FINAL

Baseline Biodiversity Survey for the Sycamore South and Hagey Study Areas

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LIST OF ACRONYMS

AMSL	above mean sea level
AOU	American Ornithologists' Union
APN	Assessor's Parcel Numbers
ASMD	Area-Specific Management Directive
CAL FIRE	California Department of Forestry and Fire Protection
Cal-IPC	California Invasive Plant Council
CDFW	California Department of Fish and Wildlife
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CRPR	California Rare Plant Rank
DPLU	County of San Diego Department of Planning and Land Use
DPR	County of San Diego Department of Parks and Recreation
FRAP	Fire and Resource Assessment Program
FMP	Framework Management Plan
GIS	geographic information system
GPS	Global Positioning System
IA	index of abundance
IEMM	Institute for Ecological Monitoring and Management
MSCP SAP	Multiple Species Conservation Program Subarea Plan
NABA	North American Butterfly Association
PAMA	Pre-Approved Mitigation Area
PDS	Department of Planning and Development Services
RMP	Resource Management Plan
SDMMP	San Diego Management and Monitoring Program
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VCM	Vegetation Classification Manual for Western San Diego County

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EXECUTIVE SUMMARY

The County of San Diego Department of Parks and Recreation (DPR) prepared a Resource Management Plan (RMP) for the Sycamore Canyon and Goodan Ranch Preserves, located in an unincorporated region of the County of San Diego, in 2009. Recent acquisitions by DPR included the Hagey property to the north and the Sycamore South property to the south of the Preserves, adding an additional 263 acres to the existing 2,272.3-acre Sycamore Canyon and Goodan Ranch Preserves. DPR plans to incorporate management of the Hagey and Sycamore South Study Areas with the Sycamore Canyon and Goodan Ranch Preserves in accordance with the 2009 RMP. Dudek conducted a baseline biodiversity study of the Sycamore South and Hagey Study Area parcels to provide DPR with current biological data needed to update the existing RMP.

Dudek biologists performed the following biological inventory surveys on the parcel additions from spring through summer 2012: vegetation communities mapping, rare plant surveys, invasive plant species mapping, butterfly surveys and habitat assessment for Quino checkerspot (*Euphydryas editha quino*), herpetological pitfall trap surveys, diurnal and nocturnal avian point count surveys, passive bat surveys, small mammal trapping, and large and medium mammal surveys using remote camera stations.

Based on the Vegetation Classification Manual (VCM) for Western San Diego County, fourteen plant alliances, associations, or semi-natural stands were identified within the two Study Areas: annual brome grasslands semi-natural stands, black sage-California buckwheat scrub association, black sage scrub alliance, California buckwheat scrub association, California sagebrush – California buckwheat – laurel sumac association, chamise chaparral alliance, chamise chaparral – woolly-leaved ceanothus association, chamise chaparral – deerweed association, chamise chaparral – mission manzanita alliance, chamise chaparral – mission manzanita – woolly-leaved ceanothus association, deerweed association, laurel sumac – deerweed association, scrub oak – mountain mahogany association, and woolly-leaved ceanothus association. A total of 183 plant species, including three (3) special-status plant species, were recorded within the Study Areas during surveys. A total of 113 wildlife species were observed or detected in the Study Areas during surveys, including 9 reptiles, 35 birds, 25 mammals, and 44 invertebrates. Seventeen special-status wildlife species were observed or detected in the Study Areas, including five (5) species covered under the Multiple Species Conservation Program Subarea Plan (MSCP SAP).

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1.0 INTRODUCTION

1.1 Purpose of the Report

Baseline biological resources surveys were conducted within the County of San Diego Department of Parks and Recreation (DPR) Sycamore South and Hagey Study Areas. DPR recently acquired the 150-acre Sycamore South properties and 113-acre Hagey property as additions to the Sycamore and Goodan Ranch Preserves (2,272.3 acres) (Figures 1 and 2). The purpose of these surveys was to identify and map existing biological resources. This information will be utilized to update the existing Sycamore Canyon and Goodan Ranch Preserves Resource Management Plan (RMP) including updated area specific management directives (ASMDs). These ASMDs provide the management framework for monitoring and managing the Preserve's resources.

1.2 MSCP Context

The Sycamore South properties and the Hagey property are located within the jurisdiction of the Multiple Species Conservation Program Subarea Plan (MSCP SAP), specifically the Metro-Lakeside-Jamul segment, and are designated as Pre-Approved Mitigation Area (PAMA) (County of San Diego 1998) (Figure 3a). PAMA are areas within the MSCP with high conservation values, and are important to the success of the regional preserve system.

Conserved lands are located to the north, east, and northeast of the Sycamore Canyon and Goodan Ranch Preserves and are included as PAMA in the MSCP (Figure 3b). Areas located southeast and further northeast are designated as Unincorporated Land in Metro-Lakeside-Jamul Segment, and have low-density use that is compatible with species conservation and improving habitat connectivity in the region. Open space surrounds much of the Study Areas and Preserves to the west in the City of San Diego and to the south in the City of Santee (County of San Diego 2009a).

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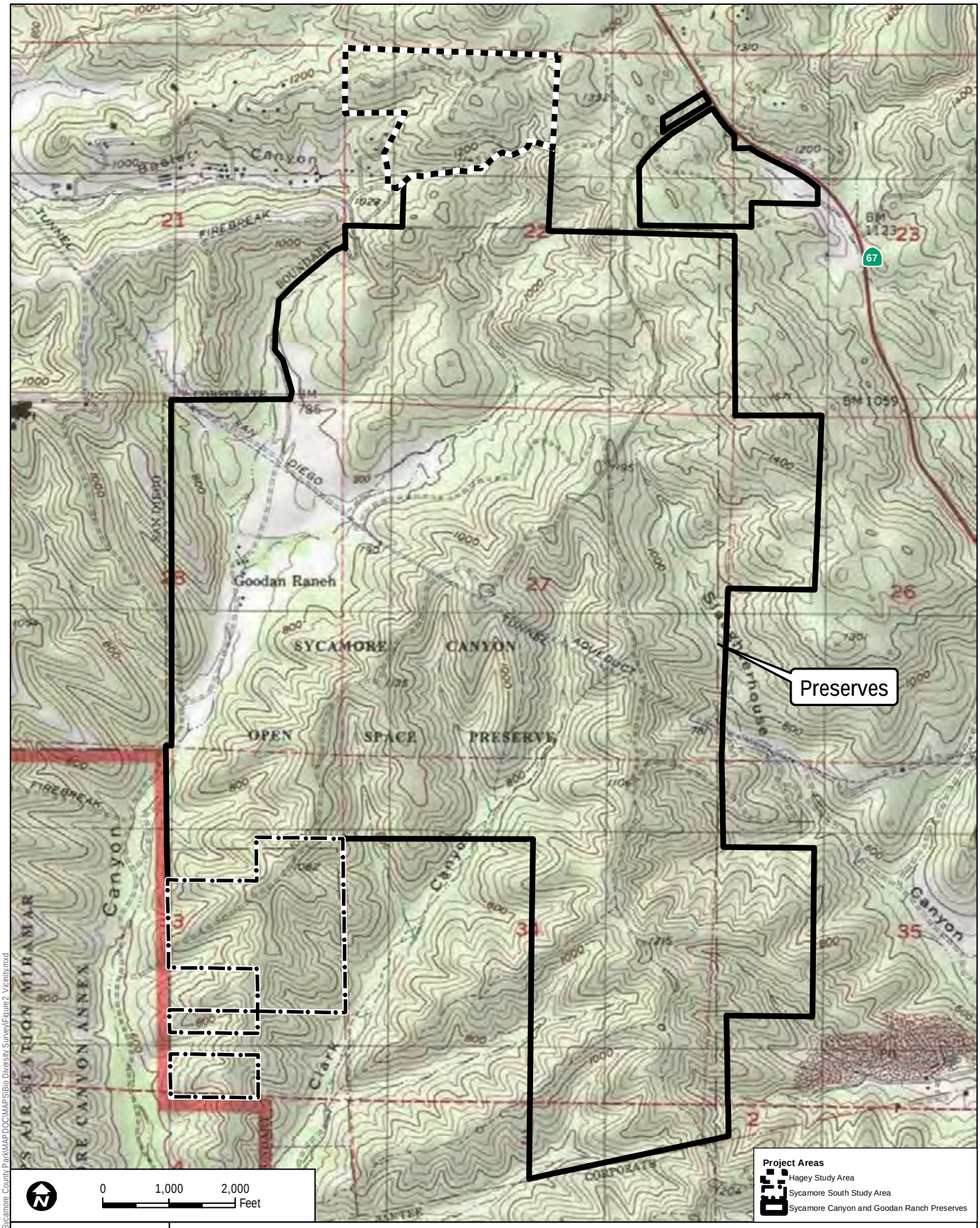
FIGURE 1

