Final Resource Management Plan
for the
Sycamore Canyon/Goodan Ranch County Preserve
San Diego County

County of San Diego, Department of Parks and Recreation
~~July 2023~~January 2025

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ACRONYMS AND ABBREVIATIONS

AB	Assembly Bill
AMSL	above mean sea level
APN	Assessor's Parcel Number
BMP	Best Management Practice
BRCA	Biological Resource Core Area
CAL FIRE	California Department of Forestry and Fire Protection
Cal-IPC	California Invasive Plant Council
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CDFW	California Department of Fish and Wildlife
cm	centimeter(s)
CNPS	California Native Plant Society
County	County of San Diego
CRPR	California Rare Plant Rank
DPR	Department of Parks and Recreation (County of San Diego)
F	Fahrenheit
FESA	Federal Endangered Species Act
FMP	Framework Management Plan
ft	foot/feet
GIS	Geographic Information System
HELIX	HELIX Environmental Planning, Inc.
HCP	Habitat Conservation Plan
IMG	Inspect and Manage
in	inch(es)
KCRC	Kumeyaay Cultural Repatriation Committee
LEED	Leadership in Energy and Environmental Design
m	meter(s)
MCAS	Marine Corps Air Station
MD	Management Directives
MSCP	Multiple Species Conservation Program
MSCP Subarea Plan	Subarea Plan
MSP	Monitoring Strategic Plan

ACRONYMS AND ABBREVIATIONS (cont.)

NAHC	Native American Heritage Commission
NCCP	Natural Community Conservation Planning/Plan
NOAA	National Oceanic and Atmospheric Administration
NRCS	Natural Resources Conservation Service
PAMA	Pre-Approved Mitigation Areas
PAP	Public Access Plan
Preserve	Sycamore Canyon/Goodan Ranch County Preserve
RCC	Regional Climate Center
RMP	Resource Management Plan
SANDAG	San Diego Association of Governments
SanGIS	San Diego Geographic Information Source
S.D.C.&E.R.R.	San Diego, Cuyamaca, and Eastern Railroad
SDCWA	San Diego County Water Authority
SDG&E	San Diego Gas & Electric
SDMMP	San Diego Management and Monitoring Program
SLF	Sacred Lands File
SR	State Route
TMP	Targeted Monitoring Plan
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VCM	Vegetation Classification Manual
Visitors Center	Sycamore Canyon/Goodan Ranch Visitors Center
VMP	Vegetation Management Plan

1.0 INTRODUCTION

Sycamore Canyon/Goodan Ranch County Preserve (Preserve) consists of approximately 2,847[1] acres located in the County of San Diego's (County) Multiple Species Conservation Program (MSCP) preserve system. The Preserve is located in the unincorporated community of Lakeside in San Diego County, to the northeast of the Marine Corps Air Station (MCAS) Miramar, southeast of the City of Poway, east and west of State Route (SR-) 67, and approximately two miles north of the City of Santee (Figure 1, *Regional Location*). The original 2,272-acre Preserve was considered a baseline preserve when the MSCP was adopted in 1997. Several additions to the Preserve have been acquired by the County's Department of Parks and Recreation (DPR) over the last 20 years. These include the acquisition of the Sycamore South and Sycamore North (formerly known as Hagey) properties in 2010-2011; acquisition of the Southern Parcel in 2013; acquisition of the 2015 Northern and Southern Additions (formerly known as the Wu and Cielo properties, respectively) in 2015; acquisition of the San Vicente Connector parcels, which are east of SR-67, between 2003 and 2018; and acquisition of the Southern Gap parcels in 2019 and 2020.

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 Management Directives (MDs) pursuant to the requirements of the County's MSCP Subarea Plan (County 1997), Framework Management Plan (FMP; 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 that it owns or acquires within the MSCP preserve system.

This RMP will:

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

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

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

d) ~~establish~~ compile 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.

[1] The County reports both Assessor's and GIS (Geographic Information System) acreages for conserved lands. Assessor's acreage is the formal unit of measurement the County utilizes internally for real estate acquisitions, accounting, and reporting. However, GIS acreage is calculated using data provided by the San Diego Geographic Information Source (SanGIS). Assessor's and GIS acreage totals can differ as records of the legal acreage of parcels are plotted on paper and then converted into GIS. For consistency, SanGIS data is used in this document when calculating acreage for the Preserve, such as land use, habitat, or vegetation areas, within the Preserve. Based on SanGIS parcel data, the total Preserve acreage is 2,994. However, the official Preserve Assessor's acreage is 2,847.

Chapter 5 of this RMP includes guidance MDs for the Preserve. Basic land management/stewardship, as detailed in this RMP, will be ongoing. The regional FMP that guides monitoring at the preserve level has been refined over time and is still evolving through a collaborative effort among the U.S. Fish and Wildlife Service (USFWS), California Department of Fish and Wildlife (CDFW; collectively known as the Wildlife Agencies), MSCP jurisdictions, and outside scientific experts.

The County's Targeted Monitoring Plan (TMP), formerly known as a Comprehensive Monitoring Plan, provides detailed specifications for the implementation of adaptive management and monitoring within County-owned and managed preserve lands (parks and preserves). The TMP currently addresses monitoring within twenty DPR properties: Barnett Ranch Preserve, Boulder Oaks Preserve, Del Dios Highlands Preserve, Dictionary Hill Preserve, El Capitan Preserve, El Monte Regional Park, Furby-North Property, Iron Mountain Preserve, Lakeside Linkage Preserve, Lawrence and Barbara Daley Ranch Preserve, Lusardi Creek Preserve, Oakoasis Preserve, Otay Ranch Preserve, Peutz Valley Preserve, Ramona Grasslands Preserve, Stelzer Regional Park, Skyline Preserve, Stoneridge Preserve, Sycamore Canyon/Goodan Ranch County Preserve, and Tijuana River Valley Regional Park. The TMP is intended to achieve the MDs for species per the FMP. The TMP was initially prepared in 2015 (ESA and ICF 2015), and several updates have occurred in the interim (ESA and ICF 2019a, 2019b, 2021a, 2021b, 2022).

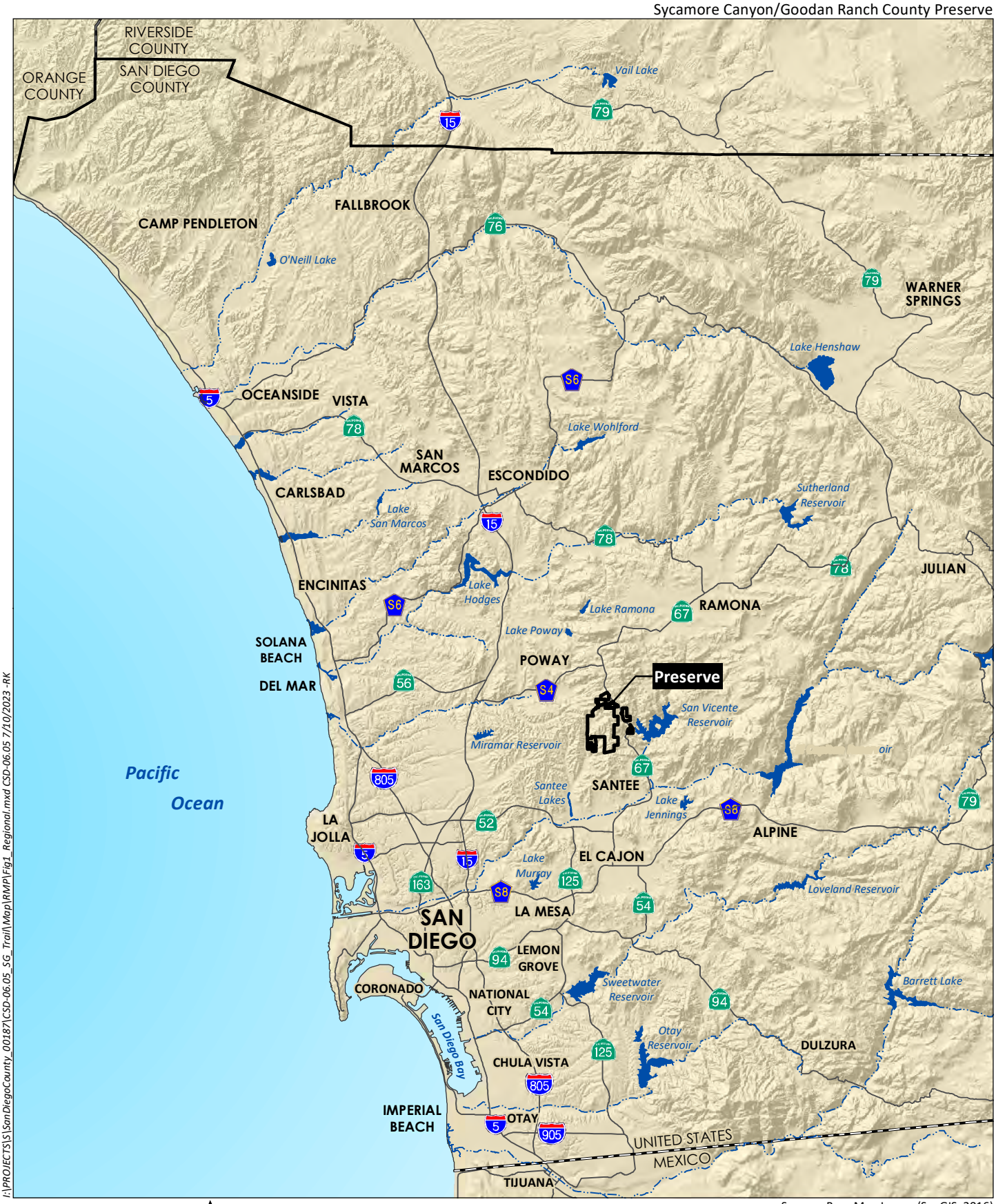
As mentioned above, this RMP serves as a resource inventory and guide for resource monitoring and management of resources and facilities. The TMP prioritizes specific resource monitoring needs and provides associated detailed monitoring methods for County owned/managed preserve lands within the MSCP South County Subarea.

It is recognized that the County-owned land is a portion of the MSCP preserve system. The County ensures the management of other lands that are dedicated as an open space easement for discretionary project mitigation by requiring land developers to prepare RMPs. 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 USFWS, and the 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). All properties associated with the Sycamore Canyon property and recent additions are fully owned and operated by DPR. The Goodan Ranch property is owned jointly by the DPR, CDFW, the City of Poway, and the City of Santee. Through a Joint Exercise of Powers Agreement originally executed in 1995 and updated in November 2020, the DPR is identified as responsible for the management of the property in cooperation with all parties.



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Source: Base Map Layers (SanGIS, 2016)

HELIX Environmental Planning

Regional Location

Figure 1

1.1.2 County Subarea Plan

The MSCP Subarea Plan (Subarea Plan) was adopted in October 1997. The Subarea Plan is subdivided into three segments: Lake Hodges, South County, and Metro-Lakeside-Jamul, with the Sycamore Canyon/Goodan County 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 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 (FMP) for the portion of the MSCP Preserve within the Subarea Plan's boundaries. The document was submitted to the Wildlife Agencies on August 31, 2001. The FMP sets forth management goals and objectives, along with general management directives that apply to all areas of the Subarea Plan.

One of the general management directives of the FMP 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 Subarea Plan, as follows:

a) Public access and passive recreation are permitted uses within specified areas of the Preserve. Access points, new trails and facilities, and a public control plan will be included in the specific framework of the habitat management plans and the 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, sunbathing, fishing, and swimming. Equestrian, hiking, and bicycles may be allowed when in accordance with approved management plans and are consistent with the County of San Diego Subarea Plan. All recreational activities will be required to avoid impacts to narrow endemics or unique critical populations of specific species, unless the activities are in "take" authorized areas as identified or allowed under the MSCP.

The FMP incorporates a requirement for the subsequent preparation and implementation of MDs. These directives are required to be developed following baseline surveys using generally accepted practices and procedures for the management of biological preserves, and in compliance with the criteria established by the FMP 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 consider the particular circumstances of the given area. In addition to addressing the general directives of the FMP and species-specific management requirements of MSCP Table 3-5, MDs are required to address fuel management activities. Chapter 5 of this RMP includes guidance MDs for the 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. The effectiveness and appropriateness of recommended management actions would be determined through a review of monitoring results so that changes can be made to management activities as needed. Adaptive management techniques depend upon the specific issues impacting the resources. Therefore, the MDs 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 the adoption of updated protocols. It is anticipated that this RMP will be revised once every ten years, as needed. The RMP may be revised on a shorter time scale if there is a change in conditions, e.g., the acquisition of additional Preserve land, new species occurrences, or wildfires.

1.2.2 Responsible Parties/Designation of Land Manager

The County is responsible for the 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 DPR, and the Region Manager assigned to the Preserve as the land manager. The Sycamore Canyon, Sycamore South, and Sycamore North properties, 2015 Addition, Southern Parcel, Southern Gap Parcels, and San Vicente Connector Parcels are fully owned and operated by the DPR, while the Goodan Ranch property is owned jointly by DPR, CDFW, the City of Poway, and the City of Santee. Through a Joint Exercise of Powers Agreement originally executed in 1995 and updated in November 2020, (DPR is identified as responsible for the management of the Goodan Ranch property in cooperation with all parties. The entire Preserve is managed together under one DPR Region Manager. DPR, consisting of the Region Manager and Resources Management Division staff, will also be responsible for the implementation and enforcement of the RMP.

The Preserve is currently located in the management district of one full-time supervising park ranger, two full-time park rangers, two full-time park maintenance workers, and two part-time seasonal park attendants. Live-on volunteer Park Hosts assist staff with operations and maintenance in the Preserve. Staffing can change over time, but the Preserve will consistently have one full-time supervising park ranger, park ranger, and park maintenance worker. The Preserve is patrolled several times a week, particularly along the northern, western, and eastern property boundaries. 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

DPR rangers enforce rules and regulations pursuant to the 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 DPR ranger instructions, the individual could potentially be charged with a misdemeanor by law enforcement.

1.2.4 Limitations and Constraints

It is not expected that there will be limitations or constraints to implementing this RMP. DPR is responsible for funding the acquisition, management, and monitoring of lands within the Subarea Plan. The costs associated with these activities may be funded through local and regional sources. DPR primarily uses General Fund monies to acquire land or leverage funding to acquire additional preserve 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 in the unincorporated community of Lakeside in San Diego County, northeast of the MCAS Miramar, southeast of the City of Poway, east and west of SR-67, and approximately two miles north of the City of Santee. It is located in the U.S. Geological Survey (USGS) 7.5-minute San Vicente Reservoir quadrangle within Township 14 South, Range 1 West, Sections 14, 15, 16, 21, 22, 23, 25, 26, 27, 28, 33, 34, and 35 and Township 15 South, Range 1 West, Sections 2, 3 and 4 (Figure 2a, *USGS Topography Vicinity*).

The Assessor's Parcel Numbers (APNs) for the Preserve, as shown on Figure 2b, *Preserve Boundaries and APNs*, are as follows: 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; 325-060-08; 325-060-09; 325-060-14; 325-060-15; 325-060-16; 325-060-25; 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; 32424-040-27; 324-040-28; 324-040-31; 324-040-32, 324-011-15, 324-070-29, 324-040-07, 324-040-08; 374-030-01, 324-050-05, 324-051-04 324-051-05, 326-020-23, 326-030-06, and 326-020-07.

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 Preserve extending east across a ridgeline system

to Slaughterhouse Canyon. Elevations range between approximately 190 to 512 meters (m)/640-1,680 feet (ft) 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 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 SR-67. This road is gated at SR-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 ft 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 into Sycamore Canyon. No access roads are present within the San Vicente Connector parcels.

Dirt access roads within the Preserve average about 10 ft wide. All roads have been 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 northernmost portion of the Preserve. Roads located along the easternmost portion of the Preserve are maintained and used by the San Diego County Water Authority (SDCWA) 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 Subarea Plan, 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 MSCP Preserve system. Additional MSCP PAMA lands are located north, east, and northeast of the Preserve (Figure 3, *MSCP Designations*). Conserved land surrounds the Preserve, with scattered rural residences to the northwest and mining operations to the southeast in Slaughterhouse Canyon (Figure 4, *Conserved Lands*). Privately owned undeveloped land located west of the Preserve is within the City of San Diego and south within the City of Santee. Undeveloped property, located 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 that provide functional wildlife habitat and movement capability.

The Preserve is located within the Central Poway/San Vicente Reservoir/North Poway designated MSCP Biological Resource Core Area (BRCA). The Central Poway/San Vicente Reservoir/North Poway BRCA is connected to two BRCAs to the south: Mission Trails/Kearny Mesa/East Elliot/Santee BRCA and Lake Jennings/Wildcat Canyon-El Cajon Mountain BRCA; and one BRCA to the north: Hodges Reservoir/San

Preserve Boundaries

- Original Sycamore Canyon and Goodan Ranch Preserves
- Sycamore North Addition
- Sycamore South Addition
- 2015 Northern Addition
- 2015 Southern Addition
- Southern Parcel Addition
- San Vicente Connector Parcels
- Southern Gap Parcels

The existing reach of road between the two parcels comprising the 2015 Southern Addition (32404007 and 32404008) is not part of the Preserve.

Source: San Vicente Reservoir 7.5' Quad (USGS)

0 2,000 Feet

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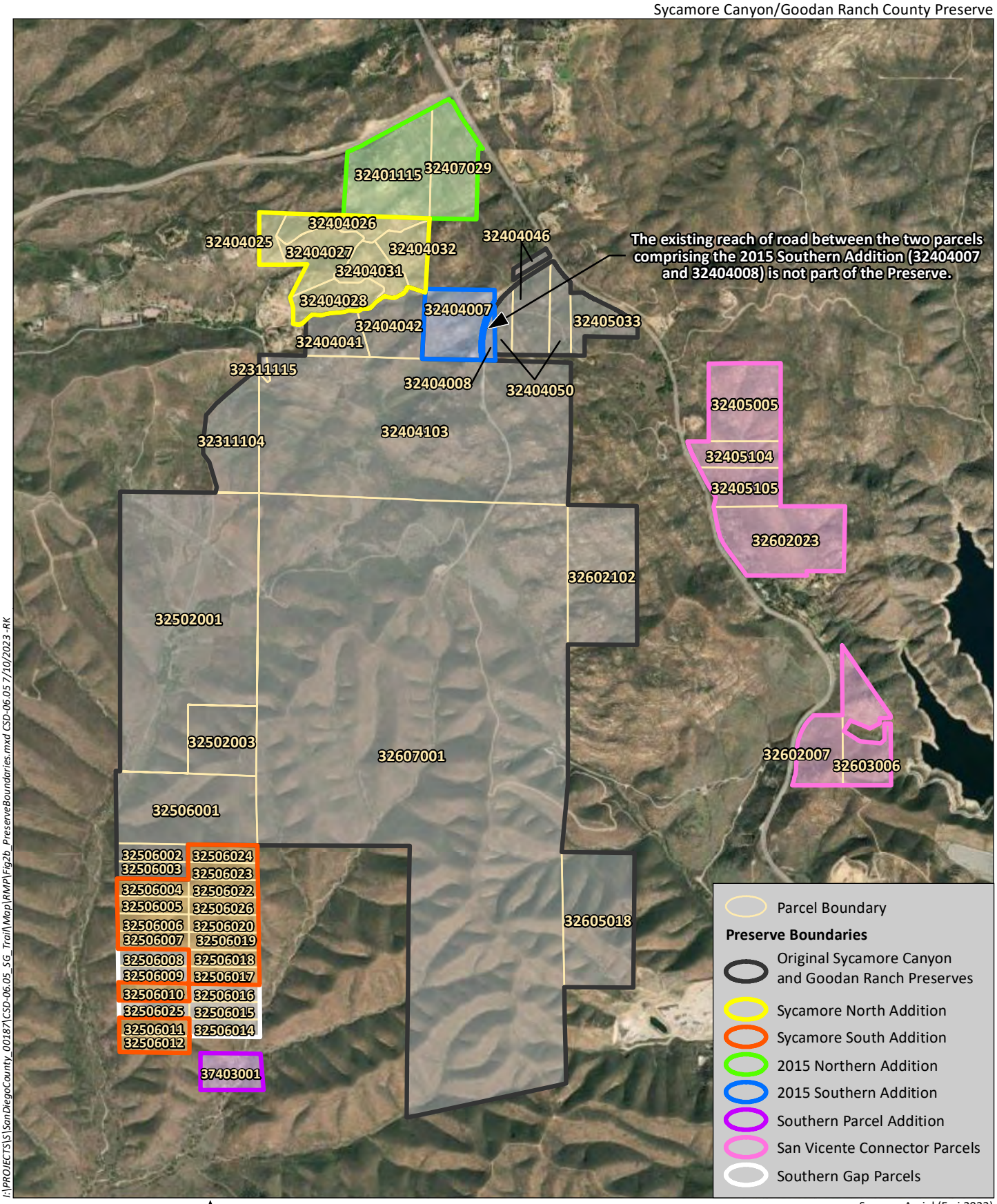
HELIX Environmental Planning

USGS Topography Vicinity

Figure 2a



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0 2,500 Feet

Source: Aerial (Esri 2022)

HELIX Environmental Planning

Preserve Boundaries and APNs

Figure 2b

Preserve Boundaries

- Original Sycamore Canyon and Goodan Ranch Preserves
- Sycamore North Addition
- Sycamore South Addition
- 2015 Northern Addition
- 2015 Southern Addition
- Southern Parcel Addition
- San Vicente Connector Parcels
- Southern Gap Parcels

MHPA

- City of San Diego MHPA

County MSCP Designations

- Pre-Approved Mitigation Area
- Unincorporated Land in Metro-Lakeside-Jamul Segment

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0 2,000 Feet

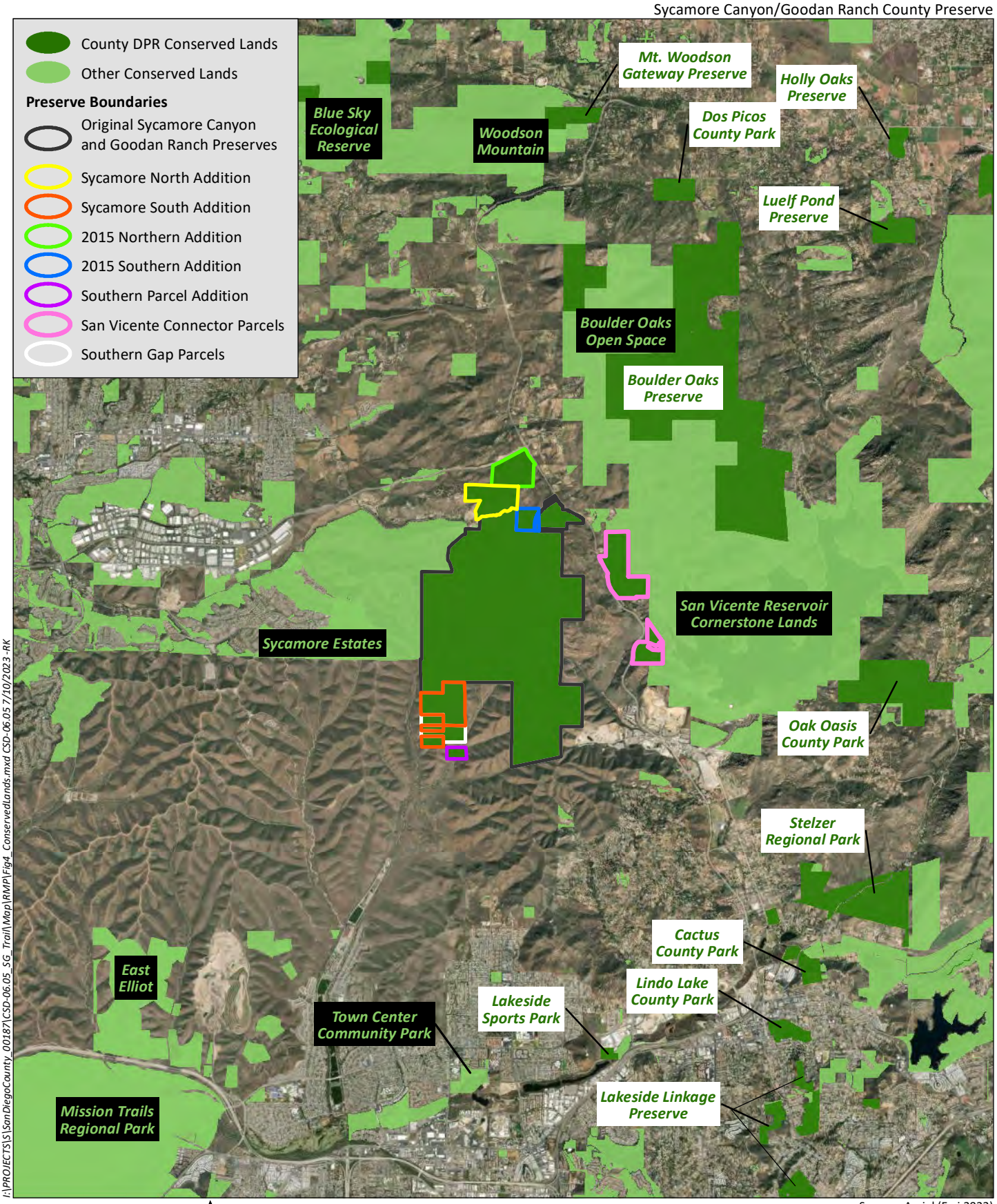
N

Source: Aerial (SanGIS 2017)

HELIX Environmental Planning

MSCP Designations

Figure 3



Source: Aerial (Esri 2022)

HELIX Environmental Planning

Conserved Lands

Figure 4

Pasqual Valley BRCA. Biological linkages are also found along SR-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, the Sycamore Canyon/Goodan Ranch Visitors Center (Visitors Center), and a trail system. The Preserve currently contains approximately 5.56 miles of existing formal trails (not including access roads) and 6.61 miles of access and maintenance roads available for trail use, for a total of approximately 12 miles of formalized trails and access roads. The majority of human disturbance is minimal and confined to the existing trails, although unauthorized trails have also been detected within the Preserve. 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 the 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 14 soil types belonging to nine soil series (Figure 5, *Soils*). These include Arlington coarse sandy loam (2 to 9 percent slopes); Escondido very fine sandy loam (5 to 9 percent slopes, 9 to 15 percent slopes, eroded; and 15 to 30 percent slopes, eroded); Friant rocky fine sandy loam (9 to 30 percent slopes; and 30 to 70 percent slopes); Huerhuero loam (2 to 9 percent slopes; and 9 to 15 percent slopes, eroded); Metamorphic rock land, Olivenhain cobbly loam (9 to 30 percent slopes; and 30 to 50 percent slopes), Redding cobbly loam, dissected (15 to 50 percent slopes); Stony land; and Visalia gravelly sandy loam (2 to 5 percent slopes; Natural Resources Conservation Service [NRCS] 2023). A brief description of each soil series 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 percent. It is found at elevations ranging from 122 to 335 m (400 to 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 occurs from the coastal and intermediate valleys of Southern California (NRCS 2012).

Escondido Series

Escondido very fine sandy loams are representative of the Escondido series found in uplands at elevations ranging from 122-853 m (400 to 2,800 ft) on 5 to 9 percent slopes, 9 to 15 percent slopes, and 15 to 30 percent slopes. This soil series is characterized 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 northern and northwestern portions of the Preserve and support southern mixed chaparral and non-native grassland and sensitive plant species, such as San Diego thorn-mint (*Acanthomintha ilicifolia*), Palmer's grappling hook (*Harpagonella palmeri*), California adder's tongue (*Ophioglossum californicum*), and small-flowered morning glory (*Convolvulus simulans*). 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 and 2015 Southern Addition, portions of the 2015 Northern Addition, portions of the San Vicente Connector parcels, and in the northwestern portion 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 percent. 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 to the southwestern area of Southern California (NRCS 2012).

Huerhuero Series

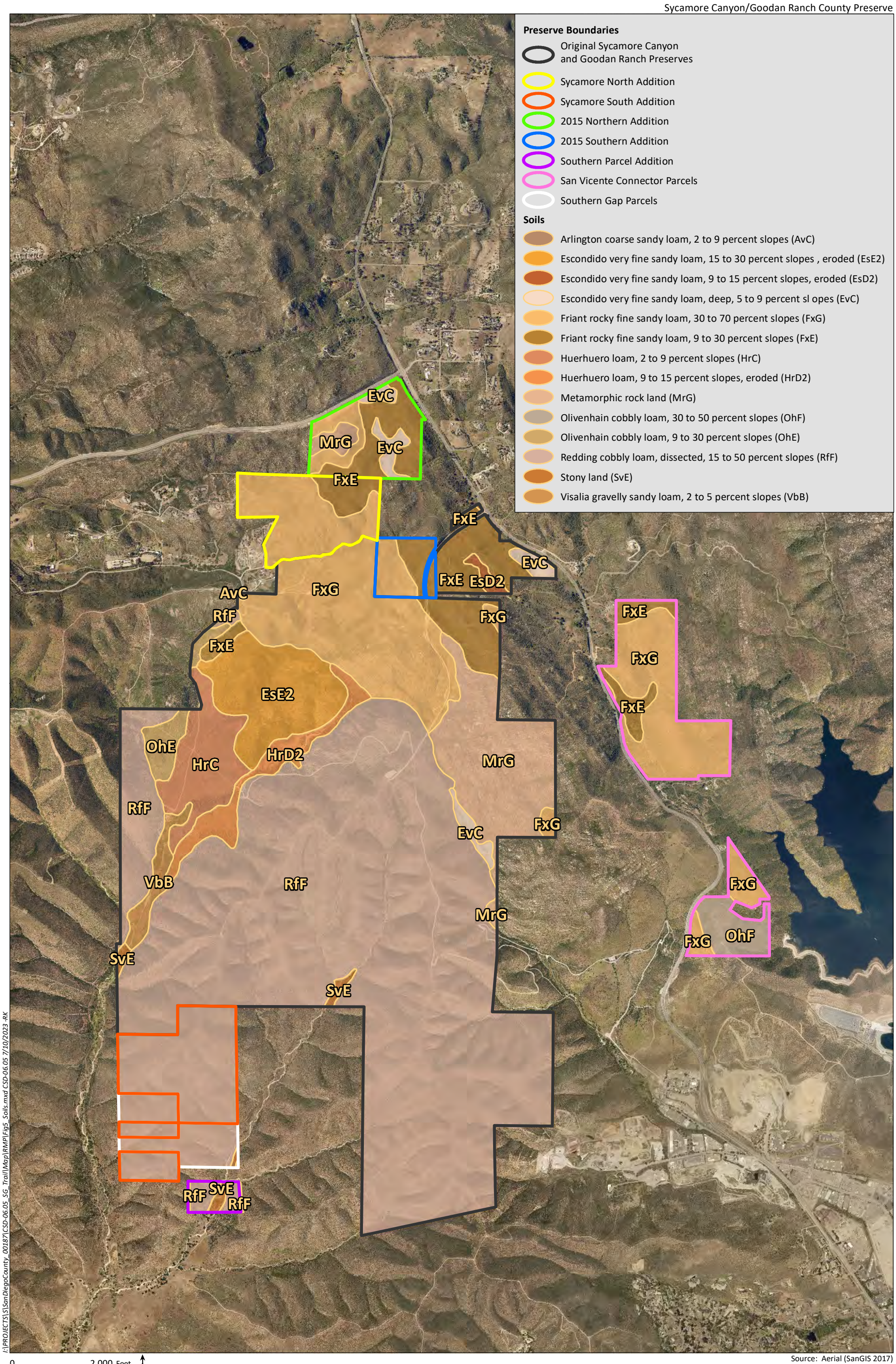
Huerhuero loam is the representative Huerhuero series located in the western portions of the Preserve. This soil series consists of moderately well-drained loams that have a clay subsoil. These soils developed in sandy marine sediment and are typically found on slopes ranging from 2 to 30 percent, with 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, and southern coast live oak riparian woodland. Sensitive plant species found on this soil type include graceful tarplant (*Holocarpha virgata* ssp. *elongata*). 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 percent 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. It occupies the eastern-central portion of the Preserve and supports southern mixed chaparral and the sensitive plant species Palmer's sagewort.

Olivenhain Series

Olivenhain cobbly loam is representative of the Olivenhain series and is found in two small areas in the northwestern portions of the Preserve as well as the southern San Vicente Connector parcel. 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 to 183 m (100 to 600 ft). The surface layer is usually 25 cm (10 in) thick and moderately acidic. The



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Source: Aerial (SanGIS 2017)

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Soils

Figure 5

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 the sensitive plant species San Diego thorn-mint. 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, Southern Parcel, and Southern Gap Parcels, and also occupies the majority of the southern and central portions of the original 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 to 152 m (200 to 500 ft), 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 an 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 (*Monardella viminea*), San Diego thorn-mint, small-flowered morning glory, Palmer's grappling hook, California adder's tongue, and variegated dudleya (*Dudleya variegata*). 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, and 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, as well as in the Southern Parcel, 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 in the southwestern portion of the Preserve in association with southern coast live oak riparian woodland vegetation. This soil series is characterized by moderately well-drained, very deep sandy loams and is usually found on slopes ranging from zero to 15 percent. It is found on alluvial fans and floodplains at elevations ranging from 122 to 610 m (400 to 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 2012). 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 2012).

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 1992 to 2022 for the surrounding Poway Valley area is approximately 77.7° Fahrenheit (F), with higher temperatures in summer and early fall (June through September) reaching up to an average of 87.1°F (National Oceanic and Atmospheric Administration [NOAA] Regional Climate Center [RCC] 2023). The average annual low temperature for the same period is 52.2°F, and winter low temperatures routinely range from 40 to 43°F. The mean annual precipitation for the area is 13.25 inches, with most rainfall concentrated in the months of December (2.09 inches), January (2.71 inches), and February (3.21 inches) (NOAA RCC 2023). Rainfall is much less during the summer months of June (0.11 inches), July (0.09 inches), and August (0.03 inches) (NOAA RCC 2023).

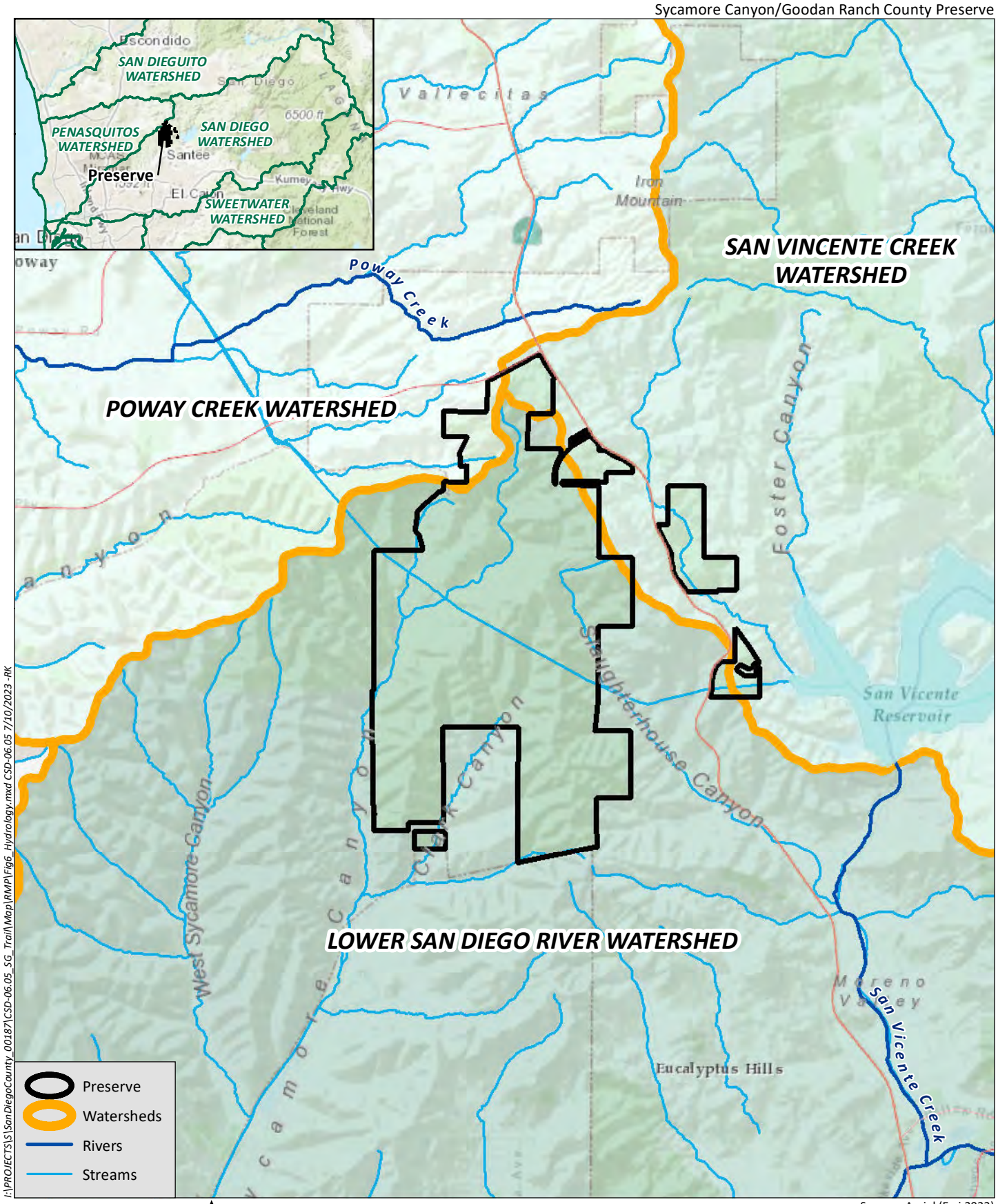
2.3.3 Hydrology

The extreme northern portion of the Preserve is located within the Peñasquitos Watershed, while the remaining Preserve area is within the San Diego River Watershed (Figure 6, *Watersheds/Hydrologic Designations*). 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 2023). The entirety of the Preserve is designated a state-responsibility area. 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 2023), all of the Preserve has burned at least once during the recorded data period, with fires occurring in 1913, 1938, 1950, 1955, 1971, 1981, 1984, 1985, 1986, 1994, 1997, 2003, 2006, 2010, and 2016 (Figure 7, *Fire History*). One area of the Preserve (within the southern San Vicente Connector parcel) has burned six times over the course of recorded fire history, two areas (within the 2015 Northern Addition and the southern San Vicente Connector parcel) have burned five times over the course of the recorded fire history, and other areas have burned as many as four times. Table 1, *Preserve Fire Interval Data*, presents the number of times the Preserve has burned by land area (acreage).



