at least 72 hours prior to entry helps preserve our natural environment”. In addition, educational signage, trash cans and increased enforcement of equestrians clean-up in the staging areas will help prevent future infestations once treatment and removal have stabilized the habitat.

5.3.3 Fire Prevention, Control, and Management

The Preserve is classified as a Very High Fire Hazard Severity Zone by California Department of Forestry and Fire Protection (FRAP 2012).

No official fuel modification zones are found on the Preserve. There are no current fire management activities within the Preserve. Adequate emergency access roads are found within the Preserve in the form of existing trails/dirt roads.

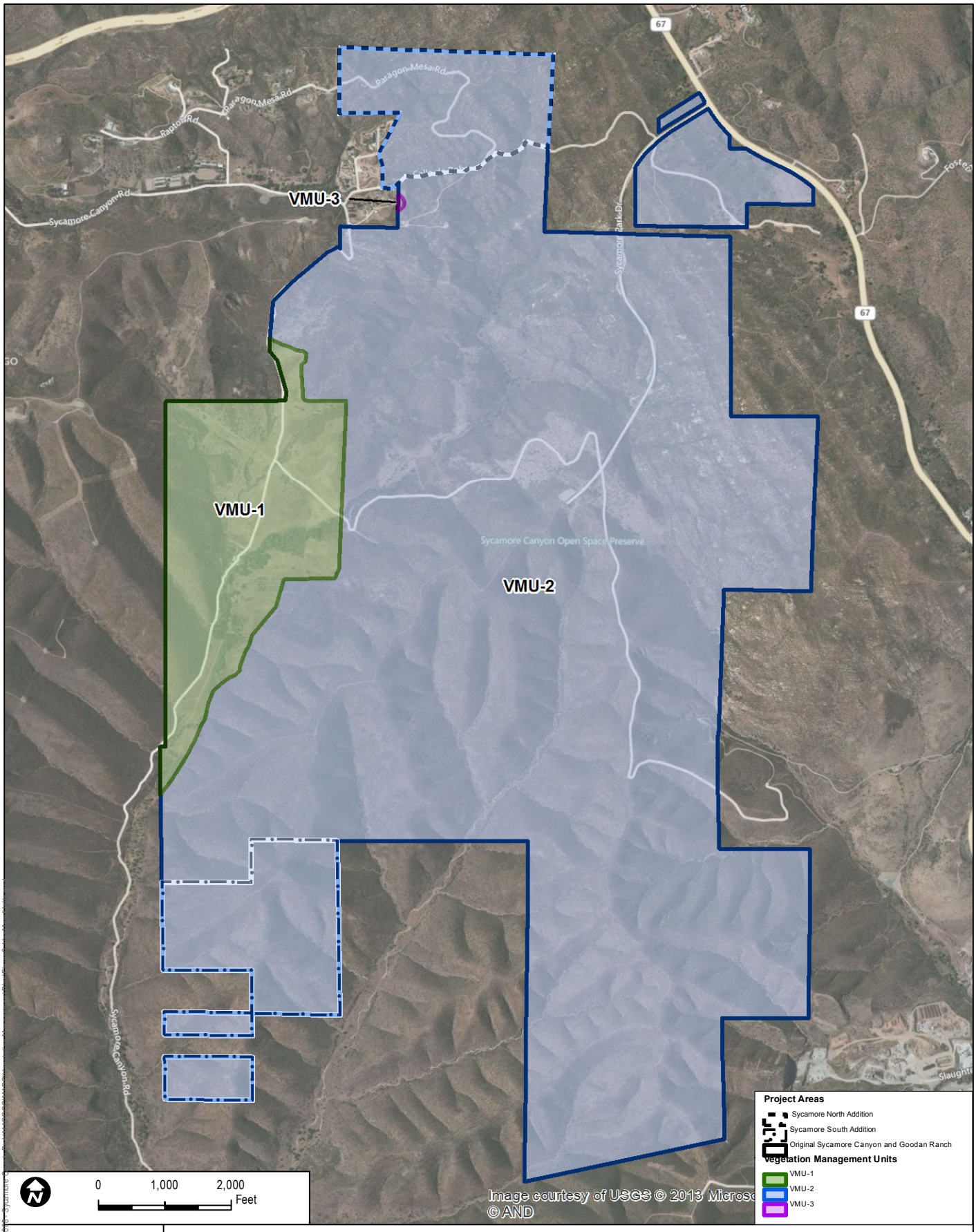
Management Directive B.4- Provide for necessary fire management activities that are sensitive to natural and cultural resources protection (Priority 1)

Implementation Measure B.4.1: The existing dirt roads/trails within the Preserve acting as access roads will be maintained annually to keep them fuel free. If funding permits, DPR will install an automatic gate at the Highway 67 entrance and, if feasible, install an approved emergency traffic control-activating strobe light sensor device at both the Gooden and Highway 67 gates.

Implementation Measure B.4.2: DPR staff will establish and annually maintain fuel modification zones to 100 feet around on-site buildings and facilities.

Implementation Measure B.4.3: DPR staff shall provide controls following fire events to stabilize soils in the burn area and minimize potential for erosion. Erosion control best management practices (BMPs), such as mechanical rehabilitation treatments, including straw mulch, hay bales, and jute rolls, should be in place as soon as possible after a fire and prior to the onset of the winter rainy season. Care should be taken to select and inspect these materials so they are not a source of invasive non-native plants.