Regional Map

Sycamore South and Hagey Study Areas - Baseline Biodiversity Survey

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SOURCE: USGS topo 7.5-Minute Series Quadrangle

FIGURE 2
Vicinity Map

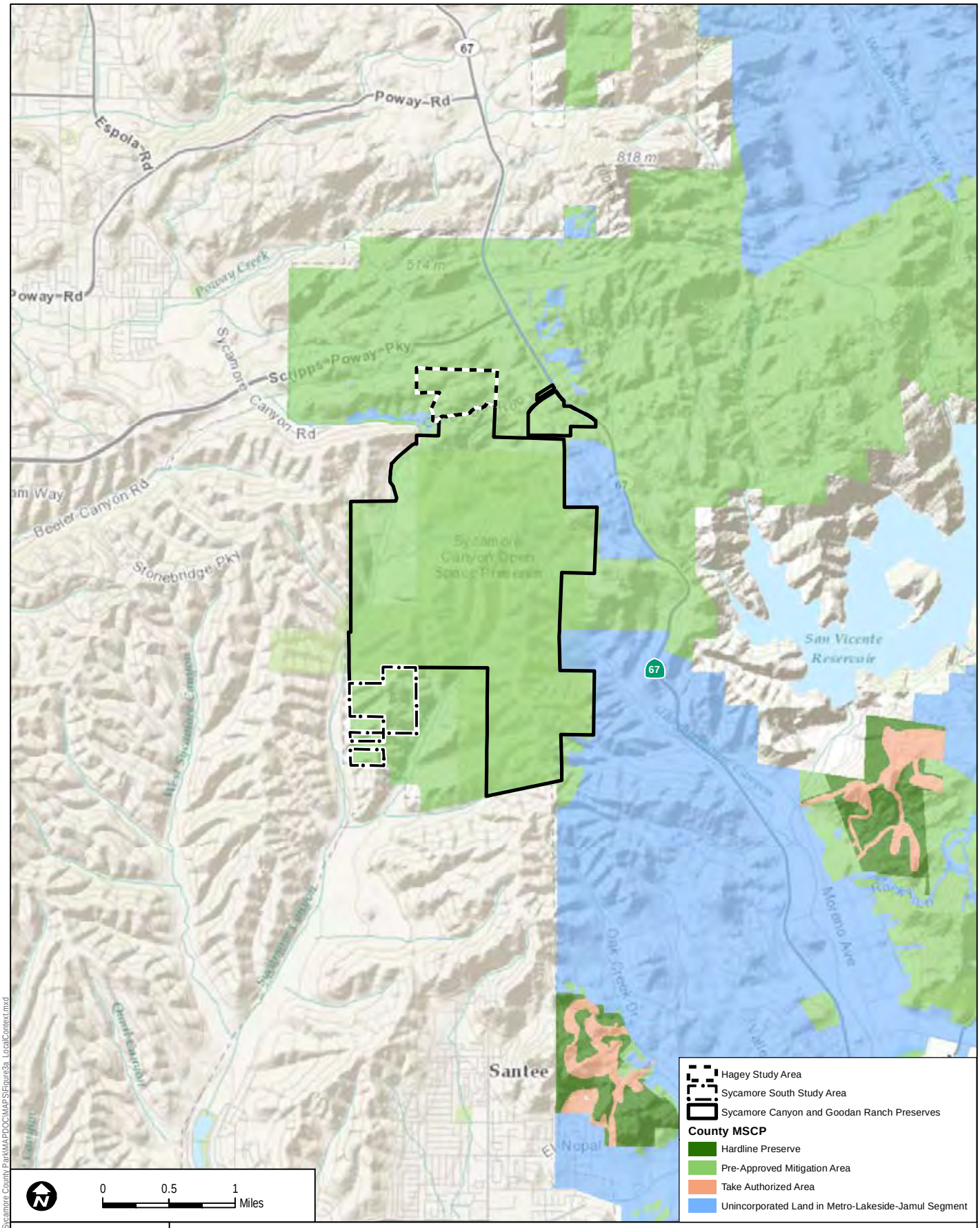
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Sycamore South and Hagey Study Areas - Baseline Biodiversity Survey

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SOURCE: USGS

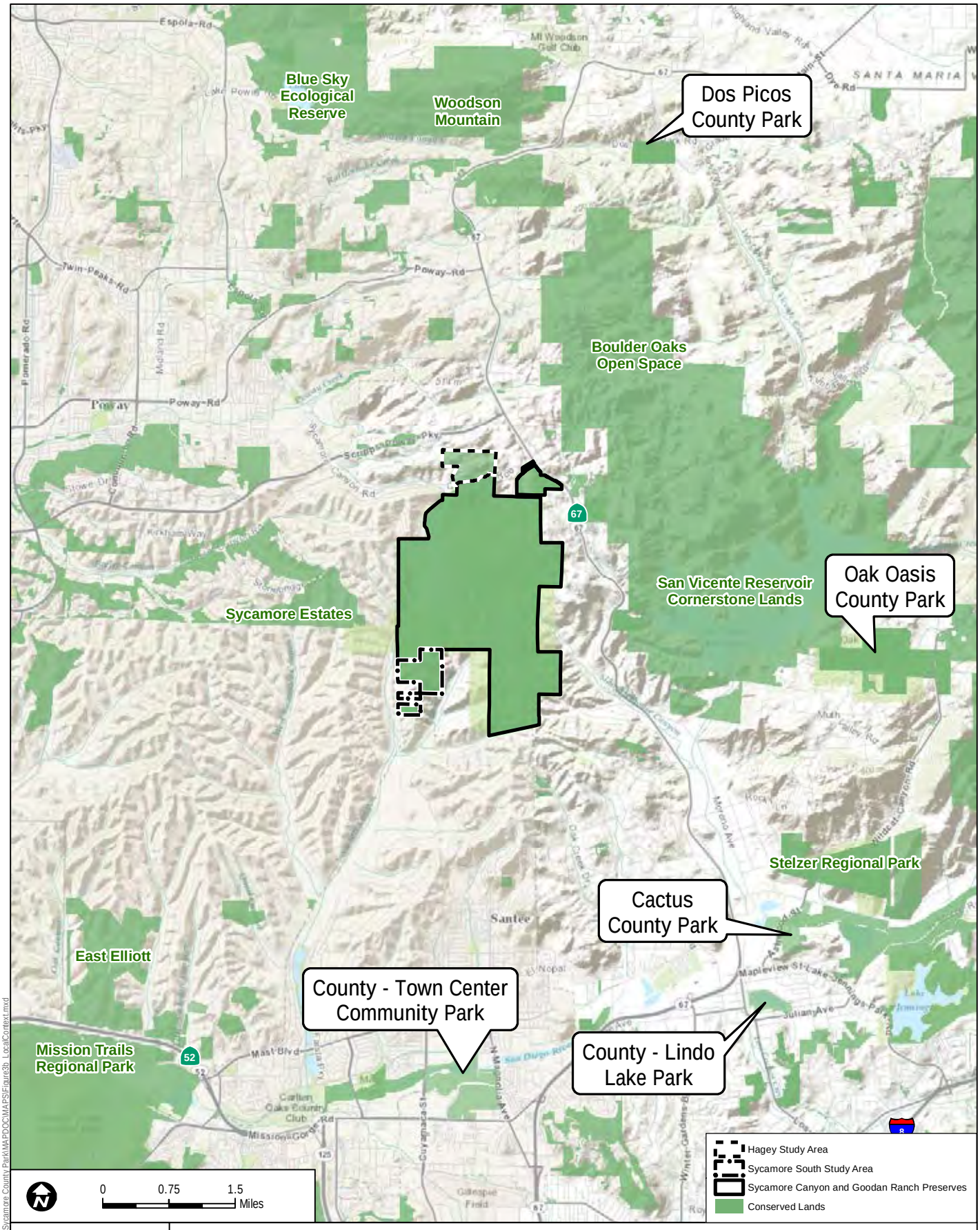
FIGURE 3a

MSCP Designations

Sycamore South and Hagey Study Areas - Baseline Biodiversity Survey

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SOURCE: USGS, SanGIS 2012

FIGURE 3b

Conserved Lands

Sycamore South and Hagey Study Areas - Baseline Biodiversity Survey

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2.0 STUDY AREA DESCRIPTION

2.1 Project Location

The Sycamore South and Hagey Study Areas (Study Areas) are generally located south of (Sycamore South) and north of (Hagey) the Sycamore Canyon and Goodan Ranch Preserves, within an unincorporated area of the County of San Diego east of the City of Poway and north of the City of Santee in Central San Diego County (Figure 1). Specifically, the Sycamore South Study Area is centered along a ridgeline, located east of Sycamore Canyon, and west of Clark Canyon. The Sycamore South Study Area is composed of three non-contiguous study areas. The Hagey Study Area is one contiguous study area, and is located north of Calle de Rob and south of Scripps Poway Parkway. The Sycamore South Study Area is mapped on the U.S. Geological Survey (USGS) 7.5-minute San Vicente Reservoir quadrangle, Township 14 South, Range 1 West, Section 33 and Township 15 South, Range 1 West, Section 4, and the Hagey Study Area is mapped on Section 22 (Figure 2).