Source: Aerial (Esri 2022)

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Watersheds/Hydrologic Designations

Figure 6

Preserve Boundaries

- Original Sycamore Canyon and Goodan Ranch Preserves
- Sycamore North Addition
- Sycamore South Addition
- 2015 Northern Addition
- 2015 Southern Addition
- Southern Parcel Addition
- San Vicente Connector Parcels
- Southern Gap Parcels

Most Recent Fire Boundaries

- Cedar - October 2003
- Sycamore - June 2003
- 67 -August 2006
- Slaughterhouse - May 2010
- Lakeside - July 2016
- Fires that Occured between 1910 and 2003

Burn Frequency Post 1913*

- 1
- 2
- 3
- 4
- 5
- 6

**Number of times an area has burned since 1913.*

IRON MOUNTAIN 1953
POWAY 1995
UNNAMED 1913
UNNAMED 1973
BOWLES 1984
GOAT MTN. 1955
UNNAMED 1938
FOSTER 1983
SYCAMORE 1985
SYCAMORE 1985
ELLIOTT RESERVATION 1950
SYCAMORE #2 1986
SLAUGHTER 1981
SLAUGHTERHOUSE 1997
SYCAMORE 1995
UNNAMED 1910
ASSIST #69 1980
ROCOSO 1994
QUARRY 1950
ASSIST #38 1987
UNNAMED 1974
UNNAMED 1974

UNNAMED 1938
SYCAMORE 1985
SLAUGHTERHOUSE 1997
SLAUGHTER 1981

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Source: Aerial (SanGIS 2017); Fire History (CalFire 2022)

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Fire History

Figure 7

Table 1
PRESERVE FIRE INTERVAL DATA

Fire Year*	Fire Name	Interval (years)	Acreage Bound	Percent of Preserve Burned**
1913	Unnamed	N/A	106.67	3.6
1938	Unnamed	6	549.03	18.3
1950	Elliott Reservation	12	20.17	0.7
1955	Goat Mtn.	8	506.43	16.9
1971	Rabbit	12	137.01	4.6
1981	Slaughter	11	58.12	1.9
1984	Bowles	18	19.50	0.7
1985	Sycamore	18	524.94	17.5
1985	Sycamore	12	220.89	7.4
1986	Sycamore #2	31	32.14	1.1
1994	Rocoso	41	86.77	2.9
1997	Slaughterhouse	14	57.77	1.9
2003	Sycamore	30	245.93	8.2
2003	Cedar	15	2,718.16	90.8
2006	67	23	30.16	1.0
2010	Slaughterhouse	16	44.41	1.5
2016	Lakeside	17	16.89	0.6

* FRAP 2023
** Based on total Preserve acreage of 2,993.77 (using SanGIS parcel data).

2.4 LAND USE

2.4.1 On-Site Land Use

Land uses on-site are generally limited to the conservation of plant and wildlife habitats and passive recreation. The Preserve currently contains publicly accessible multi-use trails and access roads, two staging areas, restrooms, an outdoor amphitheater, and the Visitors Center, which is home to demonstration and exhibit rooms and the Preserve office. There is no current public access to the San Vicente Connector parcels.

2.4.2 Adjacent Properties

The portions of the Preserve west of SR-67 are approximately one mile west of the northernmost portion of San Vicente Reservoir, while the San Vicente Connector parcels are within one-tenth of a mile to half a mile from the reservoir, east of SR-67. Undeveloped land surrounds the Preserve, consisting of a combination of military lands, conserved lands, and privately held parcels. The northwest edge of the Preserve abuts the City of San Diego's Mission Trails – West Sycamore Property, which is within the City of San Diego's MSCP Subarea habitat preserve system known as the Multi-Habitat Planning Area (City 1997). The southern edge abuts privately owned undeveloped land within the City of Santee that is the site of the proposed Fanita Ranch development. The northern edge of the Preserve abuts undeveloped land owned by the City of Poway. Several undeveloped privately held properties exist directly east of the Preserve or as in-holdings within the Preserve. Hanson Aggregates owns several of these properties and has active mining operations in Slaughterhouse Canyon, southeast of the Preserve. Spaced rural residential housing also occurs just northwest of the Preserve (near Calle de Rob and Paragon Mesa

Road). Additional lands are owned by ~~Hansen Aggregates~~Martin Marietta in Clark Canyon and to the northwest. Undeveloped lands southwest of the Preserve are owned by MCAS Miramar.

2.4.3 Easements or Rights

Several easements are present within the Preserve. The SDCWA retains an easement across the Preserve for water pipelines from San Vicente Reservoir. SDG&E 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 8a, *Gates, Access Roads, and Easements*). 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. The southernmost San Vicente Connector parcel contains a small section of an SDG&E access road.

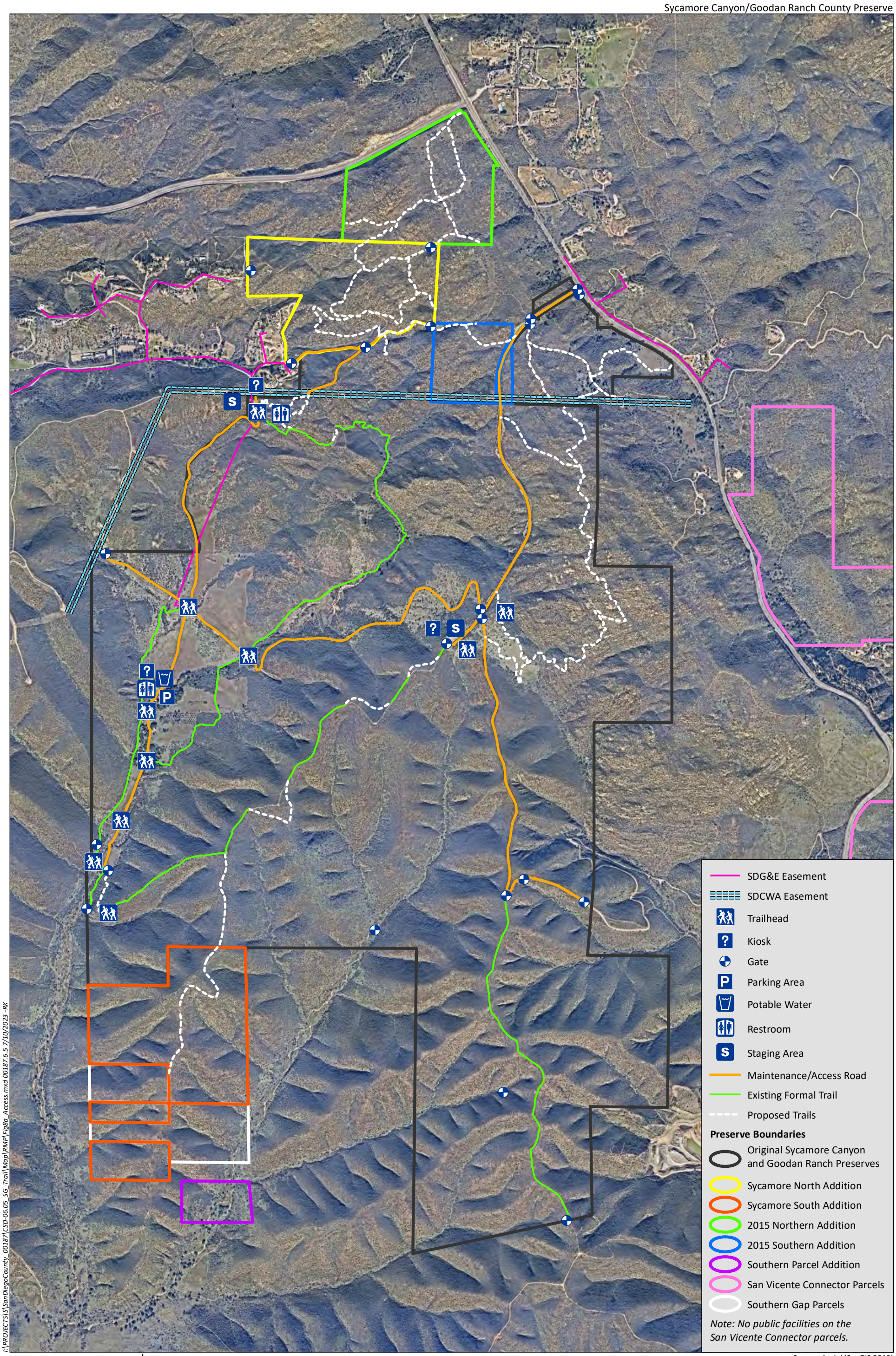
2.5 TRAILS

The Preserve currently contains approximately 12 miles of formal designated trails and access roads suitable for trail use. Implementation of the County's recently prepared Public Access Plan (PAP; [Rick Engineering 2023], Appendix N) for the Preserve would provide an approximately 21.7-mile formalized trail and access road network, including 15.09 miles of multi-use routes for hikers, mountain bikers, e-bikes, and horseback riders. Implementation of the PAP would include the retention of existing trails, rerouting or modifications to existing trails, the formal addition of new trails, and restoration of some areas that are not part of the formal trail system. A total of 16.93 miles of existing formal trails, informal trails[2], and access roads would remain open, and 4.77 miles of new trails and trail connections are proposed (Figure 8b, *Public Access Plan Trail Segments*). Portions of the on-site 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. Implementation of the PAP will result in formalized trails within the original Preserve boundary, as well as within the Sycamore North and Sycamore South additions and the 2015 Northern and Southern Additions. The San Vicente Connector parcels are currently closed to the public, although several unofficial trails are present. An approximately 0.3-mile segment of the proposed Trans County Trail is located within the southernmost San Vicente Connector parcel.

3.0 BIOLOGICAL RESOURCES DESCRIPTION

Baseline biological surveys of the original Preserve were first conducted in 2008 (ICF Jones and Stokes 2008a). Baseline biological surveys of Sycamore North and Sycamore South parcels were conducted in 2012 (Dudek 2013). Baseline surveys of the 2015 Northern and Southern Additions (formerly called the Wu and Cielo properties, respectively) were completed in 2016 (AECOM 2018). Baseline surveys of the Southern Parcel were completed in 2019 (HELIX Environmental Planning, Inc. [HELIX] 2020), as were baseline surveys of the San Vicente Connector parcels (ICF 2021). No baseline surveys have been completed for the Southern Gap parcels but will occur at a future date.

[2] Informal trails incorporated into the PAP would become part of the formal designated trail system.



Source: Aerial (SanGIS 2019)

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Gates, Access Roads, and Easements

Figure 8a

Trail Number - Trail Name

0a - Sycamore Canyon Access Road
0b - Sycamore Park Drive Access Road
1 - Paragon Mesa - West
2 - Paragon Mesa - Informal
3 - South Raptor Loop
4 - South Raptor Loop Northwest
5 - South Raptor Loop South
6 - Paragon Mesa - South
7 - Waterfall Trail
8 - Calle de Rob
9 - Calle de Rob - From Access Rd to Paragon
10 - Calle de Rob
11 - Calle de Rob - Eastern Segment; County TCT
12 - Martha's Grove
13 - West Boundary Trail - Connects to Stowe Trail
14 - Ridge Trail
15 - South of Ridge Trail
16 - Canyon Trail - Informal
17 - Clark Canyon to Ridge - West - Informal
18 - Clark Canyon to Ridge - East - Informal
19 - North Slaughterhouse - Informal
20 - South Slaughterhouse
21 - Slaughterhouse Canyon Trail
22 - Rock and Roll Trail
22a - Rock and Roll Trail
22b - Rock and Roll Trail
23 - Sidewinder Rogue Trail
24 - Maintenance Road/Slaughterhouse Canyon Trail
25 - Connection to Calle de Rob/Rock and Roll Trail
26 - North Interior Loop
27 - Access Rd - Cardiac Hill
28a - County TCT; Goodan Staging Area to Access Rd
28b - County TCT; Martha's Grove to Access Rd
29 - Connection - Calle de Rob Eastern; County TCT
30 - Connection to Calle de Rob and South Raptor Loop South
31 - County TCT
32 - Overlook
33 - Rock and Roll Trailhead Parking
34 - Stowe Trail Connector

Scripps Poway Parkway
Goodan Ranch Staging Area
Rock and Roll Trailhead Parking (33)
Sycamore Canyon Rd
Sycamore Park Drive
67 Staging Area
Visitors Center
CALIFORNIA 67

Maintenance Road
Access Road
Existing Formal Trail
Closed to be Revegetated
Proposed Trails
Stowe Trail
County TCT
One-way Trail Direction
Existing Staging Area
Proposed Staging Areas

Preserve Boundaries

Original Sycamore Canyon and Goodan Ranch Preserves
Sycamore North Addition
Sycamore South Addition
2015 Northern Addition
2015 Southern Addition
Southern Parcel Addition
Southern Gap Parcels

0 1,500 Feet

Source: Aerial (SanGIS 2017)

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Public Access Plan Trail Segments

Figure 8b

The results of the baseline surveys are attached as Appendices B, C, D, E, and F, respectively, and are incorporated into this RMP. In addition, Hermes copper butterfly habitat assessments were conducted in the Preserve in 2020, and focused surveys for this species were conducted in the Preserve in 2022 for the Preserve's PAP (HELIX 2023a). The results of these surveys are also incorporated into this RMP.

The surveys documented 34 plant alliances, associations, or semi-natural stands, and an additional four unvegetated, disturbed, or developed land cover types. A total of 444 plant species, including 345 native species and 99 non-native species, were documented within the Preserve. A total of 240 animal species were documented in the Preserve, including 84 invertebrate species, three amphibians, 24 reptiles, 90 bird species, and 39 mammal species. A total of 16 special-status plant species have been observed, including four MSCP-covered species. Forty-four special-status wildlife species were detected during surveys, of which 12 are MSCP-covered species.

3.1 VEGETATION COMMUNITIES/HABITAT

The Preserve consists of 34 plant alliances or associations and an additional four unvegetated or disturbed/developed land cover types (Table 2, *Vegetation Communities/Land Cover Types within the Preserve*; Figures 9a-e, *Vegetation Communities and Land Cover Types – San Diego Vegetation Classification Manual*)[3]. These vegetation community types are described below and organized as they appear in the classification key by functional group (e.g., evergreen shrublands, drought-deciduous shrublands, herbaceous vegetation, and forests and woodlands). The Vegetation Classification Manual (VCM) for Western San Diego County does not include unvegetated habitat (e.g., non-vegetated channel, disturbed land, and urban/developed); therefore, these land cover types are 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 the previous mapping efforts, the Preserve map data layer was cross-walked to the Holland/Oberbauer system pursuant to the VCM (AECOM et al. 2011; Table 2). The vegetation types found on the Preserve following the Holland/Oberbauer classification system are shown in Table 3, *Vegetation Communities/Land Cover Types within the Preserve – Holland/Oberbauer Code*, and Figures 10a-e, *Vegetation Communities and Land Cover Types – Holland/Oberbauer Classification*.[4]

[3] A 100-foot vegetation mapping buffer extending outward from the boundary is typically completed for County Preserves/projects, although this buffer is not included in the acreage calculations. A 100-foot buffer has not been mapped for all parcels comprising the Preserve (Figures 9a-9e and Figures 10a-10e) and is only shown for those that have been mapped. The acreages presented herein are only for lands within the Preserve and do not include any lands within the 100-foot buffers outside the Preserve boundary.

[4] See footnote 2.

Table 2
VEGETATION COMMUNITIES/LAND COVER TYPES WITHIN THE PRESERVE

VCM CODE[1]	VCM Alliance/Association	VCM Common Name	Holland Code	Holland Classification	Acres On-Site
Evergreen Shrublands					
4.1	*Adenostoma fasciculatum* Alliance	Chamise Chaparral Alliance	37200	Chamise Chaparral	528.14
4.1.2	*Adenostoma fasciculatum-(Eriogonum fasciculatum, Artemisia californica, Salvia mellifera)* Association	Chamise-California Buckwheat-California Sagebrush-Black Sage Association	37200	Chamise Chaparral	27.81
4.1.4	*Adenostoma fasciculatum – Ceanothus tomentosus* Association	Chamise Chaparral-Woolly-leaved Ceanothus Association	37200	Chamise Chaparral	696.12
4.1.5	*Adenostoma fasciculatum – Acmispon glaber* Association	Chamise Chaparral-Deerweed Association	37200	Chamise Chaparral	21.83
4.18.1	*Ceanothus tomentosus* Association	Woolly-leaved Ceanothus Association	37120	Southern Mixed Chaparral	147.75
4.2	*Adenostoma fasciculatum –Cercocarpus betuloides Alliance*	Chamise Chaparral-Mission Manzanita Alliance	37120	Southern Mixed Chaparral	8.95
4.2.3	*Adenostoma fasciculatum – Cercocarpus betuloides – Ceanothus tomentosus* Association	Chamise Chaparral-Mission Manzanita-Woolly-leaved Ceanothus Association	37120	Southern Mixed Chaparral	74.97
4.2.6	*Adenostoma fasciculatum – Xylococcus bicolor – Quercus (berberidifolia,* x*acutidens*) Association	Chamise Chaparral-Mission Manzanita-Scrub Oak Association	37120	Southern Maritime Chaparral	3.50
4.20.1	*Cercocarpus minutiflorus* Provisional Association	Mountain-Mahogany Provisional Association	37120	Southern Mixed Chaparral	0.34
4.37	*Quercus (berberidifolia,* x*acutidens)* Alliance	Scrub Oak Chaparral Alliance	37900	Scrub Oak Chaparral	93.01
4.37.2	*Quercus* (*berberidifolia,* x*acutidens*) *–Cercocarpus minutiflorus* Association	Scrub Oak -Mountain-Mahogany Association	37900	Scrub Oak Chaparral	22.49
4.38.1	*Quercus (berberidifolia,* x*acutidens) – Adenostoma fasciculatum* Association	Scrub Oak – Chamise Chaparral Association	37900	Scrub Oak Chaparral	1.07
				Evergreen Shrublands Total	*1,625.98*

Table 2 (cont.)
VEGETATION COMMUNITIES/LAND COVER TYPES WITHIN THE PRESERVE

VCM CODE[1]	VCM Alliance/Association	VCM Common Name	Holland Code	Holland Classification	Acres On-Site
Drought Deciduous Shrublands					
4.7.1	*Artemisia californica – Eriogonum fasciculatum – Malosma laurina* Association	California Sagebrush – California Buckwheat – Laurel Sumac Association	32500	Diegan Coastal Sage Scrub	319.61[5]
4.8	*Artemisia californica – Salvia mellifera* Alliance	California Sagebrush – Black Sage Scrub Alliance	32500	Diegan Coastal Sage Scrub	14.30
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' Goldenbush Scrub Provisional Association	32000	Coastal Scrub	8.52
4.32.1	*Acmispon glaber* Association	Deerweed Association	42200	Non-Native Grassland	1.13
4.35	*Malosma laurina* Alliance	Laurel Sumac Alliance	32000	Coastal Scrub	0.78
4.35.1	*Malosma laurina – Acmispon glaber* Association	Laurel Sumac – Deerweed Association	32000	Coastal Scrub	320.76
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	155.72
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 – Malosma laurina* Association	Black Sage – Laurel Sumac Association	32500	Diegan Coastal Sage Scrub	160.20
				Drought Deciduous Shrublands Total	*1,035.13*
Herbaceous Vegetation					
5.13.1	*Deinandra fasciculata* Association	Tarweed Association	42300	Wildflower Fields	0.36
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	19.44
5.5	*Avena (barbata, fatua)* Semi-Natural Stands	Wild Oats Grasslands Semi-Natural Stands	42200	Non-Native Grassland	4.44
5.8	*Bromus* (*diandrus, hordeaceus*) – *Brachypodium distachyon* Semi-Natural Stands	Annual Brome Grasslands Semi-Natural Stands	42200	Non-Native Grassland	163.93

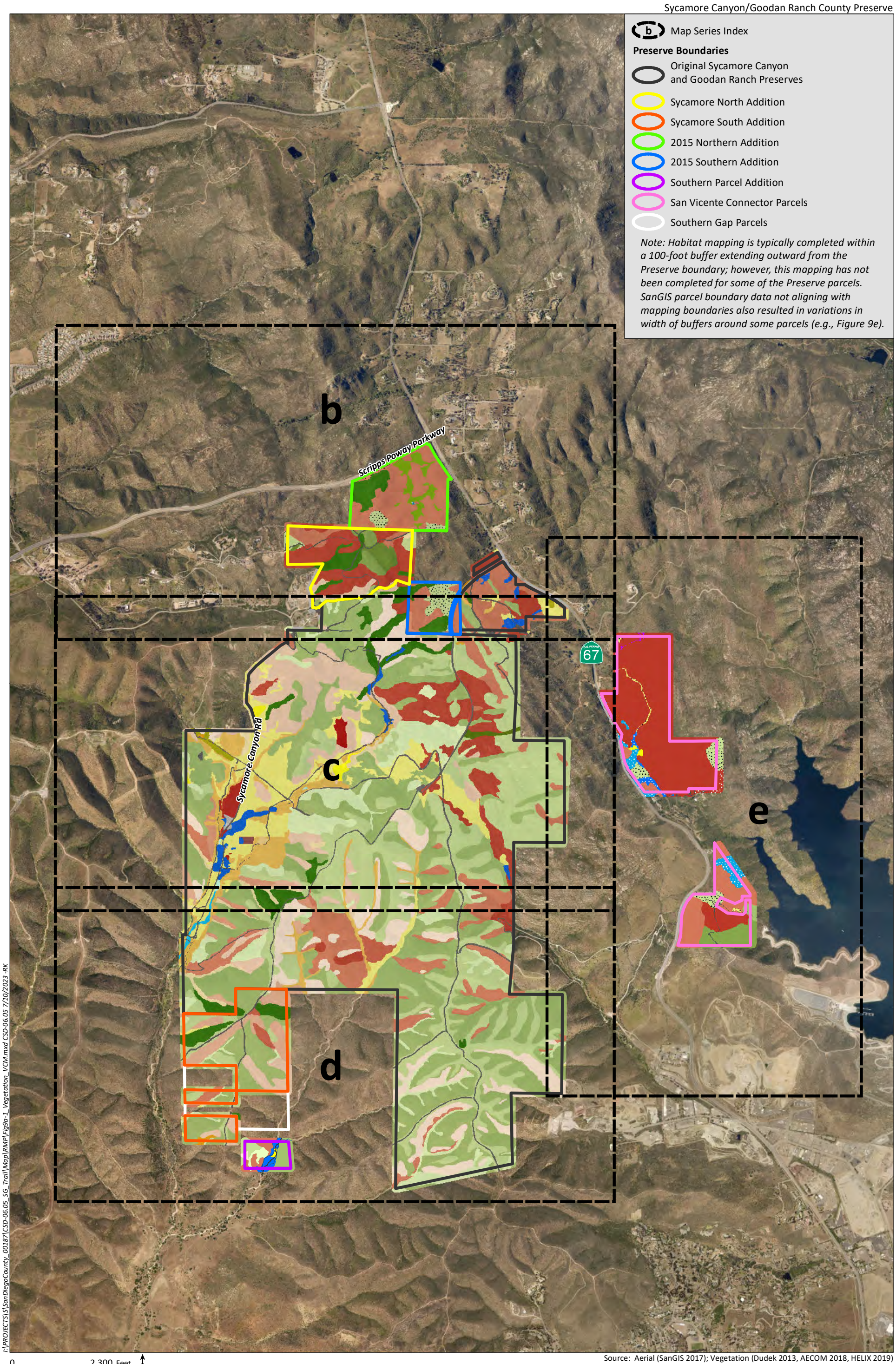
[5] Includes 2.47 acres of restoration in the 2015 Northern Addition associated with road cuts for Scripps Poway Parkway.

Table 2 (cont.)
VEGETATION COMMUNITIES/LAND COVER TYPES WITHIN THE PRESERVE

VCM CODE[1]	VCM Alliance/Association	VCM Common Name	Holland Code	Holland Classification	Acres On-Site
5.8.2	*Bromus diandrus* Semi-Natural Stand Type	Bromus diandrus (Ripgut) Grasslands Semi-Natural Stand Type	42200	Non-native Grassland	1.36
				Herbaceous Total	*189.53*
		Forests and Woodlands			
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 – Mule Fat Association	62500	Southern Riparian Woodland	2.66
3.4.3	*Platanus racemose – Quercus agrifolia* Association	California Sycamore-Coast Live Oak Association	61300	Southern Riparian Forest	3.02
3.6	*Quercus agrifolia* Alliance	Coast Live Oak Woodland Alliance	71160	Coast Live Oak Woodland	25.05
3.6.4	*Quercus agrifolia/Toxicodendron diversilobum/*Grass Association	Coast Live Oak/Poison Oak/Grass Association	71161	Open Coast Live Oak Woodland	8.11
3.10.1	*Salix lasiolepis* Association	Arroyo Willow Thickets Association	63320	Southern Willow Scrub	0.86
				Forests and Woodlands Total	*39.75*
		Unvegetated, Disturbed, or Developed			
N/A	N/A	N/A	64200	Non-vegetated Channel	0.71
N/A	N/A	N/A	11300	Disturbed Habitat	40.13
N/A	N/A	N/A	12000	Urban/Developed	1.46
				Unvegetated, Disturbed, and Developed Total	*42.30*
		General Agriculture			
N/A	N/A	N/A	18100	Orchards and Vineyards	1.20
				General Agriculture Total	*1.20*
				Total	

[1] Vegetation Community descriptions based on the VCM (SANDAG 2011).

[2] Numbers may not sum due to rounding. Acreages presented herein are based on SanGIS parcel data for the Preserve boundaries, minus the Southern Gap Parcels acreage. No data is included for the Southern Gap Parcels, as baseline surveys have not been conducted.



Source: Aerial (SanGIS 2017); Vegetation (Dudek 2013, AECOM 2018, HELIX 2019)

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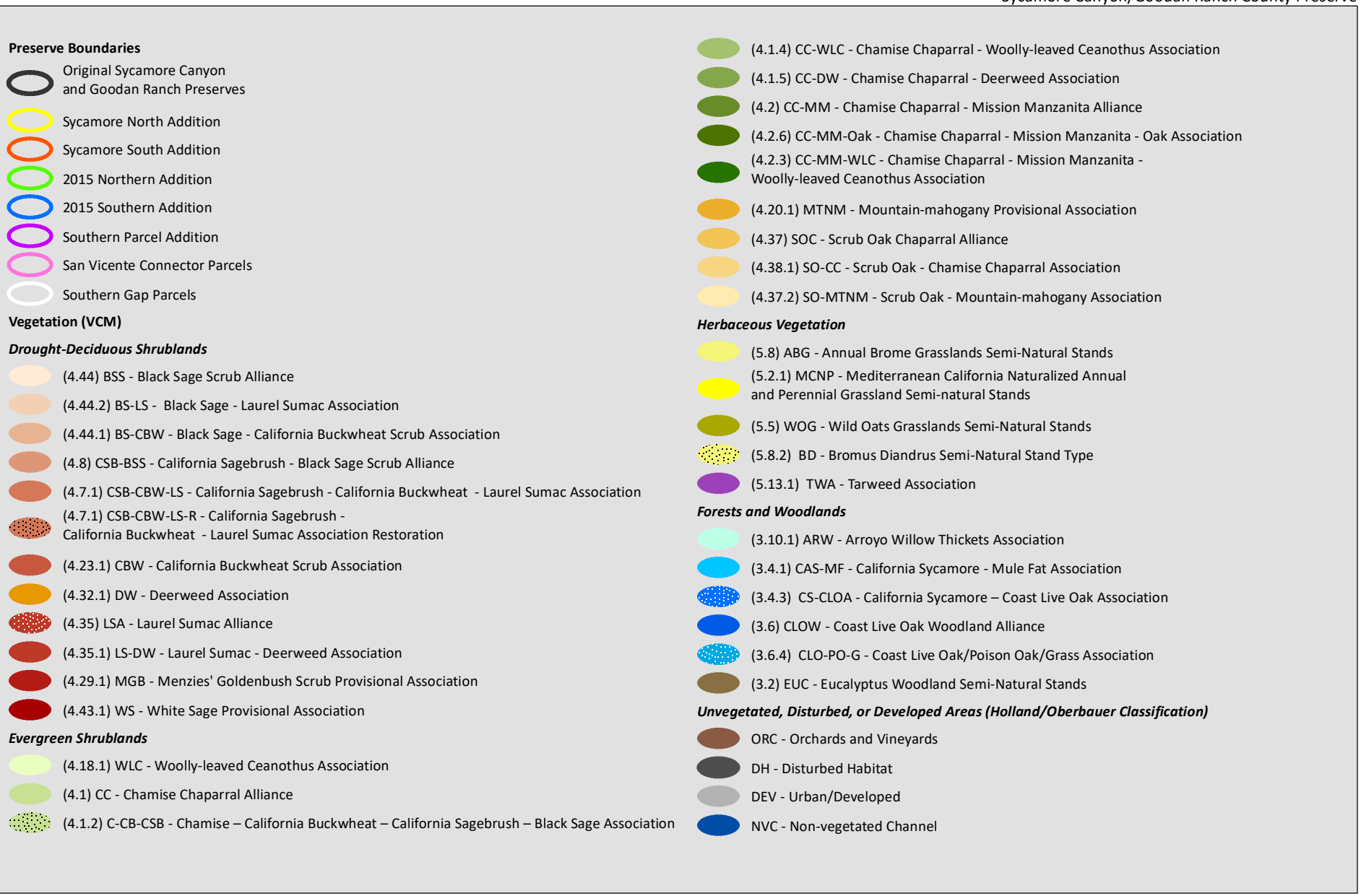
Vegetation Communities and Landcover Types – San Diego Vegetation Classification Manual Map Index

Figure 9a-1



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HELIX Environmental Planning

Legend for San Diego Vegetation Classification Manual Mapping

Figure 9a-2

Map Series Boundary

Preserve Boundaries

- Original Sycamore Canyon and Goodan Ranch Preserves
- Sycamore North Addition
- 2015 Northern Addition
- 2015 Southern Addition

Vegetation (VCM)

Drought-Deciduous Shrublands

- (4.44) BSS - Black Sage Scrub Alliance
- (4.44.2) BS-LS - Black Sage - Laurel Sumac Association
- (4.7.1) CSB-CBW-LS - California Sagebrush - California Buckwheat - Laurel Sumac Association
- (4.7.1) CSB-CBW-LS-R - California Sagebrush - California Buckwheat - Laurel Sumac Association Restoration
- (4.32.1) DW - Deerweed Association
- (4.35.1) LS-DW - Laurel Sumac - Deerweed Association

Evergreen Shrublands

- (4.18.1) WLC - Woolly-leaved Ceanothus Association
- (4.1) CC - Chamise Chaparral Alliance
- (4.1.2) C-CB-CSB - Chamise – California Buckwheat – California Sagebrush – Black Sage Association
- (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
- (4.2.3) CC-MM-WLC - Chamise Chaparral - Mission Manzanita - Woolly-leaved Ceanothus Association
- (4.37) SOC - Scrub Oak Chaparral Alliance
- (4.37.2) SO-MTNM - Scrub Oak - Mountain-mahogany Association

Herbaceous Vegetation

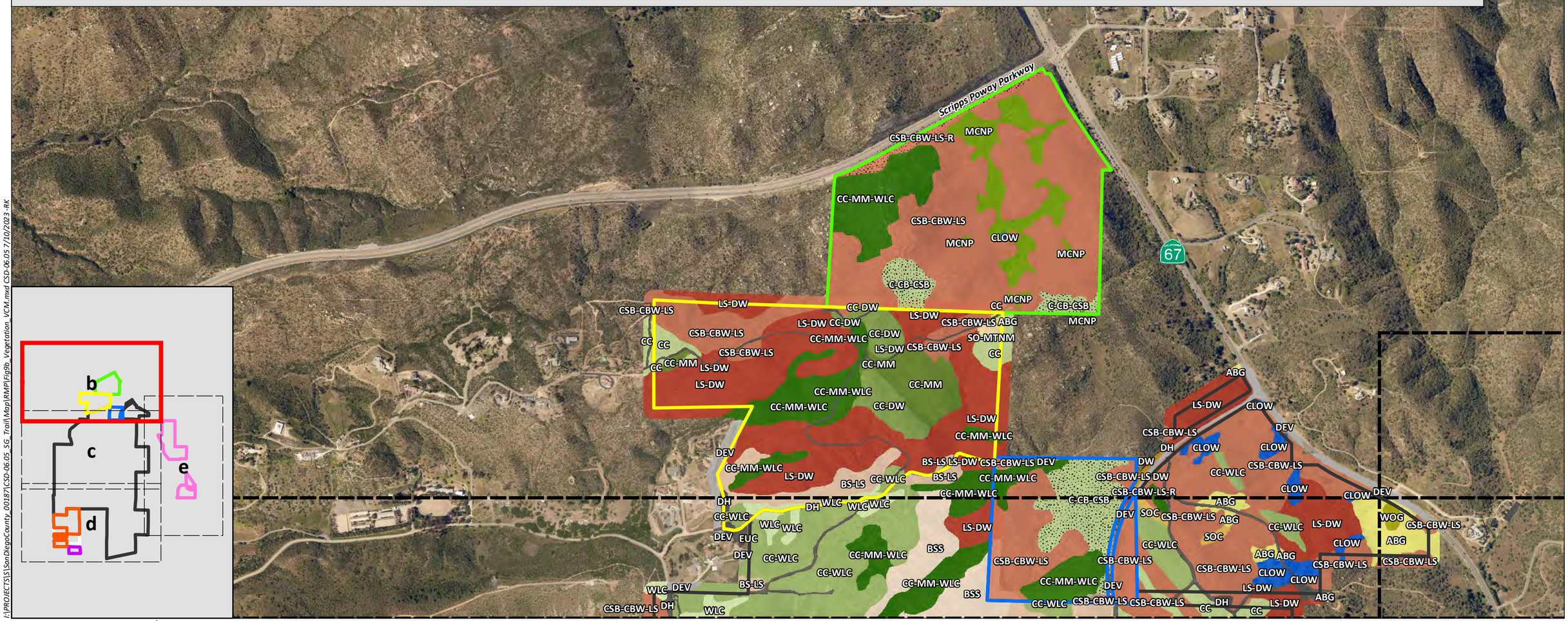
- (5.8) ABG - Annual Brome Grasslands Semi-Natural Stands
- (5.2.1) MCNP - Mediterranean California Naturalized Annual and Perennial Grassland Semi-natural Stands
- (5.5) WOG - Wild Oats Grasslands Semi-Natural Stands

Forests and Woodlands

- (3.6) CLOW - Coast Live Oak Woodland Alliance
- (3.2) EUC - Eucalyptus Woodland Semi-Natural Stands

Unvegetated, Disturbed, or Developed Areas (Holland/Oberbauer Classification)

- DH - Disturbed Habitat
- DEV - Urban/Developed



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Source: Aerial (SanGIS 2017); Vegetation (Dudek 2013 and AECOM 2018)

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HELIX Environmental Planning

Vegetation Communities and Land Cover Types – San Diego Vegetation Classification Manual

Figure 9b

Map Series Boundary

Preserve

- Original Sycamore Canyon and Goodan Ranch
- Sycamore North
- 2015 Southern
- San Vicente Connector

Vegetation (VCM)

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 -
- (4.32.1) DW - Deerweed Association
- (4.35.1) LS-DW - Laurel Sumac - Deerweed Association
- (4.29.1) MGB - Menzies' Goldenbush 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
- (4.2.6) CC-MM-Oak - Chamise Chaparral - Mission Manzanita - Oak
- (4.2.3) CC-MM-WLC - Chamise Chaparral - Mission Manzanita -
- (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

Herbaceous Vegetation

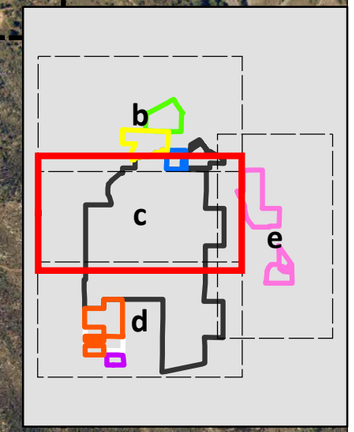
- (5.8) ABG - Annual Brome Grasslands Semi-Natural Stands
- (5.2.1) MCNP - Mediterranean California Naturalized Annual and
- (5.5) WOG - Wild Oats Grasslands Semi-Natural Stands