Implementation Measure B.4.4: DPR will continue to coordinate with CAL FIRE and the City of Poway Fire Department to ensure that the fire response and implementation measures outlined in this RMP and in the Vegetation Management Plan (Appendix F) are up-to-date and adequate for effective fire response within the Preserve. DPR shall conduct fuel management under the direction of the City of Poway Fire Department using the identified VMUs, as feasible, and as presented in the Vegetation Management Plan (Appendix F; Figure 14). As part of this effort, DPR will review fire history maps at least once every 10 years to determine if Preserve lands are within natural fire return intervals and for estimation of fuel age class.



DUDEK

6680-08

SOURCE: Bing

FIGURE 14

Vegetation Management Units

5.3.4 Public Access

The Preserve contains approximately 13 miles of trails. These trails traverse through non-native grassland, southern mixed chaparral and the understory of the oak woodland habitat (Figure 8). Trail users typically consist of hikers, mountain bikers and equestrian riders. In addition to the trails, two staging areas are located within the Preserve. One staging area is located at the southern end of Sycamore Canyon Road and the second staging area occurs within the eastern portion of the Preserve and is accessed from State Route 67. Roads located along the easternmost portion of the Preserve are maintained and used by the San Diego County Water Authority and SDG&E.

The Sycamore North property is not currently open to the public and the perimeter is fenced with barbed wire. A pipe gate is located at the entrance on Calle de Rob, and a metal gate is located at the entrance on Raptor Road. In addition, the Sycamore North property does not contain a designated, formal trail system. Public access into the Sycamore North property is anticipated in the future to meet recreational needs in accordance with the County of San Diego Community Trails Master Plan (County of San Diego 2009a). However, access will balance human access with wildlife habitat and movement needs.

The parks rangers have installed gates, signage and fencing in four locations along the southern border of Sycamore South to help prevent unauthorized access (Figure 8). Two are located at access points and the other three are blocking illegal trails (Figure 8). Two trails are found in the Sycamore South property; an offshoot of the Ridge Trail is located along the main ridge and runs south through the property. The other dirt trail follows a side ridge southwest to Sycamore Canyon. DPR does not currently propose to allow public access onto this property until trail connections can be made.

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

***Implementation Measure C.1.1*:** The following public uses are prohibited in the Preserve and are currently specified on signs and/or trail maps as prohibited. Park rangers will document any illegal access, and inform any unauthorized persons observed conducting prohibited uses on site that the uses are not allowed on the Preserve. In addition, they will enforce the following prohibited uses and restrictions within the Preserve. Park rangers are responsible for enforcing these restrictions and may call the sheriff for legal enforcement, as appropriate.

a. Off-road or cross-country vehicle and public off-highway recreational vehicle activities are considered incompatible uses in the MSCP preserve, and are therefore prohibited in the Preserve, except for law enforcement, Preserve management, and/or emergency purposes.

b. Hunting or discharge of firearms is an incompatible use in the MSCP preserve and is prohibited by other County ordinances, and is therefore prohibited in the Preserve, except for law enforcement, and/or emergency purposes.

c. Poaching or collecting resources, such as plant or animal species, archaeological or historical artifacts, rocks or fossils, from the Preserve is generally prohibited; however, the County may authorize collecting upon approval for scientific research, revegetation or restoration purposes, or species recovery programs. In addition, impacts to historic features are prohibited except upon approval by the County.

d. Fishing, swimming, and wading in rivers, streams, or creeks

e. Camping (including homeless and itinerant worker camps)

f. Feeding wildlife

g. Domestic animals, except horses and leashed dogs

h. Smoking

i. Campfires/Open Flames

j. Littering/Dumping

Implementation Measure C.1.3: Park Rangers will ensure that prohibited uses are clearly specified on posted signage.

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

***Implementation Measure C.2.1*:** DPR has identified and mapped sensitive vegetation communities, special-status plant and wildlife species (including narrow endemics and County-listed species), and cultural sites in the Preserve so that these areas can be avoided and/or monitored. Updated information on sensitive resources in relation to access points (i.e., existing access roads and trails) will be obtained in conjunction with routine monitoring activities (see implementation measures A.1.1, A.1.2, A.1.3, C.5.1 and E.1.1).

***Implementation Measure C.2.2*:** DPR will ensure that any new public-use trails are designed and constructed to avoid and/or minimize impacts to sensitive biological and cultural resource areas (see implementation measure C.4.2).

Management Directive C.3 – Analyze any future proposed public access such that recreational use of the Preserve is consistent with the protection and enhancement of biological and cultural resources (*Priority 2*)

DPR does not propose to allow public access within the Sycamore South and Sycamore North additions at this time. However, access may be proposed in the future.

Implementation Measure C.3.1: If, in the future, DPR proposes public access for the Sycamore South and Sycamore North properties. DPR will ensure that any proposed trail system is compatible with the MSCP SAP objectives and the County-approved Community Trails Master Plan (County of San Diego 2009a).

Implementation Measure C.3.2: DPR will ensure that any future proposed trail system will undergo environmental review in accordance with CEQA prior to public use of any new trails on the Preserve.

5.3.5 Fencing and Gates

Gates have been placed in the following locations within the Preserve (Figure 8): (1) two gates at the staging area located off of Sycamore Canyon Road; (2) access point at State Route 67; (3) southern border of Preserve; (4) two gates are located in the northeastern area of the Preserve associated with a private road crossing this area; (5) where Calle de Rob connects to an unofficial trail on Preserve; (6) off of southern trail blocking access to a private road that extends to the eastern border; (7) off of southern trail after entrance to private road; (8) two gates are located in the interior of the Preserve blocking public vehicle access to trails; (9) northwestern corner of Preserve; and (10) southwestern border of Preserve.