The Sycamore South Study Area encompasses fifteen Assessor Parcel Numbers (APNs) including: 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, and 325-060-24. The Hagey Study Area encompasses six APNs including 324-040-25, 324-040-26, 342-040-27, 324-040-28, 324-040-31, and 324-040-32.

2.2 Geographical Setting

The Study Areas are located in the coastal foothills of the Peninsular Ranges of Southern California and are composed of hilly terrain; Sycamore South is more hilly than Hagey, and has slopes ranging from flat to 46o, although most areas have slopes from 20-25o. The Hagey Study Area has slopes ranging from flat to 35o, and most areas have a slope gradient of 10-15o. The Study Areas range in elevation from approximately 321 to 433 meters above mean sea level (AMSL) (1,053-1,421 feet) within the Hagey Study Area, and from 204 to 329 meters AMSL (668-1,081 feet) within the Sycamore South Study Area.

The topography of the Study Areas is determined primarily by its proximity to the Peninsular Range, which creates relatively hilly terrain. The Study Areas are characterized by east-west canyons and generally variable topography.

2.3 Geology and Soils

The Study Areas contain two soil types belonging to two soil series: Friant rocky fine sandy loam and Redding cobbly loam (Figure 4) (USDA 2010). A brief description of each soil series and the associated soil type is provided below.

Friant Series

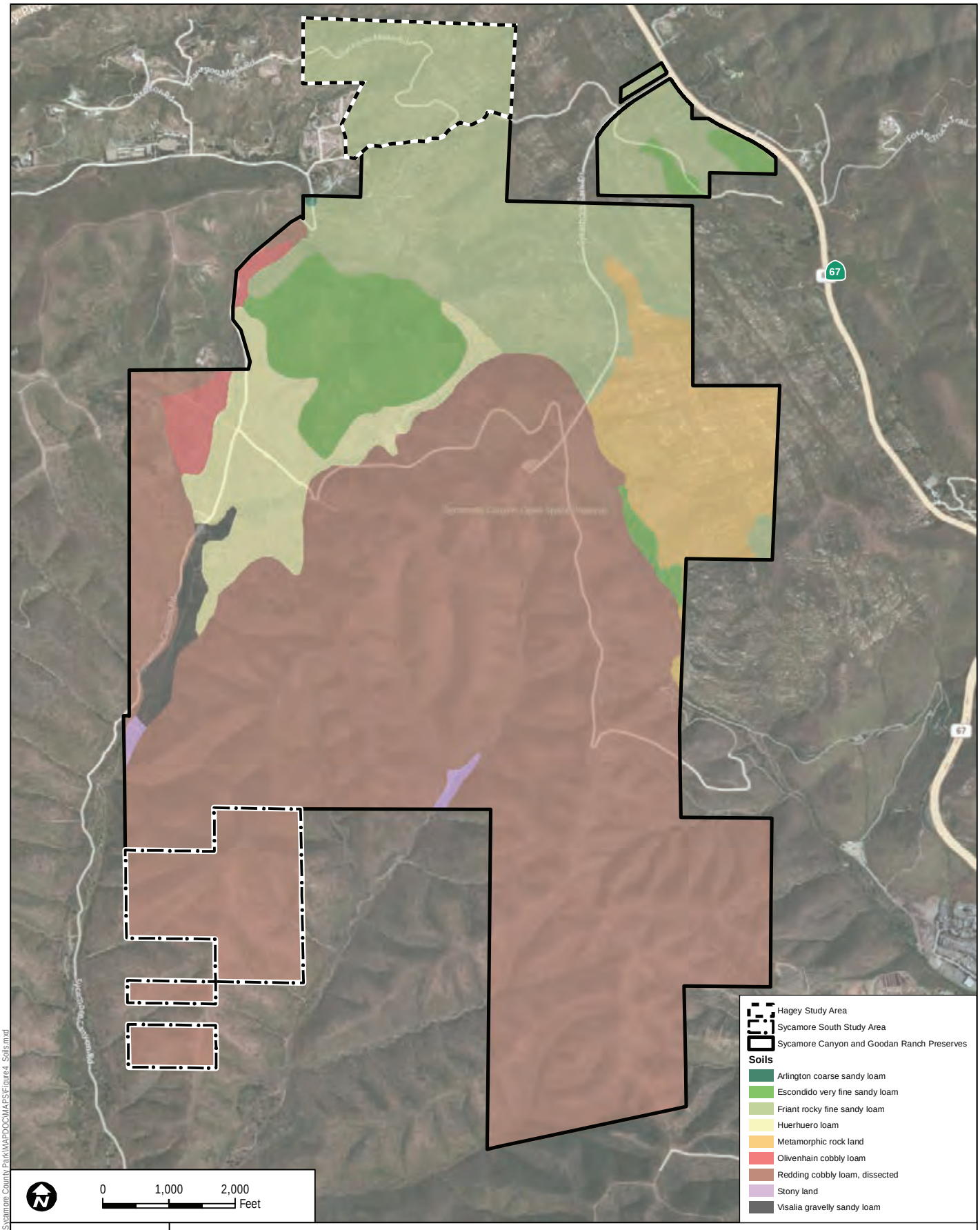
Friant rocky fine sandy loam is the representative of the Friant series mapped within the entirety of the Hagey Study Area (Figure 4). Friant soils are shallow and well drained; they are characterized by medium to very rapid runoff and moderately rapid permeability. Friant soils are found in mountainous uplands with slopes varying from 7% to 90%. Typical vegetation found on this soil series is buckwheat, chaparral, and naturalized grasses and forbs. The Friant Series occurs from the foothills of the east side of the San Joaquin Valley and the southwestern area of Southern California (NRCS 2012).

Redding Series

Redding cobbly loam, dissected, is mapped within the entirety of the Sycamore South Study Area (Figure 4). 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, which characterize the Sycamore South Study Area. 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. Annual grasses and forbs are typical native vegetation found on soils in the Redding Series (NRCS 2012).

2.4 Climate

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



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SOURCE: Bing, USDA Soils 2010

FIGURE 4

Soils Map

Sycamore South and Hagey Study Areas - Baseline Biodiversity Survey

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

2.5 Hydrology

The Sycamore South Study Area is located within the Lower San Diego River Watershed (Figure 5). More specifically, it is located east of Clark Canyon and west of Sycamore Canyon. The Study Area is located along a ridgeline, and therefore any substantial rainfall within the Study Area will flow south, eventually into the San Diego River. The San Diego River flows approximately 23 miles southwest from the Study Area to the Pacific Ocean in Ocean Beach, California.

The Hagey Study Area is bisected by the juncture of two watersheds: Poway Creek and Lower San Diego River (Figure 5). The western region of the Study Area drains southwest to a southern tributary of Los Peñasquitos Creek. Los Peñasquitos Creek joins with additional tributaries and flows into Los Peñasquitos Lagoon in Del Mar (Project Clean Water 2012). The Poway Creek Watershed covers approximately 100 square miles and is highly urbanized; the lagoon is listed as an impaired water body on the California 303(d) list for sedimentation (Project Clean Water 2012). The eastern region of the Hagey Study Area drains south through Sycamore Canyon, and flows into the Lower San Diego River Watershed.

2.6 Fire History

Based on historical fire perimeter data from the California Department of Forestry and Fire Protection (CAL FIRE) Fire and Resource Assessment Program (FRAP) (FRAP 2012)[1,] five fires have affected the Hagey and Sycamore South Study Area since 1913 (Figure 6, Table 1).

[1] Based on polygon geographic information system (GIS) data from the CAL FIRE's FRAP, which includes data from CAL FIRE, USDA Forest Service Region 5, Bureau of Land Management (BLM), U.S. National Park Service (NPS), contract counties, and other agencies. The data set is a comprehensive fire perimeter GIS layer for public and private lands throughout the state and covers fires 10 acres and greater back to 1878.

An active fire regime is characteristic of the surrounding region, with many areas having burned at least twice since 1913. Approximately 29 acres in the northern area of the Sycamore South Study Area were burned in June 2003 during the Sycamore Fire. In October 2003, the Cedar Fire burned the entire Sycamore Canyon and Goodan Ranch Preserves, including the Sycamore South and Hagey Study Areas.

The Hagey Study Area is characterized by a much more active fire regime than the Sycamore South Study Area. The Sycamore and Cedar Fires were the only fires to burn the Sycamore South Study Area. On the other hand, most of the Hagey Study Area has been burned three times since 1913, and the remainder has been burned twice. Areas adjacent to the Hagey Study Area have been burned four or five times since 1913. Fires during 1955, 1971, and 2003 burned almost the entirety of the Hagey Study Area each time.