Forests and Woodlands

- (3.10.1) ARW - Arroyo Willow Thickets Association
- (3.4.1) CAS-MF - California Sycamore - Mule Fat Association
- (3.6) CLOW - Coast Live Oak Woodland Alliance
- (3.2) EUC - Eucalyptus Woodland Semi-Natural Stands

Unvegetated, Disturbed, or Developed Areas (Holland/Oberbauer

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



Sycamore Park Drive

Sycamore Canyon Rd

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Source: Aerial (SanGIS 2017); Vegetation (Dudek 2013 and AECOM 2018)

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HELIX Environmental Planning

Vegetation Communities and Land Cover Types – San Diego Vegetation Classification Manual

Figure 9c

Map Series Boundary

Preserve

- Original Sycamore Canyon and Goodan Ranch
- Sycamore South
- Southern Parcel
- Southern Gap

Vegetation (VCM)

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
- (4.32.1) DW - Deerweed Association
- (4.35.1) LS-DW - Laurel Sumac - Deerweed 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
- (4.2.3) CC-MM-WLC - Chamise Chaparral - Mission Manzanita - Woolly-leaved Ceanothus Association
- (4.37) SOC - Scrub Oak Chaparral Alliance
- (4.37.2) SO-MTNM - Scrub Oak - Mountain-mahogany Association

Herbaceous Vegetation

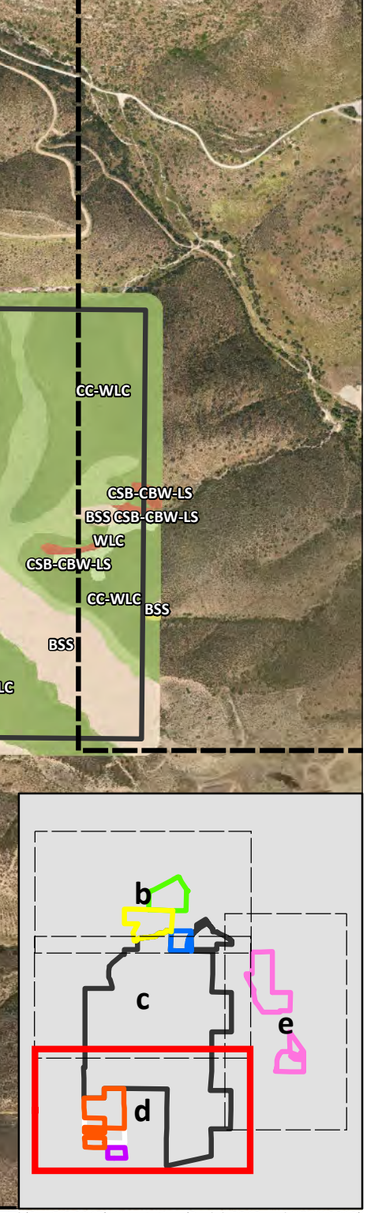
- (5.8) ABG - Annual Brome Grasslands Semi-Natural Stands
- (5.2.1) MCNP - Mediterranean California Naturalized Annual and Perennial Grassland Semi-natural Stands

Forests and Woodlands

- (3.10.1) ARW - Arroyo Willow Thickets Association
- (3.4.1) California Sycamore - Mulefat
- (3.6) CLOW - Coast Live Oak Woodland

Unvegetated, Disturbed, or Developed Areas (Holland/Oberbauer Classification)

- DH - Disturbed Habitat
- NVC - Non-vegetated Channel



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Source: Aerial (SanGIS 2017); Vegetation (Dudek 2013 and HELIX 2019)

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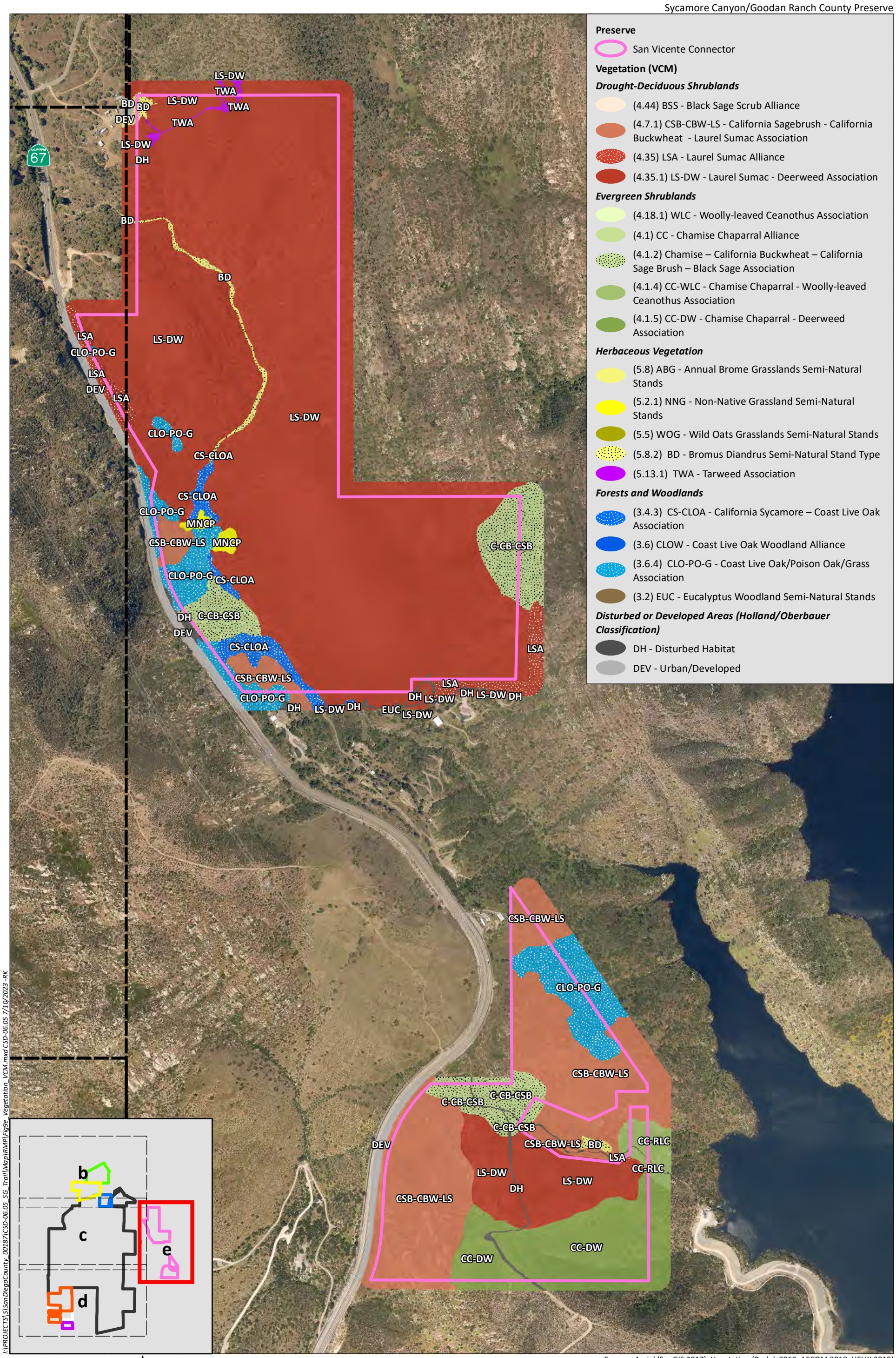

Preserve

- San Vicente Connector

Vegetation (VCM)

Drought-Deciduous Shrublands

- (4.44) BSS - Black Sage Scrub Alliance
- (4.7.1) CSB-CBW-LS - California Sagebrush - California Buckwheat - Laurel Sumac Association
- (4.35) LSA - Laurel Sumac Alliance
- (4.35.1) LS-DW - Laurel Sumac - Deerweed Association

Evergreen Shrublands

- (4.18.1) WLC - Woolly-leaved Ceanothus Association
- (4.1) CC - Chamise Chaparral Alliance
- (4.1.2) Chamise – California Buckwheat – California Sage Brush – Black Sage Association
- (4.1.4) CC-WLC - Chamise Chaparral - Woolly-leaved Ceanothus Association
- (4.1.5) CC-DW - Chamise Chaparral - Deerweed Association

Herbaceous Vegetation

- (5.8) ABG - Annual Brome Grasslands Semi-Natural Stands
- (5.2.1) NNG - Non-Native Grassland Semi-Natural Stands
- (5.5) WOG - Wild Oats Grasslands Semi-Natural Stands
- (5.8.2) BD - Bromus Diandrus Semi-Natural Stand Type
- (5.13.1) TWA - Tarweed Association

Forests and Woodlands

- (3.4.3) CS-CLOA - California Sycamore – Coast Live Oak Association
- (3.6) CLOW - Coast Live Oak Woodland Alliance
- (3.6.4) CLO-PO-G - Coast Live Oak/Poison Oak/Grass Association
- (3.2) EUC - Eucalyptus Woodland Semi-Natural Stands

Disturbed or Developed Areas (Holland/Oberbauer Classification)

- DH - Disturbed Habitat
- DEV - Urban/Developed

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Source: Aerial (SanGIS 2017); Vegetation (Dudek 2013, AECOM 2018, HELIX 2019)

HELIX Environmental Planning

Vegetation Communities and Land Cover Types – San Diego Vegetation Classification Manual

Figure 9e

Map Series Index

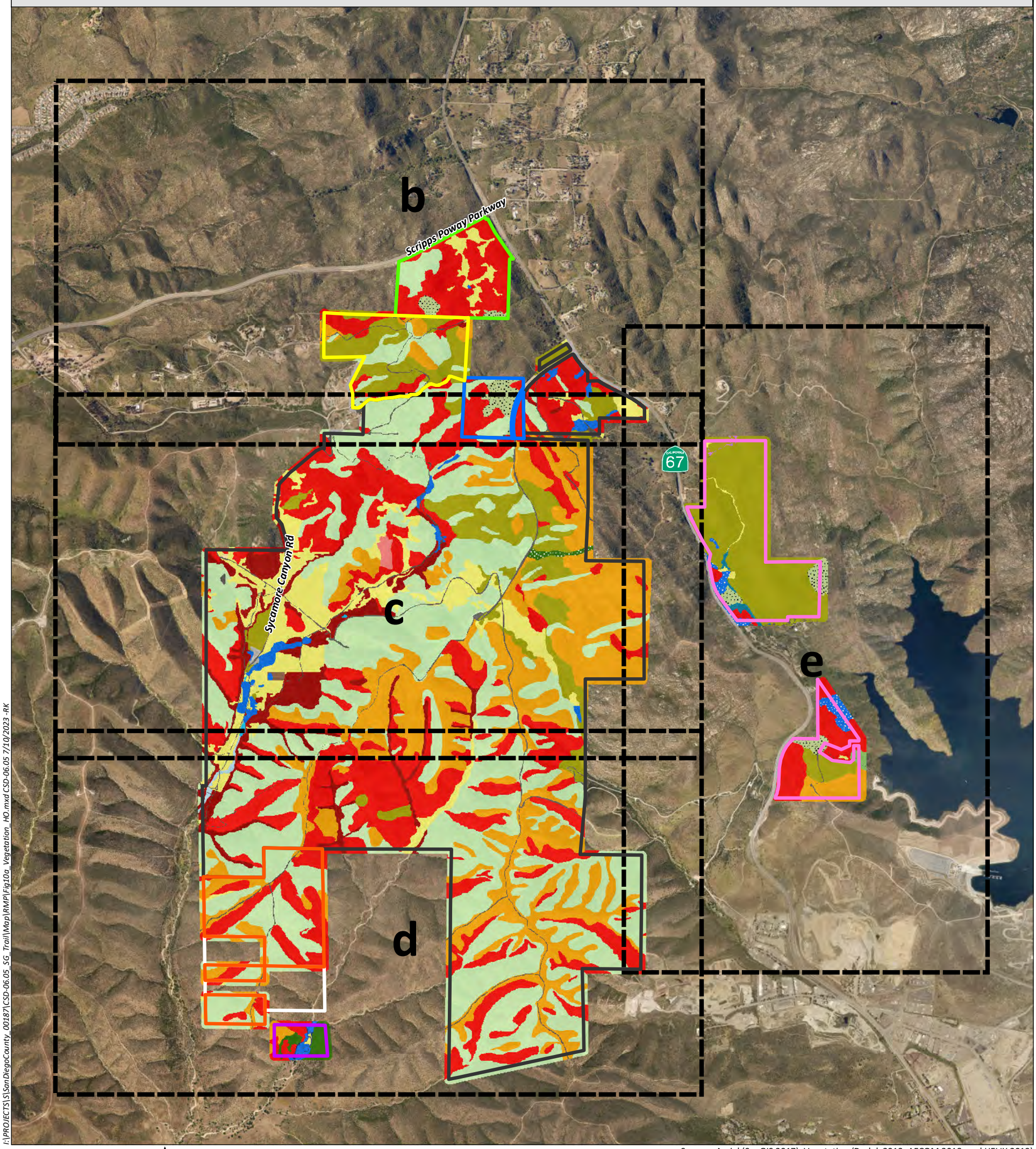
Preserve Boundaries

- Original Sycamore Canyon and Goodan Ranch Preserves
- Sycamore North Addition
- Sycamore South Addition
- 2015 Northern Addition
- 2015 Southern Addition
- Southern Parcel Addition
- San Vicente Connector Parcels
- Southern Gap Parcels

Vegetation Communities

- (32000) CS - Coastal Scrub
- (32500) CSS - Diegan Coastal Sage Scrub
- (32520) CSSI - Diegan Coastal Sage Scrub: Inland Form
- (37000) CHP - Chaparral
- (37120) SMX - Southern Mixed Chaparral
- (37121) GSMX - Granitic Southern Mixed Chaparral
- (37122) SMC - Southern Mixed Chaparral
- (37C30) SMCM - Southern Maritime Chaparral
- (37200) CC - Chamise Chaparral
- (37900) SOC - Scrub Oak Chaparral
- (37G00) CS-CT - Coastal Sage - Chaparral Transition
- (42200) NNG - Non-native Grassland
- (42300) WF - Wildflower Field
- (61300) SRF - Southern Riparian Forest
- (62500) SRW - Southern Riparian Woodland
- (63320) SWS - Southern Willow Scrub
- (71160) CLOW - Coast Live Oak Woodland
- (71161) OCLO - Open Coast Live Oak Woodland
- (79100) EUC - Eucalyptus Woodland
- (18100) ORC - Orchards and Vineyards
- (11300) DH - Disturbed Habitat
- (12000) DEV - Urban/Developed
- (64000) NVC - Non-vegetated Channel

Note: Habitat mapping is typically completed within a 100-foot buffer extending outward from the Preserve boundary; however, this mapping has not been completed for some of the Preserve parcels. SanGIS parcel boundary data not aligning with mapping boundaries also resulted in variations in width of buffers around some parcels (e.g., Figure 10e).



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0 2,300 Feet

Source: Aerial (SanGIS 2017); Vegetation (Dudek 2013, AECOM 2018, and HELIX 2019)

HELIX Environmental Planning

Vegetation Communities and Land Cover Types – Holland/Oberbauer Map Index

Figure 10a

Sycamore Canyon/Goodan Ranch County Preserve

Map Series Boundary

Preserve Boundaries

Original Sycamore Canyon and Goodan Ranch Preserves

Sycamore North Addition

2015 Northern Addition

2015 Southern Addition

Vegetation Communities

(32000) CS - Coastal Scrub

(32500) CSS - Diegan Coastal Sage Scrub

(37000) CHP - Chaparral

(37120) SMX - Southern Mixed Chaparral

(37200) CC - Chamise Chaparral

(37900) SOC - Scrub Oak Chaparral

(37G00) CS-CT - Coastal Sage - Chaparral Transition

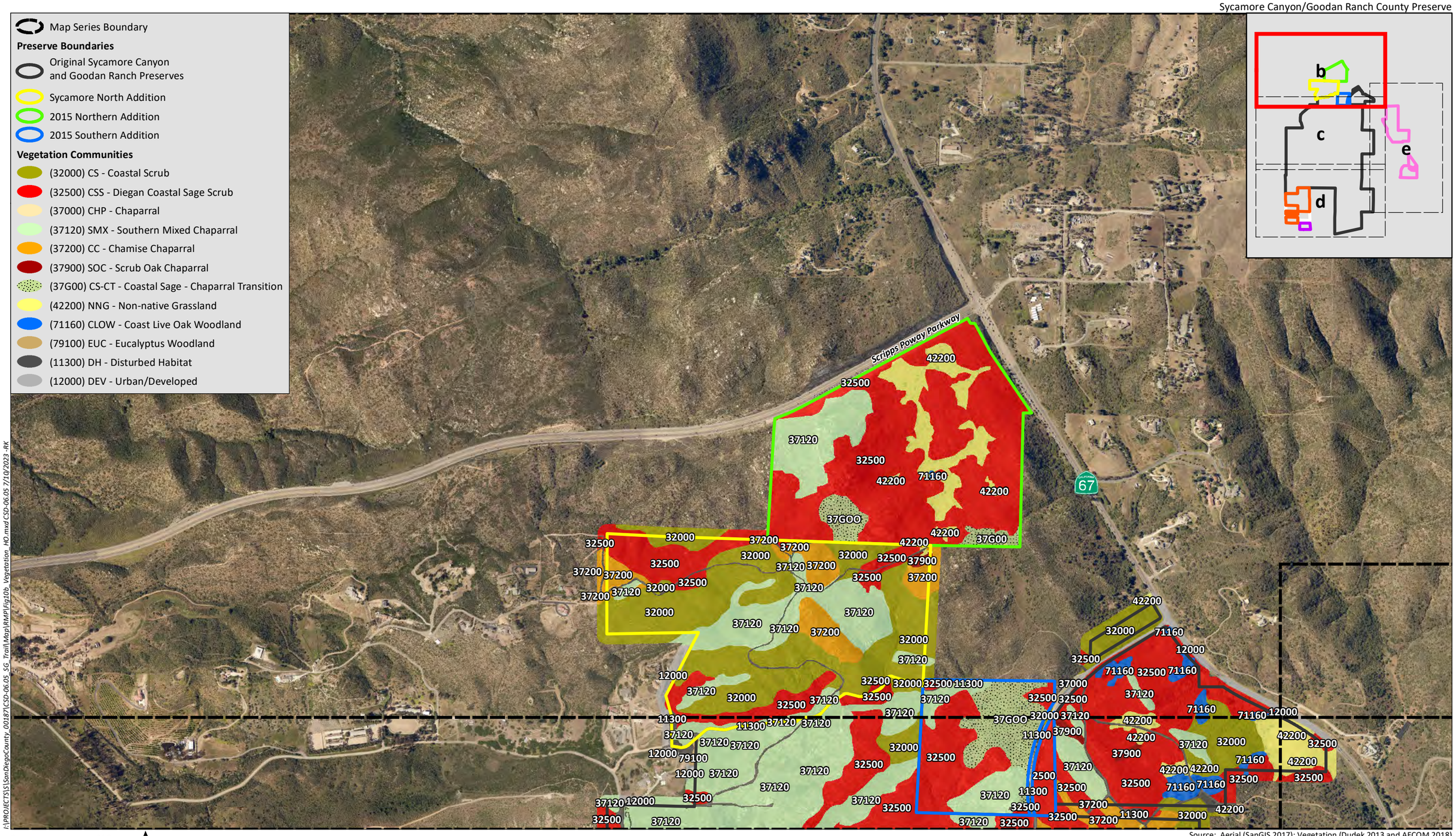
(42200) NNG - Non-native Grassland

(71160) CLOW - Coast Live Oak Woodland

(79100) EUC - Eucalyptus Woodland

(11300) DH - Disturbed Habitat

(12000) DEV - Urban/Developed



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Source: Aerial (SanGIS 2017); Vegetation (Dudek 2013 and AECOM 2018)

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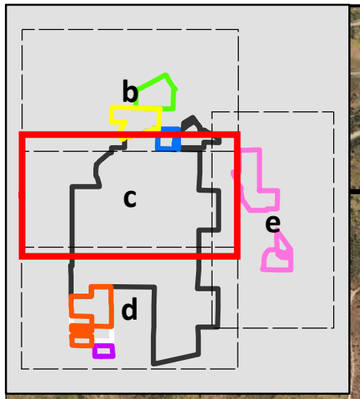
HELIX Environmental Planning

Vegetation Communities and Land Cover Types – Holland/Oberbauer Classification

Figure 10b



Map Series Boundary

Preserve Boundaries

- Original Sycamore Canyon and Goodan Ranch Preserves
- Sycamore North Addition
- 2015 Southern Addition
- San Vicente Connector Parcels

Vegetation Communities

- (32000) CS - Coastal Scrub
- (32500) CSS - Diegan Coastal Sage Scrub
- (32520) CSSI - Diegan Coastal Sage Scrub: Inland Form
- (37000) CHP - Chaparral
- (37120) SMX - Southern Mixed Chaparral
- (37C30) SMCM - Southern Maritime Chaparral
- (37200) CC - Chamise Chaparral
- (37900) SOC - Scrub Oak Chaparral
- (37G00) CS-CT - Coastal Sage - Chaparral Transition
- (42200) NNG - Non-native Grassland
- (62500) SRW - Southern Riparian Woodland
- (63320) SWS - Southern Willow Scrub
- (71160) CLOW - Coast Live Oak Woodland
- (71161) OCLO - Open Coast Live Oak Woodland
- (79100) EUC - Eucalyptus Woodland
- (18100) ORC - Orchards and Vineyards
- (11300) DH - Disturbed Habitat
- (12000) DEV - Urban/Developed

0 900 Feet

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Source: Aerial (SanGIS 2017); Vegetation (Dudek 2013 and AECOM 2018)

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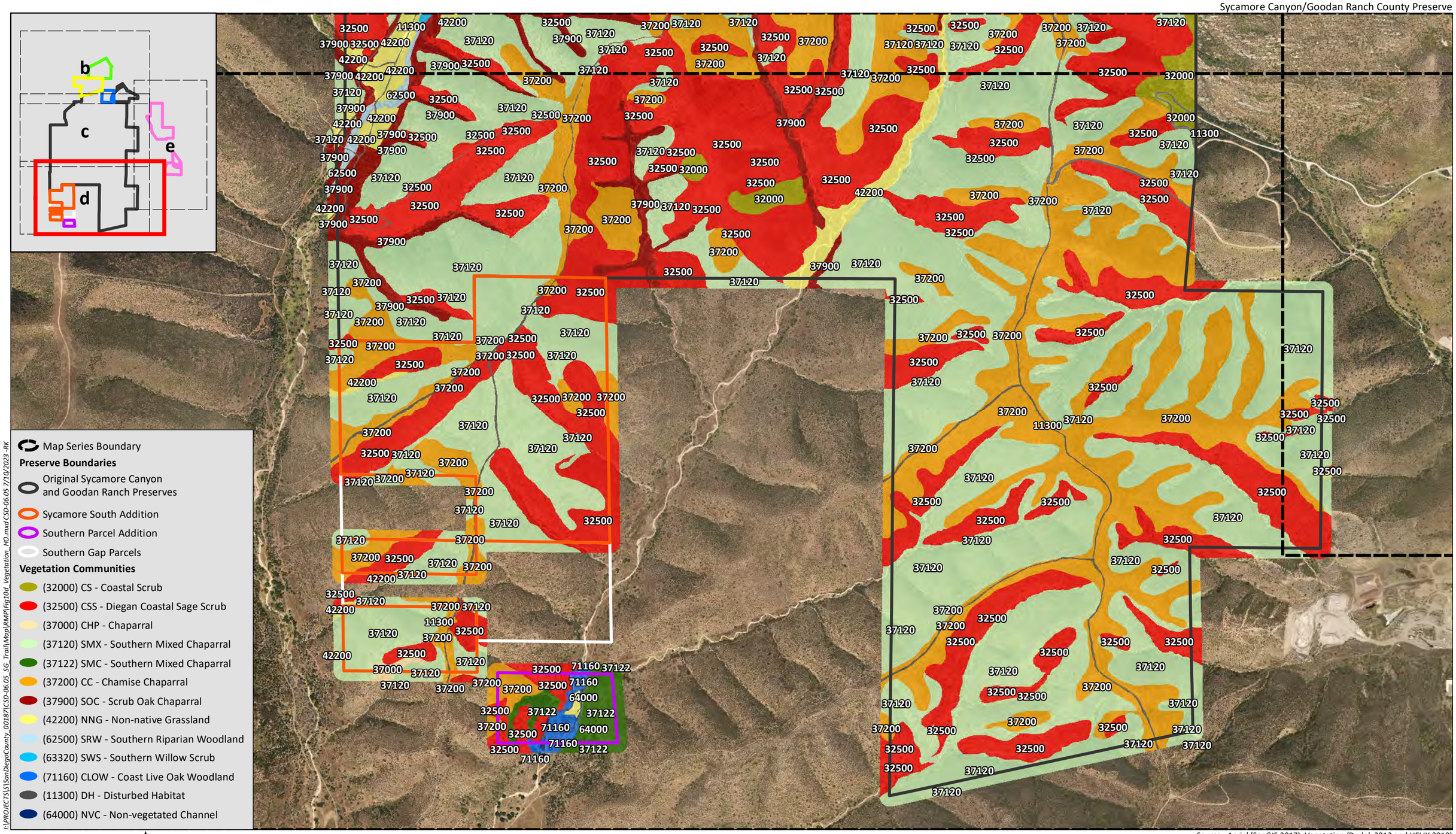
HELIX Environmental Planning

Vegetation Communities and Land Cover Types – Holland/Oberbauer Classification

Figure 10c

Sycamore Canyon/Goodan Ranch County Preserve



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Source: Aerial (SanGIS 2017); Vegetation (Dudek 2013 and HELIX 2019)

HELIX Environmental Planning

Vegetation Communities and Land Cover Types – Holland/Oberbauer Map Index

Figure 10d

Sycamore Canyon/Goodan Ranch County Preserve

Map Series Boundary

Preserve Boundaries

San Vicente Connector Parcels

Vegetation Communities

(32000) CS - Coastal Scrub

(32500) CSS - Diegan Coastal Sage Scrub

(37121) GSMX - Granitic Southern Mixed Chaparral

(37200) CC - Chamise Chaparral

(37G00) CS-CT - Coastal Sage - Chaparral Transition

(42200) NNG - Non-native Grassland

(42300) WF - Wildflower Field

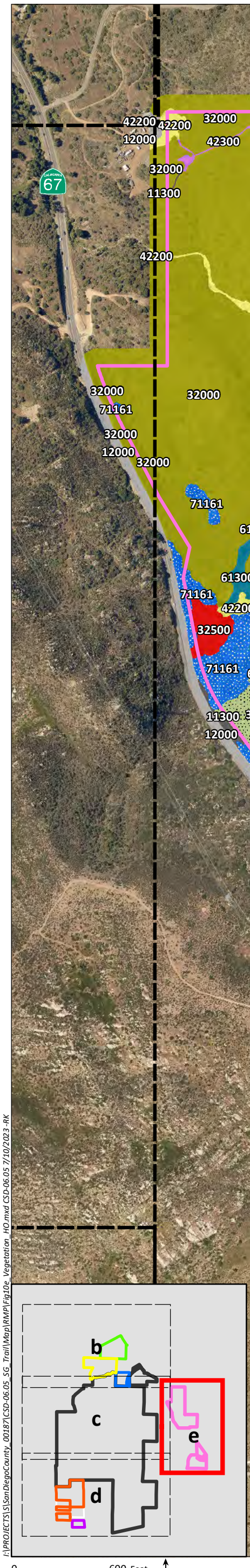
(61300) SRF - Southern Riparian Forest

(71161) OCLO - Open Coast Live Oak Woodland

(79100) EUC - Eucalyptus Woodland

(11300) DH - Disturbed Habitat

(12000) DEV - Urban/Developed



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Source: Aerial (SanGIS 2017); Vegetation (Dudek 2013, AECOM 2018, HELIX 2019)

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HELIX Environmental Planning

Vegetation Communities and Land Cover Types – Holland/Oberbauer Map Index

Figure 10e

Table 3
VEGETATION COMMUNITIES/LAND COVER TYPES WITHIN THE PRESERVE – HOLLAND/OBERBAUER CODE

Holland Code	Vegetation Type	Subarea Plan Habitat Tier[1]	Acreage
37200	Chamise Chaparral	Tier III	549.97
37000	Chaparral	Tier III	1.13
71160	Coast Live Oak Woodland	Tier I	25.05
71161	Open Coast Live Oak Woodland	Tier I	8.11
37G00	Coastal Sage-Chaparral Transition	Tier II	27.81
32000	Coastal Scrub	Tier II	330.06
32500	Diegan Coastal Sage Scrub	Tier II	699.66
32520	Diegan Coastal Sage Scrub: Inland Form	Tier II	4.28
11300	Disturbed Habitat	Tier IV	40.13
79100	Eucalyptus Woodland	Tier IV	0.05
42200	Non-Native Grassland	Tier III	189.17
64200	Non-Vegetated Channel	N/A	0.71
18100	Orchards and Vineyards	Tier IV	1.20
37900	Scrub Oak Chaparral	Tier III	116.73
63320	Southern Willow Scrub	Tier I	0.86
37C30	Southern Maritime Chaparral	Tier I	3.50
37120	Southern Mixed Chaparral	Tier III	928.14
61300	Southern Riparian Forest	Tier I	3.02
62500	Southern Riparian Woodland	Tier I	2.66
12000	Urban/Developed	Tier IV	1.46
42300	Wildflower Field	Tier I	0.36
		TOTAL	**2,934.04**[2]

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

[2] Numbers may not sum due to rounding. Acreages presented herein are based on SanGIS parcel data for the Preserve boundaries, minus the Southern Gap Parcels acreage. No data is included for the Southern Gap Parcels, as baseline surveys have not been conducted.

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 (*Malosma laurina*) or deerweed (*Acmispon glaber*), or to non-native grasslands (AECOM et al. 2011). The Chamise Chaparral Alliance is mapped on 528.14 acres within the Preserve. This alliance is found throughout the Preserve and is frequently bordered by other associations within this alliance.

Chamise-California Buckwheat-California Sagebrush-Black Sage Association (4.1.2)

Chamise is dominant with other shrubs, such as California buckwheat (*Eriogonum fasciculatum)*, black sage (*Salvia mellifera*), and California sagebrush (*Artemisia californica*), occurring as subdominants. Together, these species form either a continuous or, more often, open canopy cover (AECOM et al. 2011). Other native shrubs also may be present, and dominant herbs frequently include native and non-

native grasses, with a high diversity of forbs. This association is a mix of chaparral and sage scrub and occurs both as a mature, stable shrub community or a successional habitat following fire or other disturbance. A total of 27.81 acres of this habitat is mapped within the Preserve.

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 696.12 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 occur due to fire or other disturbances (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. parryi*). Approximately 21.83 acres of Chamise Chaparral – Deerweed Association is mapped within the Sycamore North addition of the Preserve.

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 percent of the relative cover in the shrub canopy. Subdominant shrubs include oaks, mountain-mahogany (*Cercocarpus betuloides* var. *betuloides*), ceanothus, and heartleaf keckiella (*Keckiella cordifolia*) (AECOM et al. 2011). This association is mapped within 147.75 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, chaparral candle (*Hesperoyucca whipplei*), scrub oak (*Quercus berberidifolia*), and sages (*Salvia* spp.). The herbaceous layer in this alliance is sparse or intermittent (AECOM et al. 2011). This alliance is mapped on 8.95 acres within the central region of the Sycamore North property.

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 (*Salvia apiana;* [AECOM et al. 2011]). The Chamise Chaparral – Mission Manzanita – Woolly-Leaved Ceanothus Association occupies 74.97 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, and laurel sumac, among others. The Chamise Chaparral-Mission Manzanita-Scrub Oak Association is mapped on 3.50 acres within the northwestern region of the Preserve.

Mountain-Mahogany Provisional Association (4.20.1)

Mountain mahogany 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 acre within the northern border 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 93.01 acres within the Preserve.

Scrub Oak -Mountain-Mahogany Association (4.37.2)

Scrub oak (*Quercus berberidifolia/Q. x. acutidens*) 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 percent of the relative cover in the shrub canopy. Subdominant species include western poison oak (*Toxicodendron diversilobum*), chamise, manzanita, ceanothus, and bush monkeyflower (*Diplacus longiflorus*). Herbaceous diversity and cover are low, 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 fires. Scrub Oak – Chamise Chaparral Association occurs on 1.07 acres along Sycamore Canyon within the Preserve.

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 encelia (*Encelia californica*), chaparral candle, 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 disturbances (AECOM et al. 2011). This association is mapped on 319.61 acres, of which 2.47 acres are identified as restoration associated with

road cuts for Scripps Poway Parkway (AECOM 2018). This association occurs primarily in the northern and southern portions of the Preserve, and the southern San Vicente Connector parcel.

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 and is mapped on 14.30 acres.

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, and sages (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. Non-native grasses and forbs are commonly found in this association (AECOM et al. 2011).

Menzies' Goldenbush Scrub Provisional Association (4.29.1)

Menzies' goldenbush 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 western ragweed (*Ambrosia psilostachya*) and perennial ryegrass (*Festuca perenne*) (AECOM et al. 2011). Menzies' Goldenbush 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 Alliance (4.35)

Laurel sumac is the dominant species in this alliance. Subdominant shrubs include California sagebrush, California encelia, and California buckwheat. The herbaceous layer of this community is generally sparse. This alliance is a fire-resilient habitat, with laurel sumac capable of re-sprouting from its deep root-crown multiple times following fires. This habitat is located along the western boundary of the northern San Vicente Connector parcel, totaling 0.78 acre.

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*), wild cucumber (*Marah macrocarpus*), American wild carrot (*Daucus pusillus*), narrowleaf cottonrose (*Logfia gallica*), and lupines *(Lupinus* spp.) (AECOM et al. 2011). This association occupies 320.76 acres throughout the Preserve, and dominates the northern portions of the Preserve, as well as the northern San Vicente Connector parcel.

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. 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, or white sage (AECOM et al. 2011). There are 155.72 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 original Preserve, as well as in 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 coyote brush (*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, California buckwheat, bush monkeyflower, and ceanothus (*Ceanothus* sp.), among others (AECOM et al. 2011). The tree canopy, if present, is sparse, and the herbaceous cover is high in openings (AECOM et al. 2011). A total of 160.20 acres of Black Sage-Laurel Sumac Association is mapped on slopes primarily within the central and southern portions of the Preserve.

Tarweed Association (5.13.1)

Fascicled tarweed (*Deinandra fasciculata*) is the dominant species in this herbaceous association, which typically occurs within shrub-dominated vegetation types. This association is readily replaced by non-native grasses and broadleaf herbs. This habitat is located in the northern San Vicente Connector parcel, totaling 0.36 acre.

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 (*Avena* spp.), bromes (*Bromus* spp.), mustards, and others. The semi-natural stands best describe an area subject to common disturbance, such as grazing or mowing (AECOM et al. 2011). Mediterranean California Naturalized Annual and Perennial Grassland Semi-Natural Stands occur as small, scattered stands in the western portion of the Preserve, as well as in the Southern Parcel, totaling 19.44 acres.

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 (*Hordeum* spp.). The Wild Oats Grasslands Semi-Natural Stands are found within the northeastern and northwestern corners of the Preserve, as well as in the northern San Vicente Connector parcel, totaling 4.44 acres.

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. hordeaceus, B. madritensis*), which are dominant or codominant 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 163.93 acres within the Preserve, with the most expansive areas occurring in the west-central and east-central regions.

Bromus Diandrus (Ripgut) Semi-Natural Stand Type (5.8.2)

Ripgut grass (*Bromus diandrus*) is the dominant species of this herbaceous habitat. This brome commonly dominates annual grasslands, the understory of oak woodlands, and other vegetation types in Southern California. It invades low areas with deep soils, creating dense cover and a perpetual thatch. This habitat is located in the northern San Vicente Connector Parcel along the bottom of San Vicente Creek and in areas that have been disturbed, totaling 1.36 acres. It is also located just outside the parcel boundaries near the southern San Vicente Connector Parcel.

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 (*Eucalyptus globulus*). Eucalyptus is found on 0.05 acre within the central portion of the Preserve and in the northern San Vicente Connector parcels.

California Sycamore – Mule Fat Association (3.4.1)

California sycamore (*Platanus racemosa*) is dominant or codominant in an open tree canopy, with mule fat (*Baccharis salicifolia*) dominant in an open shrub canopy (AECOM et al. 2011). Associated subdominant riparian shrubs include western poison oak, 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*), western ragweed, and San Diego sedge (*Carex spissa*). This habitat comprises 2.66 acres within the Preserve.

California Sycamore – Coast Live Oak Association (3.4.3)

California sycamore and coast live oak (*Quercus agrifolia*) are codominant species of this open tree canopy association. Associated subdominant riparian shrubs of this habitat include poison oak and California wild rose. The herbaceous diversity is high and includes many ruderal species. This habitat is located along the stream corridor of San Vicente Creek in the northern San Vicente Connector parcels, totaling 3.02 acres.