There is a Knox switch on an automatic gate at the main entrance at Sycamore Canyon Road. This road is the primary access for the City of Poway Fire Department to enter the Preserve. The Knox switch can only be operated with a key from the Poway Fire Department. Additionally, fire suppression personnel can enter the Preserve through a locked gate off of Highway 67. The Highway 67 gate is kept open during business hours and locked afterwards. There are several interior gates that have County padlocks and are kept open during business hours, only.

Fencing within the Preserve consists of: split-rail concrete fencing around the two staging areas and single-strand barbed wire perimeter fencing to delineate the border of the Preserve. The perimeter of the Sycamore North property is completely fenced with barbed wire. There is evidence of unauthorized public access to the Sycamore South property. Gates, signage and fencing in five locations along the southern border of Sycamore South have been installed to help with unauthorized access (Figure 8).

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

***Implementation Measure C.4.1*:** Park staff will install additional fencing and/or gates at points of unauthorized public access as appropriate. Points of unauthorized access will be identified in conjunction with trail monitoring activities.

Implementation Measure C.4.2: Points of unauthorized access and sensitive species impacts will continue to be identified in conjunction with habitat, plant and wildlife, and access road monitoring activities (as described in implementation measures A.1.1, A.1.2, A.1.3 and C.4.1). DPR will ensure that any installation of fences or gates will be designed and located so they do not impede wildlife movement or impact cultural resources.

***Implementation Measure C.4.3*:** Fencing, gates, boulders, security patrols, and appropriate signage will be needed to enforce restriction of public access to the Sycamore South and Sycamore North properties. Illegal access solutions will be addressed first from the north (Poway property) and then the south (Hansen aggregates, Fanita Ranch, City of Santee).

5.3.6 Trail and Access Road Maintenance

Management Directive C.5 – Properly maintain access roads and trails for user safety, and to protect natural and cultural resources (*Priority 1*)

***Implementation Measure C.5.1*:** Ranger staff will monitor public access roads, staging areas, and trails for degradation and off-trail access and use, and provide necessary repair/maintenance per the Community Trails Master Plan (County of San Diego 2009a).

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

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

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

***Implementation Measure C.5.3*:** DPR will restore degraded habitats and reduce detrimental edge effects through maintenance and stabilization of trails and strategic revegetation. Measures to counter the effects of trail erosion may include the use of stone or wood cross-joints, edge plantings of native grasses, and mulching of the trail per the Community Trails Master Plan (County of San Diego 2009a).

***Implementation Measure C.5.4*:** If unauthorized trail formation is observed by ranger staff, those specific areas will be posted with clear signage reminding the public to remain on authorized trails. Also see management directive C.4.

5.3.7 Signage and Lighting

Signage

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

Signs educate, provide direction, and promote sensitive resources and enjoyment of natural areas. Types of signs within the Preserve may include those necessary to: protect sensitive biological and cultural resources (see A.4.2, B.3.1, and E.3.1); provide educational and interpretive information (see E.3.1); explain rules of the Preserve (see C.1.1 and D.2.1); direct public access (see C.4.3 and C.5.2); and, provide Preserve operations information.

***Implementation Measure C.6.1*:** Park rangers will regularly inspect and maintain all posted signs within the Preserve to make sure they are in good condition. Current posted signs include the following rules and regulations: Off-roading and ATV Vehicles Prohibited 41.130; Dogs on Leash At All Times 41.123(c); Weapons and Fireworks Prohibited 41.117; All Plants and Animals Are Protected 41.111 and 41.112; Campfire or Open Flames Prohibited 41.118; and Yield to Trail Users Obey Posted Speed Limit. In addition, signs warning of the presence of rattlesnakes and mountain lions are posted. Signs shall be kept free from vandalism and will be repaired or replaced as necessary.

Lighting

Artificial lighting adversely impacts habitat value of the Preserve, particularly for nocturnal species. Therefore, lighting is not permitted in the Preserve except where essential for safety associated with the Ranger Station and the live-in volunteer pad. The Ranger Station is designed for low site impact and high energy efficiency (Leadership in Energy and Environmental Design [LEED] certified – Silver).

Management Directive C.7 – Provide appropriate security lighting in association with Ranger Station and live-in volunteer pad (*Priority 2*)

***Implementation Measure C.7.1*:** Low pressure sodium illumination sources or low energy alternatives will be used within the Preserve associated with the Ranger Station and live-in volunteer pad.

5.4 Operations and Facility Maintenance Element (D)

5.4.1 Litter/Trash and Materials Storage

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

***Implementation Measure D.1.1*:** Park ranger staff will maintain all trash receptacles provided at all staging areas and ranger station. Trash receptacles are designed to be secure from intrusion by wildlife species. Park staff will regularly empty trash receptacles at least twice a week or more/less as deemed necessary.

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

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

***Implementation Measure D.2.1*:** Park rangers will enforce regulations regarding littering/dumping (County Code of Regulatory Ordinance Section 41.116). Penalties for littering and dumping sufficient to prevent recurrence and reimburse costs to remove and dispose of debris, restore the area if needed, and pay for additional DPR staff time will be imposed by law enforcement officers. Areas where dumping recurs will be evaluated for potential barrier placement. Additional monitoring and enforcement will be provided as needed.

5.4.2 Hydrological Management

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

Management Directive D.3 – Retain Sycamore Canyon Creek and its tributaries in their natural condition (Priority 1)

Implementation Measure D.3.1: A trail crosses Sycamore Canyon Creek in several locations. Park staff will monitor trail use to make sure the integrity of the creek is not being affected. Refer to Implementation Measures C.5.2 and C.5.3 in the event of trail closures.