Table 1
Study Area Fire Interval

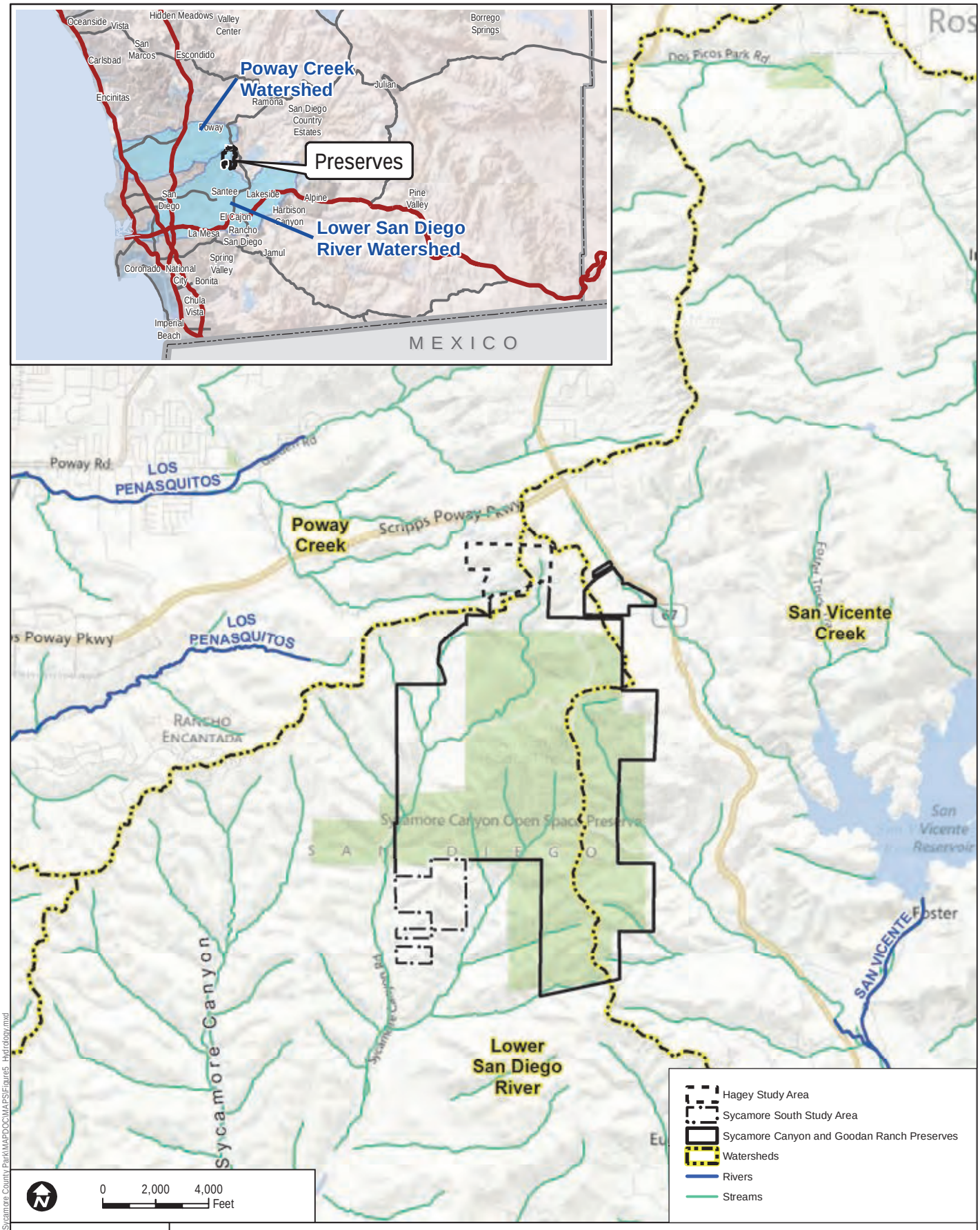
Fire Year*	Fire Name	Interval (years)	Study Area	Acreage Burned	Percent of Study Area Burned**
1913	No Name	-	Hagey	1.73	1.5%
1955	Goat Mountain	22	Hagey	94.1	83.3%
1971	Rabbit	16	Hagey	105.3	93.2%
2003 (October)	Cedar	32	Hagey	113	100%
2003 (June)	Sycamore	-	Sycamore South	29.3	19.5%
2003 (October)	Cedar	0.5	Sycamore South	150	100%

*FRAP 2012
**Based on the total acreage of the Study Areas (Hagey= 113 acres; Sycamore South= 150 acres)

2.7 Trails

The Sycamore Canyon and Goodan Ranch Preserves contain a network of trails, of which only one, the Ridge Trail, is found within the Sycamore South Study Area (Figure 7). The Ridge Trail bisects the Study Area, and a western fork of the trail is also included in the Study Area. The Ridge Trail is only authorized for public access within the Sycamore Canyon and Goodan Ranch Preserves. No authorized access is permitted within the Study Areas at the time of writing.

The Hagey Study Area is not currently open to the public and there is no designated, formal trail system within the Study Area. There is one unpaved service road that winds through the Hagey Study Area (Figure 7). The southern region of the Hagey Study Area had been utilized for SDG&E access for the Sunrise Powerlink.



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SOURCE: Bing 2012, USGS 2012