Coast Live Oak Woodland Alliance (3.6)

Coast Live Oak Woodland Alliance is dominated by a single evergreen species: coast live oak. Canopy height reaches 10 to 25 m (30 to 82 ft). The shrub layer is poorly developed but may include toyon (*Heteromeles arbutifolia*), gooseberry (*Ribes* spp.), laurel sumac, or blue elderberry (AECOM et al. 2011). The herbaceous component is continuous, dominated by a variety of introduced species (AECOM et al. 2011). A total of 25.05 acres of this habitat is mapped within the Preserve.

Coast Live Oak/Poison Oak/Grass Association (3.6.4)

Coast live oak is the dominant species of the open tree canopy in this habitat, while poison oak and laurel sumac are subdominant species in the shrub canopy layer. The herbaceous understory is well-developed and can include a variety of native and ruderal species. This habitat is located in the northern San Vicente Connector parcel, totaling 8.11 acres.

Arroyo Willow Thickets Association (3.10.1)

Arroyo willow is an extremely variable species. It is probably the single most abundant 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, mule fat, common buttonbush *(Cephalanthus occidentalis*), red osier dogwood (*Cornus sericea*), California wax myrtle (*Morella californica*), California sycamore, California poplar (*Populus trichocarpa*), Fremont cottonwood (*Populus fremontii*), willow (*Salix* spp.)., and/or blue elderberry. Larger tree species may be emergent at low

cover. Plants are generally <10 m, the canopy is open to continuous, and the herbaceous layer is variable. A total of 0.86 acre of this association is mapped within the Preserve.

Non-Vegetated Channel (Holland Code 64200)

Non-vegetated channel is not described by the VCM but is included in Oberbauer et al. (2008). Non-vegetated channel consists of reaches of ephemeral or intermittent streams lacking vegetation. These areas may contain water depending on the time of year/rainfall but do not have perennial flows and are, therefore, not considered open water habitat. Non-vegetated channel occurs within the Southern Parcel, consisting of two stream courses with rocky cobble beds. These features, totaling 0.71 acre, primarily convey water during and immediately following rain events.

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 disturbance. 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*), crown daisy (*Glebionis coronaria*), 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). A total of 40.13 acres of disturbed habitat is mapped within the Preserve, consisting primarily of dirt roads and 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 includes areas that have been constructed upon or otherwise covered with a permanent, unnatural surface and may include, for example, structures, pavement, irrigated landscaping, or hardscape to the extent that no natural land is evident. These areas no longer support native or naturalized vegetation. A total of 1.46 acres of developed land is mapped in the Preserve, which includes the Visitors Center along Sycamore Canyon Road in the western portion of 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 includes 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 Visitors 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 combined total of 444 plant species, including 345 native species and 99 non-native species have been documented with the Preserve based on baseline line surveys conducted to date for the original Preserve, Sycamore North and South Additions, 2015 Northern and Southern Additions, Southern Parcel, and San Vicente Connector parcels. Appendices B, C, D, E, and F provide a complete list of plant species observed during the 2008, 2012, 2016, and 2019 surveys. Baseline surveys have not been conducted for the Southern Gap Parcels.

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 (CNPS; e.g., California Rare Plant Rank [CRPR] 1, 2, 3, and 4 Plant Species); or is included on the County's Sensitive Plant list (List A, B, C, or D Plants).

Sixteen special-status plant species have been documented within the Preserve (County of San Diego 2009a; ICF Jones and Stokes 2008a; Dudek 2013; AECOM 2018; HELIX 2020; and ICF 2021). These consist of San Diego thorn-mint, Deane's milkvetch (*Astragalus deanei*), variegated dudleya, Palmer's grappling hook, small-flowered morning glory, willowy monardella, graceful tarplant, California adder's tongue, Palmer's sagewort (*Artemisia palmeri*), rush-like bristleweed (*Xanthisma junceum*), delicate clarkia (*Clarkia delicata*), ashy spike-moss (*Selaginella cinerascens*), Engelmann oak (*Quercus engelmannii*), golden-rayed pentachaeta (*Pentachaeta aurea* spp. *aurea*), San Diego goldenstar (*Bloomeria clevelandii*), and San Diego sunflower (*Bahiopsis laciniata*). Four of these species are MSCP Covered: San Diego thorn-mint, variegated dudleya, willowy monardella, and San Diego goldenstar.

Sensitive plant species locations are presented in Figure 11, *Special-Status Plant Locations*, and each of these species is addressed below in more detail.

San Diego Thorn-mint (*Acanthomintha ilicifolia*)

Federally Endangered, State Endangered, CRPR 1B.1; County List A, MSCP Narrow Endemic, MSCP-Covered Species

San Diego thorn-mint is an annual wildflower typically found on friable clay soils in grassy openings within chaparral at elevations ranging from 10 to 960 m (30 to 3,150 ft), blooming from April through June (CNPS 2023). This species occurs within the native grasslands found within the northwestern portion of the Preserve. These grasslands support a substantial population of San Diego thorn-mint and align with USFWS critical habitat identified for this species. Annual monitoring of this species conducted on the Preserve between 2016 and 2022 had populations ranging from 5,525 to 777,300 individuals, with the lowest count in 2018 and the highest count in 2017. The count for 2022 was 41,921 individuals (County 2023). This species is found only in San Diego County and Baja California (CNPS 2023).

Deane's Milkvetch (*Astragalus deanei*)

CRPR 1B.1, County List A

Deane's milkvetch is a perennial herb with long compound leaves up to seven inches in length and contains up to 29 small oval leaflets. It grows up to approximately two ft in height with spreading stems. This species is endemic to San Diego County, and it is generally confined to scattered locations in the southwestern portion of the County but has also more recently been found in the central part of the County. It grows in openings on slopes in coastal sage scrub and chaparral vegetation at elevations of 75 to 695 m (245 to 2,280 ft). It is often considered one of the rarest species in the County (known from fewer than 15 occurrences [CNPS 2023]); however, it may be overlooked as it grows in the midst of visibility-obscuring shrubs, and it does not typically grow in dense stands. This species was found in the southeastern corner of the 2015 Southern Addition in 2016, east of Sycamore Park Road and across from the short dirt road to the SDG&E transmission tower.

Variegated Dudleya (*Dudleya variegata*)

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

Variegated dudleya is associated with openings within chaparral and coastal sage scrub at elevations ranging from 3 to 580 m (10 to 1,900 ft) (CNPS 2023). This perennial grows 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 thorn-mint. Monitoring of this species was conducted on the Preserve in 2016, 2017, 2019, and 2021; between 2016 and 2022, it had populations ranging from 11 to 1,275 individuals, with the lowest count in 2016 and the highest count in 2021 (County 2023). This species is found in San Diego County and Baja California (CNPS 2023).

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 m (65 to 3,130 ft) (CNPS 2012). Within the Preserve, this species is found within the heavy clay soils that support the San Diego thorn-mint. 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).

Small-Flowered Morning Glory (*Convolvulus simulans*)

CRPR 4.2, County List D

Small-flowered morning glory is found on clay soils that are typically devoid of shrubs at elevations ranging from 30 to 700 m (98 to 2,297 ft) (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 thorn-mint. This species is found in Orange, Riverside, and San Diego Counties (CNPS 2012).

Preserve Boundaries
- Original Sycamore Canyon and Goodan Ranch Preserves
- Sycamore North Addition
- Sycamore South Addition
- 2015 Northern Addition
- 2015 Southern Addition
- Southern Parcel Addition
- San Vicente Connector Parcels
- Southern Gap Parcels

Special-Status Plant Locations

2019 Species Surveys
- Ashy Spike-moss
- San Diego Sunflower
- Golden-Rayed Pentachaeta
- Palmer's Sagewort
- Rush-like Bristleweed
- San Diego Goldenstar
- Willowy Monardella
- Variegated Dudleya
- Golden-Rayed Pentachaeta
- Palmer's Sagewort
- Rush Chaparral-Star
- San Diego Goldenstar

2016 Species Surveys
- Engelmann Oak
- Ashy Spike-moss
- Deane's Milkvetch

2012 Species Surveys
- Ashy Spike-moss
- Rush-like Bristleweed
- Delicate Clarkia

2008 Species Survey
- Graceful Tarplant
- California Adder's Tongue
- San Diego Thorn-mint
- Small-flowered Morning Glory
- Palmer's Grappling Hook
- Palmer's Sagewort
- Willowy Monardella
- Variegated Dudleya
- California Adder's Tongue
- San Diego Thorn-mint
- Graceful Tarplant

Scripps Poway Parkway

Sycamore Canyon Rd

67

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Source: Aerial (SanGIS 2017); Special Status Species (Dudek 2008, 2012, and 2016; HELIX 2019)

HELIX Environmental Planning

Special-Status Plant Locations

Figure 11

Willowy Monardella (*Monardella viminea*)

Federally Endangered, State Endangered, CRPR 1B.1, County List A, MSCP Narrow Endemic, MSCP-Covered Species

Willowy monardella, a small subshrub, generally occurs in streambeds that contain cobbles and have limited cover by large shrubs and trees. This species occurs in several drainages along the southern portion of the Preserve. Annual monitoring of this species conducted on the Preserve between 2015 and 2022 had populations ranging from 238 to 441 individuals, with the lowest count in 2016 and the highest count in 2015. The count for 2022 was 332 individuals (County 2023). This species is found only in San Diego County at elevations ranging from 50 to 220 m (160 to 730 ft) (CNPS 2023).

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 1,100 m (190 to 3,600 ft) (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 m (190 to 1,720 ft). 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 Sagewort (*Artemisia palmeri*)

CRPR 4.2, County List D

Palmer's sagewort is typically found along creeks and drainages near the coast and within inland chaparral at elevations ranging from 15 to 910 m (50 to 3,000 ft) (CNPS 2012). Palmer's sagewort was found within the northeastern portion of the Preserve and on the San Vicente Connector Parcels. 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 m (790 to 3,280 ft) 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. This species was also documented in 20 locations on the San Vicente Connector Parcels (ICF 2021).

Delicate Clarkia (*Clarkia delicata*)

CRPR 1B.2, County List A

Delicate clarkia 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 at elevations from 230 to 1,000 m (770 to 3,280 ft) 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 the 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.

Ashy Spike-moss (*Selaginella cinerascens*)

CRPR 4.1, County List D

Ashy spike-moss is a perennial rhizomatous fern that occurs within San Diego and Orange Counties, and south into Baja California. The species grows in sunny areas and under shrubs within chaparral and Diegan coastal sage scrub. It often occurs on clay slopes at elevations between 20 and 640 m (20 and 2,100 ft) (CNPS 2023). Ashy spike-moss was observed in three different locations in the northwestern and southeastern portions of the Southern Parcel (HELIX 2020) and has also been detected within the southwestern portion of the Preserve during biological surveys conducted in 2012 (Dudek 2013), in the northern portion of the Preserve in 2016 (AECOM 2018), and on the San Vicente Connector Parcels (ICF 2021).

Engelmann Oak (*Quercus engelmannii*)

CRPR 4.2, County List D

Engelmann oak is a perennial deciduous tree that grows 16 to 26 feet high in oak woodlands or grassland habitats. Engelmann oak often co-occurs with coast live oak, in savannah-like habitats with annual grasses, or in areas where white sage occurs, at elevations of 50 to 1,300 m (165 to 4,265 ft) (CNPS 2023). It is a drought-tolerant oak and will regrow new leaves following rain after going dormant. Engelmann oak is predominantly found in the foothills of San Diego County but also extends up into Los Angeles and southwestern San Bernardino Counties. In Baja California, it has only been collected in areas not far from the border with the United States. Engelmann oak is known to hybridize with scrub oak. Individual Engelmann oaks were found near the center of the 2015 Southern Addition and in the southeast corner of the 2015 Northern Addition.

Golden-rayed Pentachaeta (*Pentachaeta aurea* ssp. *aurea*)

CRPR 4.2, County List D

Golden-rayed pentachaeta is an annual herb that is found within San Diego and Riverside Counties, and south into Baja California. This small, yellow sunflower typically flowers from March through July. It occurs in openings of shrublands, woodlands, and forests, and within grasslands (both native and non-native) at elevations between 80 and 1,850 m (260 to 6,100 ft) (CNPS 2023). Approximately 50 individuals were mapped in four different locations within the northwestern portion of the Southern Parcel (HELIX 2020), as well as in 16 locations on the San Vicente Connector Parcels, totaling approximately 2,382 individuals (ICF 2021).

San Diego Goldenstar (*Bloomeria clevelandii*)

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

San Diego goldenstar is a perennial bulbiferous herb that blooms from April through May, and is found at elevations ranging from 50 to 460 m (160 to 1,520 ft) (CNPS 2012). This species was observed in the San Vicente Connector parcels during 2019 surveys (ICF 2021), where it was mapped in ten locations totaling approximately 28,345 individuals covering 0.94 acre. This species was not detected on portions of the Preserve west of SR-67 during 2008, 2012, 2016, or 2019 surveys, but is considered to have a high potential to occur within the native grasslands near the eastern staging area.

San Diego Sunflower (*Bahiopsis laciniata*)

CRPR 4.3, County List D

San Diego sunflower is a shrub that is found on a variety of soil types in coastal sage scrub and chaparral, occurring at elevations between 60 and 760 m (195 and 2,460 ft) (CNPS 2023). This species was mapped as an incidental observation in the southwestern portion of the Preserve in 2019, and may be more widespread in chaparral and sage scrub habitats on the surrounding rugged hillslopes.

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

Five 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, C, D, E, and F).

Nuttall's Scrub Oak (*Quercus dumosa*)

CRPR 1B.2, County List A

Nuttall's scrub oak has the potential to occur within the chaparral habitat located along the westernmost 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 m (50 to 1300 ft) (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 the potential to occur within the chaparral habitat located along the westernmost portion of the Preserve. This species blooms from December through January and is found at elevations ranging from zero to 360 m (zero to 1,190 ft) (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).

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 m (3 to 2,900 ft) 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).

San Diego Barrel Cactus (Ferocactus viridescens)

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

San Diego barrel cactus is a stem-succulent shrub. Optimal habitat for this cactus appears to be Diegan coastal sage scrub hillsides, often at the crest of slopes and growing among cobbles. It is occasionally found on vernal pool periphery and mima mound topography in Otay Mesa. It occurs at elevations between 10 to 150 m (33 to 492 ft). San Diego barrel cactus occurs in coastal San Diego County and Baja California, Mexico (CNPS 2023).

Suitable coastal sage scrub and rocky soils occur within the western portion of the Southern Parcel. Though this species has not been documented within the Preserve, there are numerous occurrences of the species within the surrounding area, including to the west within Beeler Canyon and south within the Fanita Ranch area.

Encinitas Baccharis (Baccharis vanessae)

Federally Threatened, State Endangered, CRPR 1B.1, County List A, MSCP Narrow Endemic, MSCP-Covered Species

Encinitas baccharis is a relatively low-growing perennial shrub found in mature chaparral as well as in the understory of Torrey pine forest. It occurs at elevations between 60 to 300 m (197 to 984 ft) (CNPS 2023).

This species was considered to have high potential to occur as it often occurs on rocky ridges and slopes in habitat similar to that which occurs on the 2015 Northern and Southern Additions; it also occurs on unusual soil types such as those derived from metasedimentary rock, which exists on the site. It is known from the top of Mount Woodson, located four miles to the northeast. Encinitas baccharis has a spotty distribution where it occurs, but the conditions on-site in the upper ridges appear to be suitable for it (AECOM 2018).

3.2.4 Non-native and/or Invasive Plant Species

A total of 96 non-native plant species were identified in the Preserve, with 23 identified as target species requiring treatment, ranging from high, moderate, to low removal priority (Table 4, *Target Invasive Non-native Plant Species*). Target non-native invasive species were selected based on their invasive potential, prevalence throughout the Preserve, discussions with DPR rangers and staff, and the ability for management. The criteria used for assigning removal priority rankings for the invasive non-native plant species included an evaluation of the California Invasive Plant Council (Cal-IPC) rating, the current cover and distribution in the Preserve, the potential for invading sensitive habitat, and the potential for increasing fire intensity. These target non-native invasive plant species locations are shown on Figures 12a-e, *Target Invasive Non-native Plant Species Locations*, and are discussed in Appendix M, *Vegetation Management Plan*. 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
Arundo donax	giant reed	High	High
Cortaderia selloana	pampas grass	High	High
Ehrharta calycina	perennial veldt grass	High	High
Tamarix ramosissima	saltcedar	High	High
Brachypodium distachyon	purple false-brome	Moderate	High
Cynara cardunculus	artichoke thistle	Moderate	High
Dittrichia graveolens	stinkwort	Moderate	High
Gazania linearis	treasure flower	Moderate	High
Lepidium draba	white top (hoary cress)	Moderate	High
Eucalyptus camaldulensis	river red gum	Limited	High
Glebionis coronaria	crown daisy	Limited	High
Silybum marianum	milk thistle	Limited	High
Dimorphotheca sinuata	blue-eyed Cape marigold	None	High
Melia azedarach	Chinaberry tree	None	High
Brassica nigra	black mustard	Moderate	Moderate
Centaurea melitensis	Maltese star-thistle	Moderate	Moderate
Hirschfeldia incana	shortpod mustard	Moderate	Moderate
Pennisetum setaceum	crimson fountain grass	Moderate	Moderate
Melinus repens	rose Natal grass	None	Moderate
Carduus pycnocephalus	Italian thistle	Moderate	Low

Table 4 (cont.)
TARGET INVASIVE NON-NATIVE PLANT SPECIES

Scientific Name	Common Name	Cal-IPC Rating[1]	Removal Priority
Cynodon dactylon	Bermuda grass	Moderate	Low
Rumex crispus	curly dock	Limited	Low
Reseda luteola	Dyer's rocket	None	Low

Source: Cal-IPC California Invasive Plant Inventory Database, updated 2023. 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.

The following discussion focuses solely on high and moderate priority species for removal. Refer to Figures 12a-e and Appendix M for additional information.

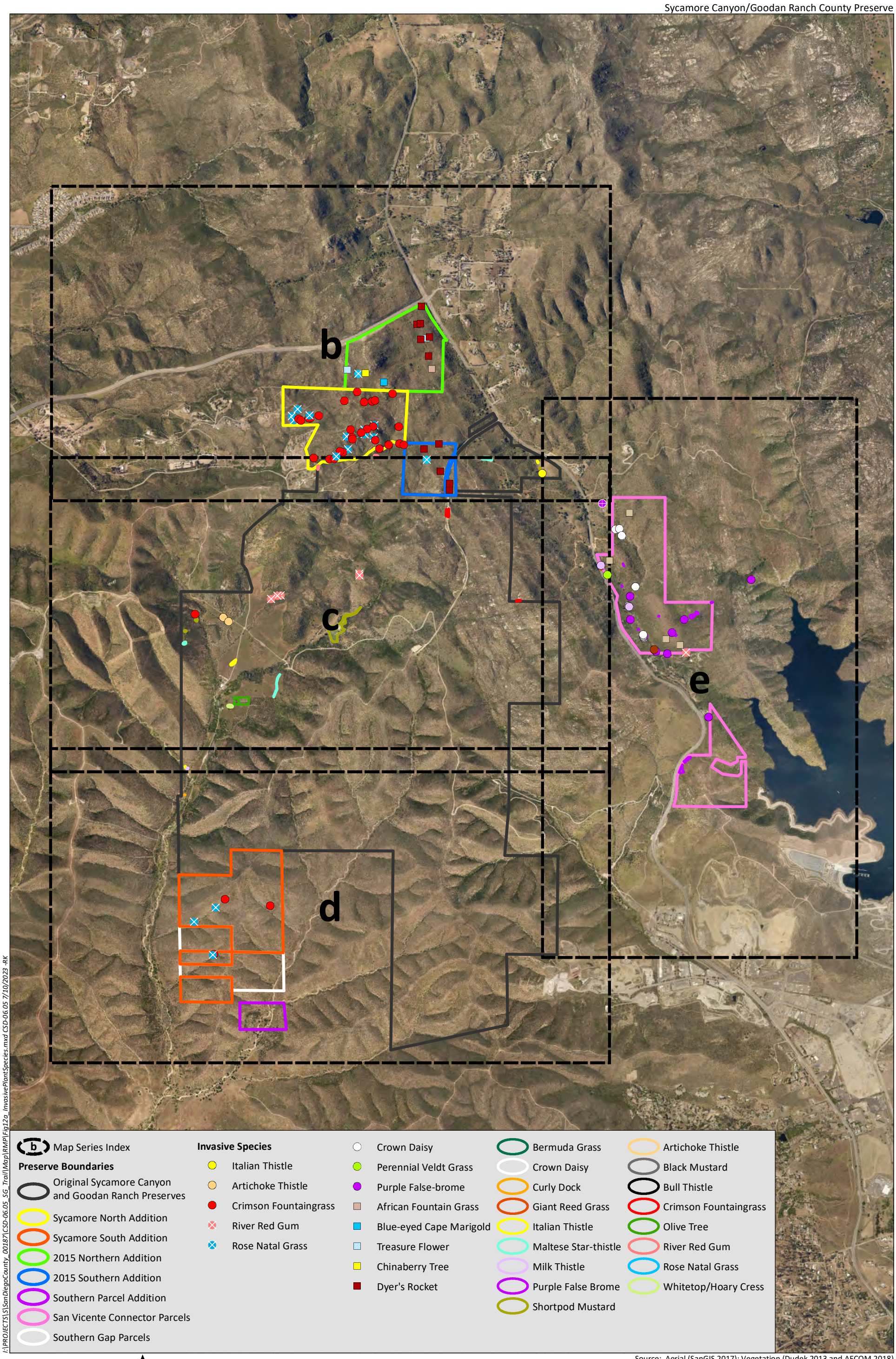
Giant Reed

Giant reed (*Arundo donax*) is a tall perennial grass (family Poaceae) that typically forms dense stands on disturbed sites, sand dunes, riparian areas, and wetlands. It has invaded central California river valleys in San Luis Obispo and Monterey Counties, the San Francisco Bay Area, and the Sacramento and San Joaquin River Valleys, and it is also increasing in the North Coast region. Giant reed is threatening California's riparian ecosystems by outcompeting native species, such as willows, for water. Several clumps of giant reed occur within the San Vicente Connector parcel, specifically along SR-67, within the California Department of Transportation right-of-way and the northern parcel. An estimated 20 stems (less than 0.1 acre) from two clumps occur at the San Vicente Connector Parcel location.

Pampas Grass

Pampas grass is a large, clumping grass, about 6 to 8 ft (1.8 to 2.4 m) 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 2023).

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 2023). This species was observed scattered in the creeks north and south of the Visitors Center in the western portion of the Preserve. Only five individual plants (approximately 500 square ft) 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.



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Source: Aerial (SanGIS 2017); Vegetation (Dudek 2013 and AECOM 2018)

HELIX Environmental Planning

Target Invasive Non-native Plant Species Locations Map Index

Figure 12a

Sycamore Canyon/Goodan Ranch County Preserve

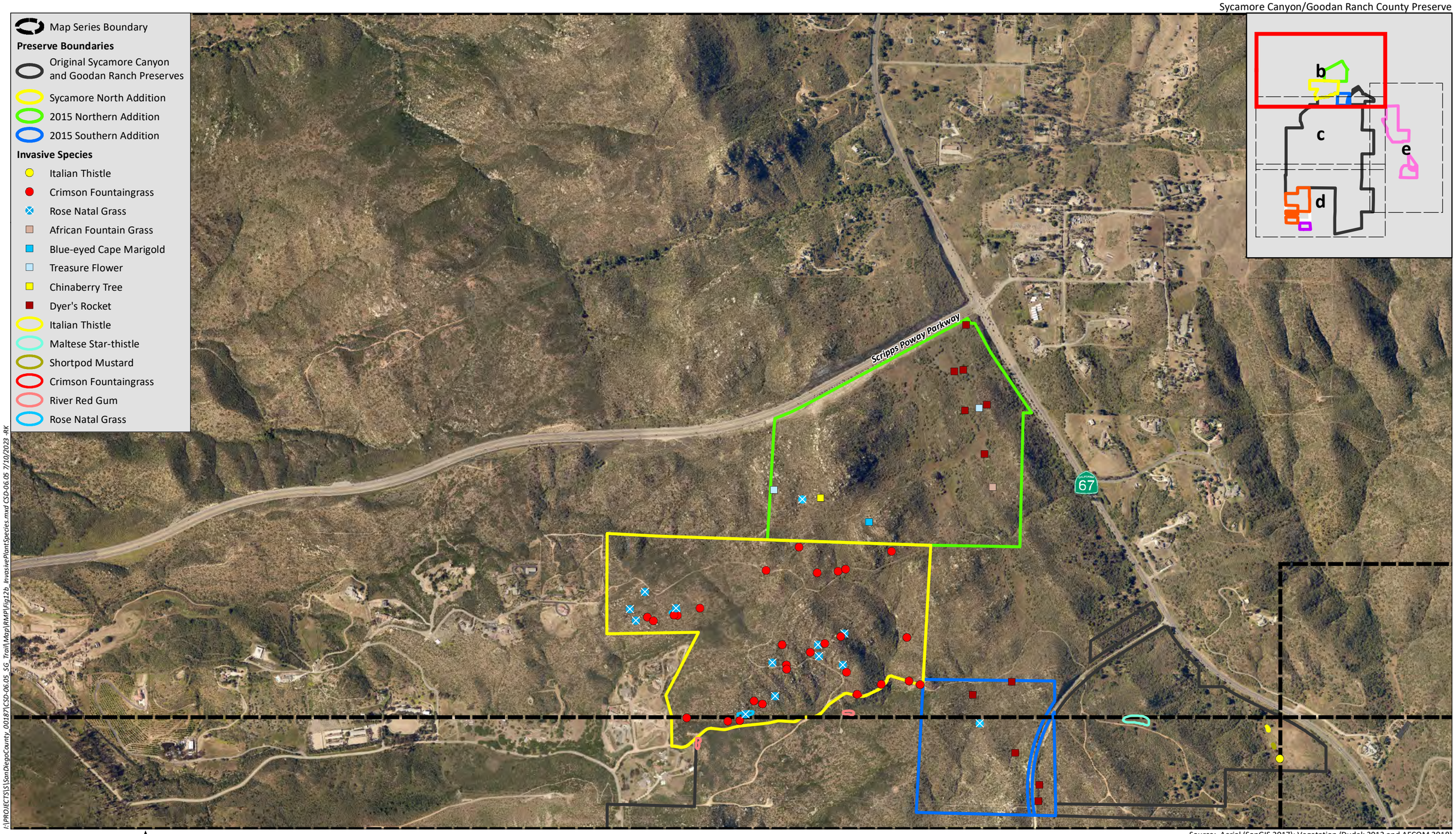
Map Series Boundary

Preserve Boundaries

- Original Sycamore Canyon and Goodan Ranch Preserves
- Sycamore North Addition
- 2015 Northern Addition
- 2015 Southern Addition

Invasive Species

- Italian Thistle
- Crimson Fountaingrass
- Rose Natal Grass
- African Fountain Grass
- Blue-eyed Cape Marigold
- Treasure Flower
- Chinaberry Tree
- Dyer's Rocket
- Italian Thistle
- Maltese Star-thistle
- Shortpod Mustard
- Crimson Fountaingrass
- River Red Gum
- Rose Natal Grass



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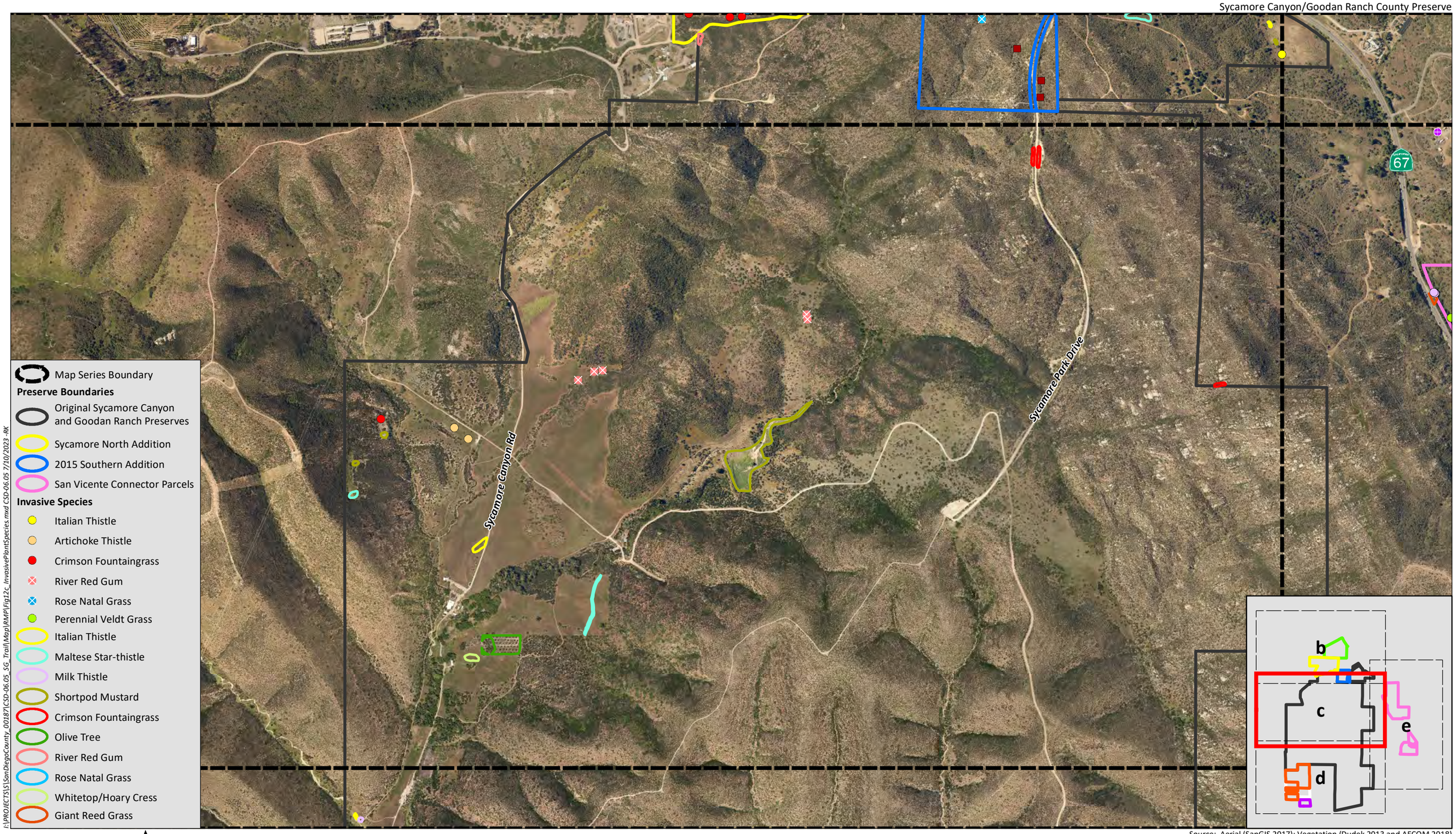
Source: Aerial (SanGIS 2017); Vegetation (Dudek 2013 and AECOM 2018)

HELIX Environmental Planning

Target Invasive Non-native Plant Species Locations

Figure 12b

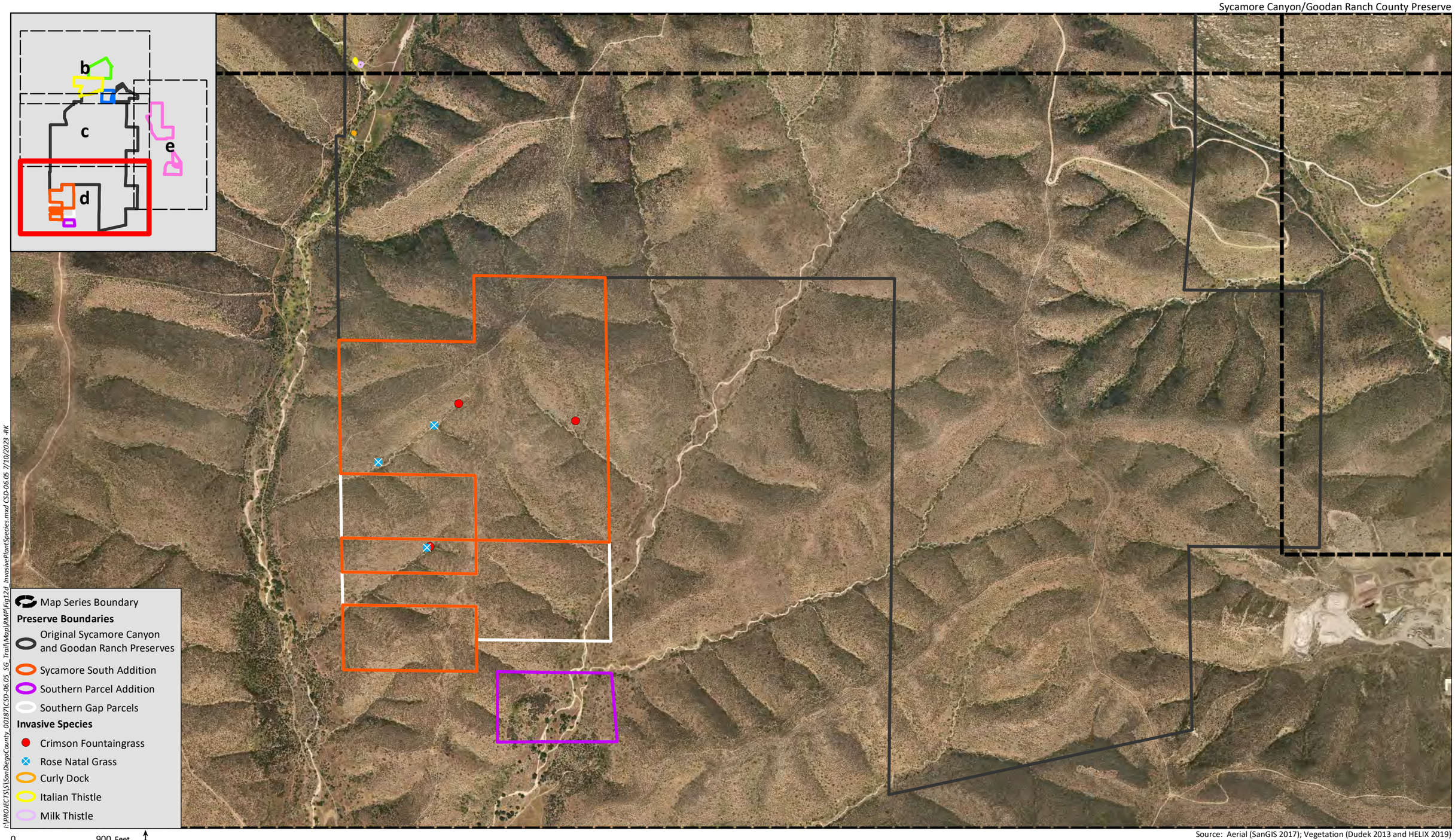


Source: Aerial (SanGIS 2017); Vegetation (Dudek 2013 and AECOM 2018)

HELIX Environmental Planning

Target Invasive Non-native Plant Species Locations

Figure 12c



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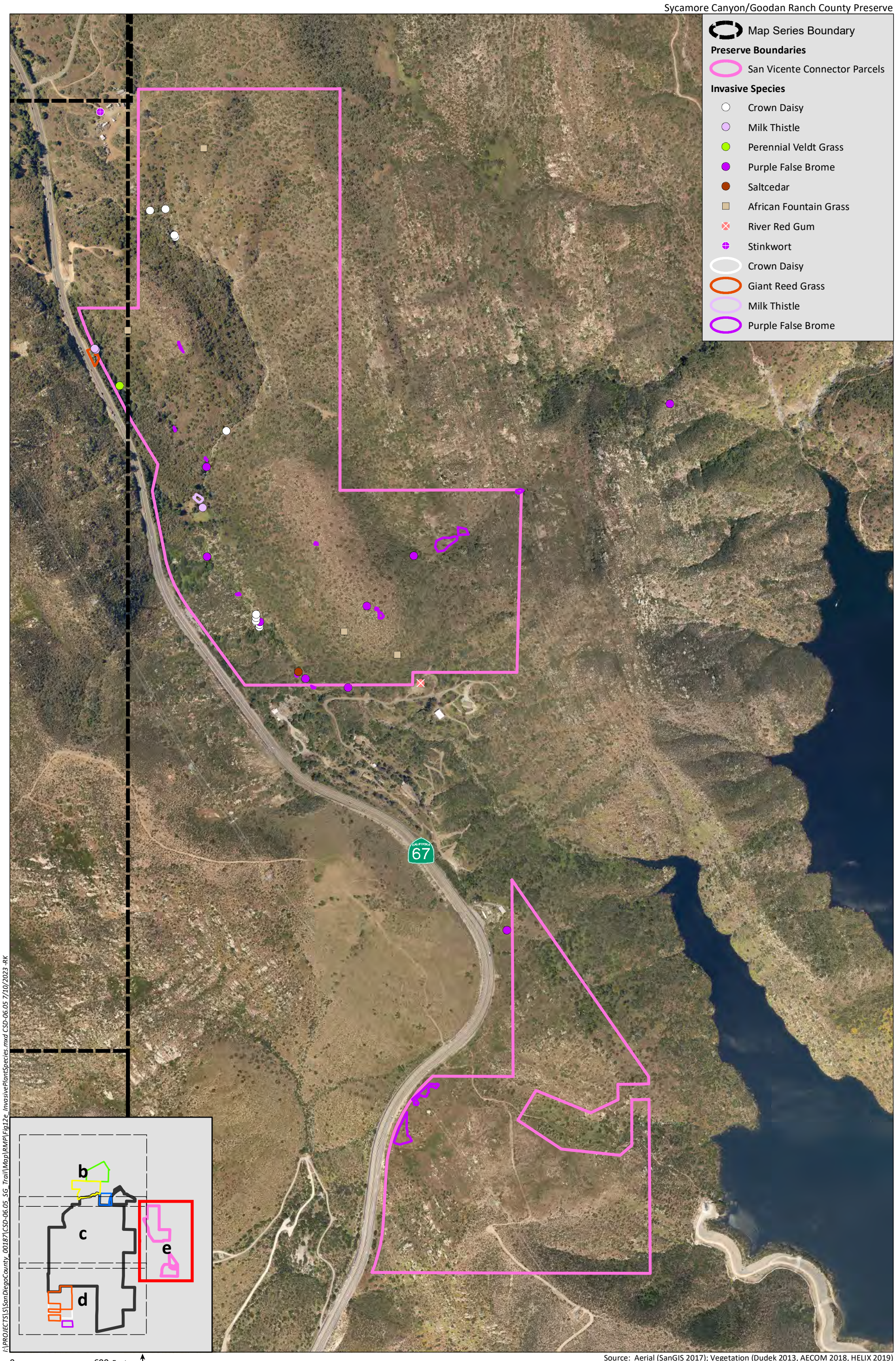
Source: Aerial (SanGIS 2017); Vegetation (Dudek 2013 and HELIX 2019)

HELIX Environmental Planning

Target Invasive Non-native Plant Species Locations

Figure 12d

Sycamore Canyon/Goodan Ranch County Preserve



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Source: Aerial (SanGIS 2017); Vegetation (Dudek 2013, AECOM 2018, HELIX 2019)

HELIX Environmental Planning

Target Invasive Non-native Plant Species Locations

Figure 12e

Perennial Veldt Grass

Perennial veldt grass (*Ehrharta calycina*) is a perennial grass (family Poaceae) found in disturbed grasslands, roadsides, and coastal habitats in California's south and central-west regions. Perennial veldt grass is spreading very rapidly in the central coast region, where it invades dunes and shrublands. It was originally imported to California for use as a pasture grass and for erosion control. Perennial veldt grass displaces native vegetation and converts coastal scrub and chaparral communities to grasslands. It resprouts after fires and may increase fire frequency. Five individual perennial veldt grass were mapped at one location within the San Vicente Connector Parcel.