Management Directive D.4 – Install BMPs to prevent potential erosion of hillsides (Priority 2)

***Implementation Measure D.4.1*:** The Preserve drains into the Peñasquitos and San Diego Watersheds. Care will be taken to ensure that natural drainage patterns are maintained and that best management practices (BMPs) are utilized as needed, and that contaminants from runoff do not affect downstream riparian habitats. DPR staff shall monitor potential sites that may erode through implementation measures A.1.1 and D.4. If deemed necessary, DPR staff shall install BMPs to stabilize slopes.

Implementation Measure D.4.2: For the public's safety, DPR shall close the Preserve after heavy rains. The Preserve shall be reopened when deemed appropriate by the ranger staff.

5.4.3 Emergency, Safety and Police Services.

Management Directive D.5 – Cooperate with public health and safety personnel to achieve their goals while helping to reduce or eliminate impacts to biological and cultural resources within the Preserve (*Priority 1*)

***Implementation Measure D.5.1*:** DPR will allow law enforcement officials and all medical, rescue and other emergency agencies to access Preserve property as necessary to enforce the law and carry out operations necessary to protect the health, safety, and welfare of the public. DPR will coordinate with the applicable agencies to inform field personnel of the locations of particularly sensitive biological and significant cultural resources and how to minimize damage to these resources.

5.4.4 Adjacency Management Issues

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

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

Implementation Measure D.6.1: DPR will coordinate with adjacent property owners such as MCAS Miramar on an annual basis, or more regularly as needed, to ensure contiguous preserved land is managed consistently and in accordance with MSCP. Coordination will include discussion of conservation goals; threats; methodology for management, monitoring, restoration, and

reintroduction; results of management tasks and scientific research; and potential future projects.

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

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

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

***Implementation Measure D.8.1*:** DPR will post this RMP on the DPR website (www.sdparks.org) to heighten the environmental awareness of adjacent residents, and inform residents of appropriate landscaping, construction or disturbance within the Preserve, pet intrusion, fire management, and other adjacency issues. See also implementation measures B.3.1 and D.6.1.

5.5 Cultural Resources Element (E)

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

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

As noted in the cultural resources reports (ICF Jones & Stokes 2008, ASM 2012), a substantial portion of the Preserve exceeds 20 percent slope and the majority of the terrain is densely vegetated, which largely precluded visibility in these areas. Resources may exist in these unsurveyed areas. If future ground disturbing activities are proposed in these unsurveyed areas, significant adverse effects on potentially significant unknown resources could occur.

***Implementation Measure E.1.1*:** DPR will identify and record cultural resource sites in previously unsurveyed areas of the Preserve where, if in the future, brush is removed as a result of wildfire or planned ground disturbing activities, including clearing, grubbing or new trail development efforts. All management activities within the Preserve including, but not limited to, routine maintenance and habitat restoration, will take into consideration potential impacts to cultural resources and shall avoid adverse impacts to any cultural resources to the maximum extent possible. No ground disturbing activities will be allowed on or in any cultural resource site within the Preserve until potential impacts have been assessed.

If in the future, avoidance of significant sites is not feasible, appropriate mitigation measures will be established in conjunction with consultation with Native American tribes. Removal or disturbance of cultural resources shall not occur

prior to completion of an approved mitigation program, such as data recovery and a grading monitoring program consisting of a qualified consultant and Kumeyaay Native American representative. Preservation in place is the preferred mitigation measure. Any cultural materials collected from the Preserve during testing will be curated at a qualified curation facility.

Implementation Measure E.1.2: In the event that human remains are discovered during archaeological surveys or testing, DPR staff will immediately stop all work and notify the County Coroner. If the Coroner determines the remains are Native American, the Most Likely Descendant, as identified by the NAHC, will be contacted in order to determine proper treatment and disposition of the remains. Per County guidelines, any time human remains are encountered, the site is considered significant (County 2007).

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

***Implementation Measure E.2.1*:** Any future development of recreational activities within the Preserve will consider potential impacts to cultural resources resulting from public access and increased public use. Trails or facilities within Slaughterhouse Canyon at the eastern edge of the Preserve will be avoided in order to avoid increased public access at the potentially significant sites recorded there. Trail development and maintenance activities may impact any potential subsurface deposits, and the increase in traffic and accessibility may create direct impacts through vandalism, looting or the inadvertent destruction of artifacts, features, and site integrity.

Implementation Measure E.2.2: The County will increase recreational use of the southern portion of the property. This portion lies on the sedimentary Poway Conglomerate Formation and lacks the exposed bedrock of the northern portion of the property. Survey results and previous research indicate that this portion of the property was not intensively used during either the prehistoric or historic period and that development of trails and facilities in this area would have far lower potential for affecting cultural resources.

Implementation Measure E.2.3: The existing Martha's Grove memorial trail runs within and/or adjacent to several potentially significant prehistoric sites north of Goodan Ranch. The trail currently avoids a knoll top site and avoidance will be maintained through possible trail realignment further from the resource or signage prohibiting/discouraging off-trail hiking.

Management Directive E.3 – Promote cultural resources interpretation and educational programs (*Priority 2*)

***Implementation Measure E.3.1*:** Off-site, and when possible, on-site interpretive programs for Native American heritage, local and regional history, and prehistory will be developed for the Preserve. These may include lectures, walks, kiosks, signs, historic brochures, and displays.