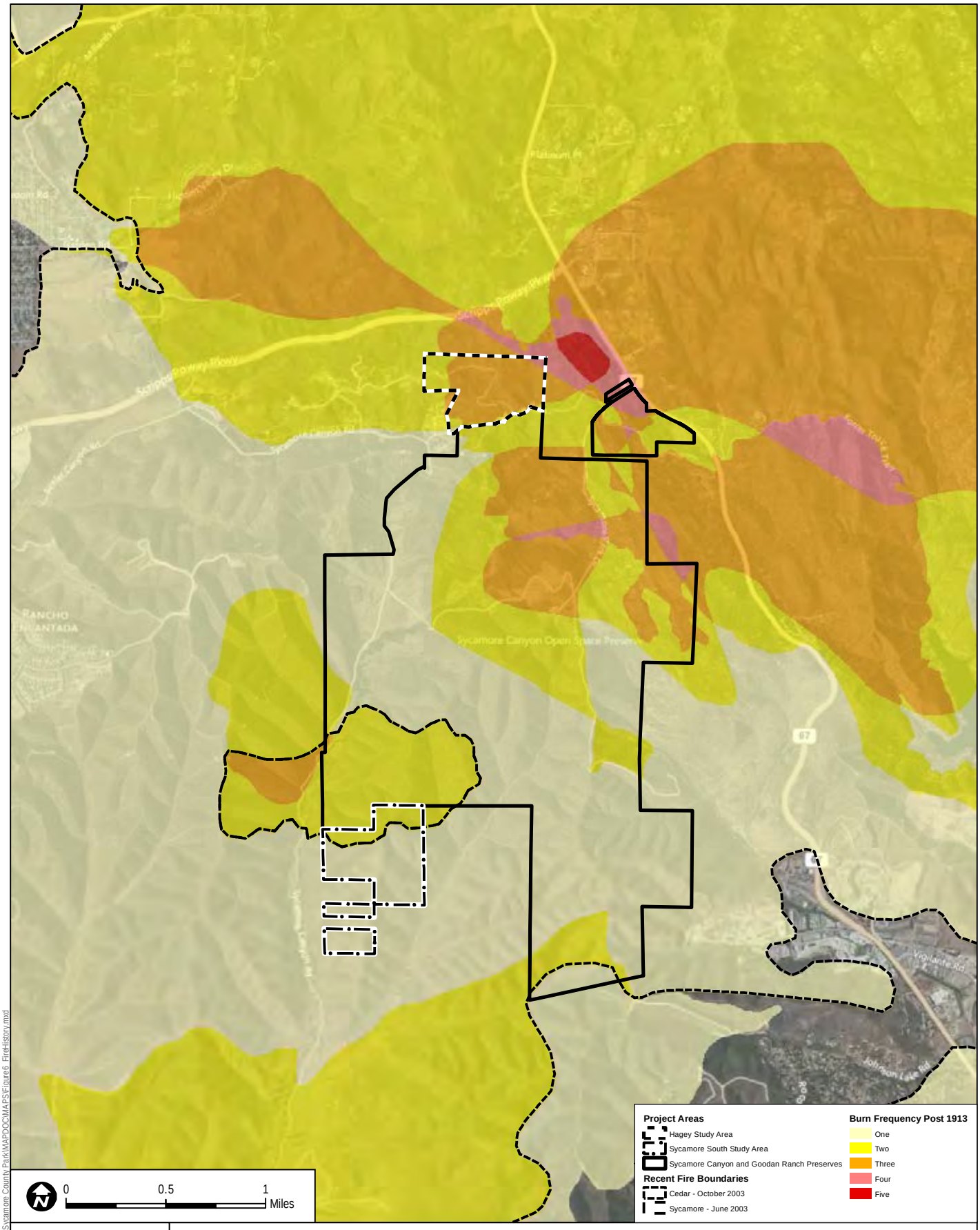
FIGURE 5

Hydrology Map

Sycamore South and Hagey Study Areas - Baseline Biodiversity Survey

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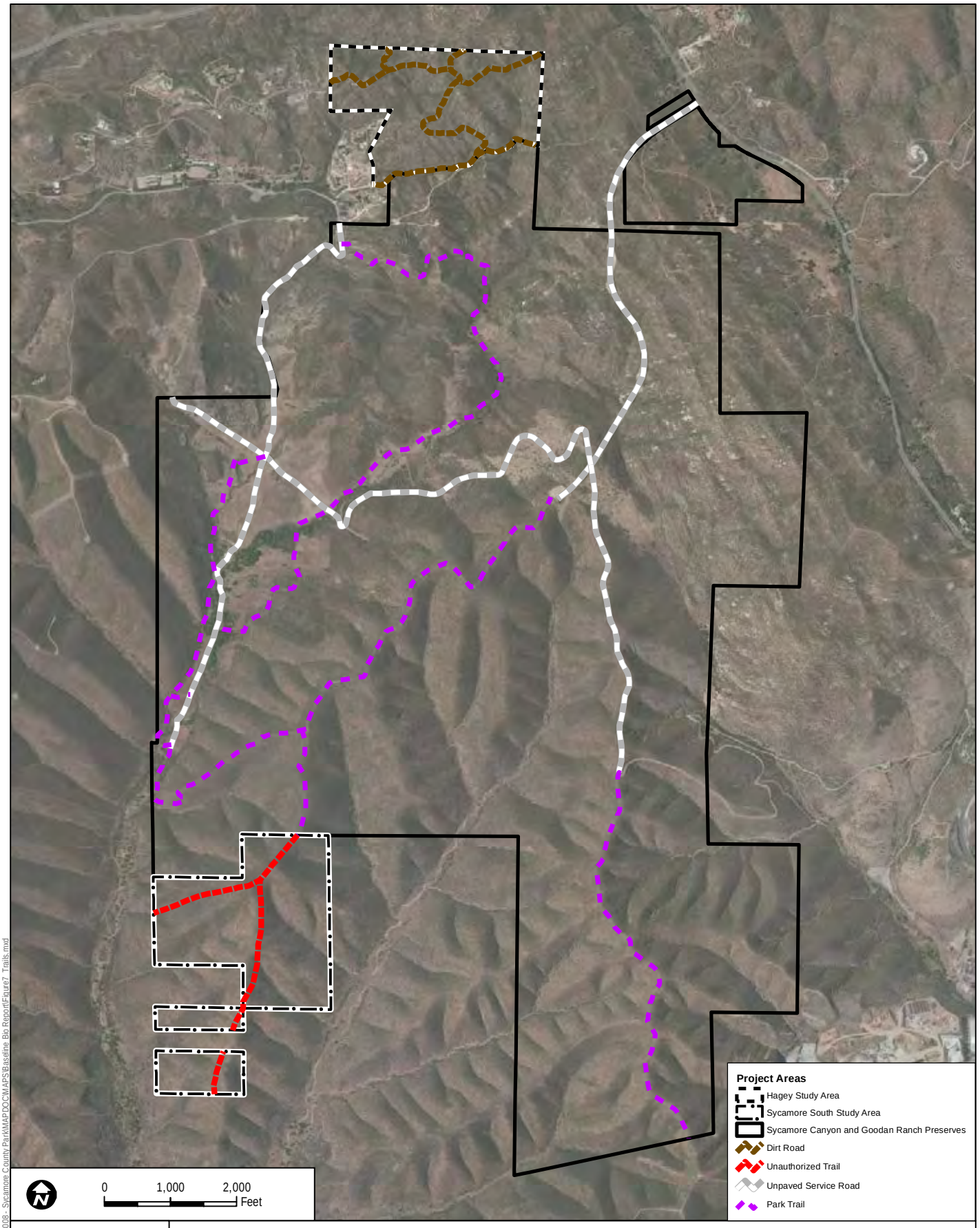
SOURCE: Bing, SanGIS 2012

FIGURE 6

Fire History

Sycamore South and Hagey Study Areas - Baseline Biodiversity Survey

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SOURCE: Bing

Figure 7
Trails Map

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Sycamore South and Hagey Study Areas - Baseline Biodiversity Survey

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3.0 METHODS

Dudek biologists conducted biological surveys from March 2012 to August 2012. Table 2, Schedule of Surveys, shows the surveys conducted and the survey conditions. Surveys included vegetation mapping, rare plant surveys, invasive species mapping, butterfly surveys, herpetological pitfall array surveys, herpetological coverboard surveys, diurnal and nocturnal avian point count surveys, small mammal trapping, passive acoustical bat surveys, and medium and large mammal camera surveys.

Table 2
Schedule of Surveys

Date	Time	Personnel	Survey Type	Conditions
03/01/12	0600-1700	ACT	Vegetation mapping; invasive species mapping; rare plant survey (Hagey)	100 to 0% cc, 0-4 mph wind; 50°F to 70°F
03/05/12	0700-1730	ACT	Vegetation mapping; invasive species mapping (Sycamore Canyon and Goodan Ranch Preserves)	70 to 0% cc, 2-6 mph wind; 52°F to 72°F
03/08/12	0630-1730	ACT	Vegetation mapping; invasive species mapping (Sycamore Canyon and Goodan Ranch Preserves)	90 to 0% cc, 0-4 mph wind; 50°F to 71°F
03/09/12	0630-1730	ACT	Vegetation mapping; invasive species mapping; rare plant survey (Sycamore South)	70 to 0% cc, 2-4 mph wind; 53°F to 74°F
04/26/12	0500-0715	EAW, DAM	Avian point count survey (morning survey)	90% cc; drizzle; wind 3-5 mph; 56°F to 59°F
04/27/12	0000-0130	EAW, DAM	Avian point count survey (evening survey)	90% cc; drizzle; wind 0-5 mph; 64°F to 59°F
05/07/12	0930-1530	PCS	Butterfly survey	20 to 0% cc; wind 0-3 mph; 61°F to 70°F
5/11/12	0815-1630	KCD, ACT	Vegetation mapping; invasive species mapping; rare plant survey (Hagey)	20 to 0% cc, 0-3 mph wind; 57°F to 68°F
5/15/12	0815-1350	KCD, ACT	Vegetation mapping; invasive species mapping; rare plant survey (Sycamore South)	70 to 0% cc, 0-1 mph wind; 58°F to 79°F
5/22/12-6/4/12	NR	PCS	Medium and large mammal camera surveys	NR
05/24/12	0500-0630	EAW, DAM, BAO	Avian point count survey (morning survey)	90% cc; wind 0-3 mph; 69°F to 63°F
05/24/12	NR	EAW, DAM	Herpetological coverboard survey	NR
05/24/12	2003-2311	BAO	Avian point count survey (evening survey)	90% cc; wind 0-5 mph; 55°F to 50°F
06/5/12	0730-0810	EAW	Herpetological pitfall array survey	100 to 90% cc; wind 0-3 mph; 62°F to 63°F
6/6/12	0950-1115	EAW	Herpetological pitfall array survey	0% cc; wind 0-1 mph; 71°F to 84°F
6/7/12	1010-1140	EAW	Herpetological pitfall array survey	0% cc; wind 0-3 mph; 67°F to 77°F
6/8/12	0800-1040	EAW	Herpetological pitfall array survey	100 to 0% cc; wind 0-3 mph; 61°F to 76°F