Saltcedar

Saltcedar (*Tamarix ramosissima*) 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 2023). Five individuals of saltcedar were observed within drainages in the northwestern portion of the Preserve, just north of the ranch house, in addition to one saltcedar mapped within the northern portion of the San Vicente Connector parcel, but it is likely that there are more individuals along the riparian corridors.

Purple False Brome

Purple false brome (*Brachypodium distachyon*) is a winter annual grass that is locally abundant in drier regions of California (Cal-IPC 2023). This species occurs primarily in dry, open, or disturbed sites that flower later than most other annual grasses. It can outcompete This species has a "moderate" Cal-IPC Inventory Ranking (Cal-IPC 2023). This species was observed at two locations in the north-central portion of the Southern Parcel adjacent to the unvegetated channels in areas dominated by other annual non-native grasses. Less than 10 individuals were observed at each observation location. Over 1,700 individual purple false brome were estimated and mapped at several locations on the San Vicente Connector parcel.

Artichoke Thistle

Artichoke thistle (*Cynara cardunculus*) 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 2023). 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 has been targeted and removed from areas where it was previously mapped. The Preserve is actively monitored for this species, and individuals encountered are hand-pulled or treated with herbicide.

Stinkwort

Stinkwort (*Dittrichia graveolens*) 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 2023). 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 Visitors Center in the western portion of the Preserve. Approximately 15 individual plants (approximately 50 square ft) were documented in the western portion. Additionally, one population was mapped in the access road outside the San Vicente Connector parcel boundary, totaling approximately 1,000 individuals.

Treasure Flower

Treasure flower (*Gazania linearis*) is a perennial herb that was introduced as an ornamental plant (Cal-IPC 2023). This species has a Moderate Cal-IPC Inventory Ranking (Cal-IPC 2023). This species was observed growing on the western edge of the 2015 Northern Addition. A relatively low number of plants were growing in the two locations; they were observed in the northeastern portion of the Preserve, as well as sporadically throughout the Preserve.

Whitetop (Hoary Cress)

Whitetop or hoary cress (*Lepidium [Cardaria] draba*) 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 by rhizomes from its root system. It is possible for new individuals to sprout from root fragments, making manual removal difficult. It produces a large number of viable seed, which can be dispersed rapidly (Cal-IPC 2023).

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 2023). Within the Preserve, this species has been targeted and removed from areas where it was previously mapped. The Preserve is actively monitored for this species, and individuals encountered are hand-pulled or treated with herbicide.

River Red Gum

River red gum (*Eucalyptus camaldulensis*) is a eucalyptus species that occurs in Southern California, both in upland and riparian habitats. It can spread rapidly, outcompete native species, and increase fuel levels for fires as it tends to overcrowd native plants and trees as it grows in dense stands. Approximately 16 individuals (approximately 0.3 acre) were observed on the main portion of the Preserve. One individual river red gum was observed on the San Vicente Connector Parcels.

Crown Daisy

Crown daisy (*Glebionis coronaria*) is a flowering annual (family Asteraceae) found along the central and south coast of California. Crown daisy commonly invades riparian areas, coastal dunes, prairies, and

scrub. It is a common ornamental plant that escapes garden settings and easily invades disturbed areas. The seeds of crown daisies sprout very quickly after rain, even in relatively dry areas. Seedlings may grow up to five feet tall and may form dense stands that crowd out native vegetation. Dead plant mass can remain in place for many years, preventing native plants from re-colonizing. A total of 42 crown daisies were mapped at 11 locations within the northern portion of the San Vicente Connector parcel, totaling approximately 0.004 acre. In some cases, there is only one individual, and in other cases, groups of individuals.

Milk Thistle

Milk thistle (*Silybum marianum*) is a winter annual or biennial with prickly leaves (family Asteraceae). It is widely spread throughout California in overgrazed pastures and along fence lines and other disturbed areas. Milk thistle produces tall, dense stands that outcompete native species. A few isolated patches were observed in the central and southern portions of the Preserve in addition to approximately 111 individuals mapped at four locations within the northern portion of the San Vicente Connector parcels, totaling approximately 0.044 acre.

Blue-Eyed Cape-Marigold

Blue-eyed cape-marigold (*Dimorphotheca sinuata*) occurs on the south slope of the southern hills on the northwestern portion of the Preserve, south of Scripps Poway Parkway. Only a few individual plants were found at that location. Blue-eyed cape-marigold has been commonly used as a plant to provide cover to road cuts and freeway edges. It occasionally escapes into the natural environment. The fruits do not have a pappus, so wind dispersal is not a major means for it to spread.

Chinaberry Tree

Chinaberry tree (*Melia azedarach*) grows in a small location in the northwestern portion of the Preserve, south of Scripps Poway Parkway, consisting of one individual on an upper slope area.

Rose Natal Grass

Rose Natal grass (*Melinus repens*) is a perennial grass in the Poaceae family that is native to South Africa but has 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 in 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 2023). However, in the Preserve, this species is equally or more abundant than crimson 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 Preserve is monitored for this species, and individuals encountered are hand-pulled or treated with herbicide.

Crimson Fountain Grass

Crimson fountain grass (*Pennisetum setaceum*) is a clumping grass that has spread largely 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 2023). 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. Most recently, approximately 170 individuals were observed in two locations on the San Vicente Connector parcel in 2019. It is commonly observed along SR-67 and is likely to continue to invade the Preserve in the future. The Preserve is monitored for this species, and individuals encountered are hand-pulled or treated with herbicide.

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 2023). 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 a moderate priority for control within the Preserve due to its difficulty in 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. 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 ft) 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 the 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 2023). Within the Preserve, it exists as a component of annual grasslands but is also observed invading native non-grassland vegetation communities. The Cal-IPC Inventory categorizes black mustard as having an overall rating of "moderate" (Cal-IPC 2023). 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 Visitors Center in the western portion of the Preserve and along roads such as Cardiac Hill Road. An estimated 20 individual plants (approximately 20 square ft) 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 2023). This species has a Moderate Cal-IPC Inventory Ranking (Cal-IPC 2023). Shortpod mustard is primarily found in disturbed areas in grasslands within the Preserve. Approximately 1,280 plants (approximately 1,200 square ft) were mapped within the Preserve, most of which occur within an old detention pond in the central portion of the Preserve. The species was ranked as a

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 stork's bill (*Erodium* spp.), oats, bromes, festuca (*Festuca* spp.), and palms, among others. These non-native plant species were not mapped because of their distribution across the site but are discussed in the Vegetation Management Plan (VMP) in Appendix M. 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 combined total of 240 wildlife species were observed or detected within the Preserve during baseline surveys to date for the original Preserve, Sycamore North and South Additions, 2015 Northern and Southern Additions, Southern Parcel, and San Vicente Connector parcels, including 84 invertebrates, three amphibians, 24 reptiles, 90 birds, 39 mammals (15 bats, 13 small mammals, and 11 medium/large mammals). Baseline surveys have not yet been conducted for the Southern Gap Parcels.

Appendices B through F provide a complete list of wildlife species observed during baseline surveys for the original Preserve and the above-referenced acquisitions.

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, C, D, E, and F. No special-status butterfly species or other invertebrate species were detected during the 2008, 2012, or 2016 surveys. One special-status invertebrate species, Quino checkerspot butterfly (*Euphydryas editha quino*), was detected in 2019 (see below).

Butterflies

Forty-two butterfly species were observed on the Preserve during the 2008, 2012, 2016, and/or 2019 biodiversity surveys and the 2022 Hermes copper surveys, including Quino checkerspot, desert orangetip (*Anthocharis cethura*), Sara's orangetip (*Anthocharis sara*), Behr's metalmark (*Apodemia mormo virgulti*), perplexing hairstreak (*Callophrys affinis perplexa*), gray hairstreak (*Strymon melinus*), great purple hairstreak (*Atlides halesus corcorani*) brown elfin (*Callophrys augustinus*), Gabb's checkerspot (*Chlosyne gabbii*), orange sulphur (*Colias eurytheme*), funereal duskywing (*Erynnis funeralis*), mournful duskywing (*Erynnis tristis*), southern blue (*Glaucopsyche lygdamus australis*), rural skipper (*Ochlodes agricola*), umber skipper (*Poanes melane melane*), northern white-skipper (*Heliopetes ericetorum*), acmon blue (*Icaricia acmon*), marine blue (*Leptotes marina*), common buckeye (*Junonia coenia*), dainty sulfur (*Nathalis iole*), mourning cloak (*Nymphalis antiopa*), pale swallowtail (*Papilio eurymedon*), western tiger swallowtail (*Papilio rutulus*), anise swallowtail (*Papilio 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*), American lady (*Vanessa virginiensis*), Powell's admiral (*Limenitis lorquini powelli*), common ringlet (*Coenonympha tullia*), greenish blue (*Plebejus saepiolus*), lupine blue (*Plebejus lupini monticola*), echo blue (*Celistrina echo echo*), Reakirt's blue (*Echinargus isola*), San Bernardino blue (*Euphilotes bernardino*), Edward's blue (*Hemiargus ceraunus gyas*), hedgerow hairstreak (*Satyrium saepium*), and mylitta crescent (*Phyciodes mylitta*). Some individuals could not be identified to the species level and are not included in the overall species tally above.

A single Quino checkerspot butterfly was detected during biodiversity studies conducted in 2019 within the southern portion of the existing Slaughterhouse Canyon Trail that is part of the existing formal trail network in the Preserve. No special-status butterflies, specifically Quino checkerspot or Hermes copper, were observed during the 2008, 2012, or 2016 surveys, or during focused surveys conducted for Hermes copper in 2022 (HELIX 2022). These species are dependent not only on suitable habitat but also on the 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 cryptogamic crusts. Quino checkerspot have been historically documented within the original Preserve; one adult was observed in 2005 northeast of the Sycamore South property (ICF Jones and Stokes 2008a), and as noted above, a single individual was observed in 2019.

No host plants were observed in 2012 for Hermes copper butterfly. An updated Hermes copper habitat assessment was conducted in 2020, which identified potentially suitable habitat in the Preserve. Protocol surveys were conducted in 2022, with negative results. Hermes copper is a federally listed species and a County Group 1 sensitive species. It occurs within southern mixed chaparral and coastal sage scrub habitat with mature specimens of its larval host plant, spiny redberry. The most recent record of Hermes copper on the Preserve was of a single individual within the original Preserve prior to the 2003 Cedar Fire (ICF Jones and Stokes 2008a); this fire may have extirpated the species from the Preserve.

Amphibians

A total of three amphibian species were detected on the Preserve during 2008 and 2019 surveys, including western spadefoot toad (*Spea hammondii*), Baja California tree frog (*Pseudacris hypochondriaca [P. regilla]*), and California tree frog (*Pseudacris cadaverina*). Two of these species, the western spadefoot and Baja California tree frog, were detected during the 2008 surveys of the original Preserve. This species is presumed to breed in areas that pool within the Preserve. Baja California tree frog was detected during active searches in 2008. It is presumed to be breeding in small pools along Sycamore Canyon Creek. Baja California tree frog and California tree frog were detected during 2019 surveys of the San Vicente Connector parcels, and western spadefoot was detected during the 2019 surveys for the Southern Parcel.

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

No amphibian species were detected during the 2016 biodiversity studies for the 2015 Northern and Southern Additions.

Reptiles

A total of 24 reptile species were observed within the Preserve during the 2008, 2012, 2016, and/or 2019 surveys. These include: southern alligator lizard (*Elgaria multicarinata*), Blainville's (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*), western red-tailed skink (*Plestiodon gilberti rubrocaudatus*), orange-throated whiptail (*Cnemidophorus hyperythrus beldingi*), coastal whiptail (*Aspidoscelis 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*), rosy boa (*Lichanura orcuttii*), 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, 2012, 2016, and/or 2019 surveys are special-status species: Blainville's horned lizard, Coronado skink, orange-throated whiptail, coastal whiptail, coast patch-nosed snake, two-striped garter snake, rosy boa, and northern red diamond rattlesnake (Appendices B, C, D, E, and F). Two are also MSCP-covered, orange-throated whiptail and Blainville's horned lizard. Two-striped garter snake is a County of San Diego Sensitive Animal Group 1 Species. Blainville's horned lizard, coast patch-nosed snake, 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

Ninety bird species were observed within the Preserve during the 2008, 2012, 2016, and/or 2019 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 (*Chamaea 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.

Nineteen special-status bird species were observed during the 2008, 2012, 2016, and/or 2019 surveys: coastal California gnatcatcher (*Polioptila californica californica*), barn owl (*Tylo alba*), Cooper's hawk (*Accipiter cooperii*), golden eagle (*Aquila chrysaetos*), bald eagle (*Haliaeetus leucocephalus*), northern harrier *(Circus cyaneus*), osprey (*Pandion haliaetus*), red-shouldered hawk (*Buteo lineatus*), sharp-shinned hawk (*Accipiter striatus*), southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*), Bell's sage sparrow (*Amphispiza belli belli*), 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*), yellow warbler (*Setophaga*

petechia), and white-tailed kite (*Elanus leucurus*). Eight of these species are MSCP-covered species: burrowing owl, coastal California gnatcatcher, Cooper's hawk, golden eagle, bald 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 Visitors Center 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. One active turkey vulture nest containing two eggs was found in 2016 in a large rock crevice at the top of the hill on the western side of the 2015 Northern Addition. To avoid disturbance to the nest, the turkey vulture nest was not revisited on subsequent surveys to determine if the nest was successful or not. 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, 2012, 2016, and/or 2019 surveys is included in the faunal list of the Biological Diversity Baseline Reports (Appendices B through F).

Small Mammals

In total, 13 small mammal species were recorded at the Preserve during surveys conducted in 2008, 2012, 2016, and/or 2019 (Appendices B through F). These species included: Botta's pocket gopher (*Thomomys bottae*), brush deermouse (*Peromyscus boylii*), 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 11 medium and large mammals were detected in the Preserve during the 2008, 2012, 2016, and/or 2019 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 15 bat species were identified within the Preserve during the 2008, 2012, 2016, and/or 2019 surveys. These species were the pallid bat (*Antrozous pallidus*), western pipistrelle (*Pipistrellus hesperus*), 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 Species of Special Concern (SSC): 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 detected at the Preserve (Figures 13a-13e, *Special-Status Wildlife Locations*). 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. Forty-four special-status wildlife species were detected at the Preserve during the 2008, 2012, 2016, and/or 2019 baseline biodiversity surveys for the Preserve and 2022 Hermes copper surveys for the PAP, including 12 species covered under the MSCP.

Special-status wildlife detected include one butterfly, one amphibian, eight reptiles, 19 birds, and 15 mammal species. Information on each of these species is provided below.

3.3.2.1 Invertebrates

Quino Checkerspot Butterfly (*Euphydryas editha quino*)

Federally Endangered, County Group 1, MSCP Narrow Endemic

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 cryptogamic crusts.

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

Historically, Quino checkerspot butterflies have been recorded within the vicinity of the Preserve, although they were not observed in 2008, 2012, or 2016. One adult was observed in 2005 on the

ridgeline immediately east of the Sycamore South property (County of San Diego 2008a), and one adult was observed in 2019 within the southern portion of the existing Slaughterhouse Canyon Trail that is part of the existing formal trail network in the Preserve.

3.3.2.2 Herpetofauna

Western Spadefoot Toad (*Spea hammondii*)

California Species of Special Concern, County Group 2

The western spadefoot toad occurs from northern California southward to San Diego County and farther into Baja California to the west of the Sierra Nevada at elevations below 4,500 ft. This terrestrial species requires temporary pools for breeding. Suitable upland habitats include coastal sage scrub, chaparral, and grasslands, but the species is most common in grasslands with vernal pools or mixed grassland-coastal sage scrub areas (Holland and Goodman 1998). The species breeds in temporary pools formed by heavy rains that hold standing water for more than three weeks to allow adequate time for tadpoles to metamorphose but is also found breeding in riparian habitats with suitable water resources (Feaver 1971). Breeding pools must lack exotic predators such as fish, bullfrogs, and crayfish for the species to successfully reproduce (Jennings and Hayes 1994a). The species estivates in burrows within upland habitats adjacent to potential breeding sites (Stebbins and McGinnis 1972).

The western spadefoot toad was captured in the southwestern portion of the Southern Parcel in 2019, as well as during the 2008 surveys of the original Preserve. Suitable breeding habitat for the species occurs along Clark Canyon Creek, where temporary pools form following rain events. This species was not observed during the 2012 surveys for the Sycamore North and Sycamore South additions to the Preserve, the 2015 Northern and Southern Additions surveys in 2016, or the San Vicente Connector parcel surveys in 2019.

Blainville's (Coast) Horned Lizard (*Phrynosoma blainvillii*)

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

Blainville's 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 m (8,000 ft) AMSL (Stebbins 2003). Despite a wide-ranging distribution, the Blainville's 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 2003). Up to 90 percent of the diet of this 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 Blainville's horned lizard was observed on numerous occasions in the more open scrub habitats during the 2008 surveys within the original Preserve, as well as being recorded during the 2012 survey of Sycamore North and Sycamore South additions. This species was also detected in loose sandy soil along the dirt trails in the 2015 Northern Addition during 2016 surveys. The majority of the Preserve supports appropriate habitat for this species. This species was not observed during the Southern Parcel surveys in 2019 or the San Vicente Connector parcel surveys in 2019.

Sycamore Canyon/Goodan Ranch County Preserve

Map Series Index

Preserve Boundaries

- Original Sycamore Canyon and Goodan Ranch Preserves
- Sycamore North Addition
- Sycamore South Addition
- 2015 Northern Addition
- 2015 Southern Addition
- Southern Parcel Addition
- San Vicente Connector Parcels
- Southern Gap Parcels

b

c

d

e

Scripps Poway Parkway

67

Sycamore Canyon Rd

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0 2,300 Feet

Source: Aerial (SanGIS 2017); Special Status Species (Dudek 2008 and 2012; HELIX 2019 and 2022)

HELIX Environmental Planning

Special-Status Wildlife Locations Map Index

Figure 13a-1

Source: Special Status Species (Dudek 2008 and 2012; HELIX 2019 and 2022)

HELIX Environmental Planning

Legend for Special-Status Wildlife Locations

Figure 13a-2

Sycamore Canyon/Goodan Ranch County Preserve

Map Series Boundary

Preserve Boundaries

Original Sycamore Canyon and Goodan Ranch Preserves

Sycamore North Addition

2015 Northern Addition

2015 Southern Addition

Special-Status Wildlife Locations

2022 Species Surveys

Coastal California Gnatcatcher

Coastal Whiptail

2016 Species Surveys

Belding's Orange-throated Whiptail

Rosy Boa

Red Diamond Rattlesnake

Coastal Whiptail

Coast Patch-nosed Snake

San Diego Desert Woodrat

Pocketed Free-tailed Bat

Townsend's Big-eared bat

Western Small-footed Myotis

Western Red bat

Western Yellow Bat

Yuma Myotis

Bald Eagle

Coastal California Gnatcatcher

Sharp-shinned Hawk

Southern California Rufous-crowned Sparrow

Turkey Vulture

Mule Deer

Dulzura Pocket Mouse

Northwestern San Diego Pocket Mouse

2012 Species Surveys

Rosy Boa

Red Diamond Rattlesnake

Blainville's Horned Lizard

Belding's Orange-throated Whiptail

Southern California Rufous-crowned Sparrow

Coastal California Gnatcatcher

Barn Owl

San Diego Desert Woodrat

Dulzura Pocket Mouse

Northwestern San Diego Pocket Mouse

San Diego Black-tailed Jackrabbit

Mule Deer

Pallid Bat

Pocketed Free-tailed Bat

Western Red Bat

Western Small-footed Myotis

Western Yellow Bat

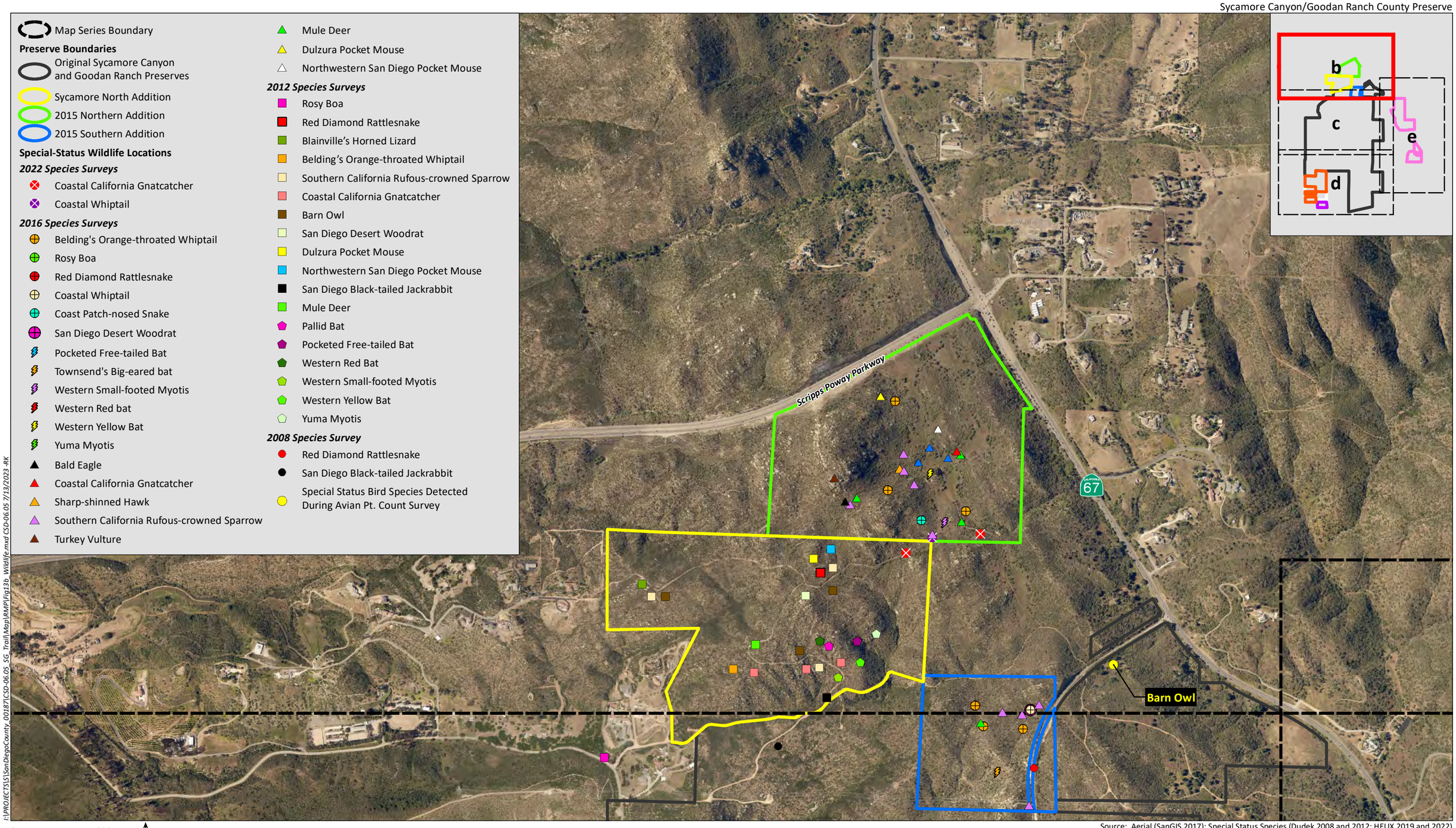
Yuma Myotis

2008 Species Survey

Red Diamond Rattlesnake

San Diego Black-tailed Jackrabbit

Special Status Bird Species Detected During Avian Pt. Count Survey



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Source: Aerial (SanGIS 2017); Special Status Species (Dudek 2008 and 2012; HELIX 2019 and 2022)

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HELIX Environmental Planning

Special-Status Wildlife Locations

Figure 13b

Map Series Boundary

Preserve Boundaries

Original Sycamore Canyon and Goodan Ranch Preserves

Sycamore North Addition

2015 Southern Addition

San Vicente Connector Parcels

Special-Status Animals

2019 Species Surveys

Coastal California Gnatcatcher

2016 Species Surveys

Belding's Orange-throated Whiptail

Coastal Whiptail

Pocketed Free-tailed Bat

Townsend's Big-eared bat

Western Small-footed Myotis

Western Yellow Bat

Yuma Myotis

Southern California Rufous-crowned Sparrow

Mule Deer

2012 Species Surveys

White-tailed Kite

Rosy Boa

San Diego Black-tailed Jackrabbit

2008 Species Survey

Red Diamond Rattlesnake

San Diego Black-tailed Jackrabbit

Coast Patch-nosed Snake

Blainville's Horned Lizard

Western Bluebird

Western Spadefoot

Belding's Orange-throated Whiptail

Horned Lark

Special Status Bird Species Detected During Avian Pt. Count Survey

Special Status Herptiles Detected During Hepetological Array Trapping

Orange-throated Whiptail, Coronado Skink, Western Spadefoot Toad

Western Spadefoot Toad, California Western Whiptail, Orange-throated Whiptail

California Western Whiptail, Orange-throated Whiptail

Western Spadefoot Toad, California Western Whiptail, Orange-throated Whiptail, Blainville's Horned Lizard

Rufous-crowned Sparrow, Western Bluebird

Rufous-crowned Sparrow, Bell's Sage Sparrow

Cooper's Hawk, Western Bluebird

Rufous-crowned Sparrow, Bell's Sage Sparrow, Osprey

Sycamore Canyon Rd

Barn Owl, Rufous-crowned Sparrow, Red-shouldered Hawk, Western Bluebird, White-tailed Kite, Yellow-breasted Chat

California Western Whiptail, Orange-throated Whiptail, Coronado Skink

Rufous-crowned Sparrow, Yellow-breasted Chat

Rufous-crowned Sparrow, Bell's Sage Sparrow

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Source: Aerial (SanGIS 2017); Special Status Species (Dudek 2008 and 2012; HELIX 2019 and 2022)

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HELIX Environmental Planning

Special-Status Wildlife Locations

Figure 13c

Map Series Boundary

Preserve Boundaries

Original Sycamore Canyon and Goodan Ranch Preserves

Sycamore South Addition

Southern Parcel Addition

Southern Gap Parcels

Special-Status Animals

2019 Species Surveys

- Quino Checkerspot Butterfly
- Mule Deer
- San Diego Black-tailed Jackrabbit
- Yuma Myotis
- Western Mastiff Bat
- San Diego Desert Woodrat
- Pocketed Free-tailed Bat
- Turkey Vulture
- Yellow Warbler
- Southern California Rufous-crowned Sparrow
- Belding's Orange-throated Whiptail
- Western Spadefoot

2012 Species Surveys

- Turkey Vulture
- Blainville's Horned Lizard
- Belding's Orange-throated Whiptail
- Southern California Rufous-crowned Sparrow
- Coastal California Gnatcatcher
- Barn Owl
- San Diego Desert Woodrat
- Northwestern San Diego Pocket Mouse
- Mule Deer
- Pocketed Free-tailed Bat
- Western Red Bat
- Western Small-footed Myotis
- Yuma Myotis

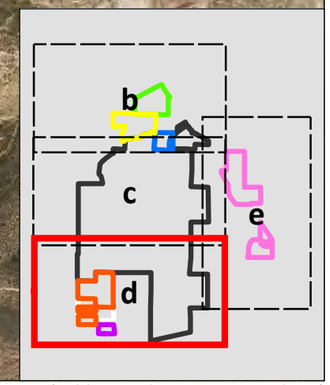
2008 Species Survey

- Southern California Rufous-crowned Sparrow
- Red Diamond Rattlesnake
- San Diego Black-tailed Jackrabbit
- Blainville's Horned Lizard
- Burrowing Owl
- Horned Lark
- Special Status Bird Species Detected During Avian Pt. Count Survey

Rufous-crowned Sparrow, Yellow-breasted Chat

Rufous-crowned Sparrow, Bell's Sage Sparrow, Western Bluebird

Horned Lark, Rufous-crowned Sparrow, Bell's Sage Sparrow, Vaux's Swift



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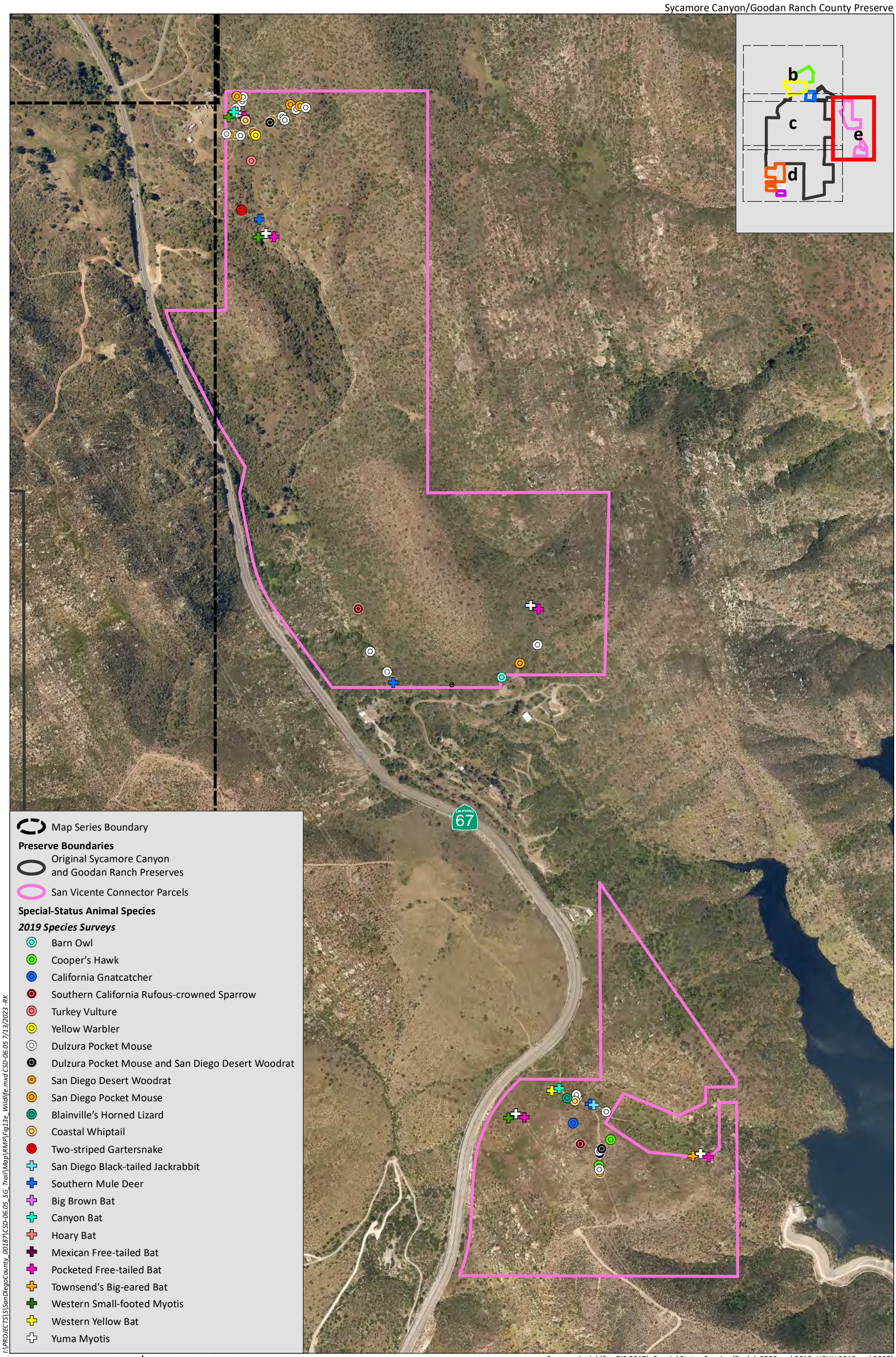
Source: Aerial (SanGIS 2017); Special Status Species (Dudek 2008 and 2012; HELIX 2019 and 2022)

HELIX Environmental Planning

Special-Status Wildlife Locations

Figure 13d



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Source: Aerial (SanGIS 2017); Special Status Species (Dudek 2008 and 2012; HELIX 2019 and 2022)

HELIX Environmental Planning

Special-Status Wildlife Locations

Figure 13e

Orange-throated Whiptail (*Aspidoscelis hyperythra beldingi*)

CDFW Watch List, 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 m (3,410 ft) 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 the loss of suitable coastal sage scrub habitat throughout its range.

This species was 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 in 2012, and in the open chaparral and scrub habitat on the 2015 Northern and Southern Additions during surveys in 2016. This species also was observed within the southwestern portion of the Southern Parcel during 2019 baseline biological surveys. High-quality suitable habitat for orange-throated whiptail occurs within the entire Preserve. This species was not observed during the San Vicente Connector parcel surveys in 2019.

Coronado Skink (*Eumeces skiltonianus interparietalis*)

California Species of Special Concern, County Group 2

The Coronado skink is a medium-sized secretive lizard, 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 found in 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, the 2015 Northern and Southern Additions surveys in 2016, the Southern Parcel surveys in 2019, or the San Vicente Connector parcel surveys in 2019.

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 m (6,988 ft) 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, the Southern Parcel surveys in 2019, or the San Vicente Connector surveys in 2019. Coast patch-nosed snake was detected in the open chaparral and scrub habitat during 2016 surveys of the 2015 Northern and Southern 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 m (3,000 ft) 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 property and in the steep rocky canyon on the southern edge of the Sycamore Canyon property. It was also observed within the Sycamore North property during the 2012 surveys, and in the 2015 Northern and Southern Additions during the 2016 surveys. This species was not observed during the Southern Parcel surveys in 2019 or the San Vicente Connector surveys in 2019.

The majority of the Preserve supports appropriate habitat for this species.

Rosy Boa (*Lichanura orcutti*)

County Group 2

The rosy boa occurs at elevations ranging from sea level to 1,370 m (5,000 ft) 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 DPR rangers around that time, including near the north entrance to the Preserve. This species also was observed during 2016 surveys of the 2015 Northern and Southern Additions. This species was not observed during the Sycamore North and Sycamore South addition surveys in 2012, the Southern Parcel surveys in 2019, or the San Vicente Connector surveys in 2019. However, this species has the potential to occur in many of the habitats found on the Preserve.

Coastal Whiptail (*Aspidoscelis tigris stejnegeri*)

County Group 2

Coastal 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 observed on several occasions in the chaparral and scrub habitats within the original Preserve in 2008. This species was not identified in 2012 surveys of the Sycamore South and Sycamore North properties, but is likely to be present because there is high-quality suitable habitat for this species in these additions to the Preserve. This species was detected in the open chaparral and scrub habitat on the 2015 Northern and Southern Additions during surveys in 2016, as well as during 2019 surveys of the San Vicente connector parcels. Additionally, this species was incidentally observed on the 2015 Northern and Southern Additions during surveys in 2022. This species was not observed during the Southern Parcel surveys in 2019.