Multiple opportunities for public education as to the prehistory and history of the Preserve exist. The western spur of the Foster Truck Trail traverses the Preserve. The development of scenic view points and interpretive signage along the existing historic road cut of Foster Truck Trail running along the northern boundary of the properties could explain not only the history of transportation in the region but also illustrate settlement in the area, directing viewers to the location of individual features and former structures like Stowe Road, Martha's Grove, Goodan Ranch, San Diego Aqueduct, and the adjacent Stowe schoolhouse to provide a broad, cultural landscape level view of prehistoric and historic land use history of the region.

The County also has the opportunity to offer the public educational tours via trails with signage informing patrons of historic homesteads within the Preserve. Existing trails can tie together residents of the community of Stowe as well as the remaining features by means of Stowe tours, brochures, and signage. Further, the community of Stowe can be noted among other late nineteenth century communities by tying resources at the Preserve to contemporary resources at other preserves and parks across the county. Boulder Oaks Preserve, as an example, has similar historic resources representative of rural recreation and transportation routes which can be tied to the Preserve time periods.

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

***Implementation Measure E.4.1*:** DPR will continue to coordinate and consult with tribal representatives who may have knowledge of the Preserve area, in order to keep them informed of activities associated with the Preserve. Consultation shall be conducted frequently in order to identify appropriate management of pre-contact and ethnographic cultural resources. The tribes will be encouraged to participate in surveys, evaluation, recordation, protection and preservation of cultural resources.

***Implementation Measure E.4.2*:** DPR will open the Preserve to traditional uses by the Kumeyaay and other local tribes which may have traditionally used the Preserve area. All activities by Native Americans in the Preserve shall be conducted with a Right-of-Entry permit specifically designed for the Preserve.

6.0 REFERENCES

AECOM, California Department of Fish and Game Vegetation Classification and Mapping Program and Conservation Biology Institute. 2011. Vegetation Classification Manual for Western San Diego County. Prepared for the San Diego Association of Governments.

Alexander, W. E. 1910. Plat Book of San Diego County, California. Compiled from County and Government Surveys and County Records, Pacific Plat Book Company, Los Angeles and San Francisco.

ASM Affiliates, Inc. 2012. Archaeological Survey Report for the Hagey and Sycamore South Properties, Additions to the Sycamore Canyon and Goodan Ranch Preserves.

Atwood, J.L. 1990. Status Review of the California Gnatcatcher (Polioptila californica). Manomet, Massachusetts: Manomet Bird Observatory.

Atwood, J.L. 1993. "California Gnatcatchers and Coastal Sage Scrub: The Biological Basis for Endangered Species Listing." In Interface between Ecology and Land Development in California, ed. J.E. Keeley, 149–169. Los Angeles, California: Southern California Academy of Sciences.

Autobee, Robert. 2008.San Diego Project, Second Draft. Study conducted under the Bureau of Reclamation History Program available at http://www.usbr.gov/dataweb/html/sandiego1.html

Automobile Club of Sothern California. 1929. Automobile Road Map of San Diego County, California. Courtesy of AAA Archives.

_____. 1940 San Diego County. Courtesy of AAA Archives.

_____. 1955 San Diego County. Courtesy of AAA Archives.

Bat Conservation International (BCI). 2008. Bat Species Profiles. Last revised: 2008. Available: http://www.batcon.org/SPprofiles/index.asp . Accessed: 10/17/08

Black, S. H., and D. M. Vaughan. 2005. Species Profile: Euphydryas editha quino. In Shepherd, M. D., D. M. Vaughan, and S. H. Black (Eds). Red List of Pollinator Insects of North America. CD-ROM Version 1 (May 2005). Portland, OR: The Xerces Society for Invertebrate Conservation.

Bolger, D.T., T.A. Scott, and J.T. Rotenberry. 1997. Breeding bird abundance in an urbanizing landscape in coastal southern California. Conservation Biology, 11: 406-421.

Bleich, V.C. 1973. Ecology of Rodents at the United States Naval Weapons Station; Seal Beach, Fallbrook Annex, San Diego County, California. Master's thesis; California State University, Long Beach.

Bleich, V.C. and O.A. Schwartz. 1975. “Observations on the Home Range of the Desert Woodrat.” Journal of Mammalogy 56:518–519.

Brown, J.H., G.A. Lieberman, and W.F. Dengler. 1972. “Woodrats and Cholla: Dependence of a Small Population on the Density of Cacti.” Ecology 53:310–313.

Bureau of Land Management. 1962.Land Patent LA 0168571. On file at the USDI Bureau of Land Management.

California. 1892. Great Registers, 1866-1898. California State Library, California History Section. Collection Number: 4 - 2A; CSL Roll Number: 40; FHL Roll Number: 977095. Courtesy of Ancestry.com.

_____.1896 Great Registers, 1866-1898. California State Library, California History Section. Collection Number: 4 - 2A; CSL Roll Number: 40; FHL Roll Number: 977095. Courtesy of Ancestry.com.

CaliforniaHerps. 2012. “California Reptiles and Amphibians.” Accessed August 2012. http://www.californiaherps.com/index.html.

Cal-IPC (California Invasive Plant Council). 2012. “California Invasive Plant Inventory Database.” Berkley, California: California Invasive Plant Council. Accessed April 2012. http://www.cal-ipc.org/ip/inventory/weedlist.php.

California Native Plant Society (CNPS). 2012. *Inventory of Rare and Endangered Plants.* Version 8-01a. Sacramento, California: CNPS. Online ed. Accessed July 2012. http://cnps.site.aplus.net/cgi-bin/inv/inventory.cgi.

Cameron, G.N. and D.G. Rainey. 1972. “Habitat Utilization by Neotoma lepida in the Mojave Desert.” Journal of Mammalogy 53:251–266.