Table 2
Schedule of Surveys

Date	Time	Personnel	Survey Type	Conditions
06/25/12	0450-0650	EAW, DAM	Avian point count survey (morning survey)	90% cc; wind 0-2 mph; 56°F to 61°F
06/25/12	NR	EAW, DAM	Herpetological coverboard survey	NR
06/25/12	2056-2348	BAO	Avian point count survey (evening survey)	0-10% cc; wind 0-3 mph; 70°F to 68°F
6/26/12-7/10/12	NR	PCS	Medium and large mammal camera surveys	NR
6/27/12-7/5/12	NR	PML	Acoustical bat surveys-Anabat location 1 (Hagey)	NR
7/5/12-7/12/12	NR	PML	Acoustical bat surveys-Anabat location 2 (Sycamore South)	NR
7/10/12	1250-1500	EAW	Herpetological pitfall array survey	30 to 20% cc; wind 0-5 mph; 96°F to 92°F
7/11/12	0730-1005	EAW	Herpetological pitfall array survey	80 to 20% cc; wind 0-3 mph; 65°F to 77°F
7/12/12	1210-1340	DAM	Herpetological pitfall array survey	100 to 90% cc; wind 1-3 mph; 75°F to 78°F
7/13/12	1245-1410	DAM	Herpetological pitfall array survey	90 to 80% cc; wind 0-3 mph; 74°F to 79°F
7/24/12 – 7/26/12	NR	TSL	Small mammal trapping (Pass 1)	Clear to cloudy; 55°F to 57°F
7/25/12	NR	DAM	Herpetological coverboard survey	NR
7/31/12-8/14/12	NR	PCS	Medium and large mammal camera surveys	NR
8/14/12	1500-1720	EAW	Herpetological pitfall array survey	0% cc; wind 0-3 mph; 95°F to 90°F
8/15/12	0800-0930	DAM	Herpetological pitfall array survey	25 to 15% cc; wind 0-3 mph; 72°F to 74°F
8/16/12	0700-0820	DAM	Herpetological pitfall array survey	60 to 70% cc; wind 0-5 mph; 70°F to 73°F
8/17/12	0640-1025	DAM	Herpetological pitfall array survey	15 to 10% cc; wind 0-2 mph; 72°F to 77°F
8/13/12 – 8/15/12	NR	TSL	Small mammal trapping (Pass 2)	Clear to partly cloudy; 63°F to 68°F
8/15/12-8/22/12	NR	PML	Acoustical bat surveys-Anabat location 1 (Hagey)	NR
8/22/12-8/31/12	NR	PML	Acoustical bat surveys-Anabat location 2 (Sycamore South)	NR
8/24/12	0800-1600	ACT	Rare plant survey; invasive species mapping (Hagey)	100% cc; wind 0-2 mph; 65°F to 75°F
8/31/12	0717-1242	KCD	Rare plant survey (Sycamore South)	0% cc; wind 0-1 mph; 69°F to 90°F

Personnel Key
ACT: Andy Thomson
BAO: Brock Ortega
DAM: Danielle Mullen
EAW: Emily Wier
PML: Paul Lemons
PCS: Patricia Schuyler
TSL: Thomas Liddicoat

cc = Cloud cover
NA = Not Applicable
NR = Not Recorded

A review of state and federal databases for existing biological resource information for the Study Areas was conducted to provide baseline information regarding special-status biological resources potentially occurring in the Study Areas and in the surrounding area. The following sources were reviewed for pertinent information prior to conducting the baseline biological diversity surveys: the California Natural Diversity Database (CNDDB), information provided by the California Department of Fish and Wildlife (CDFW) (CDFG 2011a-b, 2012a-c), and the California Native Plant Society's (CNPS's) *Inventory of Rare and Endangered Vascular Plants* (CNPS 2012).

Survey Limitations

Biological surveys within the Sycamore South and Hagey Study Areas were conducted from March to August 2012. As such, many wildlife species, including migratory birds, that occur in the area during fall and winter seasons were not captured during this analysis. Additional surveys may be desired at a later date to establish a more thorough inventory of wildlife species. Focused plant surveys were conducted in March, May and August to correspond with the blooming periods of the special-status species with the highest potential to occur within the Study Areas. Not all plant species would have bloomed during these three survey passes and it is possible that detection of some special-status plant species may not have possible due to the timing of the focused plant surveys and variable seasonal conditions (e.g., rainfall and temperatures) that influence growth and flowering.

Many species were recorded within the Sycamore Canyon and Goodan Ranch Preserves while traveling to the Study Areas. Some of these species, such as white-tailed kite (*Elanus leucurus*) or western bluebird (*Sialia mexicana*), were not recorded within the Study Areas but may potentially occur there. Because wildlife move and are known to occupy a wide array of habitats, the species list for the Study Areas should not be viewed as exclusive.

Coverboard sampling is widely recognized as an effective survey technique for reptiles and amphibians, especially during winter months when cold-blooded animals actively seek out shelter (Nussbaum et al. 1983). Since the surveys for the Study Areas occurred during summer months, the species diversity obtained during surveys was much lower than would be anticipated during winter months.

3.1 Vegetation Communities/Habitat

3.1.1 Vegetation Communities Mapping

Vegetation communities and land cover types were mapped in the field directly onto 200-scale (1 inch = 200 feet) base maps of the Study Areas using 1-foot resolution, color aerial imagery from

2012 (Bing 2012). Mapping of the Preserve included a 100-foot buffer pursuant to County of San Diego guidelines (County of San Diego 2010). Vegetation surveys were conducted throughout the site, both on foot and using vehicles where access was available. Vegetation community classification was based on two separate systems, including the Holland (1986) (as modified by Oberbauer et al. 2008) classification system and the Vegetation Classification Manual (VCM) for Western San Diego County (San Diego Association of Governments; SANDAG 2011).The field mapping was conducted according to the VCM and then cross-walked to the Holland-Oberbauer classification system. Following the completion of fieldwork, vegetation polygons were scanned, digitized using ArcGIS, and a GIS coverage was created. Acreage calculations of vegetation communities and land cover types were determined using ArcGIS. Vegetation community classifications used in this report follow the VCM.

3.2 Plants

All plant species encountered during the field surveys were identified and recorded. Latin names follow the "Jepson Interchange List of Currently Accepted Names of Native and Naturalized Plants of California" (Jepson Flora Project 2012), and common names follow the USDA Natural Resources Conservation Service Plants Database (USDA 2012). A list of plant species observed in the Study Areas is provided in Appendix A.

3.2.1 Floristic Surveys

Special-status /Rare Plant Surveys

Special-status biological resources present or potentially present in the Study Areas were identified through a literature search using the following sources: CNDDB (CDFG 2012b-c) and the *Inventory of Rare and Endangered Vascular Plants* (CNPS 2012). Special-status plant species considered in this report are those (a) listed by federal and/or state agencies, proposed for listing as threatened or endangered, or are candidate species; (b) assigned a California Rare Plant Rank (CRPR) (formerly known as the CNPS List); or (c) listed on the County of San Diego rare species list (County of San Diego 2009b) or (d) covered under the MSCP (County of San Diego 1998).

Dudek conducted three surveys to maximize detection of special-status plants within the Study Areas. Based on usual blooming patterns, the first pass was conducted in March 2012 to detect early blooming spring annual species. The second pass was conducted in May 2012, which corresponded with the blooming periods of the majority of the potentially occurring special-status plant species. A third survey pass was conducted in August 2012 to detect summer blooming species. Surveyors were prepared with a target list of species that had potential to occur within the Study Areas.

Field survey methods conformed to County of San Diego Department of Planning and Development Services (PDSS) Biological Survey Guidelines (County of San Diego 2010); CNPS Botanical Survey Guidelines (CNPS 2001); Guidelines for Assessing the Effects of Proposed Projects on Rare, Threatened, and Endangered Plants and Natural Communities (CDFG 2000); and Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed, and Candidate Plants (USFWS 1996). All plant species encountered during the field surveys were identified to subspecies or variety, if applicable, to determine sensitivity status.

The potential for special-status plant species to occur on site was evaluated based on the elevation, soils, vegetation communities, and level of disturbance of the site, as well as species status and distribution in the vicinity of the Study Areas, and the results of rare plant surveys.

Non-native Invasive Plant Species Mapping

Locations of non-native invasive plant species were mapped within the Sycamore South and Hagey Study Areas, as well as the entire Sycamore Canyon and Goodan Ranch Preserves. The discussion in this report only includes non-native species recorded within the Study Areas. To maximize productivity, locations that were identified as disturbed in the vegetation mapping, or areas that are expected to have experienced disturbance in the past due to their proximity to development or other sources of disturbance, were prioritized. The focus was on mapping species with the greatest potential to invade native habitats, such as those listed on the California Invasive Plant Council's (Cal-IPC) California Invasive Plant Inventory (2012) with a rating of moderate or high (e.g., Crimson fountaingrass (Pennisetum setaceum), or species that may not be rated as moderate or high, but are considered to have a localized potential for habitat invasion (e.g., rose Natal grass (*Melinis repens* ssp. *repens*). Ubiquitous species scattered across the site that pose limited potential for invasion into established habitats and that would be impractical to control on an individual basis (e.g., brome grasses (Bromus spp.), tocalote (Centaurea melitensis), mustard (Brassica spp.), wild oat (Avena spp.), etc.) were not mapped as individual occurrences; however, their presence was noted as components of non-native grasslands mapped on site.

Species locations were mapped with a combination of field Global Positioning System (GPS) and hand mapping on field maps. All collected data were combined into a GIS data layer with points and polygons representing species locations.

3.3 Wildlife

All wildlife species detected during the field surveys by sight, vocalizations, burrows, tracks, scat, and other signs were recorded. Binoculars (10mm×40mm) were used to aid in the identification of observed wildlife. A cumulative list of wildlife species observed by Dudek

during the 2012 surveys is presented in Appendix B. Latin and common names of animals follow Crother (2008) for reptiles and amphibians, American Ornithologists' Union (AOU) (2012) for birds, Wilson and Reeder (2005) for mammals, and North American Butterfly Association (NABA) (2001) for butterflies.