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 the 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 incidentally observed in an unnamed drainage during 2019 surveys for the San Vicente connector parcels. This species was not observed during the Sycamore North and Sycamore South addition surveys in 2012, the 2015 Northern and Southern Additions surveys in 2016, or the Southern Parcel surveys in 2019.

3.3.2.3 Birds

Bald Eagle (*Haliaeetus leucocephalus*)

Federally Delisted, State Endangered, California Species of Special Concern, County Group 1, MSCP-Covered Species

Bald eagles breed across the United States and from Alaska to south Florida. This species breeds primarily in tall, mature trees in proximity to bodies of water. It consumes a wide variety of prey items from fish, waterbirds, and carrion, to ground squirrels. The species is now a regular visitor to wetland areas within Southern California, and multiple pairs breed within San Diego County. During the winter months, there is an additional influx of bald eagles into San Diego County.

One adult bald eagle was observed flying north over the 2015 Northern Addition parcels on May 25, 2016. While no suitable breeding habitat is present within the Preserve, San Vicente Reservoir is located a few miles to the southeast and contains suitable foraging and nesting habitat. Multiple bald eagles occur around San Vicente Reservoir during the winter months. This species was not observed during the 2008 surveys, Sycamore North and Sycamore South addition surveys in 2012, the Southern Parcel surveys in 2019, or the San Vicente Connector surveys in 2019.

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 the 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).

Barn owls were recorded on the original Preserve during the 2008 surveys. 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 also identified during 2012 surveys at both Sycamore South and Sycamore North properties. Additionally, this species was observed in 2019 surveys for the San Vicente Connector parcels (Appendix F). This species was not observed during the 2015 Northern and Southern Additions surveys in 2016 or the Southern Parcel surveys in 2019.

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. There are suitable open habitat and foraging areas for turkey vultures within the Sycamore North and Sycamore South properties, but no nesting habitat was observed during the 2012 surveys.

This species was observed on multiple occasions flying over the 2015 Northern and Southern Additions in 2016 and the San Vicente Connector parcels in 2019, and a pair with an active nest with two eggs was found within the western part of the 2015 Northern Addition in 2016. This species was also detected within the Southern Parcel during the 2019 baseline biological 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 artificially-created 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, the 2015 Northern and Southern Additions surveys in 2016, the Southern Parcel surveys in 2019, or the San Vicente Connector surveys in 2019.

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 tops of dense oak, willow, or other large trees (Unitt 2004). The white-tailed kite population is on the decline mostly due to urban sprawl.

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, the 2015 Northern and Southern Additions surveys in 2016, the Southern Parcel surveys in 2019, or the San Vicente Connector surveys in 2019.

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).

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, the 2015 Northern and Southern Additions surveys in 2016, the Southern Parcel surveys in 2019, or the San Vicente Connector surveys in 2019.

Cooper's Hawk (*Accipiter cooperii*)

CDFW Watch List Species, 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).

Cooper's hawk was observed 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. Additionally, this species was detected during the San Vicente Connector Parcel surveys in 2019.

Cooper's hawks were not observed during the Sycamore South and Sycamore North surveys in 2012, the 2015 Northern and Southern Additions surveys in 2016, and the South Parcel surveys in 2019.

Red-shouldered Hawk (*Buteo lineatus*)

County Group 1

Red-shouldered hawks inhabit low-elevation (below 5,000 ft or 1,524 m 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 Visitors Center within the original Preserve in 2008. However, this species was not observed during the 2012 surveys of the Sycamore South and Sycamore North properties, the 2015 Northern and Southern Additions surveys in 2016, the Southern Parcel surveys in 2019, or the San Vicente Connector parcel surveys in 2019.

Sharp-shinned Hawk (*Accipiter striatus*)

CDFW Watch List, County Group 1

The sharp-shinned hawk breeds from central and western Alaska and the greater portion of Canada, south to central and south-central California, central Arizona, New Mexico, Texas, northern parts of the Gulf states, and into Mexico. In California, sharp-shinned hawks breed throughout the state, including the mountains of Southern California, but the majority probably breed in the northern half of the state (Small 1994). In California, this species typically nests in coniferous forests, often within riparian areas or on north-facing slopes. Nests are often near water and are typically in proximity to open areas (Zeiner et al. 1990b). Sharp-shinned hawks are primarily a winter visitor in San Diego, feeding on songbird populations that winter in the same areas.

Within the Preserve, a single subadult sharp-shinned hawk was observed during surveys conducted in 2016 for the 2015 Northern and Southern Additions. This species was not observed during the 2008 surveys, the 2012 surveys for the Sycamore North and Sycamore South additions to the Preserve, the 2015 Northern and Southern Additions surveys in 2016, the Southern Parcel surveys in 2019, or the San Vicente Connector parcel surveys in 2019.

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 ft AMSL (Atwood 1990), although they may occur as high as 3,000 ft 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 encelia, and cactus (e.g., *Opuntia spp*.). California gnatcatchers glean insects and spiders from the foliage of shrubs, primarily California buckwheat and coastal sagebrush (Atwood 1993). The California gnatcatcher has declined due to the 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 a 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. This species was heard calling within the northern portion of the Sycamore South property in 2012, but was not visually observed. No nesting gnatcatchers were observed during the 2012 surveys.

A single coastal California gnatcatcher was heard calling during 2016 surveys of the 2015 Northern and Southern Additions, but nesting was not observed. One coastal California gnatcatcher was observed during the 2019 surveys of the Southern Parcel, one was observed adjacent to the Rock and Roll Trail

during surveys in 2019, and two were observed on the 2015 Northern Addition during the 2022 Hermes copper surveys. Additionally, this species was detected during the 2019 surveys for the San Vicente Connector Parcels.

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. This species also was observed during the 2016 surveys of the 2015 Northern and Southern Additions, in the Southern Parcel during the 2019 surveys, and in the San Vicente Connector Parcels during the 2019 surveys.

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 in 2008 within the original Preserve. This species was not observed during the 2012 surveys of the Sycamore North and Sycamore South properties, the 2015 Northern and Southern Additions surveys in 2016, the Southern Parcel surveys in 2019, or the San Vicente Connector parcel surveys in 2019.

Yellow Warbler (*Setophaga petechia*)

California Species of Special Concern, County Group 2

The yellow warbler is a common to locally abundant species breeding throughout California, excluding most of the Mojave Desert and all of the Colorado Desert, and wintering in northern Mexico (Lowther et al. 1999). The species breeds in riparian areas dominated by willows near rivers, streams, lakes, and wet meadows, as well as in montane shrub and conifer forests in higher-elevation areas (Shuford and Gardali 2008a).

This species was heard singing within the central portion of the Southern Parcel in 2019. Additionally, this species was observed foraging in coastal scrub during 2019 surveys of the San Vicente Connector Parcels.

Golden Eagle (*Aquila chrysaetos*)

Bald and Golden Eagle Protection Act (16 U.S. 668-668c), California Fully Protected Species, CDFW Watch List 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. The golden eagle was not observed during surveys of the Sycamore North and Sycamore South properties in 2012, the 2015 Northern and Southern Additions surveys in 2016, the Southern Parcel surveys in 2019, or the San Vicente Connector parcel surveys in 2019.

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 m (3.3 to 6.6 ft) 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 with high shrub cover, low disturbance, large patch sizes, and high within-site spatial similarity.

Bell's sage sparrows were observed during the 2008 surveys of the original Preserve. This species was not observed during the 2012 survey of the Sycamore South and Sycamore North properties, the 2015 Northern and Southern Additions surveys in 2016, the Southern Parcel surveys in 2019, or the San

Vicente Connector parcel surveys in 2019, but there is suitable dry chaparral and/or coastal scrub habitat within these properties for them to live on-site.

Burrowing Owl (*Athene cunicularia*)

California Species of Special Concern, County Group 2, MSCP Narrow Endemic, 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 are also 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 the 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. 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, the 2015 Northern and Southern Additions surveys in 2016, the San Vicente Connector parcel surveys in 2019, or the Southern Parcel surveys in 2019.

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 between 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 during 2008 surveys of the original Preserve. This species was not observed within the Sycamore North and Sycamore South properties during the 2012 surveys, the 2015 Northern and Southern Additions surveys in 2016, the San Vicente Connector parcel surveys in 2019, or the Southern Parcel surveys in 2019.

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 during the 2008 surveys of the original Preserve, where an adult was observed with food for chicks. This species was not observed during surveys of the Sycamore North

and Sycamore South properties in 2012, the 2015 Northern and Southern Additions surveys in 2016, the Southern Parcel surveys in 2019, or the San Vicente Connector parcel surveys in 2019.

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 non-breeding season, bluebirds will also consume berries of elderberry or mistletoe, among other species. Western bluebird numbers are declining due to the loss of nesting cavities to logging, fire suppression, and competition with non-native species, such as European starling (*Sturnus vulgaris*) and house sparrow (*Passer domesticus*) (Unitt 2004).

A western bluebird pair was observed nesting in Sycamore Canyon Creek during the 2008 surveys of the original Preserve. 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. Western bluebird was detected on the 2015 Northern Addition during 2016 surveys, and suitable nesting habitat is present in a single large coast live oak tree in the center of the parcel, although nesting was not detected. This species was not observed during the 2016 surveys of the 2015 Southern Addition parcel, or during the 2019 Southern Parcel surveys, or the 2019 San Vicente Connector parcel surveys.

3.3.2.4 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, 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).

This species was observed during the 2008 surveys of the original Preserve, as well as during the 2012 surveys of the Sycamore North addition, during the 2016 surveys of the 2015 Northern and Southern Additions, and during the 2019 surveys of the San Vicente Connector parcels.

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 m (6,000 ft)

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. This species was observed in the Sycamore South and Sycamore North properties during the 2012 surveys, in the 2015 Northern and Southern Additions during the 2016 surveys, and in the San Vicente Connector parcels in 2019.

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 consist of 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.

This species was observed within the original Preserve during surveys conducted in 2008, as well as within the Sycamore North and South properties during 2012 surveys, in the 2015 Southern Addition during 2016 surveys, and in the 2019 surveys of the Southern Parcel and San Vicente Connector parcels. Based on the similarity of and adjacency of habitat within the 2015 Southern Addition, San Diego desert woodrats likely occur within the 2015 Northern Addition as well.

3.3.2.5 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. This species was also observed in the northwestern portion of the Southern Parcel during the 2019 baseline biological surveys, and in the southern San Vicente Connector parcel in 2019.

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 the 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, deserts, 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 from 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 SR-67 to the east and beneath Scripps Poway Parkway to the north. Mule deer were observed on wildlife cameras installed at both the Sycamore South and Sycamore North properties in 2012, and tracks have been observed throughout both of these properties.

This species was also detected within the 2015 Northern and Southern Additions during 2016 surveys; however, due to the lack of permanent water within these parcels, mule deer likely forage, seek shelter, and move through them en route to areas with fresh water. This species was also detected during the Southern Parcel 2019 baseline biological surveys adjacent to Clark Canyon Creek, and in the San Vicente Connector parcels in 2019.

Mountain Lion (*Puma 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 their 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 vulnerable to habitat fragmentation, especially if necessary habitat corridors are eliminated.

Mountain lions were not detected during the 2008 baseline survey season of the original Preserve; however, they were detected on two separate occasions by DPR 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. This species also was not detected on the 2015 Northern and Southern Additions during the 2016 surveys or during the 2019 surveys of the Southern Parcel or San Vicente Connector parcels.

3.3.2.6 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 m (8,000 ft) (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 surveys of the Sycamore North property.

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 within the Sycamore North and Sycamore South properties.

The pocketed free-tailed bat was observed during spring and summer surveys at both the 2015 Northern and Southern Additions in 2016 but was more abundant at the 2015 Southern Addition. This

species was also detected during the Southern Parcel 2019 baseline biological surveys adjacent to Clark Canyon Creek, and the 2019 surveys of the San Vicente Connector parcels.

Big Free-tailed Bat (*Nyctinomops macrotis*)

California Species of Special Concern, County Group 2

Big free-tailed bats are typically found in the desert and arid grasslands with rocky out- crops, 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 the food supply from artificial toxins.

This species was observed foraging within the original Preserve in 2008 but was not observed during the 2012 surveys of the Sycamore North and Sycamore South properties, or during the 2016 or 2019 surveys of the other property additions.

Townsend's Big-eared Bat (*Corynorhinus townsendii*)

State Candidate Threatened, California Species of Special Concern, County Group 2

The Townsend's big-eared bat occurs primarily throughout the western portion of North America in a wide variety of habitats from coniferous forests, deserts, prairies, riparian communities, active agricultural areas, and coastal habitat types (Piaggio 2005). Its distribution is strongly related to the availability of caves, cave-like roosting habitat, abandoned mines, buildings, bridges, and other structures. This species has summer maternity colonies and winter hibernating colonies. Townsend's big-eared bat is a moth specialist, and bats will travel large distances while foraging, including movements of over 90 miles during a single evening (Piaggio 2005). The species generally has large foraging distances and large home ranges.

This species was detected during the 2016 surveys within the 2015 Northern Addition, and during the 2019 surveys of the San Vicente Connector parcels.

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 are suitable roosting and foraging habitats within the entire Preserve. In 2012, western red bats were detected during surveys at both the Sycamore South and Sycamore North properties.

Western red bat was observed once in the 2015 Northern Addition during the spring 2016 surveys. While there is minimal suitable roosting habitat within the 2015 Northern and Southern Additions for this species, suitable riparian habitat is present in nearby areas where this species is more likely to roost and forage. Therefore, the single bat detected within the 2015 Northern Addition was likely a foraging bat or a bat in transit to adjacent habitat.

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 m (2,000 ft) 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 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. This species was also detected during the 2016 surveys in the 2015 Southern Addition. Given the lack of suitable roosting habitat for this species within the 2015 Northern and Southern Additions, this species was likely migrating through. This species was also observed during the 2019 surveys of the San Vicente Connector parcels.

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 Nevada, 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 and South properties.

The western small-footed myotis was also detected during 2016 surveys of the 2015 Northern and Southern Additions, but very infrequently. I species does not appear to frequent these parcels, but likely forages or moves through them. This species was also detected during the Southern Parcel 2019 baseline biological surveys adjacent to Clark Canyon Creek and during 2019 surveys of the San Vicente Connector parcels.

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 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 on tall buildings, large trees, or elsewhere. The reasons for this species' decline are poorly understood but probably related to disturbance, habitat loss, and perhaps the widespread use of pesticides.

This species was observed foraging within the original Preserve in 2008 and during the 2019 surveys of the Southern Parcel addition.

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 m (11,000 ft) AMSL but is generally found below 2,438 m (8,000 ft) (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 surveys at both the Sycamore North and Sycamore South survey locations, as well as during the 2016 surveys of the 2015 Northern and Southern Additions. This species was also detected during the Southern Parcel 2019 baseline biological surveys adjacent to Clark Canyon Creek and during the 2019 surveys of the San Vicente Connector parcels.

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, C, D, E, and F.

3.3.3.1 Invertebrates

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, occurs.

San Diego sedge (*Carex spissa*), which is the host plant for Harbison's Dun skipper, was identified during 2008 surveys within the riparian forest habitat along Sycamore Canyon Creek within the existing Preserve. The host plant was also observed on the Preserve in 2001, associated with the creek north and east of the Visitors Center. In the 2012 surveys of the Sycamore North and Sycamore South properties, this species was not observed. It was also not observed during the 2016 or 2019 baseline surveys.

Hermes Copper Butterfly (*Lycaena hermes*)

Federally Threatened, County Group 1

Hermes copper butterfly is one of Southern California's rarest butterflies. It has an extremely limited distribution, although its associated habitat (sage scrub and chaparral habitats with spiny redberry occurring within 15 ft of California buckwheat) is much more widespread. Eggs are laid on spiny redberry, its host plant, and California buckwheat is the primary nectar source.

Habitat assessments for this species were conducted in 2020 and 2022, in association with the PAP for the Preserve. Suitable habitat was identified in the central and south portions of the original Preserve, in portions of the Sycamore North and 2015 Northern Addition, and throughout the Southern Parcel (HELIX 2022). These areas are generally located within the portions of the Preserve identified by the USFWS as critical habitat for this species, which totals 507 acres on-site.

This species was formerly considered to have high potential to occur on the Preserve due to it being documented on the original Preserve prior to the 2003 Cedar Fire (County of San Diego 2008a) and the presence of suitable habitat. However, focused surveys conducted in 2022 were negative, and the species is presumed extirpated from the Preserve due to fire (USFWS 2021).

3.3.3.2 Herpetofauna

San Diego Banded Gecko (*Coleonyx variegatus abbotti*)

California Species of Special Concern, County Group 2

The San Diego banded gecko occurs in coastal and cismontane Southern California, occupying granite or rocky outcrops in coastal scrub or chaparral. This secretive nocturnal species is active from late March to late September or early October. During the day, it stays hidden under rocks, boards, fallen yucca stems, or other litter, or may seek refuge in mammal burrows. Winter is spent underground or in rock crevices. Small insects make up the majority of its diet (Lemm 2006). This species has been documented in the lands surrounding the nearby San Vicente Reservoir, east of the Preserve. This species has a high potential to occur throughout the Preserve, although it was not observed during the 2008, 2012, 2016, or 2019 surveys.

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 a high potential to occur throughout the Preserve, although it was not observed during the 2008, 2012, 2016, or 2019 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 a 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 surveys of the Preserve additions conducted in 2012, 2016, and 2019.

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, which 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 a high potential to occur within the Preserve due to the presence of suitable foraging habitat. This species was not observed in the 2008, 2012, 2016, or 2019 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, 2012, 2016, and 2019 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 in the desert. Loggerhead shrikes have been documented in the general vicinity (Unitt 2004) and have a high potential to forage and nest at the Preserve. The species was not observed during the 2008, 2012, 2016, or 2019 surveys.

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

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

Least Bell's vireo has a 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 a 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, 2012, 2016, or 2019 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, 2012, 2016, or 2019 surveys.

3.3.4 Non-native and/or Invasive Wildlife Species

Two non-native or invasive wildlife species were detected during the 2008 surveys of the original Preserve boundary: European starling and brown-headed cowbird. There were 16 sightings of European starling in 2008, and these birds were at an avian point count station near the Visitors Center.

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 during 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 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.

No invasive wildlife species were detected on the 2015 Northern and Southern Additions, or on the Southern Parcel or San Vicente Connector Parcels, during the 2016 and 2019 baseline biological surveys.

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, 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 SR-67 to the north and south and Poway Road to the west.

To define the core and linkage areas, an extensive geographic information system (GIS) database of vegetation communities, species locations, elevation, slope, soils, drainages, and other physical parameters were used to develop a habitat evaluation map for the MSCP 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 coast live oak riparian forest found within Sycamore Canyon Creek that drains the Preserve from the northeast to the southwest is considered an 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 an 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 special status-species San Diego thorn-mint and Blainville's horned lizard.

3.4.1 Wildlife Linkages and Corridors

The Preserve serves as an important connection to other large conserved lands, 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 SR-67 to the east and underneath Scripps Poway Parkway to the north. It can be assumed that larger mammals regularly traverse the Preserve to and from adjacent open space.

The Preserve is generally surrounded by other PAMA land or undeveloped areas, thereby increasing the conservation value 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 by 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 2008b, Appendix G), Archaeological Survey Report for the Sycamore North and Sycamore South Properties, Additions to the Sycamore Canyon and Goodan Ranch Preserves (ASM 2012, Appendix H), Cultural Resources Phase 1 Survey and Inventory, Sycamore Canyon/Goodan Ranch Preserve, Cielo and Wu Properties Additions (now known as the 2015 Southern and Northern Additions; [AECOM 2016; Appendix I)], Cultural Resources Phase 1 Survey and Inventory, Sycamore Canyon/Goodan Ranch Preserve, Southern Parcel Addition (HELIX 2019; Appendix J), Cultural Resources Inventory and Assessment, Sycamore Canyon/Goodan Ranch Preserve Public Access Plan (HELIX 2023b; Appendix K), and Phase 1 Cultural Resources Survey and Inventory of Six Parcels for Addition to the Sycamore-Goodan Ranch Preserve (ICF 2019; Appendix L).

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 were completed in 2008, and the surveys of the Preserve additions (Sycamore North [Hagey] and South; 2015 Northern and Southern Additions; and South Parcel) were completed in 2012, 2016, and 2019, respectively. Additional surveys were also completed in the Preserve in 2019 for the PAP. Surveys were completed 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 2008b; ASM 2012, AECOM 2016, HELIX 2019, and HELIX 2023b). The information provided in these reports was used in the preparation of this RMP.

4.1 SITE HISTORY

The body of current research on 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 the 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, the 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 cultural 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 during this time was often viewed as a major difference between the Early Period/Archaic and the lifeways that 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 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 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 the 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, which 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 the 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 San Diego coastal 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 in 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, which 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 Preserve

Early Land Ownership and Uses on Sycamore Canyon and Goodan Ranch

The property, now known as Goodan Ranch, was first 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 Road, 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.

The 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 inhabitants 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 property. The Fischers, 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 remained 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 Goodans sole owners of all property encompassing Sycamore Canyon.

According to Jacques and Quillen (1983), the remnants of an adobe were cleared by the Goodans 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 two to four ft in height and speculate that these walls may have been the remnants of what was known as "Francisco's House" in the 1970s.

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 at the head of Sycamore Canyon. The Goodans 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 the 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, the 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 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 the 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 ft 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 the Preserve, and the 5,700-foot-long Fire Hill Tunnel underlies the heart of the Preserve.

Fred Allbee served as the 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 Preserve was established by the County of San Diego DPR to preserve natural landscapes, and the Goodan Ranch, which developed in the late 1930s and early 1940s. In 2000, the California State Office of Historic Preservation found that two of the buildings on the property, a small red-painted wooden house known as Catalpa Cottage and Fred Allbee's house, were eligible for the National Register based on their presumed association with Stowe. Unfortunately, Albee's House burned down 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 of the Preserve today is the Stowe Trail. Designated in 2000 as a Community Millennium Trail, the recreational path incorporates the old Stowe Road 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 the San Diego River at Santee Lakes Regional Preserve extended north through Sycamore Canyon, through Stowe, and into Beeler Canyon, 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 stagecoach 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), was 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 (S.D.C.&E.R.R.), 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 stagecoach 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 the 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 a portion of Section 19, Township 14 South, Range 1 West. James Kirkham, the brother of Fredaricka's husband Benjamin, may have owned property 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 1900a, 1920a). 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; to the east, it linked Stowe with Ramona and Foster via the early stagecoach 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 SR-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).

Early Land Ownership and Uses on the 2015 Northern and Southern Additions

Within or adjacent to the 2015 Northern and Southern Additions, 12 land patents were granted between 1889 and 1939 under the authority of the Homestead Act. The 2015 Northern Addition property was first homesteaded by George Werner Eckhardt and his son Solomon Z. Eckhardt, who patented land in the property in 1895. Other homesteaders that lived nearby the Eckhardt properties within the present-day 2015 Northern Addition were Frederick Reetzke and Fredaricka Stabenou Kirkham. Much is known about the Kirkham family, who owned land within the present-day 2015 Northern Addition, as they played an important role in the early years of Stowe and Poway.

On the present-day 2015 Southern Addition, Denver E. Pardee received a land patent for a portion of the property on February 15, 1889. He most likely did not reside here for very long, as the 1890 census

reports him living with his father, Richard, in El Cajon. The two men were working as apiarists. By 1892, Denver resided in Escondido and worked as a teamster (California Voter Register 1892). The following decades of censuses record him living in Bernardo as a teamster before he moved north to the Napa area to become a farmer (U.S. Census 1900b, 1910, 1920b). The 1912 map on file at the Poway Historical and Memorial Museum shows that the 2015 Southern Addition was unoccupied at that time.

After the relative abandonment of the Stowe area, a few ranches near Goodan Ranch were maintained, including those owned by A.F. Holmes, James Doyle, Joseph Fischer, and Melvin Toy. The 1903 Cuyamaca (1:125,000) topographic map indicates a road crossing through Sections 15 and 22 (see P-37-35993), where it meets with the currently named Foster Truck Trail. The map also denotes the presence of a structure within the 2015 Northern Addition property along this road (see CA-SDI-21923). Foster Truck Trail is shown crossing through the 2015 Southern Addition, and the town of Stowe appears south of the Properties within Sycamore Canyon.

Early Land Ownership and Uses on the Southern Parcel Addition

Located west of the Southern Parcel is Stowe Road, originally operating as a wagon route, which consisted of a dirt road and was in use as early as 1876, as visible on the Government Land Office survey plat for Township 14 South, Range 1 West. Stowe Road followed Sycamore Canyon from Santee at the San Diego River north through the community of Stowe and into Poway. A two-track road branched off from Stowe Road as early as the 1930s and led up to a structure located approximately 1,000 ft south of the Southern Parcel, as shown on the 1939 El Cajon (1:62,500) topographic map. A second structure is shown within Clark Canyon, approximately 1,500 ft north of the parcel. The name 'Clark Canyon' is present on this topographic map. In 1891, Harry Clark of San Diego purchased Tracts 1 and 8 of Section 4 (Township 15 South, Range 1 West) from the United States government. Tract 1 contained the entirety of the Southern Parcel, as well as the approximately 20-acre parcel located immediately to the south. It is not known if the two structures shown on the 1939 topographic map were built by or belonged to Clark; neither structure is located in the tract of land purchased by Clark. Although it is likely this historic-period two-track road was present through Clark Canyon, no historic or modern improvements are known to have been constructed within the Southern Parcel.

Early Land Ownership and Uses on the San Vicente Connector Parcels

The research yielded no evidence of substantial built-environment resource development within the San Vicente Connector Parcels during the historic period (ICF 2019). Land patents filed with the Government Land Office show that only about half of the land was publicly owned in 1912. Approximately 70 acres were within an 80-acre parcel owned by S.M. Sawyer (patent date unknown), and approximately 45 acres were owned by Asa B. Knowles, who filed his patent in 1905. The 80-acre parcel Sawyer owned was later subject to a patent granted to Joseph L. Wedge in 1936. A Joseph L. Wedge appears in San Diego County directories at this time and is described as an apiarist residing in Lakeside. It appears that the Property parcels were never lived on, and no structures are visible on the parcels in historic USGS quadrangles from the turn of the twentieth century onward or on aerial photographs dating from the 1950s to the 1970s (ICF 2019).

Wartime saw changes in land use, as the military stored equipment on the parcels, and the San Diego Aqueduct was constructed through both of the parcels. 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. The two pipelines ran underground, trending northwest to southeast. Six-foot diameter tunnels were bored through area mountains. The 5,700-ft-long Fire Hill Tunnel currently underlies the heart of the Preserve to the west of SR-67 and runs under the southernmost San Vicente Connector parcel (ICF 2019).

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 are included in Appendices G and H. Justin Linton of Redtail Monitoring and Research participated as a Native American monitor throughout the field survey.

A letter was sent to the NAHC on February 29, 2016, for a search of their SLF for the 2015 Northern and Southern Additions (AECOM 2016). A response letter from the NAHC was received on March 2, 2016. The search of the SLF by the NAHC failed to indicate the presence of resources on the properties or within the immediate surrounding area. The NAHC response also included a list of local Native American contacts. On March 16, 2016, letters were sent to the 11 Native American contacts provided by the NAHC, requesting further information on resources and soliciting comment on the survey of the Properties. Follow-up phone calls were made on April 13, 2016, and April 14, 2016. To date, three responses have been received. A response form from Mr. Clint Linton with the Iipay Nation of Santa Ysabel was sent on March 21, 2016. He requested that the County practice avoidance of all Native American sites, and if any trails are planned, they should be directed away from the sites. A letter was also received by email from the Viejas Band of Kumeyaay Indians (Viejas). The proposed project is within an area that has cultural significance to Viejas. They requested a Native American monitor be on-site for the cultural resources survey. This request was already being complied with prior to Viejas' letter. Finally, a phone conversation about the project occurred on April 14, 2016, with Ms. Carmen Lucas of the Kwaaymii Laguna Band of Mission Indians. She was concerned about the presence of human remains; Ms. Lucas requested that forensic dogs be used if midden soils were observed or if testing occurs. Copies of all correspondence with Native American representatives are included in Appendix D of the cultural report (AECOM 2016). Prior to initiating the pedestrian survey, Red Tail Monitoring & Research Inc. was retained contractually to provide Native American monitoring services for the pedestrian survey. Native American Monitor Tuchon Phoenix was present throughout the survey and site recordation on March 21 through March 25, 2016, and was consulted throughout the field effort.

The NAHC was contacted on April 8, 2019, for an SLF search and a list of Native American contacts for the Southern Parcel addition (HELIX 2019). A response dated June 7, 2019, was received from the NAHC indicating that the results of the search were positive for the Southern Parcel. The NAHC indicated that the Barona Group of the Capitan Grande (Barona) and the Kumeyaay Cultural Repatriation Committee (KCRC) should be contacted for more information. On September 27, 2019, DPR staff conducted a Sacred Lands consultation with Clint Linton, representing the KCRC, who indicated that no resource-specific issues are known to KCRC for the Southern Parcel, but indicated the area is culturally sensitive. A letter was sent on October 15, 2019, to Chairperson Edwin Romero, the Barona representative identified by the NAHC. A phone call to the Barona Tribal Government office was placed by HELIX Senior Archaeologist Stacie Wilson on October 25, 2019; a voicemail was left describing the reason for the call. No response to the letter or voicemail has been received to date. Shuuluk Linton, a Kumeyaay Native American monitor from Red Tail Environmental, participated in the field survey.

Letters were sent to the NAHC on March 21, 2019, requesting a review of the SLF and a list of contacts for Assembly Bill (AB) 52 consultation for the San Vicente Connector parcels. No response was received from the NAHC in regard to the SLF search; however, previous SLF searches conducted for the San Vicente Connector parcels and later additions failed to indicate the presence of resources on these properties but were positive for surrounding properties. A response letter from Katy Sanchez of the NAHC, dated May 2, 2019, was sent for AB 52 consultation and provided a list of seven contacts recommended for consultation that may have additional information. However, it is noted that all of the recommended contacts were for Luiseno or Cahuilla tribes or people, and the parcels are outside of what is typically considered those two tribes' traditional territory, which is in northern San Diego County along the San Luis Rey River drainages. One response received from the Rincon Band of Luiseno Indians on June 3, 2019, stated that the study area is outside their aboriginal territory and recommended contacting other tribes within the study area. Native American monitor Justin Linton of the Santa Ysabel Band of the Ipai Nation participated in all of the pedestrian surveys for the project.

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 m 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. A portion of this resource was re-identified during the 2019 survey conducted for the PAP.

CA-SDI-6859 (P-37-006859)

This resource could not be re-located and is presumed obscured or possibly destroyed by the road widening of SR-67. The site record describes "a number of slicks on several boulders" and two portable metates. However, the record also refers to "the boulder with slicks", indicating there is only one feature, rather than the "several" previously described. According to the record, the site was located 30 feet east of the edge of the pavement of SR-67 on contour 1030', 100 meters west of a "pool and stream

complex" and covered approximately one acre. The sketch map accompanying the record shows a distinctive curve in the described pool and stream complex but is unclear as to site components; however, the location map appears to show the site approximately 170 meters north of the described and sketched location. ICF archaeologists used ground observations and a comparison of landform characteristics, including the distinctive curve identified within the pool and stream complex, to determine that the site has likely been destroyed or obscured as a result of the road widening along SR-67. SR-67 now lies 98 ft west of the curve in the stream complex. All exposed boulders and outcrops within the possible locations for the site were inspected for the presence of milling; however, none were present, and no artifacts were observed. No changes will be made to the site boundary, despite the fact that the site may have been destroyed, and no cultural materials or alterations were observed.

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. The site was re-identified during the 2019 survey conducted for the PAP.

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, 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. The two bedrock milling features were re-identified during the 2019 survey conducted for the PAP.

CA-SDI-9708

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

CA-SDI-12,838

This resource is a milling feature and artifact scatter. Feature 1 is a bedrock milling feature with one milling slick. It is a low-level granitic outcrop that has been heavily exfoliated from natural processes. Feature 2 is a bedrock milling feature with one milling slick. It is a low-level granitic outcrop that is heavily exfoliated from natural processes. The associated artifacts identified are one mano, two tertiary quartz flakes, and one piece of quartz shatter.

CA-SDI-12,842

This resource consists of one bedrock-milling feature with four 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 and 2016 surveys. 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 m south of the bedrock outcrops.

CA-SDI-12,850

This resource was previously recorded by Ogden in 1992 as a bedrock milling feature with one milling slick and no associated artifacts. It was revisited during the 2016 survey of the 2015 Northern Addition. The site's boundaries should be contained around the milling feature and appear smaller than currently recorded. The site was re-located atop a low, sloping hill on the south side of SR-67. The site is surrounded by a dense growth of sumac. The bedrock milling feature is a flat granite outcrop with a single milling slick at the south end of the outcrop. It is heavily exfoliated from natural processes. A fence runs across and atop the north end of the outcrop, with a fence post drilled into the bedrock.

CA-SDI-12,852

This resource was previously recorded by Ogden in 1992 as a lithic scatter and quartz quarry. Ogden recorded one volcanic core, one chopper, and 16 flakes mostly of quartz material located on a saddle between a knoll and a ridge line. It was revisited during the 2016 pedestrian survey of the 2015 Northern Addition and the 2019 PAP survey. The site was generally re-located as described; however, two additional volcanic tertiary flakes were re-located south of the previously recorded site boundaries. The construction of Scripps Poway Parkway has impacted the site, and other disturbances include modern debris, an overgrown dirt road, and a California Department of Transportation fence.

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 re-located during the 2008 survey and the 2019 PAP 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 the Archaic occupation in the area.

CA-SDI-16,515

This resource is a lithic scatter. It was re-identified during the 2008 survey but not during the 2019 PAP survey.

CA-SDI-16,516

This resource is a lithic scatter. The site was re-identified during the 2008 ICF Jones & Stokes survey and the 2019 PAP survey.

CA-SDI-16,518

This resource was originally recorded as a lithic scatter and was re-located during the 2008 survey and the 2019 PAP 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. One previously recorded milling feature, one newly identified milling feature, a metate fragment, a mano, numerous metavolcanic flakes, and one quartzite flake were identified during the 2019 PAP survey.

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. The site was re-identified during the 2019 PAP 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 m west of the original feature.

CA-SDI-19,170

The resource consists of one bedrock-milling feature containing one milling slick. The site was re-identified during the 2019 PAP survey.

CA-SDI-19,171

The resource consists of one bedrock-milling feature containing two milling slicks. The site was re-identified during the 2019 PAP survey.

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. This resource was re-identified during the 2019 PAP survey.

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.

CA-SDI-21,918

The resource is a moderately dense lithic scatter that includes stone tools and flakes.

CA-SDI-21,919

The resource contains a bedrock milling feature with one slick.

CA-SDI-21,920

The resource contains a bedrock milling feature and a lithic scatter situated within a wash between two knolls. The site consists of one milling feature with two slicks, three lithic tools, and a dense lithic scatter of over 100 flakes.

CA-SDI-21,921

The resource is a bedrock milling feature with three milling slicks. This resource was re-identified during the 2019 PAP survey.

CA-SDI-21,922

The resource contains a bedrock milling feature and five associated artifacts. Feature 1 consists of a medium-sized granitic boulder with a single milling slick surrounded by dense chaparral vegetation. The feature is two m south of an old unpaved road (P-37-035993) that runs south to north through the site. All five associated artifacts were identified within this road. The artifacts include one bifacial mano, two bifacial mano fragments, and two debitage flakes; they may have washed downslope or been exposed during grading activities. This resource was re-identified during the 2019 PAP survey.

P-37-008340 (CA-SDI-8340)

Site P-37-008340 (CA-SDI-8340) was originally documented as nine slicks observed on three bedrock outcrops. The site, located in the Southern Parcel, was re-identified during the 2019 survey, and additional milling elements were documented; a total of nine bedrock milling features with 13 elements (12 slicks and one basin) were observed.

P-37-024271

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

P-37-030084

This site originally consisted of a green metavolcanic flake. The 2019 PAP survey expanded the site boundary: two flaking stations found approximately 16 meters northeast of the recorded location of the isolate were documented. The flaking stations are located on a knoll top within a 10-meter by 10-meter rea. Both flaking stations consist of green metavolcanic material; one flaking station consists of seven flakes, with one flake having a possibly modified or utilized edge, and the other station consists of a core, a core fragment, at least eight definitive flakes, and approximately 10 pieces of shatter. A hammerstone was located approximately 10 meters east of the flaking stations.

P-37-030226

This resource was originally recorded as an isolated flake on the San Vicente Connector parcels. When the location was revisited in 2019, the originally recorded flake was not re-located; however, additional components were identified, including a second volcanic flake and a newly identified milling feature. These resources, combined with the original flake, constitute a site covering a 25 by 7 m area; as such, the record was updated to describe a site rather than an isolated artifact. The milling feature, a low volcanic outcrop, measures 10 m long and displays three slicks.

P-37-033276 (CA-SDI-20944)

Originally recorded in 2013, this resource lies directly adjacent to the San Vicente Connector parcels. The site includes a cluster of bedrock milling features and an associated lithic scatter over a 23 by 15 m area. The site location was revisited and found to be in good condition. Additional milling features, a

metate, and two flakes were identified as a result of the survey. The site boundary has been expanded to include these new components. The site now measures approximately 40 by 40 m and spans the western edge of the survey area.