City of San Diego. 1998. Final Multiple Species Conservation Program: MSCP Plan.

Conrad, C.E. 1987. Common shrubs of chaparral and associated ecosystems of Southern California. General technical report PSW-99. Berkeley, California: U.S. Department of Agriculture, Pacific Southwest Forest and Range Experiment Station.

Consolidated Aircraft. 2004. Consolidated Aircraft History. Electronic document, http://www.consolidated aircraft.org/history.htm, accessed April 30, 2009.

County of Riverside. 2008. “Birds.” The MSHCP Reference Document – Volume 2.. Western Riverside County Multiple Species Habitat Conservation Plan. County of Riverside Transportation and Land Management Agency (TLMA). Accessed August 2012. http://www.rctlma.org/mshcp/volume2/birds.html.

County of San Diego. 2012. County of San Diego: Adopted Operational Plan Fiscal Years 2012-2013 and 2013-2014. Available at: http://www.sdcounty.ca.gov/auditor/pdf/adoptedplan_12-14.pdf.

County of San Diego. 2009a. County Trails Program: Community Trails Master Plan. 2005, updated 2009. Available at: http://www.co.san-diego.ca.us/reusable_components/images/parks/doc/tocrev.pdf

_____. 2007. County Guidelines for Determining Significance - Cultural Resources: Archaeological and Historic Resources. Electronic Document. Accessed March 29, 2013. http://www.sdcounty.ca.gov/pds/docs/Cultural_Guidelines.pdf

_____. 2001. Framework management plan for the Multiple Species Conservation Program (MSCP) South County Subarea Plan.

_____. 1998. County of San Diego Multiple Species Conservation Program Implementing Agreement by and between United States Fish and Wildlife Service, California Department of Fish and Game, County of San Diego.

_____. 1997. Multiple Species Conservation Program: County of San Diego Subarea Plan.

Crafts, Carol, and Kathy C. Young. 2002. Goodan Ranch, Sycamore Canyon Field Guide. Prepared for The Friends of Goodan Ranch and Sycamore Canyon Open Space. Electronic document, http://goodanranch.org/pdf/Field_Guide.pdf, accessed November 17, 2009.

Dendra, Inc. 2012. Management Priorities for Invasive Non-native Plants, A Strategy for Regional Implementation, San Diego County, California.

Deutschman, D.H., M.E. Berres, D.A. Marschalek, and S.L. Strahm. 2010. Initial evaluation of the status of Hermes copper (Lycaena hermes) on conserved lands in San Diego County. October 31, 2010.

Deutschman, D., and S. Strahm. 2009. Improving Statistical Sampling and Vegetation Monitoring for the San Diego MSCP. Final Report. Prepared for the San Diego Association of Governments, contract 5001033.

Dickson, B.G., and P. Beier. 2002. “Home-Range and Habitat Selection by Adult

Cougars in Southern California." Journal of Wildlife Management. 66(4):1235–1245.

Dudek and Associates (Dudek). 2000. Sensitive Species Accounts for the Western Riverside Multiple Species Habitat Conservation Plan (MSHCP).

Dudek. 2012. Cultural Resources Phase I Survey and Inventory, Sycamore Canyon and Goodan Ranch Preserves, San Diego County, California Report prepared by Jones & Stokes, San Diego, for, and on file at, the County of San Diego Department of Parks and Recreation.

Dudek. 2013. Final Baseline Biodiversity Survey for the Sycamore South and Hagey Study Areas. Prepared for the County of San Diego, Department of Parks and Recreation.

Dunn, J.P., J.A. Chapman, and R.E. Marsh. 1982. "Jackrabbits." In Wild Mammals of North America, ed. G.A. Feldhamer, B.C. Thompson, and J.A. Chapman, 124–145. Baltimore, Maryland: The Johns Hopkins University Press.

Engstrand, Iris. 2005. San Diego: California's Cornerstone. Sunbelt, San Diego.

Etulain, Richard W., and Michael P. Malone. 1989. The American West: A Modern History, 1900 to the Present. University of Nebraska Press, Lincoln.

Fetzer, Leland. 2005. San Diego County: Place Names A to Z. Sunbelt Publications, San Diego.

Fisher, Ward, and Pomeroy. 1899. San Diego City and County Directory for 1899-1900. Baker Bros., San Diego.

FRAP (Fire and Resource Assessment Program). 2012. CAL FIRE Fire Resource and Assessment Program. California Department of Forestry and Fire Protection. Accessed September 27, 2012. http://frap.cdf.ca.gov/.

Gaines, D. 1988. Birds of Yosemite and the East Slope. Lee Vining, California: Artemisia Press.

General Land Office. 1876.Plat Map for Township 14 South, Range 1 West.

_____1898 Land Patent 219146. On file with the Bureau of Land Management.
_____1911 Land Patent 219146. On file with the Bureau of Land Management.

Goldberg, S.R. 1995. "Reproduction in the Western Patchnose Snake, Salvadora hexalepis, and the Mountain Patchnose Snake, Salvadora grahamiae (Colubridae), from Arizona." Southwestern Naturalist 40:119¬–120.

Gross, G. T., M. Robbins-Wade, R. Schultz, and J. Whitehouse. 1992.Archaeological Site Form for SDI-12,821H. On file at the South Coastal Information Center.

Hall, E.R. 1981. The Mammals of North America. Vol 2. New York, New York: John Wiley and Sons Inc.

Harlow, H.J., F.G. Lindzey, W.D. Van Sickle, and W.A. Gern. 1992. “Stress Response of Cougars to Nonlethal Pursuit by Hunters.” Canadian Journal of Zoology 70:136-139.