The potential for special-status wildlife species to occur on site was evaluated based on the elevation, vegetation communities, and level of disturbance of each site, status and distribution in the vicinity, and the results of wildlife surveys conducted on site.

3.3.1 Invertebrates

One general butterfly survey was performed within both Study Areas in 2012 at the approximate peak of the early spring butterfly activity period to record anecdotal butterfly species observations during the early months of the year. While it was not possible to hit the absolute peak, the survey was conducted in May 2012 (Table 2). The vegetation map, soils, and previous experience with various special-status butterfly species were used to determine areas that may be suitable for common and special-status butterfly species. Host or nectar plants for certain special-status butterflies (e.g., Quino checkerspot (Euphydryas editha quino) or Hermes copper (Lycaena hermes), if observed, were mapped as either a point or polygon location, depending on the size of the population. Areas containing nectar or host plant resources, drainages, ridges, and hilltops, were emphasized during butterfly surveys. It should be noted that the survey for butterflies was conducted from morning through the afternoon period when it was assumed that more butterflies would be visible and conditions were suitable for butterfly activity. Incidental butterfly observations were also recorded during wildlife surveys and representative photographs were taken of the butterflies observed if possible.

3.3.2 Herpetofauna

Two methods of surveying for herpetofauna were utilized during surveys of the Study Areas. Both approaches were utilized in order to sample species diversity and abundance, as different trapping methods are utilized for different target species. Coverboard surveys were utilized to survey for slower moving or burrowing herpetofauna, whereas pitfall trap arrays were targeted towards faster moving and more active herpetofauna.

A total of ten coverboard surveys, consisting of 3-foot by 3-foot plywood planks painted brown, were placed in suitable herpetofauna habitats throughout the two Study Areas; 5 were located within the Sycamore South Study Area and 5 were located in the Hagey Study Area (Figures 8a and 8b, respectively). Coverboards were placed in such a way that a representative array of habitat types were surveyed. Leaf litter or dirt was carefully placed over the coverboard between

survey periods. Coverboards were checked for herpetofauna by carefully lifting up the coverboard and looking for animals and/or signs of their presence, and utilizing a stick or rake to carefully comb through soil and leaf litter for other animals. Coverboards were checked for herpetofauna three times during the survey season, during the months of May, June, and July 2012 (Table 2).

The second methodology utilized was pitfall trap arrays. One pitfall trap array was constructed within each of the Study Areas (Figures 8a-b). An attempt was made to install the arrays at locations that provided the greatest amount of potential species diversity.

The arrays were constructed in accordance with the USGS document "Herpetological Monitoring Using a Pitfall Trapping Design in Southern California" (USGS 2008) and were modified to include snake traps along each arm of the array. Specifically, the arrays consisted of three 15-meter (49-foot) arms of drift fence. Each arm radiated from a central pitfall bucket at approximately 120° increments. Additional pitfall buckets were placed in the center and terminal ends of the array arms. Snake traps (i.e., wire mesh rectangular traps with one-way doors or cylindrical traps with funnels at each end) were installed between the middle and terminal pitfall buckets on the right side of the arm. Drift fencing was keyed into the ground to prevent reptiles and snakes from crawling under it. In addition, an effort was made to minimize the number of creases that would provide reptile refuge between buckets. Typical 5-gallon buckets were used as pitfall traps. The edges of the buckets were flush with, or slightly below, the ground surface. Bucket lids were fitted with angled wood blocks on their top surface, providing an approximately 2-inch gap between the ground surface and the lid to encourage reptiles to crawl under while seeking cover. The lids fit the buckets securely and were protected from deterioration so that the buckets could be sealed off from captures when not in use.

Traps were opened on the first day, checked over the next four days and were closed after the fourth trap check. The arrays were checked, all animals processed, and all animals were released before daytime temperatures reached levels that could result in animal mortality. All captures were identified and sexed. Data was collected regarding the weight, snout-vent length, total length, sex, and age class of each individual. Finally, each individual was marked with permanent marker near the back of the neck to determine if it was a recapture during that session. No scale or toe clipping, or any other means of permanent marking, was performed during this study. After each animal was processed, it was released at a nearby location near shrubs, burrows, or debris (care was taken to ensure that competitors or potential predator/prey species were not released at the same location). Animals that ran from the release site directly into another pitfall trap or snake trap were released without being counted again. Captured small mammals were weighed, identified, photographed, and sexed. Each animal's body length, total length and ear length were also measured. They were immediately released after processing. The

diversity of large invertebrates (e.g., tarantulas, scorpions, Jerusalem crickets [*Stenopelmatus fuscus*], etc.) was counted and identified as feasible. Trap arrays were sampled during three periods within the summer months of June, July, and August 2012 (Table 2).

Representative photographs were taken of the arrays and animals that were captured.

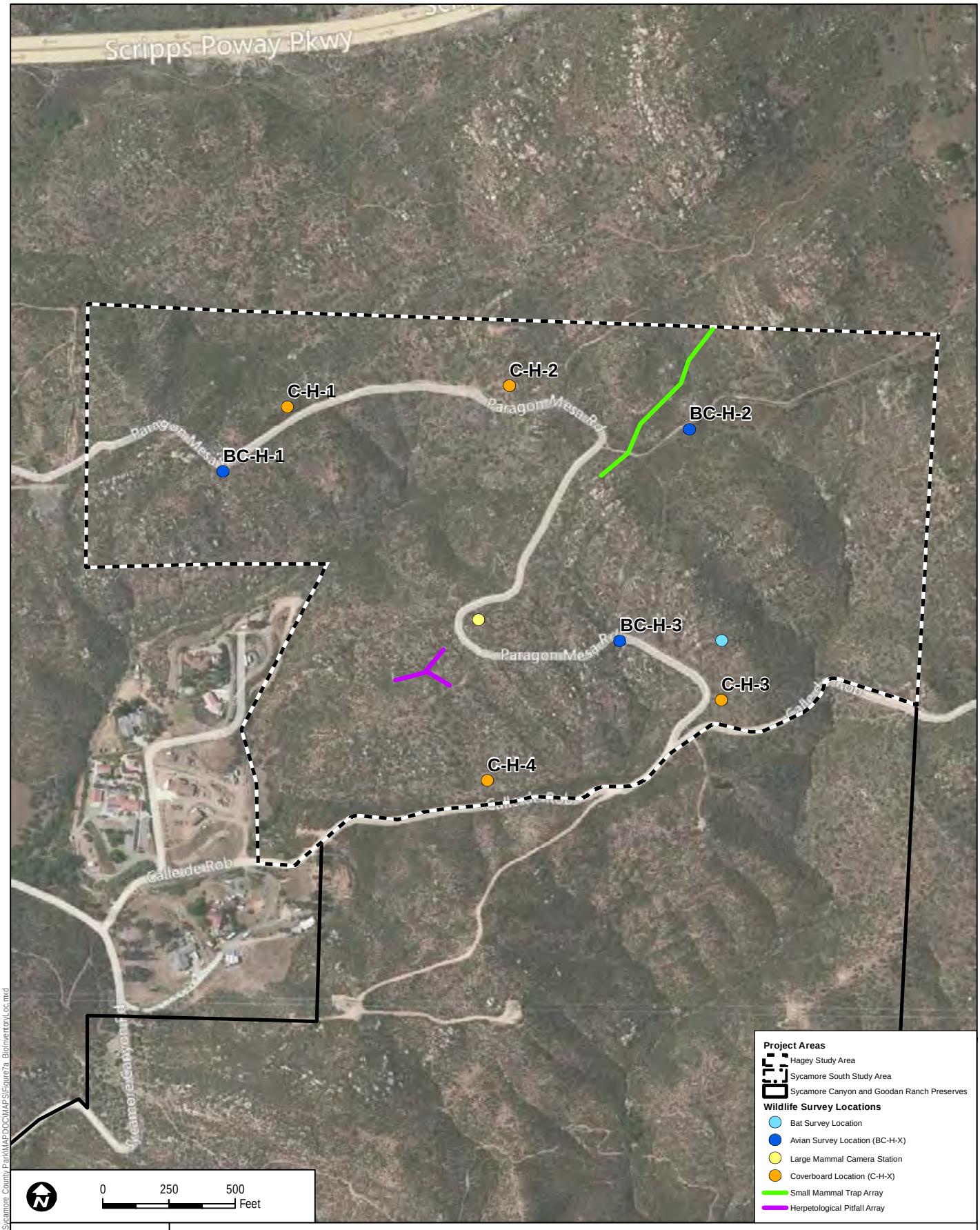
3.3.3 Birds

Using point counts to track species' presence over time is a standard practice and has been implemented over the long term by different entities, including the Audubon Christmas Bird Count, Point Reyes National Seashore, Partners in Flight, Arizona State University, Florida Monitoring Project, U.S. NPS, California Department of Parks and Recreation, USGS, USFWS, and others.