P-37-035980

This site originally consisted of two flakes. This resource was re-identified during the 2019 PAP survey, when a bedrock milling feature with one milling slick, a quartzite flaked stone tool, and a metavolcanic flaked stone tool were also found and recorded in proximity to the previously recorded artifacts.

P-37-035983

This resource is a small lithic scatter with one core tool at the base of the south slope of a small knoll recorded in 2019. A portion of this resource was re-identified during the 2019 PAP survey.

P-37-035987

This resource is a light lithic scatter on the northeast slope of a general north-south-trending knoll.

P-37-035988

This resource is a light lithic scatter at the base of the west slope of a north-south-trending knoll.

P-37-038409

This resource was identified in the Southern Parcel during the 2019 survey. It consists of two bedrock milling features (F1 and F2) on an east-facing slope within the Parcel. F1 is a low-lying bedrock outcrop and contains one milling element, a slick. The slick was located under the soil and branches of a sumac tree. F2 contains one slick, with only high spots of the grinding surface remaining. F2 is an elongated outcrop; the slick is on a shallow saddle towards the west end of the rock.

P-37-038410

This resource was identified during the 2019 survey. It is located at the northern boundary of the Southern Parcel, east of the drainage at the base of the west-facing slope. It consists of one bedrock milling feature containing two basins and a slick.

P-37-038957

This site was identified during the 2019 PAP survey and consists of a bedrock milling feature, a mano, and a sherd of Tizon Brown Ware pottery. The site is located within and adjacent to the existing formal trail. The milling feature is located on the west side of the trail and consists of one milling slick with a slight basin, and two pecked areas. The mano is granitic and bifacially utilized.

P-37-038959

This site was identified during the 2019 PAP survey and consists of a lithic scatter situated along an existing informal trail. Artifacts include a red rhyolite core and green metavolcanic cores, tools, and flakes. A horseshoe of unknown age was observed within the site boundaries.

P-37-038960

This site was identified during the 2019 PAP survey and consists of a lithic scatter situated on both sides of an existing informal trail, on a southwest-facing finger of a slope. The resource contains three metavolcanic cores, a quartzite scraper/tool, a quartzite multi-use tool, and at least five metavolcanic flakes.

P-37-038961

This site was identified during the 2019 PAP survey and consists of a lithic scatter situated along an existing formal trail. The resource contains three granitic manos, one utilized flake tool, and one flake. The flakes are of a metavolcanic material.

P-37-040515 (CA-SDI-23439)

This site was identified during the 2019 survey of the San Vicente Connector parcels, consisting of a moderately dense lithic debitage scatter with a density ranging from 5 to 10 flakes per square meter. One scraper was noted, as was a naturally fractured boulder exhibiting severe removal.

P-37-040516

This resource is a single grinding slick noted on a large flat outcrop in the San Vicente Connector parcels.

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 re-located during the 2008 survey or the 2019 PAP survey.

P-37-024964

This isolate is a quartzite flake. It was not re-located during the 2008 survey or the 2019 PAP survey.

P-37-024965

This isolate is a lithic scatter with one core/spokeshave and one quartzite core. It was not re-located during the 2008 survey or the 2019 PAP survey.

P-37-024966

This isolate is a quartzite flake. It was not re-located during the 2008 survey.

P-37-024967

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

P-37-024968

This isolate is a quartzite domed scraper. It was not re-located during the 2008 survey.

P-37-024969

This isolate is a mano fragment. It was not re-located during the 2008 survey or the 2019 PAP survey.

P-37-030078

This resource was recorded in 2008 and consists of a broken isolated prehistoric Brownware pottery sherd but was not re-identified during the 2019 PAP survey.

P-37-030079

This isolate consists of a unifacial volcanic tool.

P-37-030083

This isolate consists of a quartz flake. This resource, as originally described, was not re-identified during the 2019 PAP survey. However, one quartz flake and numerous pieces of non-diagnostic quartz shatter were located in the same locale. The shatter, however, cannot be definitely identified as cultural in origin, due to the presence of natural quartz debris observed around the area.

P-37-030091

This isolate consists of a jasper flake.

P-37-030094

This isolate consists of a Lusardi chopper and one metavolcanic flake. This isolate was not re-identified during the 2019 PAP survey.

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. This isolate was not re-identified during the 2019 PAP survey.

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.

P-37-035977

This isolate consists of two quartzite flakes.

P-37-035978

This isolate consists of one volcanic tertiary flake.

P-37-035979

This isolate consists of one porphyritic volcanic flake found at the southern end of a two-track road during the 2016 survey but was not re-identified during the 2019 PAP survey.

P-37-035981

This isolate consists of one volcanic tertiary flake identified during the 2016 survey; this isolate was not re-identified during the 2019 PAP survey.

P-37-038946

This isolate consists of a mano located along an existing formal trail; it was identified during the 2019 PAP survey.

P-37-038947

This isolate consists of a mano located along an existing formal trail; it was identified during the 2019 PAP survey.

P-37-038948

This isolate consists of a granitic mano fragment located along an existing formal trail; it was identified during the 2019 PAP survey.

P-37-038949

This isolate consists of an isolated, fire-affected, mano fragment identified during the 2019 PAP survey.

P-37-038950

This isolate consists of a green porphyritic metavolcanic material core/scraper and a core identified during the 2019 PAP survey.

P-37-038951

This isolate consists of an isolated green porphyritic metavolcanic flake tool, which was identified during the 2019 PAP survey.

P-37-038952

This isolate consists of volcanic flake, which was identified during the 2019 PAP survey.

P-37-038953

This isolate consists of a metavolcanic flake and a quartzite hammerstone fragment identified during the 2019 PAP survey.

P-37-038954

This isolate consists of a metavolcanic flake identified during the 2019 PAP survey.

P-37-038955

This resource consists of two isolated stone tools: a core/hammerstone and a flake identified during the 2019 PAP survey.

P-37-038956

The resource consists of two isolated lithic tools: a core/scraper and a hammerstone identified during the 2019 PAP survey.

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 1880s to 1900. The 2008 ICF Jones & Stokes survey determined that the previously recorded features identified appear to remain intact as previously recorded. This resource was re-identified during the 2019 PAP survey.

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 were 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 SR-67, 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, 2016, and 2019 PAP surveys in the same general condition as its previous recordation. 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 the construction of the Sunrise Power Link. Modern gravel and erosion prevention have been added to the resource.

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, and appears to have remained 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. This resource was re-identified during the 2019 PAP survey.

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 a 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 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. These

features were re-identified during the 2008 ICF Jones & Stokes survey and the 2019 PAP survey and appear to remain as originally recorded.

CA-SDI-21,923

The resource consists of the heavily disturbed remnants of an old homestead occupied by the Eckhardt family during the late 1800s and early 1900s. The site is located within an open meadow at the east base of a small mountain. There are two well-defined features on the site, as well as three undiagnostic features. The main feature consists of a stone-lined rectangular house foundation, orientated north to south. It is constructed from local stones with no visible mortar. An alcove or possible lean-to is on the southwest corner of the house foundation. To the west of the house, there is a retaining wall also made from loosely stacked local stones. An additional three possible features are associated with the homestead. These include a graded area from the south of the house foundation, a stone line to the northwest, and a possible reservoir or pond to the north. A sparse debris scatter was recorded throughout the site. The trash consists of fragments of glass, bricks, adobe tile, whiteware ceramics and floral print ceramics; metal sheet fragments; concrete rubble; a metal weight; a hinge; and burnt milled wood. A historic road (P-37-35,993) to the west and an outer building located to the south (P-37-35,992) may be related to the homestead.

P-37-028924

The resource was originally recorded in 2007 by Gallegos & Associates. It consisted of one cement wildlife guzzler (described by Gallegos as a cistern) inscribed “Tom 1950” and “R-12 4/50”. The site was updated in 2008 by ICF Jones & Stokes. Two additional guzzlers were added to the original site, within the vicinity of the previous guzzler. These guzzlers were inscribed with “R-15” and “R-16 4/50.” At Goodan Ranch, Crafts noted that wildlife guzzlers were added to provide a source of water for passing wildlife in the 1940s and 1950s (Crafts 2002). As Goodan Ranch was used by its owners as a weekend and summer retreat, it is likely that the guzzlers were intended to increase the presence of game on the property so that the family could hunt for sport or food.

Another guzzler was recorded during the 2016 pedestrian of the 2015 Northern Addition. The edges of the guzzler are lipped, and it slopes down to the north at approximately 10 degrees. It is positioned on a north-trending slope overlooking an eastern-facing drainage. The guzzler is constructed from poor-quality concrete and rebar. The opening of the guzzler is also rectangular and is connected to the northwestern end of the guzzler. Rebar is visible in the mouth opening, where a drainage hole feeds water into the mouth. No date stamp was found on the guzzler; the part where an inscription may have appeared has broken off. It likely dates to 1950 as well, as the construction matches the previous guzzlers recorded. These resources were re-identified during the 2019 PAP survey.

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, which 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-37-030107

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 SDCWA and the U.S. 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 1.75 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 archaeological sites along this route. Today, the south portion of the early road is incorporated into the Stowe Trail, which was designated a Community Millennium Trail in 2000 by the White House Millennium Council.

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 approximate 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 [USDA] 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 (USGS 1956, 1960, 1973, 2001). The brick, rubble, and cans were probably a single dumping event related to nearby ranching activities.

P-37-035992

This resource consists of the remains of a possibly historic outer building, most likely from the Eckhardt homestead (CA-SDI-21,923) to the north of the site. Most of the site has been destroyed; only the bottom layer of the foundation exists, of which only the west and south portions remain. It consists of one course of local stones with no signs of mortar. There are approximately 35 stones still in alignment, but more stones are strewn about the area. More stones may be left but are currently not visible. There are no associated artifacts. The site is located in a meadow between two knolls on the eastern side of a historic road (P-37-035993).

P-37-035993

This resource contains a historic road segment that appears on the 1903 USGS Cuyamaca (1:125,000) map. The road has been in use at least since 1876, as an alignment of the road, and is documented on the survey plat map of that year. The road extends beyond the project boundary, and only the segment within the 2015 Northern Addition was recorded. The recorded segment runs through the parcel, generally north to south, before joining with the now-designated Foster Truck Trail.

P-37-038958

The site was identified during the 2019 PAP survey and consists of a linear stacked rock wall or foundation feature, situated on a northwest-facing slope. This wall or foundation feature was observed to be at least two courses high and one course wide, with no mortar observed between the rocks. The bottom rocks of the feature are embedded into the ground, and rocks are scattered below the feature to the west. It is possible that more rocks are buried to the east of the visible portion of the feature, but due to thick ground cover and the accumulation of alluvial soils, it was difficult to gather information on the feature, including complete dimensions. There are burnt pieces of milled wood at the north end and within linear rocks alignment, and one of the boulders has a wire fastened around it. The visible portion of the feature is approximately 12 ft long.

P-37-040514

This resource is an isolated historic survey monument set in an eight-inch diameter poured-cement pillar that extends approximately four inches above the ground surface. The cement pillar has been sprayed with high visibility paint, likely to flag for avoidance during maintenance of the existing transmission tower located nearby. The survey marker is approximately two inches in diameter and made of stamped brass. The inscription reads “CALIFORNIA // USC & CS // 19 Δ 64 // FAT // DIVISION OF HIGHWAYS”. Further research at www.ngs.noaa.gov verifies that the survey monument continues to serve as an active survey control and was set by the California Division of Highways in 1964.

4.3.2.1 Historic Isolates

P-37-035982

This isolate consists of a metal lamp, possibly kerosene. The basic design of the lamp is two curled arms supporting a central circle.

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 appeared 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. Portions of this resource were re-identified during the 2019 PAP survey, and the main house and windmill appear to be in a similar condition as described in 2008.

CA-SDI-16,517

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

4.4 RESOURCE SIGNIFICANCE

Table 5, *Eligibility Status of Resources within the Preserve*, summarizes the current eligibility status of resources within the Preserve. Of the 116 cultural resources documented within the Preserve, 79 archaeological sites and 33 isolates identified within the Preserve have not been evaluated for eligibility under California Environmental Quality Act (CEQA). The 33 isolates are not considered CEQA significant, and thus, no further analysis is required. The unevaluated sites are treated as significant resources under County guidelines (County of San Diego 2007). The significance of four of the cultural resources has been determined through evaluation: P-37-030107 has been evaluated as significant; CA-SDI-12,852, P-37-035993, and P-37-035983 have been evaluated as not significant.

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-6859	Prehistoric	Boulder slicks, two metates	Not evaluated - must be treated as significant
CA-SDI-8340	Prehistoric	Nine bedrock milling features with a total of 12 slicks and one basin; one associated mano fragment and one quartzite flake	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	–Treat as significant
CA-SDI-9707H	Historic	Joseph Fischer homestead and Stowe post office	Not evaluated - must be treated as significant

Table 5 (cont.)
ELIGIBILITY STATUS OF RESOURCES WITHIN THE PRESERVE

Site Number	Era	Site Contents	Eligibility Status
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	Boulder Oaks Spur of the historic Foster Truck Trail	Not evaluated - must be treated as significant
CA-SDI-12,838	Prehistoric	Milling feature and artifact scatter	Not evaluated - must be treated as significant
CA-SDI-12839	Prehistoric	Rock feature	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-12,850	Prehistoric	Bedrock milling feature	Not evaluated - must be treated as significant
CA-SDI-12,852	Prehistoric	Lithic scatter and flakes	Tested; not 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
CA-SDI-16,517	Multi-component	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	Multi-component	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

Table 5 (cont.)
ELIGIBILITY STATUS OF RESOURCES WITHIN THE PRESERVE

Site Number	Era	Site Contents	Eligibility Status
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	Treat as significant
CA-SDI-19,171	Prehistoric	Milling site – one feature with two slicks	Treat 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
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	Treat 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

Table 5 (cont.)
ELIGIBILITY STATUS OF RESOURCES WITHIN THE PRESERVE

Site Number	Era	Site Contents	Eligibility Status
CA-SDI-20,691	Historic	Brick, refuse, and can scatter	Not evaluated - must be treated as significant
CA-SDI-20944	Prehistoric	Bedrock milling features and lithic scatter	Not evaluated - must be treated as significant
CA-SDI-21,918	Prehistoric	Lithic scatter	Not evaluated - must be treated as significant
CA-SDI-21,919	Prehistoric	Bedrock milling feature	Not evaluated - must be treated as significant
CA-SDI-21,920	Prehistoric	Bedrock milling feature and lithic scatter	Not evaluated - must be treated as significant
CA-SDI-21,921	Prehistoric	Bedrock milling feature with three slicks	Treat as significant
CA-SDI-21,922	Prehistoric	Bedrock milling feature, one bifacial mano, two bifacial mano fragments, and two debitage flakes	Treat as significant
CA-SDI-21,923	Historic	Remnants of old homestead	Treat as significant
P-37-024271	Prehistoric	Two volcanic flakes; updated metavolcanic flake and core	Treat as significant
CA-SDI-23439	Prehistoric	Lithic scatter	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-37-028924	Historic	Four cement cistern/guzzlers	Treat as significant
P-37-030084	Prehistoric	Lithic scatter (two flaking stations)	Treat as significant
P-37-030106	Historic	Earthen dam or levee	Not evaluated - must be treated as significant
P-37-030107	Historic	San Diego Aqueduct; previously evaluated as significant	NRHP/CRHR eligible
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
P-37-030226	Prehistoric	Milling feature, volcanic flake	Not evaluated - must be treated as significant
P-37-035980	Prehistoric	One bedrock milling feature and associated lithic scatter	Treat as significant
P-37-035983	Prehistoric	Lithic scatter and one core tool	Tested; not significant
P-37-035987	Prehistoric	Light lithic scatter	Not evaluated - must be treated as significant
P-37-035988	Prehistoric	Light lithic scatter	Not evaluated - must be treated as significant
P-37-035992	Historic	Possible historic outer building	Treat as significant
P-37-035993	Historic	Historic road segment	Not significant
P-37-038409	Prehistoric	Two bedrock milling features with one slick each	Not evaluated - must be treated as significant

Table 5 (cont.)
ELIGIBILITY STATUS OF RESOURCES WITHIN THE PRESERVE

Site Number	Era	Site Contents	Eligibility Status
P-37-038410	Prehistoric	One bedrock milling feature with one slick and two basins	Not evaluated - must be treated as significant
P-37-038957	Prehistoric	One bedrock milling feature and associated ground stone and ceramic scatter	Not evaluated - must be treated as significant
P-37-038958	Historic	Rock alignment or foundation	Treat as significant
P-37-038959	Prehistoric	Lithic scatter	Treat as significant
P-37-038960	Prehistoric	Lithic scatter	Treat as significant
P-37-038961	Prehistoric	Lithic scatter with three granitic manos, one utilized flake tool, and one flake	Not evaluated - must be treated as significant
P-37-040514	Historic	Survey monument	Not evaluated - must be treated as significant
P-37-040516	Prehistoric	Bedrock milling feature/grinding slick	Not evaluated - must be treated as significant
Isolates			
P-37-015294	Prehistoric	Flake	Isolate - not considered significant
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-37-030091	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

Table 5 (cont.)
ELIGIBILITY STATUS OF RESOURCES WITHIN THE PRESERVE

Site Number	Era	Site Contents	Eligibility Status
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
P-37-035977	Prehistoric	Two quartzite flakes	Isolate – not considered significant
P-37-035978	Prehistoric	One volcanic flake	Isolate – not considered significant
P-37-035979	Prehistoric	One volcanic flake	Isolate – not considered significant
P-37-035981	Prehistoric	One volcanic flake	Isolate – not considered significant
P-37-035982	Historic	Metal lamp	Isolate – not considered significant
P-37-038946	Prehistoric	One mano	Isolate – not considered significant
P-37-038947	Prehistoric	One mano	Isolate – not considered significant
P-37-038948	Prehistoric	One mano fragment	Isolate – not considered significant
P-37-038949	Prehistoric	One mano	Isolate – not considered significant
P-37-038950	Prehistoric	One core/scraper and one core	Isolate – not considered significant
P-37-038951	Prehistoric	One flake tool	Isolate – not considered significant
P-37-038952	Prehistoric	One flake	Isolate – not considered significant
P-37-038953	Prehistoric	One flake and one hammerstone fragment	Isolate – not considered significant
P-37-038954	Prehistoric	One flake	Isolate – not considered significant
P-37-038955	Prehistoric	One flake and one core/hammerstone	Isolate – not considered significant
P-37-038956	Prehistoric	One core/scraper and one hammerstone	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 County Specific

County-specific goals and objectives used to guide the management of resources within the Preserve can be found in the County Strategic Plan, the DPR Strategic Plan, as well as the Lakeside Community Plan. The County's overall goal or mission is to efficiently provide public services that build strong and sustainable communities. The Strategic Plan for Parks and Recreation is closely aligned with the County's strategic initiatives.

The DPR Strategic Plan outlines the department's priorities for accomplishing its mission over a five-year period. The overall goal or mission of the DPR is to enhance the quality of life in San Diego County by providing opportunities for high-level parks and recreation experiences and preserving regionally significant natural and cultural resources. DPR makes this mission a reality through programs that create healthy communities, preservation and management of natural, historic and cultural resources, maintaining safe and accessible parks and facilities, and creating community.

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

5.1.2 MSCP-Related

The MSCP Plan and the County's Subarea Plan provide both general and segment-specific goals and objectives. The Preserve is located within the Metro-Lakeside-Jamul Segment of the Subarea Plan 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 SR-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 ensure that the goal of the MSCP Preserve is attained and fulfilled, management objectives for the Subarea Plan 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 the long-term persistence of viable populations of priority plant and animal species and to ensure functional habitats and linkages.

5. To provide for flexible management of the MSCP Preserve that can adapt to changing circumstances to achieve the above objectives.

5.1.3 Management Directives and Implementation Measures

Based on the above management goals and objectives, recommended management directives have been identified. In accordance with the FMP, the guidance MDs have been designated as Priority 1 or Priority 2. This designation recognizes 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 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 Subarea Plan 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 on-site to gather the 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. With the exception of the Southern Gap Parcels, the first year of monitoring has been conducted for all portions of the Preserve (inventory surveys), and the results are summarized herein and included as Appendices B, C, D, E, and F. 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 Subarea Plan's FMP, and the DPR's Targeted Monitoring Plan (TMP; formerly Comprehensive Monitoring Plan), 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, MDs 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 the stakeholder groups 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 a designated land manager assists jurisdictions in coordinating monitoring programs, analyzing data, and providing other information and technical assistance. A Connectivity Monitoring Strategic Plan (MSP) 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 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 Subarea Plan. DPR has prepared a TMP that prioritizes monitoring methods and management directives for County-owned preserves in the Subarea Plan. The TMP utilizes references, such as USGS monitoring protocols for rare plants (McEachern et al. 2007), San Diego State University (SDSU) habitat and vegetation monitoring protocols (Deutschman and Strahm 2009), and USFWS monitoring protocols for animals (USFWS 2008).

The guidance MDs 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 SDSU Grouping and Prioritization Report for MSCP-covered species (Regan et al. 2006). Detailed monitoring methods are included in the TMP.

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 ten-year intervals within the Preserve or after a change in conditions (e.g., fire, drought). The monitoring frequency may be modified/increased if regional monitoring efforts determine that climate change effects on San Diego County vegetation communities warrant more frequent monitoring. Ongoing monitoring within the Preserve will identify any adverse changes in vegetation community distribution and habitat quality, such as changes from fire, invasion by non-native plants, or decline of existing species, and indicate if modifications to current management actions are needed. The primary focus should be 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

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 at ten-year intervals, utilizing and refining baseline monitoring methods to assess trends, relative abundance, and distribution status. The monitoring frequency may be modified/increased if (1) the 10-year monitoring determines that a species' status has seriously declined and/or (2) if regional efforts determine that climate change effects on San Diego County vegetation communities warrant more frequent monitoring. Future rare plant surveys should be conducted at appropriate times to maximize the detection of sensitive plant species. Sensitive plant species with a high potential to occur on-site are discussed in Section 3.2.3. Wildlife surveys will be performed during the flight season of Quino checkerspot and Hermes copper butterflies, if feasible. 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 South County MSCP Subarea Plan Annual Report. In addition, DPR will annually monitor the completed and future habitat 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 during regular patrols and at 10-year intervals to assess invasion or re-invasion by invasive non-native plants such as giant reed, saltcedar, pampas grass, artichoke thistle, stinkwort, crimson fountain grass and rose Natal grass within the Preserve. These surveys will focus on areas where invasive non-native plants have been detected in the past but also look for new occurrences in the Preserve. This information will be included in the South County MSCP Subarea Plan Annual Report

***Implementation Measure A.1.4*:** The Preserve is located within the Central Poway/San Vicente Reservoir/North Poway designated MSCP Biological Resource Core Area (BRCA). The Central Poway/San Vicente Reservoir/North Poway BRCA is connected to two BRCAs to the south: Mission Trails/Kearny Mesa/East Elliot/Santee BRCA and Lake Jennings/Wildcat Canyon-El Cajon Mountain BRCA; and one BRCA to the north: Hodges Reservoir/San Pasqual Valley BRCA. Biological linkages are also found along SR-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.

DPR will evaluate site-specific wildlife corridor monitoring in coordination with regional efforts, if these efforts identify recommendations that fall within the Preserve. General wildlife corridor monitoring will be conducted at the regional level and coordinated with SDMMP.

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 that 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. Monitoring frequencies and management responses for some special-status species are separate from the general monitoring approaches and frequencies, as described in Implementation Measures A.1.1 and A.1.2. If the species monitoring and/or management warrants active interventions, then those actions will be monitored at the appropriate frequency.

In addition, in the document *San Diego Multiple Species Conservation Program Covered Species 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 a 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 (San Diego thornmint and burrowing owl).

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 risks/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 Thornmint (*Acanthomintha ilicifolia*)

Management Goal:

Ensure the persistence of San Diego thorn-mint by maintaining and enhancing existing populations at the Preserve.

Monitoring Goals:

Monitor the full extent of San Diego thorn-mint populations at the Preserve. Use status, habitat condition, and threats monitoring results to determine appropriate adaptive management actions to protect San Diego thorn-mint populations on the Preserve.

Monitor and evaluate the response of San Diego thorn-mint on the Preserve to invasive non-native plant species management, thatch removal, and/or other management actions within selected populations.

Management Objectives:

Implement focused management for populations on the Preserve, as needed. Conduct invasive non-native plant species removal and thatch removal as needed. Maintain <10% cover of purple false brome and <20% cover of other invasive non-native plants within management areas.

Based on the monitoring results, determine if potential threats are negatively affecting the species, and implement additional adaptive management actions as necessary (i.e., inspect and manage the species, seed collection).

Monitoring Objectives:

Conduct long-term monitoring of all extant populations and evaluate the status (perimeter and abundance) of San Diego thorn-mint populations on the Preserve annually and evaluate the response of thorn-mint populations to focused management actions.

Collect data on vegetation composition and cover, soils, invasive non-native plant species, and other threats. Ensure consistency in data collection across the Management Strategic Plan Area by using SDMMP's Management and Monitoring Strategic Plan (MSP) Rare Plant Inspect and Manage (IMG) Monitoring Protocol. Using the information collected, identify or refine appropriate management actions.

Methods:

1. **Coordinate with other entities prior to conducting management or monitoring as follows:**

    a. DPR rangers regarding the best time to conduct surveys based on site conditions, management needs, and newly observed locations.

    b. SANDAG/SDMMP regarding rare plant population surveys throughout western San Diego County to inform the regional monitoring program. Regional monitoring for San Diego thorn-mint occurs annually and is anticipated to occur until 2026.

    c. Regional monitoring partners regarding management and monitoring activities to ensure that efforts are not being duplicated and to minimize impacts on the species.

2. **Conduct focused invasive non-native plant species removal as needed as described in the *Adaptive Management Framework for the Endangered San Diego Thorn-mint* (CBI 2014, Appendix D).**

    a. Delineate San Diego thorn-mint management boundaries prior to conducting invasive non-native plant species removal.

    b. Conduct invasive non-native plant species removal as-needed following the Invasive Control Protocols for San Diego thorn-mint (CBI 2012).

3. **Monitor the San Diego thorn-mint population at the Preserve annually following SDMMP protocols.**

    a. Conduct long-term monitoring, habitat assessment, and threats assessment in the Preserve following the MSP Rare Plant IMG Monitoring Protocol (SDMMP 2021). Established sampling plots and photo-monitoring stations will be used.

The protocol includes the following steps:

- Within established permanent sampling areas, conduct occurrence status assessment as described in the protocol using the Rare Plant Occurrence Monitoring Form. Monitor during the blooming season, preferably in April or May. However, the exact timing will depend on the weather. Coordinate with the DPR rangers to determine the best timing.

- Map the perimeter of the current extent of the occurrence. This will represent the maximum extent of the occurrence. In subsequent years, the occurrence may vary in size, and the maximum extent will expand to include all areas occupied by the plant across survey years.

- Conduct protocol photo-monitoring.

- Conduct a habitat assessment within the sampling plot using the Rare Plant Habitat and Threats Assessment Form.

- Conduct a threats assessment within the maximum extent of the occurrence and an adjacent 10-meter buffer area using the Rare Plant Habitat and Threats Assessment Form.

- Provide management recommendations for the site.

4. **Evaluate monitoring results and implement adaptive management actions, as necessary.**

    a. Evaluate monitoring results annually and identify management recommendations for the site. Implement adaptive management strategies, as necessary.

    b. Coordinate with SDMMP prior to monitoring to identify any changes to the rare plant monitoring protocol or San Diego thorn-mint best management practices (BMPs). Implement changes as necessary to annual monitoring and management efforts.

San Diego Goldenstar (*Bloomeria clevelandii*)

Management Goal:

Ensure the persistence of San Diego goldenstar by maintaining and enhancing existing populations at the Preserve.

Monitoring Goal:

Collect baseline information about San Diego goldenstar to provide a better understanding of abundance, population extent, plant condition, habitat condition, and potential threats within the Preserve.

Conduct monitoring for San Diego goldenstar populations within the Preserve. Use status, habitat condition, and threats monitoring results to determine appropriate adaptive management actions to protect San Diego goldenstar populations on the Preserve.

Monitor and evaluate the response of San Diego goldenstar to implemented management actions.

Management Objectives:

Maintain <20% ground cover of invasive non-native plant species in the vicinity of the San Diego goldenstar populations. Implement additional appropriate adaptive management actions to protect the San Diego goldenstar on the Preserve, as indicated by the monitoring results (i.e., inspect and manage the species) annually. Management actions could include invasive non-native plant species control, access control, and pre-fire management.

Monitoring Objectives:

Conduct long-term monitoring following SDMMP's MSP Rare Plant IMG Monitoring Protocol every two years. Long-term monitoring consists of collecting data on vegetation composition and cover, soils, invasive non-native plants, and other threats. Using the information collected, identify or refine appropriate management actions.

1. **Coordinate with other entities prior to conducting management or monitoring, as follows:**

    a. DPR ranger regarding the best time to conduct surveys based on site conditions, management needs, and newly observed locations.

    b. SANDAG/SDMMP regarding rare plant population surveys throughout western San Diego County to inform the regional monitoring program. Regional monitoring for San Diego goldenstar occurs every two years.

    c. Regional monitoring partners regarding management and monitoring activities to ensure that efforts are not being duplicated and minimize impacts on the species.

2. Monitor the San Diego goldenstar populations at the Preserve every two years.

a. Conduct long-term monitoring, habitat assessment, and threats assessment following the most recent MSP Rare Plant Monitoring Protocol (SDMMP 2021). Established sampling plots and photo-monitoring stations will be used.

The protocol includes the following steps:

- Within established permanent sampling areas, conduct occurrence status assessment, as described in the protocol using the Rare Plant Occurrence Monitoring Form.
- Map the perimeter of the current extent of the occurrence. This will represent the maximum extent of the occurrence. In subsequent years, the occurrence may vary in size, and the maximum extent will expand to include all areas occupied by the plant across survey years.
- Conduct protocol photo-monitoring.
- Conduct habitat assessment within the sampling area using the Rare Plant Habitat and Threats Assessment Form.
- Conduct threats assessment within the maximum extent of the occurrence and an adjacent 10-meter buffer area Rare Plant Habitat and Threats Assessment Form.
- Provide management recommendations for the site.

3. Conduct routine management annually.

a. Delineate a management area around each polygon (group) of plants. The management area includes a buffer of 10 meters around plants or clumps. Conduct annual invasive non-native plant species removal within the management area to maintain no more than 20% cover of invasive non-native plants.

4. Evaluate monitoring results and implement adaptive management actions, as necessary.

a. Evaluate monitoring results and identify management recommendations for the site. Implement adaptive management strategies, as necessary.

b. Coordinate with SDMMP prior to monitoring to identify any changes to the rare plant monitoring protocol or to evaluate new species-specific monitoring protocol or BMPs. Implement changes as necessary to monitoring and management efforts.

Variegated Dudleya (*Dudleya variegata*)

Management Goal:

Ensure the persistence of variegated dudleya by maintaining and enhancing existing populations at the Preserve.

Monitoring Goal:

Collect baseline information about variegated dudleya to provide a better understanding of abundance, population extent, plant condition, habitat condition, and potential threats within the Preserve.

Conduct monitoring for variegated dudleya populations within the Preserve. Use status, habitat condition, and threats monitoring results to determine appropriate adaptive management actions to protect variegated dudleya populations on the Preserve.

Monitor and evaluate the response of variegated dudleya to implemented management actions.

Management Objectives:

Maintain <20% ground cover of invasive non-native plant species in the vicinity of the variegated dudleya population. Implement additional appropriate adaptive management actions to protect the variegated dudleya on the Preserve, as indicated by the monitoring results (i.e., inspect and manage the species) annually. Management actions could include invasive non-native plant species control, access control, and pre-fire management.

Monitoring Objectives:

Conduct long-term monitoring following SDMMP's MSP Rare Plant IMG Monitoring Protocol every three years. Long-term monitoring consists of collecting data on vegetation composition and cover, soils, invasive non-native plants, and other threats. Using the information collected, identify or refine appropriate management actions.

Methods:

1. **Coordinate with other entities prior to conducting management or monitoring as follows:**

    a. DPR ranger regarding the best time to conduct surveys based on site conditions, management needs, and newly observed species locations.

    b. SANDAG/SDMMP regarding rare plant species population surveys throughout western San Diego County to inform the regional monitoring program. Regional monitoring for variegated dudleya occurs every three years.

    c. Regional monitoring partners regarding management and monitoring activities to ensure that efforts are not being duplicated, and minimize impacts on the species.

2. **Monitor the variegated dudleya populations at the Preserve every three years.**

    a. Conduct long-term monitoring, habitat assessment, and threats assessment following the most recent MSP Rare Plant Monitoring Protocol (SDMMP 2021). Established sampling plots and photo-monitoring stations will be used.

The protocol includes the following steps:

- Within established permanent sampling areas, conduct occurrence status assessment, as described in the protocol using the Rare Plant Occurrence Monitoring Form.
- Map the perimeter of the current extent of the occurrence. This will represent the maximum extent of the occurrence. In subsequent years, the occurrence may vary in size, and the maximum extent will expand to include all areas occupied by the plant across survey years.
- Conduct protocol photo-monitoring.
- Conduct habitat assessment within the sampling area using the Rare Plant Habitat and Threats Assessment Form.
- Conduct threats assessment within the maximum extent of the occurrence and an adjacent 10-meter buffer area Rare Plant Habitat and Threats Assessment Form.
- Provide management recommendations for the site.

3. Conduct routine management annually.

a. Delineate a management area around each polygon (group) of plants. The management area includes a buffer of 10 meters around plants or clumps. Conduct annual invasive non-native plant species removal within the management area to maintain no more than 20% cover of invasive non-native plants.

4. Evaluate monitoring results and implement adaptive management actions, as necessary.

a. Evaluate monitoring results and identify management recommendations for the site. Implement adaptive management strategies, as necessary.

b. Coordinate with SDMMP prior to monitoring to identify any changes to the rare plant monitoring protocol or to evaluate new species-specific monitoring protocol or BMPs. Implement changes as necessary to monitoring and management efforts.

Willowy Monardella (*Monardella viminea*)

Management Goal:

Ensure the persistence of willowy monardella by maintaining and enhancing populations within the Preserve.

Monitoring Goal:

Conduct a baseline survey of the full extent of willowy monardella on the Preserve to evaluate the species' status, habitat condition, and potential threats.

Conduct monitoring for willowy monardella populations within the Preserve. Use status, habitat condition, and threats monitoring results to determine appropriate adaptive management actions to protect willowy monardella populations on the Preserve.

Monitor and evaluate the response of willowy monardella within the Preserve to invasive non-native plant species management and thatch removal within selected populations for five years.

Management Objectives:

Implement focused management for target populations on the Preserve. Maintain <10% cover of non-native species and thatch around plants in high-intensive weed management areas (i.e., hand-weeded) and maintain <20% cover of invasive weed in the spaces between high-intensive weed management areas in management areas.

Monitoring Objectives:

Conduct long-term monitoring following SDMMP's MSP Rare Plant IMG Monitoring Protocol annually to evaluate the response of monardella populations to focused management actions. Long-term monitoring consists of collecting data on vegetation composition and cover, soils, invasive non-native plants, and other threats. Using the information collected, determine if specific threats are having a detrimental effect on the species, and identify or refine appropriate management actions.

Methods:

1. **Coordinate with other entities prior to conducting management or monitoring as follows:**

    a. DPR ranger regarding the best time to conduct surveys based on site conditions, management needs, and newly observed locations.

    b. SANDAG/SDMMP regarding rare plant population surveys throughout western San Diego County to inform the regional monitoring program. Regional monitoring for willowy monardella occurs annually.

    c. San Diego Natural History Museum regarding plant collection for genetic studies.

    d. Other regional monitoring partners regarding management and monitoring activities to ensure that efforts are not being duplicated and to minimize impacts on the species.

2. **Conduct focused invasive non-native plant species removal as needed.**

    a. Delineate management area boundaries prior to conducting invasive non-native plant species removal. Each management area will consist of drainage segments that contain willowy monardella plants and extend perpendicular to the drainage to include the entire floodplain (see diagram below).

    b. Management methods are based on discussions with M. Kelly (Kelly 2023, pers. comm.). Management plots will consist of two areas: (1) more intensive hand-weeding around clusters of plants, and (2) slightly less intensive weeding within the remaining portion of the treatment plot.

c. Within each high-intensive management area, remove at least 90% of invasive non-native plants and thatch.

d. Within the remaining area of the treatment plot, remove at least 80% of invasive non-native species using an appropriate herbicide.

3. Monitor the willowy monardella population at the Preserve annually.

a. Conduct long-term monitoring following the MSP Rare Plant Monitoring Protocol (SDMMP 2021). Established sampling plots and photo-monitoring stations will be used.

The protocol includes the following steps:

- Conduct occurrence status assessment as described in the protocol, using the Rare Plant Occurrence Monitoring Form. Conduct surveys during the peak blooming period (June through mid-July).
- Map the perimeter of the current extent of the occurrence. This will represent the maximum extent of the occurrence. In subsequent years, the occurrence may vary in size and the maximum extent will expand to include all areas occupied by the plant across survey years.
- Conduct protocol photo monitoring.
- Conduct habitat assessment within the sampling area using the Rare Plant Habitat and Threats Assessment Form.
- Conduct threats assessment within the maximum extent of the occurrence and an adjacent 10-meter buffer area Rare Plant Habitat and Threats Assessment Form.
- Provide management recommendations for the site.