Heilbron, Carl H. 1936. History of San Diego County. San Diego Press Club, San Diego.

Hermanson, J.W. and T.J. O'Shea. 1983. “Antrozous pallidus.” Mammalian Species, 213:1–8.

Holland, R. F., 1986, Preliminary Descriptions of the Terrestrial Natural Communities of California. Nongame-Heritage Program, State of California, Department of Fish and Game, Sacramento, CA, 157 p.

Holland, D.C. and R.H. Goodman. 1998. A Guide to the Amphibians and Reptiles of MCB Camp Pendleton, San Diego County, California. Prepared for AC/S Environmental Security Resource Management Division MCB Camp Pendleton, California. Contract M00681-94-C-0039.

ICF Jones and Stokes. 2008. Cultural Resources Phase I Survey and Inventory, Sycamore Canyon and Goodan Ranch Preserves, San Diego County, California Report prepared by Jones & Stokes, San Diego, for, and on file at, the County of San Diego Department of Parks and Recreation.

Jacques, Terri E., and Dennis K. Quillen. 1983. Archeological and Historical Impact Report for Sycamore Canyon State Vehicular Recreation Area. Prepared by WESTEC Services, San Diego, for the State of California Department of Parks and Recreation.

Jennings, M.R. and M.P. Hayes. 1994. Amphibian and reptile species of special concern in California. Final report to the California Department of Fish and Game, Inland Fisheries Division, Rancho Cordova, CA.

Johnson, R.D. and J.E. Anderson. 1984. “Diets of Black-Tailed Jackrabbits in Relation to Population Density and Vegetation.” Journal of Wildlife Management 37:46–47.

Jordan, Stacey C., Theodore G. Cooley, and Andrea M. Craft. 2008. Cultural Resources Phase I Survey and Inventory, Sycamore Canyon and Goodan

Ranch Preserves, San Diego County, California. Prepared by ICF Jones and Stokes, San Diego, for the San Diego County Department of Parks and Recreation.

Kirk, David A. and Michael J. Mossman. 1998. “Turkey Vulture (Cathartes aura).” The Birds of North America Online, edited by A. Poole, Ed. Ithaca, New York: Cornell Lab of Ornithology. http://bna.birds.cornell.edu/bna/species/339.

Klauber, L.M. 1939. “Studies of Reptiles Life in the Arid Southwest: Part I, Night Collecting on the Desert with Ecological Statistics; Part II, Speculations on Protective Coloration and Protective Reflectivity; Part III, Notes on Some Lizards of the Southwestern United States.” Bulletin of the Zoological Society of San Diego 14:1–100.

Kline, George E., and Victoria L. Kline. 2007. Fluted Point Recovered from San Diego County Excavation. Proceedings of the Society for California Archaeology 20:55-59.

Kyvig, David E. 2004. Daily Life in the United States, 1920-1940. Ivan R. Dee, Chicago.

LeMenager, Charles R. 1989. Ramona and Round About: A History of San Diego County’s Little Known Back Country. Eagle Peak, Ramona, California.

Lechleitner, R.R. 1958. “Movements, Density, and Mortality in a Black-Tailed Jackrabbit Population.” Journal of Wildlife Management 22:371–384.

McEachern, K., B. Pavlik, J. Rebman, and R. Sutter. 2007. San Diego Multiple Species Conservation Program (MSCP) rare plant monitoring review and revision: U.S. Geological Survey Scientific Investigations Report 2007-5016, 68 p.

Meltzer, D. J. 1993. Pleistocene Peopling of the Americas. Evolutionary Anthropology 1(5):157-168.

Nationwide Environmental Title Research. 1953. Aerial. Originally created by the United States Geological Survey.

_____. 1964 Aerial. Originally created by the United States Geological Survey.

_____. 1968 Aerial. Originally created by the United States Geological Survey.

_____. 1971 Aerial. Originally created by the United States Geological Survey.

Natural Resources Conservation Service (NRCS). 2008.A Story of Land and People. Service history article available at http://www.nrcs.usda.gov/about/history/story.html

Oceanside Daily Blade-Tribune. 1941. Population of County, 289,348. 25 February: 1. Oceanside, California. Oceanside Public Library.

_____.1941. Population of San Diego County Jumps 20 P.C. 20 August:1. Oceanside, California. Oceanside Public Library.

NatureServe. 2012. NatureServe Explorer: An Online Encyclopedia of Life. Version 7.1. February 2, 2009. Data last updated February 2012. Accessed August 2012. http://www.natureserve.org/explorer/index.htm.

Nowak, R.M., and J.L. Paradiso. 1983. Walker's Mammals of the World. Baltimore, Maryland: Johns Hopkins University Press.

NRCS (Natural Resources Conservation Service), Soil Survey Staff, United States Department of Agriculture. Official Soil Series Descriptions. Available online at http://soils.usda.gov/technical/classification/osd/index.html. Accessed April 2012.

Oberbauer, T., M. Kelly, and J. Buegge. 2008. *Draft Vegetation Communities of San Diego County*. Based on "Preliminary Descriptions of the Terrestrial Natural Communities of California." Robert F. Holland, PhD., October 1986. March 2008.

Pianka, E.R., and W.S. Parker. 1975. "Ecology of Horned Lizards: A Review with Special Reference to Phrynosoma platyrhinos." Copeia 1975:141–162.

Pourade, Richard F. 1977. City of the Dream. Copley Press, La Jolla.

Regan,H., L. Hierl, J. Franklin, and D. Deutschman. 2006. Grouping and Prioritizing the MSCP Covered Species. Technical Report prepared for the California Department of Fish and Game. San Diego State University. San Diego, CA.