4. Evaluate monitoring results and implement adaptive management actions as necessary.

a. Evaluate monitoring results and determine (1) if threats, such as habitat and hydrological changes, lack of recruitment, invasive non-native plant species, or drought conditions, are having a detrimental effect on the population, and (2) additional adaptive management actions that to be implemented to protect the species, such as seed collection, banking, and bulking (AECOM 2022).

b. Coordinate with SDMMP prior to monitoring to identify any changes to the rare plant monitoring protocol or BMPs. Implement changes as necessary to annual monitoring and management efforts.

Blainville's (Coast) Horned Lizard (*Phrynosoma blainvillii*)

Management Goal:

Ensure the persistence of San Diego coast horned lizard within the Preserve by protecting and maintaining occupied habitat, as well as managing and enhancing unoccupied areas that have the potential to provide ample foraging, breeding, and aestivating opportunities.

Monitoring Goal:

Monitor status, habitat condition, and threats to determine appropriate adaptive management actions to protect San Diego coast horned lizard within the Preserve. Monitor and evaluate the response of San Diego coast horned lizard to management actions and adjust as necessary to ensure species persistence.

Management Objectives:

- Manage invasive exotic species (specifically Argentine ants) in coast horned lizard habitat.
- Control urban-related predators in coast horned lizard habitat.

Monitoring Objectives:

- Document coast horned lizard presence/absence, foraging and breeding behavior, and potential threats to the species.
- Monitor coast horned lizard habitat for the presence of invasive ant species, particularly Argentine ants.

Methods:

1. **Monitor the status and quality of habitat for San Diego coast horned lizard within the Preserve.**
    a. Effectiveness monitoring: Presence/absence surveys will be completed every five years following survey methods used during baseline surveys.
    b. Monitor for native and non-native ant species distributions on conserved lands. Establish a schedule for general stewardship monitoring along the WUI to identify any Argentine ant infestations.
2. **Monitor status and threats of occupied habitat.**
    a. Inspect the vicinity of occupied San Diego coast horned lizard habitat every five years. Until SDMMP or other appropriate entity develops a species-specific threats assessment protocol, use the threats assessment protocol in SDMMP's Rare Plant Monitoring Protocol (IMG form) (SDMMP). The threats assessment should include an evaluation of human activities, invasive animal species (primarily Argentine ants), invasive plant species, roadkill/mortality, and other threats to the habitat requirements of coast horned lizard.

3. Apply adaptive management based on monitoring results.

a. Adaptive management recommendations.

i. Develop adaptive management recommendations specific to San Diego coast horned lizard based on the results of monitoring efforts.

b. Implement adaptive management strategies. Adaptive management strategies will be implemented based on monitoring results. Adaptive management will be initiated whenever there is a significant disturbance of suitable habitat of more than 20%, or if field observations and expert judgment indicate a change in management approach is needed (USFWS 2016).

c. Prevent the net loss of suitable habitat. If any decrease in the distribution of areas of suitable coast horned lizard habitat (areas of open scrub with sandy or friable soils) is detected, determine the cause and take corrective actions (e.g., removal of threats from increased human activity such as unauthorized trail use, restoration following major wildfires that result in vegetation types changes with less open ground cover).

Orange-Throated Whiptail (*Aspidoscelis hyperythrus beldingi*)

Management Goal:

Ensure the persistence of orange-throated whiptail within the Preserve by protecting and maintaining occupied habitat, as well as managing and enhancing unoccupied areas that have the potential to provide ample foraging, breeding, and aestivating opportunities.

Monitoring Goal:

Monitor status, habitat condition, and threats to determine appropriate adaptive management actions to protect orange-throated whiptail within the Preserve. Monitor and evaluate the response of orange-throated whiptail to management actions and adjust as necessary to ensure species persistence.

Management Objectives:

- Manage on-site chaparral and scrub habitats to benefit orange-throated whiptail.

Monitoring Objectives:

- Document orange-throated whiptail presence/absence, foraging and breeding behavior, and potential threats to the species.

Methods:

1. Monitor the status and quality of habitat for orange-throated whiptail within the Preserve.

a. Effectiveness monitoring: Presence/absence surveys will be completed every five years following survey methods used during baseline surveys.

Coastal California Gnatcatcher (*Polioptila californica californica*)

Management Goal:

Provide and maintain suitable nesting and foraging habitat for coastal California gnatcatcher and ensure their persistence of the species by maintaining populations within the Preserve.

Monitoring Goal:

Monitor status, habitat condition, and threats to determine appropriate adaptive management actions to protect coastal California gnatcatcher populations within the Preserve. Monitor and evaluate the response of coastal California gnatcatcher to management actions.

Management Objectives:

- Remove invasive non-native plant species to enhance areas with coastal sage scrub that provide coastal California gnatcatcher habitat, particularly Diegan coastal sage scrub.

Monitoring Objectives:

- Document coastal California gnatcatcher presence/absence, foraging and nesting behavior, habitat conditions, and potential threats to the species.

- Monitor changes in distribution of natural communities (scrub habitat) and invasive plant species.

Methods:

1. **Monitor the status of coastal California gnatcatcher within the Preserve.**

    a. Effectiveness Monitoring. Implement effectiveness monitoring every five years using survey methods as follows:

        - Perform avian point count surveys to include sampling locations within areas identified as occupied habitat during the baseline surveys.

2. **Protect known occurrences and occupied habitat of coastal California gnatcatcher.**

    a. Identify and implement appropriate measures to protect occupied habitat and minimize disturbance and edge effects. Appropriate measures may include:

        - Prioritize efforts to minimize edge effects, manage invasive plant species, implement fire management, and control unauthorized public access in portions of the conserved land known to support coastal California gnatcatcher.

3. **Monitor the status and threats to coastal California gnatcatcher habitat.**

    a. Conduct a habitat evaluation and threats assessment for coastal California gnatcatcher in perpetuity every five years. Until SDMMP or other appropriate entities develop a species-

specific threats assessment protocol, use the threats assessment protocol in SDMMP's Rare Plant Monitoring Protocol (IMG form). The threats assessment should focus on the quality of coastal sage scrub habitat (invasive species, changes in vegetation type cover resulting from alteration of fire regime and/or climate change) as it pertains to the habitat needs of coastal California gnatcatchers. Other potential threats include human activity, edge effects, and nest predation.

4. Apply adaptive management based on monitoring results.

a. Adaptive management recommendations. Develop adaptive management recommendations specific to coastal California gnatcatcher based on results of monitoring efforts.

b. Implement adaptive management strategies. Adaptive management strategies will be implemented based on the monitoring results. Adaptive management will be initiated whenever there is a significant disturbance of suitable habitat of more than 20%, or if field observations and expert judgment indicate a change in management approach is needed.

Cooper's Hawk (*Accipiter cooperii*)

Management Goal:

Provide and maintain suitable foraging and nesting habitat for Cooper's hawk and ensure their persistence of the species by managing public access within said nesting and foraging habitat.

Monitoring Goal:

Conduct a baseline foraging analysis to understand the foraging habits of Cooper's hawk within the Preserve. Monitor status, habitat condition, and threats to determine appropriate adaptive management actions to protect Cooper's hawk within the Preserve. Monitor and evaluate the response of Cooper's hawk to management actions.

Management Objectives:

- Maintain suitable, isolated nesting habitat on the Preserve.
- Maintain suitable foraging habitat throughout the Preserve.
- Utilize Cooper's hawk monitoring data to inform management decisions and provide a reference point for future studies or assessments pertaining to public use of the Preserve.

Monitoring Objectives:

- Document Cooper's hawk presence/absence, foraging behavior, and potential threats to the species.

Methods:

1. Monitor the status and quality of habitat for Cooper's hawk within the Preserve.

a. Effectiveness Monitoring. Implement effectiveness monitoring every five years using survey methods used for baseline surveys for monitoring Cooper's hawk habitat.

Northern Harrier (*Circus cyaneus*) – Foraging only

Management Goal:

Provide and maintain suitable foraging and nesting habitat for northern harrier and ensure their persistence of the species.

Monitoring Goal:

Conduct a baseline foraging analysis to understand the foraging habits of northern harrier within the Preserve. Monitor status, habitat condition, and threats to determine appropriate adaptive management actions to protect northern harrier within the Preserve. Monitor and evaluate the response of northern harrier to management actions.

Management Objectives:

- Maintain suitable, isolated nesting habitat on the Preserve.
- Maintain suitable foraging habitat throughout the Preserve.

Monitoring Objectives:

- Document northern harrier presence/absence, foraging behavior, and potential threats to the species.

Methods:

1. Monitor the status and quality of habitat for northern harrier within the Preserve.

a. Effectiveness Monitoring. Implement effectiveness monitoring every five years using survey methods used for baseline surveys for monitoring occupied northern harrier habitat.

Golden Eagle (*Aquila chrysaetos*)

Management Goal:

Provide and maintain suitable foraging and nesting habitat for golden eagle and ensure their persistence of the species by managing public access within said nesting and foraging habitat.

Monitoring Goal:

Conduct a baseline foraging analysis to understand the foraging habits of golden eagle within the Preserve. Monitor status, habitat condition, and threats to determine appropriate adaptive management actions to protect golden eagle within the Preserve. Monitor and evaluate the response of golden eagle to management actions.

Management Objectives:

- Maintain suitable, isolated nesting habitat on the Preserve.
- Maintain suitable foraging habitat throughout the Preserve.
- Utilize golden eagle monitoring data to inform management decisions and provide a reference point for future studies or assessments pertaining to public use of the Preserve.

Monitoring Objectives:

- Document golden eagle presence/absence, foraging behavior, and potential threats to the species.

Methods:

1. **Monitor the status and quality of habitat for golden eagle within the Preserve.**

    a. Effectiveness Monitoring. Implement effectiveness monitoring every five years using survey methods used for baseline surveys for monitoring occupied golden eagle habitat.

Bald Eagle (*Haliaeetus leucocephalus*) fly over

Management Goal:

Provide and maintain suitable foraging and nesting habitat for bald eagle and ensure their persistence of the species by managing public access within said nesting and foraging habitat.

Monitoring Goal:

Conduct a baseline foraging analysis to understand the foraging habits of bald eagle within the Preserve. Monitor status, habitat condition, and threats to determine appropriate adaptive management actions to protect bald eagle within the Preserve. Monitor and evaluate the response of bald eagle to management actions.

Management Objectives:

- Maintain suitable, isolated nesting habitat on the Preserve.
- Maintain suitable foraging habitat throughout the Preserve.
- Utilize bald eagle monitoring data to inform management decisions and provide a reference point for future studies or assessments pertaining to public use of the Preserve.

Monitoring Objectives:

- Document bald eagle presence/absence, foraging behavior, and potential threats to the species.

Methods:

1. **Monitor the status and quality of habitat for golden eagle within the Preserve.**

    a. Effectiveness Monitoring. Implement effectiveness monitoring every five years using survey methods used for baseline surveys for monitoring occupied bald eagle habitat.

Burrowing Owl (*Athene cunicularia*) – one owl foraging

Management Goal:

Provide and maintain suitable foraging and nesting habitat for burrowing owl and ensure their persistence of the species by managing public access within said nesting and foraging habitat.

Monitoring Goal:

Conduct a baseline foraging analysis to understand the foraging habits of burrowing owl within the Preserve. Monitor status, habitat condition, and threats to determine appropriate adaptive management actions to protect burrowing owl within the Preserve. Monitor and evaluate the response of burrowing owl to management actions.

Management Objectives:

- Maintain suitable, isolated nesting habitat on the Preserve.
- Maintain suitable foraging habitat throughout the Preserve.
- Utilize burrowing owl monitoring data to inform management decisions and provide a reference point for future studies or assessments pertaining to public use of the Preserve.

Monitoring Objectives:

- Document burrowing owl presence/absence, foraging behavior, and potential threats to the species.

Methods:

1. **Monitor the status and quality of habitat for burrowing owl within the Preserve.**

    a. Effectiveness Monitoring. Implement effectiveness monitoring every five years using survey methods used for baseline surveys for monitoring occupied burrowing owl habitat.

Western Bluebird (*Sialia mexicana*)

Management Goal:

Provide and maintain suitable foraging habitat for western bluebird and ensure their persistence of the species by maintaining populations within the Preserve.

Monitoring Goal:

Monitor the status, habitat condition, and threats to determine appropriate adaptive management actions to protect western bluebird populations within the Preserve. Monitor and evaluate the response of western bluebird to management actions.

Management Objectives:

- Remove invasive non-native plant species to enhance areas with woodland habitat within the Preserve.

Monitoring Objectives:

- Document western bluebird presence/absence, foraging behavior, habitat conditions, and potential threats to the species.

- Monitor changes in the distribution of natural communities (woodland habitat) and invasive plant species.

Methods:

1. **Monitor the status of western bluebird within the Preserve.**

    a. *Effectiveness Monitoring*. Implement effectiveness monitoring every five years using survey methods as follows:

        - Perform avian point count surveys to include sampling locations within areas identified as occupied habitat during the baseline surveys.

2. **Protect known occurrences and occupied habitat of western bluebird.**

    a. Identify and implement appropriate measures to protect occupied habitat, and minimize disturbance and edge effects. Appropriate measures may include:

        - Prioritize efforts to minimize edge effects, manage invasive plant species, implement fire management, and control unauthorized access in portions of the Preserve known to support western bluebird.

3. **Monitor the status and threats to western bluebird habitat.**

    a. Conduct a habitat evaluation and threats assessment for western bluebird in perpetuity every five years. Until SDMMP or other appropriate entities develop a species-specific threats assessment protocol, use the threats assessment protocol in SDMMP's Rare Plant Monitoring Protocol (IMG form). The threats assessment should focus on the quality of woodland habitat (invasive species, changes in vegetation type cover resulting from alteration of fire regime and/or climate change) as it pertains to the habitat needs of western bluebird. Other potential threats include human activity, edge effects, and nest predation.

4. Apply adaptive management based on monitoring results.

a. Adaptive management recommendations. Develop adaptive management recommendations specific to western bluebird based on the results of monitoring efforts.

b. Implement adaptive management strategies. Adaptive management strategies will be implemented based on monitoring results. Adaptive management will be initiated whenever there is a significant disturbance of suitable habitat of more than 20%, or if field observations and expert judgment indicate a change in management approach is needed.

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

Management Goal:

Provide and maintain suitable foraging habitat for southern California rufous-crowned sparrow and ensure their persistence of the species by maintaining populations within the Preserve.

Monitoring Goal:

Monitor the status, habitat condition, and threats to determine appropriate adaptive management actions to protect southern California rufous-crowned sparrow populations within the Preserve. Monitor and evaluate the response of southern California rufous-crowned sparrow to management actions.

Management Objectives:

- Remove invasive non-native plant species to enhance areas with coastal sage scrub and southern mixed chaparral habitats that provide southern California rufous-crowned sparrow habitat.

Monitoring Objectives:

- Document southern California rufous-crowned sparrow presence/absence, foraging and nesting behavior, habitat conditions, and potential threats to the species.

- Monitor changes in the distribution of natural communities (scrub and chaparral habitat) and invasive non-native plant species.

Methods:

1. Monitor the status of southern California rufous crowned sparrow within the Preserve.

a. *Effectiveness Monitoring*. Implement effectiveness monitoring every five years using survey methods as follows:

- Perform avian point count surveys to include sampling locations within areas identified as occupied habitat during the baseline surveys.

2. Protect known occurrences and occupied habitat of southern California rufous-crowned sparrow.

a. Identify and implement appropriate measures to protect occupied habitat and minimize disturbance and edge effects. Appropriate measures may include:

- Prioritize efforts to minimize edge effects, manage invasive plant species, implement fire management, and control unauthorized public access in portions of the Preserve known to support southern California rufous-crowned sparrow.

3. Monitor the status and threats to southern California rufous-crowned sparrow habitat.

a. Conduct a habitat evaluation and threats assessment for southern California rufous-crowned sparrow in perpetuity every five years. Until SDMMP or other appropriate entities develop a species-specific threats assessment protocol, use the threats assessment protocol in SDMMP's Rare Plant Monitoring Protocol (IMG form). The threats assessment should focus on the quality of coastal sage scrub habitat (invasive species, changes in vegetation type cover resulting from alteration of fire regime and/or climate change) as it pertains to the habitat needs of southern California rufous-crowned sparrows. Other potential threats include human activity, edge effects, and nest predation.

4. Apply adaptive management based on monitoring results.

a. Adaptive management recommendations. Develop adaptive management recommendations specific to southern California rufous-crowned sparrow based on results of monitoring efforts.

b. Implement adaptive management strategies. Adaptive management strategies will be implemented based on the monitoring results. Adaptive management will be initiated whenever there is a significant disturbance of suitable habitat of more than 20%, or if field observations and expert judgment indicate a change in management approach is needed**.**

Southern Mule Deer (*Odocoileus hemionus*)

Management Goal:

Provide and maintain suitable foraging habitat for southern mule deer and ensure their persistence within the Preserve.

Monitoring Goal:

Monitor status, habitat condition, and threats to determine appropriate adaptive management actions to protect southern mule deer within the Preserve. Monitor and evaluate the response of southern mule deer to management actions.

Management Objectives:

- Remove invasive non-native plant species to enhance areas with coastal sage scrub, chaparral, riparian forest, and southern willow scrub habitats that provide southern mule deer habitat.

Monitoring Objectives:

- Document southern mule deer presence/absence, habitat conditions, and potential threats to the species.

- Monitor changes in the distribution of natural communities (scrub, chaparral, and riparian forest habitat) and invasive plant species.

Methods:

1. Monitor the status of southern mule deer within the Preserve.

a. *Effectiveness Monitoring*. Implement effectiveness monitoring every five years using survey methods as follows:

i. Perform wildlife camera surveys to include sampling locations within areas identified as occupied habitat during the baseline surveys.

b. Perform vegetation mapping every 10 years to determine if on-site vegetation communities supporting southern mule deer remain viable.

2. Apply adaptive management based on monitoring results.

a. Adaptive management recommendations. Develop adaptive management recommendations specific to southern mule deer based on the results of monitoring efforts.

b. Implement adaptive management strategies. Adaptive management strategies will be implemented based on monitoring results. Adaptive management will be initiated whenever there is a significant disturbance of suitable habitat of more than 20%, or if field observations and expert judgment indicate a change in management approach is needed**.**

Mountain Lion (*Puma concolor*)

Management Goal:

Provide and maintain suitable foraging habitat for mountain lion and ensure their persistence within the Preserve.

Monitoring Goal:

Monitor status, habitat condition, and threats to determine appropriate adaptive management actions to protect mountain lion within the Preserve. Monitor and evaluate the response of mountain lion to management actions.

Management Objectives:

- Remove invasive non-native plant species to enhance areas with coastal sage scrub and chaparral habitats that provide mountain lion habitat.

Monitoring Objectives:

- Document mountain lion presence/absence, habitat conditions, and potential threats to the species.

- Monitor changes in the distribution of natural communities (scrub and chaparral habitats) and invasive plant species.

Methods:

1. **Monitor the status of mountain lion within the Preserve.**

    a. *Effectiveness Monitoring*. Implement effectiveness monitoring every five years using survey methods as follows:

        i. Perform wildlife camera surveys to include sampling locations within areas identified as occupied habitat during the baseline surveys.

    b. Perform vegetation mapping every 10 years to determine if on-site vegetation communities supporting mountain lion remain viable.

2. **Apply adaptive management based on monitoring results.**

    a. **Adaptive management recommendations**. Develop adaptive management recommendations specific to mountain lion based on the results of monitoring efforts.

    b. **Implement adaptive management strategies.** Adaptive management strategies will be implemented based on monitoring results. Adaptive management will be initiated whenever there is a significant disturbance of suitable habitat of more than 20%, or if field observations and expert judgment indicate a change in management approach is needed**.**

The Preserve is within a known wildlife movement corridor, and suitable habitat for this species occurs throughout the Preserve. DPR staff has previously reported observations of this species within the Preserve in 2008. Mountain lions were not recorded on wildlife cameras during the 2012 or 2016 biological surveys, or during the 2019 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 wildlife corridors will be done on a regional scale rather than individual preserve level (as described in implementation measure 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 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), Argentine ants, and European starlings (non-native invasive species) at ten-year intervals in conjunction with habitat monitoring and general wildlife surveys (as described in implementation measures A.1.1 and A.1.2). The monitoring frequency for invasive wildlife species may be modified/increased if other species-specific monitoring or routine preserve management observation indicate that serious negative effects are occurring.

Implementation Measure A.4.2: DPR will post signs to encourage clean-up by equestrian users of staging areas to keep them 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 is 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 in the 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)

In 2023, HELIX prepared a Vegetation Management Plan for the Preserve (HELIX 2023, Appendix M). The VMP outlines invasive non-native plant species management, habitat restoration, and fire management. These recommendations were used to develop the management directives and implementation measures included below. Non-native plant species management, habitat restoration, and fire management activities will be included in the South County MSCP Subarea Plan Annual Report.

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 habitat restoration or enhancement activities within the Preserve, including restoration opportunities identified in the VMP (Appendix M). The need for habitat 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 habitat 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.

Implementation Measure B.1.2: DPR staff will perform invasive non-native plant species treatment and erosion control as needed in disturbed areas where the natural recruitment of native plant species is actively occurring, as described in the VMP (Appendix M).

Implementation Measure B.1.3: DPR will ensure that only native, site-appropriate trees and plant species are planted within the Preserve. Prior to planting native trees, DPR staff will identify potential locations for planting and then determine suitable species based on the presence of the same species in/near the target area or in similar habitats and slope aspects in other parts of the Preserve. Irrigation options will be evaluated, including potential access constraints, availability for hand or truck watering, or temporary above-ground irrigation. DPR may also coordinate with the County's arborist or an outside consultant arborist or restoration specialist to assist in the selection of appropriate tree species and planting locations.

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. Parts of the Preserve have burned as many as six times over the course of the recorded fire history, and most recently burned during the 2016 Lakeside Fire. These fires have played a major role in the spread of invasive non-native species within the Preserve, with 23 invasive non-native plant species identified as target species, 14 of which were identified as a high priority for removal (giant reed, pampas grass, perennial veldt grass, saltcedar, purple false-brome,

artichoke thistle, stinkwort, treasure flower, whitetop [hoary cress], red river gum, crown daisy, milk thistle, blue-eyed Cape marigold, and Chinaberry tree) and five as moderate priority for removal (black mustard, Maltese star-thistle, shortpod mustard, crimson fountain grass, and rose Natal grass). 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 VMP (Appendix M). 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 non-native plant species removal and habitat restoration should follow guidelines outlined in the Preserve's VMP. A Certified herbicide technician shall treat the non-native vegetation with herbicides. A biological monitor will be on-site 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 routinely pull weeds or remove any invasive non-native plants in the early stages of growth observed during patrols along trails or access roads.

Implementation Measure B.2.3: 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 non-native 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 the introduction of invasive, non-native plant species into the Preserve. Information provided will include the identification of invasive plant species 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 DPR staff 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 equestrian 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 the California Department of Forestry and Fire Protection (FRAP 2023).

Current fire management activities within the Preserve include maintaining existing firebreaks along SR-67, around the staging area parking lots, and the Visitors Center. 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 access roads within the Preserve will be maintained annually to keep them fuel free. If funding permits, DPR will install an automatic gate at the SR-67 entrance and, if feasible, install an approved emergency traffic control-activating strobe light sensor device at both the Goodan and SR-67 gates.

Implementation Measure B.4.2: DPR staff will annually maintain fuel modification zones 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 the potential for erosion. Erosion control 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 and City of Lakeside Fire Departments to ensure that the fire response and implementation measures outlined in this RMP and the VMP (Appendix M) are up-to-date and adequate for effective fire response within the Preserve. The Poway Fire Department and CAL FIRE are the primary responders to the Preserve, with the Lakeside Fire Department as the primary responder for the San Vicente Connector Parcels. DPR shall conduct fuel management under the direction of the City of Poway Fire Department using the identified VMUs, as feasible, and as presented herein in Figure 14, *Vegetation Management Units*, and in the VMP. 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.

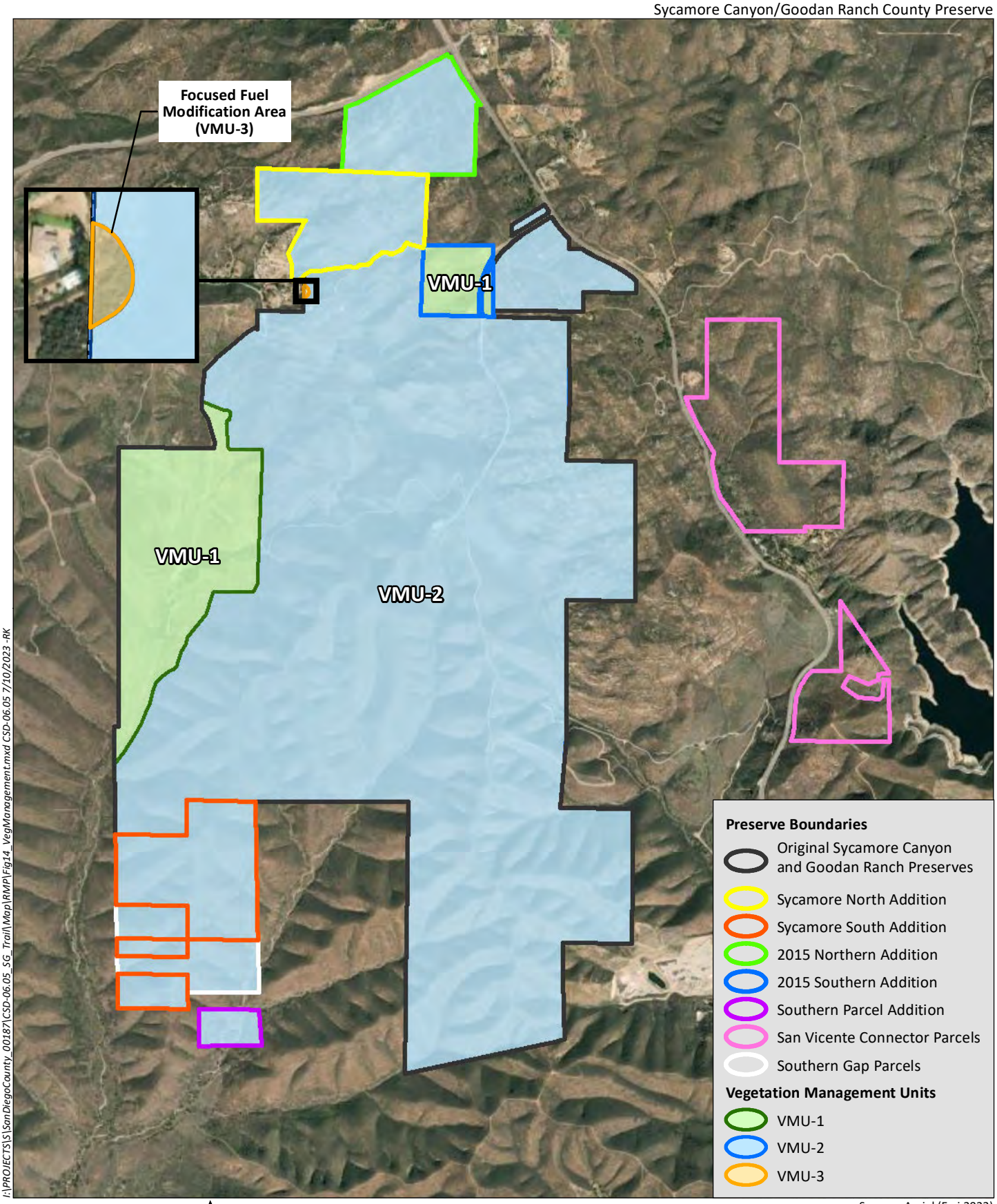
5.4 PUBLIC ACCESS ELEMENT (C)

5.4.1 Public Access

The Preserve currently contains approximately 5.56 miles of formal trails and 6.61 miles of access roads suitable for trail use. Implementation of the PAP for the Preserve would increase the formalized trail network to provide an approximately 21.7-mile formalized trail and access road network, including 15.09 miles of multi-use routes for hikers, mountain bikers, e-bikes, and horseback riders. In all, a total of 16.93 miles of existing formal trails, informal trails, and access roads would remain open, and 4.77 miles of new trails and trail connections are proposed, totaling 21.7 miles.

The trails welcome hikers, mountain bikers, photographers, and other recreational users. The trails vary in difficulty, length, and elevation gain, providing opportunities for varied user groups. In addition to the trails and their associated viewpoints, the Preserve includes amenities such as picnic tables; two staging areas; restrooms; an outdoor amphitheater, and the Visitors Center, which is home to demonstration and exhibit rooms and the Preserve office.

The DPR rangers have installed gates, signage, and fencing in four locations along the southern border of Sycamore South to help prevent unauthorized access. Two are located at access points, and the other three are blocking illegal trails. Two trails are found in the Sycamore South property; an offshoot of the



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Source: Aerial (Esri 2022)

HELIX Environmental Planning

Vegetation Management Units

Figure 14

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, as identified in the PAP.

No public access currently exists in the Southern Parcel, Southern Gap Parcels, or San Vicente Connector Parcels.

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. DPR 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. DPR 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, therefore, are prohibited in the Preserve, except for law enforcement, Preserve management, and/or emergency purposes.

b) Hunting or discharge of firearms are incompatible uses in the MSCP Preserve and is prohibited by other County ordinances and, therefore, are 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) Unauthorized Camping (including homeless and itinerant worker camps).

f) Feeding wildlife.

g) Domestic animals, except horses and leashed dogs.

h) Smoking.

i) Unauthorized Campfires/Open Flames.

j) Littering/Dumping.

Implementation Measure C.1.2: DPR rangers and staff 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 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 Southern Parcel, Southern Gap Parcels, or San Vicente Connector Parcels 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 Southern Parcel, Southern Gap Parcels, San Vicente Connector Parcels, or any other future additions to the Preserve, DPR will ensure that any proposed trail system is compatible with the Subarea Plan 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.

5.4.2 Fencing and Gates

Gates have been placed in the following locations within the Preserve (Figure 8a): (1) two gates at the staging area located off of Sycamore Canyon Road; (2) access point at SR-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 the entrance to a 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 SR-67. The SR-67 gate is kept open during business hours and locked afterward. There are several interior gates that have County padlocks and are kept open only during business hours.

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. Undeveloped, privately-owned lands south of the Preserve are not managed for access control by the property owners and have contributed to unauthorized uses of the land and encroachment onto other private property (Hansen Aggregates land in Clark Canyon) and DPR-managed land. Gates, signage, and fencing in five locations along the southern border of Sycamore South have been installed to help with unauthorized access.

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

***Implementation Measure C.4.1*:** DPR 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 the restriction of public access to the Southern Parcel, Southern Gap Parcels, and San Vicente Connector Parcels.

5.4.3 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*:** DPR staff will monitor public access roads, staging areas, and trails for degradation and restrict off-trail access and use, and provide necessary repair/maintenance per the Community Trails Master Plan (County of San Diego 2009a). Any trail maintenance performed must ensure that the trail remains suitable for each multi-user group (hike, bike, equestrian) allowed on the trail.

***Implementation Measure C.5.2*:** If temporary closure of a trail is deemed necessary for the 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 the 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 the 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 DPR 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, but are not limited to, 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 DPR staff, those specific areas will be posted with barriers and clear signage reminding the public to remain on authorized trails. DPR staff may also deconstruct and restore unauthorized trails. Access control during restoration of unauthorized trails will occur through a combination of barricades (fences, rocks, etc.), signage, or through natural means, which will occur at the beginning and end of trails to be removed. Access control may be removed once restored vegetation is established. Also, see management directive C.4.

Implementation Measure C.5.5: DPR will monitor Preserve usage via trail counters and will regularly evaluate this data to identify future changes in trail usage.

5.4.4 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 Implementation Measures 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*:** DPR rangers will regularly inspect and maintain all posted signs within the Preserve to ensure they are in good condition.

Currently 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. DPR policy C-39 Signage will be followed as a requirement for the design, presentation, and installation of preserve signs to be consistent, align with the DPR brand, and minimal to avoid disrupting the natural aesthetic of the Preserve while still providing necessary information to the public.

Lighting

Artificial lighting adversely impacts the 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 Visitors Center and the live-in volunteer Park Host pad. The Visitors Center 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 the Visitors Center 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 Visitors Center and live-in volunteer pad.

5.4.5 Organized Events

Management Directive C.8 – Track and limit organized events occurring in the Preserve (*Priority 2*)

***Implementation Measure C.8.1*:** DPR will track and limit the number and timing of organized events occurring within the Preserve, including but not limited to trail races (foot/bicycle races), to help ensure that such events do not substantially alter trail conditions, cause damage to native habitats, or result in adverse conditions for native species. The number and type of allowable events may vary from year to year based on Preserve conditions as well as effects on Preserve management resulting from previous years' events (lessons learned).

5.5 OPERATIONS AND FACILITY MAINTENANCE ELEMENT (D)

5.5.1 Litter/Trash and Materials Storage

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

***Implementation Measure D.1.1*:** DPR staff will maintain all restrooms and trash receptacles provided at all staging areas and the Visitors Center. Trash receptacles are designed to be secure from intrusion by wildlife species. DPR staff will regularly empty trash receptacles at least twice a week or more/less as deemed necessary. Restrooms will be serviced regularly/as-needed.

***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*:** DPR 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.

5.5.2 Hydrological Management

Native habitats in the MSCP Preserve have evolved, in part, on the distribution and flow characteristics of water. MSCP Preserve property is managed to maintain existing natural drainages and watersheds and to restore or minimize changes to natural hydrological processes. Proposed structures and activities

will be evaluated for effects on hydrology, and remedial actions will be taken, as needed. 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. DPR staff will monitor trail use to ensure 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, that 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 may close the Preserve after heavy rains. The Preserve shall be reopened when deemed appropriate by the DPR staff.

5.5.3 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. DPR will allow for emergency services training in the Preserve to improve emergency preparedness.

5.5.4 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 a 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 (https://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.

5.6 CULTURAL RESOURCES ELEMENT (E)

The goal of this section of the RMP is long-term preservation, public interpretation of the cultural resources, and interaction with the 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, AECOM 2016, ICF 2019, HELIX 2019 and 2020), 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 unknown significant 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 the 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 the 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 Preserve if property acquisitions occur to the south and recreational uses align with the Public Access Plan. 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 Preserve was not intensively used during either the prehistoric or historic period and that the development of trails and facilities in this area would have far a lower potential for affecting cultural resources.

Implementation Measure E.2.3: The existing Martha's Grove Trail runs within and/or adjacent to several potentially significant prehistoric sites in the northern part of the Preserve. The trail currently avoids a knoll top site, and avoidance will be maintained through possible realignment of the trail 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 present-day Calle de Rob Trail in the northern portion of the Preserve is a spur of the original Foster Truck Trail. The development of scenic viewpoints and interpretive signage along the existing historic road cut of Foster Truck Trail running along the southern boundary of the Sycamore North Addition 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 connecting resources at the Preserve to contemporary resources at other DPR 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, gatherings, 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 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.

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Appendix A

Management Directive and Implementation Measure Summary Table

Appendix B

Baseline Biological Resources Evaluation, Sycamore Canyon and Goodan Ranch Preserves (ICF Jones & Stokes 2008a)

Appendix C

Baseline Biodiversity Survey for the Sycamore South and Hagey Study Areas (Dudek 2013)

Appendix D

Baseline Biodiversity Survey Report for the Wu and Cielo Properties (AECOM May 2018)

Appendix E

Baseline Biodiversity Survey Report for the Sycamore Canyon/Goodan Ranch Preserve Southern Parcel Addition (HELIX 2020)

Appendix F

Baseline Biodiversity Survey Report for Sycamore Canyon/Goodan Ranch Preserve Additional Properties (ICF 2021)

Appendix G

Cultural Resources Phase I Survey and Inventory, Sycamore Canyon and Goodan Ranch Preserves, San Diego County, California (ICF Jones & Stokes 2008b)

Appendix H

Archaeological Survey Report for the Hagey and Sycamore South Properties, Additions to the Sycamore Canyon and Goodan Ranch Preserves, San Diego County California (ASM Affiliates 2012)

Appendix I

Cultural Resources Phase 1 Survey and Inventory, Sycamore Canyon/ Goodan Ranch Preserve, Cielo and Wu Properties Additions, San Diego County, California (AECOM 2016)

Appendix J

Cultural Resources Phase 1 Survey and Inventory, Sycamore Canyon/ Goodan Ranch Preserve, Southern Parcel Addition (HELIX 2019)

Appendix K

Cultural Resources Inventory and Assessment, Sycamore Canyon/ Goodan Ranch Preserve Public Access Plan (HELIX 2023)

Appendix L

Phase I Cultural Resources Survey and Inventory of Six Parcels for Addition to the Sycamore- Goodan Ranch Preserve (ICF 2019)

Appendix M

Sycamore Canyon/ and Goodan Ranch County Preserve Vegetation Management Plan (HELIX 2023)

Appendix N

Sycamore Canyon/Goodan Ranch County Preserve Public Access Plan (RICK Engineering 2023)