Reiser, C.H. 1994. Rare plants of San Diego County. Aquafir Press, Imperial Beach, CA.

Rondeau, Michael F., Jim Cassidy, and Terry L. Jones. 2007. Colonization Technologies: Fluted Projectile Points and the San Clemente Island Woodworking/Microblade Complex. In California Prehistory: Colonization, Culture, and Complexity, edited by Terry L. Jones and Kathryn A. Klar, pp. 63-70. Altamira Press, Lanham, Maryland.

Ross, P.I., and M.G. Jalkotzy. 1992. “Characteristics of a Hunted Population of Cougars in Southwestern Alberta.” Journal of Wildlife Management 56:417–426.

SANDAG (San Diego Association of Governments). 2011. Vegetation Classification Manual for Western San Diego County. February 2011. First Edition. Accessed September 2012. http://www.sdmmp.com/reports_and_products/Monitoring_Reports/Vegetation_Classification/Manual/Vegetation%20Classification%20Manual%20for%20Western%20San%20Diego%20County.pdf.

San Diego Directory Co. 1915. San Diego City and County Directory. San Diego Directory Co., San Diego.
1917 San Diego City and County Directory. San Diego Directory Co., San Diego.

San Diego Gas & Electric Company (SDG&E). 1995. Subregional Natural Community Conservation Plan, Final. San Diego Gas & Electric Company Real Estate Operations Department, San Diego.

San Diego Management and Monitoring Program. 2011. Connectivity Monitoring Strategic Plan for the San Diego Preserve System. Prepared for the San Diego Environmental Mitigation Program Working Group. January 11, 2011.

San Diego Union. 1940. Obituary for Julius Buehler. 19 June. On file at the San Diego History Center.

Stebbins, R. C. 2003. A field guide to western reptiles and amphibians, 3rd edition. Houghton Mifflin Co., Boston, Mass.

Stewart, Noah. 2004. Historical Overview Marine Corps Air Station, Miramar, San Diego, California. Prepared for Marine Corps Air Station, Miramar, San Diego, California.

Tax Factor. 1928. Aerials. Courtesy of the South Coastal Information Center.

Thompson, S.D. 1982. “Spatial Utilization and Foraging Behavior of the Desert Woodrat, Neotoma lepida lepida.” Journal of Mammalogy 63:570–581.

United States Census Bureau. 1900.Census Place: Poway, San Diego, California; Roll: 99; Page: 7A; Enumeration District: 179; FHL microfilm: 1240099. Courtesy of Ancestry.com.

_____.1920 Census Place: Escondido, San Diego, California; Roll: T625_130; Page: 1A; Enumeration District: 214; Image: 105. Courtesy of Ancestry.com.

U.S. Department of Agriculture. n.d. Natural Resources Conservation Service, Web Soil Survey. Electronic document, http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx, accessed April 9, 2012.

_____.1953 Aerial photograph. Courtesy of HistoricAerials.com.

_____.1964 Aerial photograph. Courtesy of HistoricAerials.com.

_____.1968 Aerial photograph. Courtesy of HistoricAerials.com.

_____.1971 Aerial photograph. Courtesy of HistoricAerials.com.

_____.1980 Aerial photograph. Courtesy of HistoricAerials.com.

_____.1989 Aerial photograph. Courtesy of HistoricAerials.com.

_____.2003 Aerial photograph. Courtesy of HistoricAerials.com.

_____.2005 Aerial photograph. Courtesy of HistoricAerials.com.

United States Geological Survey. 1903. Cuyacmaca. 15-Minute Topographical Map. On file with the United States Geological Survey.

_____.1939 El Cajon. 15-Minute Topographical Map. On file with the United States Geological Survey.

_____.1955 San Vicente. 7.5-Minute Topographical Map. On file with the United States Geological Survey.

_____.1971 San Vicente. 7.5-Minute Topographical Map. On file with the United States Geological Survey. Photorevised.

Unitt, P. 1984. The Birds of San Diego County. San Diego, California: San Diego Society of Natural History.

Wiens, J.A. and J.T. Rotenberry. 1981. “Habitat Associations and Community Structure of Birds in Shrubsteppe Environments.” Ecological Monographs 51:21–41.

WRCC (Western Regional Climate Center). 2012a. “Climate of California.” Accessed online August 2012. http://www.wrcc.dri.edu/narratives/california/.

WRCC. 2012b. “Period of Record General Climate Summary, Poway Valley.” Accessed online August 2012. http://www.wrcc.dri.edu/summary/sca.html.

Zeiner, D.C., W.F. Laudenslayer, Jr., K.E. Mayer, and M. White, eds. 1990a. California's Wildlife, Volume 2: Birds. Sacramento, California: CDFG.

Zeiner, D.C., W.F. Laudenslayer, Jr., K.E. Mayer, and M. White, ed. 1990b. California's Wildlife, Volume 3: Mammals. Sacramento, California: CDFG.

Zeiner, D.C., W.F. Laudenslayer, Jr., and K.E. Mayer. 1988. California's wildlife. Volume I. Amphibians and reptiles. California Statewide Wildlife Habitat Relationships System, California Department of Fish and Game, Sacramento, California.

Zeveloff, S.I. and F.R. Collett. 1988. Mammals of the Intermountain West. Salt Lake City, Utah: University of Utah Press.

6.1 Personal Communications

Abare-Laudy, Maureen. 2012. DPR Park Ranger at Sycamore Canyon and Goodan Ranch Preserve. Personal communication regarding invasive species onsite.