Much variation exists among the point count studies relating to detection radius, distance between stations, season, and amount of time spent at each station. Because the habitats and topographies present within the Study Areas are diverse, a radius of 50 meters (164 feet) was used around each point. This falls well within ranges found within the literature (20 to 400 meters; 66 to 1,312 feet) and allowed greater confidence of detection than larger radius designs.

Point Count Locations

Point count locations were established in such a way that they covered as many different portions of the Study Areas as possible given the road network constraints, general accessibility, and Study Area distribution. In addition, these point locations were distributed to cover all of both Study Areas. No avian point count location was situated closer than 700 feet from another point. A total of five avian point count locations were established within the Study Areas; three locations were within the Hagey Study Area and two were within the Sycamore South Study Area (Figures 8a-b). The Sycamore South avian point count locations were located in chamise chaparral – wooly-leaved ceanothus association, and chamise chaparral; the Hagey avian point count locations were in laurel sumac – deerweed association and chamise chaparral – mission manzanita alliance. The center point for each station was permanently established in the field by mapping the GPS coordinates and installing a 2-foot section of steel rebar in the soil so that the top two inches were visible, flagged, and painted. All rebar and flagging were removed at the end of the final survey. Each avian point count location was photographed in the four cardinal compass directions (Appendix C).



DUDEK

6680-08

SOURCE: Bing

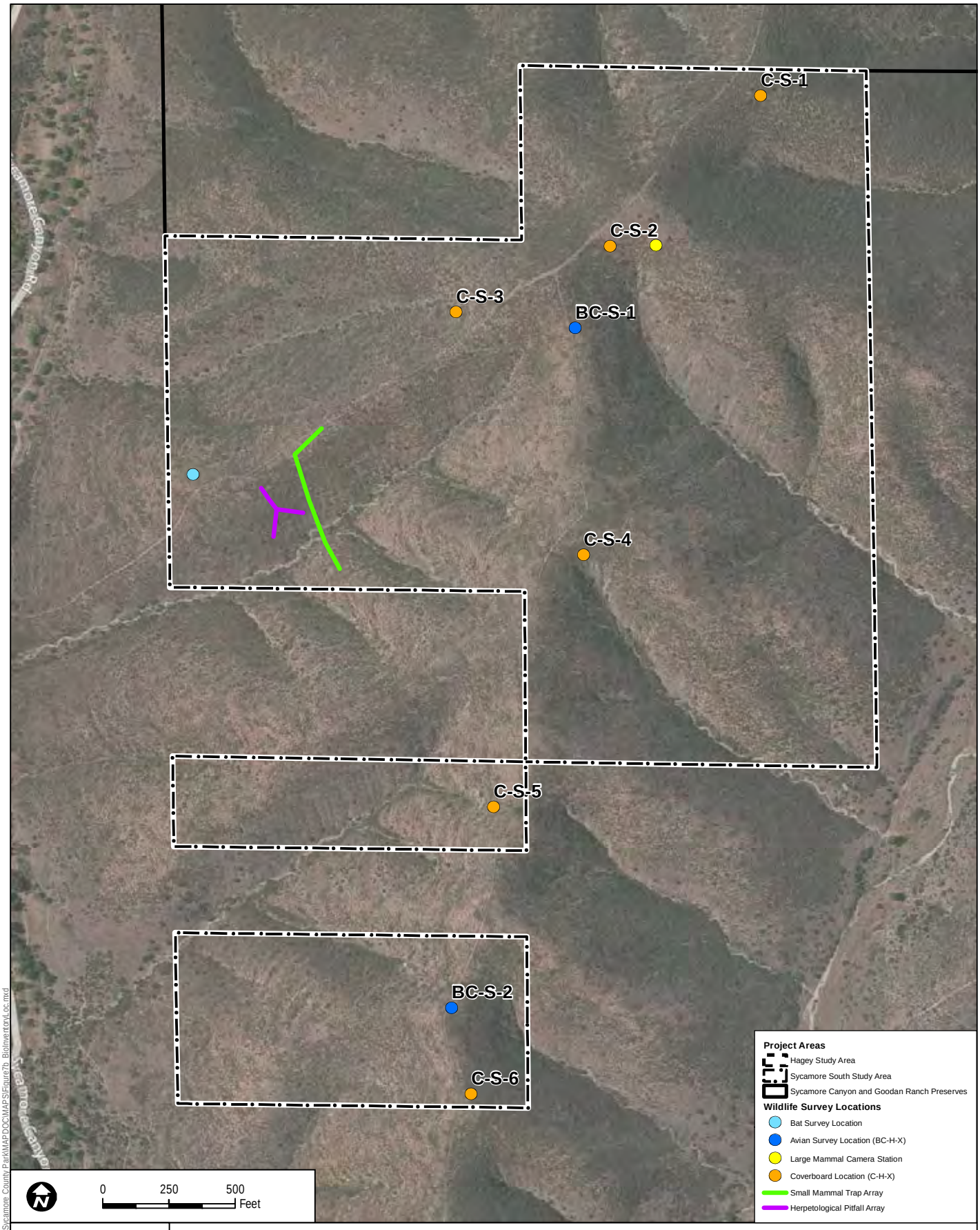
FIGURE 8a

Biological Inventory Locations - Hagey Study Area

Sycamore South and Hagey Study Areas - Baseline Biodiversity Survey

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SOURCE: Bing

FIGURE 8b

Biological Inventory Locations - Sycamore South Study Area

Sycamore South and Hagey Study Areas - Baseline Biodiversity Survey

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Conducting the Point Count Surveys

A vehicle being driven to the avian point count location traveled no faster than 5 miles per hour within 500 feet of any point count. Upon entering the point count location, the observer stopped the vehicle and turned off the engine. The observer waited for three minutes before beginning the sampling period. During the waiting period, the observer filled out the weather conditions portion of the data sheet. After the three-minute waiting period, the observer noted the time on the data sheet and started the counting session. After ten minutes, the observer stopped the counting session, packed up equipment, and continued to the next location. Locations were counted in the same order each time, starting at approximately the same time relative to sunrise so that future data sets could be compared at the same avian point count location.

When starting the survey, the observer identified and tallied all birds that were observed (audibly or visually) within the 50-meter (164-foot) survey area. An attempt was made to count birds only once (i.e., minimize counting the same individual more than once) during the time period. Groups of birds (e.g., quail, family groups) were identified and the number of individuals noted. Birds detected outside the 50-meter area were noted in a separate column. Birds noted only in flight were additionally recorded as either using the landscape (e.g., actively foraging swallows and raptors, and raptors using thermal updrafts) or not (e.g., birds commuting between distant habitat patches off site, such as cormorants over an upland site, or birds migrating high overhead). When multiple sightings of a species occurred within the survey area, multiple entries for a species were only included if the observer was reasonably certain that they were different individuals. Only different individuals of a given species were counted. All recorded species in the data sheets are assumed to be separate individuals (e.g., 10 California towhee [*Melozone crissalis*] means that 10 different California towhee were detected). Estimates for large flocks of birds (e.g., blackbirds [*Icteridae* spp.], European starlings [*Sturnus vulgaris*], etc.) were provided and noted as being estimates in the Notes section of the data sheet. No differentiation between adult and juvenile birds was made during this study. Unidentified birds were noted to the closest taxonomic group, and notes describing the species were included within the Notes section of the data sheet.

The observer was as unobtrusive as possible during the point count session. The observer wore drab clothing, did not talk, turned cell phone to "vibrate," and did not try to elicit bird responses by "pishing," using recorded calls, or any other means.

Nocturnal surveys proceeded in the same manner as the diurnal surveys. A moderately powered flashlight was used to aid identifications.

Once the point count session was finished, all data sheets were gathered, and data were entered into Excel or Access data files for future analysis.

All point count locations were surveyed during the same 24-hour period. Diurnal surveys occurred between 0450 and 0715 hours, and nocturnal surveys took place between 2000 and 0130 hours. Surveys took place in April, May, and June 2012 (Table 2). Only one day was required per month to cover these areas. Survey timing allowed the detection of both breeding and migratory bird species.

To augment the point count studies, birds identified during the course of other survey work were also included in the species compendium (Appendix B), although their relative abundance was not noted.

3.3.4 Mammals

Small Mammals

Two small mammal trapping arrays were set within the Study Areas; one each was located within the Hagey and Sycamore South Study Areas (Figure 8a-b). Trapping took place over two rounds, with the first round occurring in July 2012 and the second occurring in August 2012 (Table 2). Each trapping round involved setting two trap arrays for three consecutive nights; no daytime trapping occurred. The trapping effort was conducted when the weather had been relatively dry for at least five days prior to trapping.

Each trap array set included two meandering parallel lines (i.e., trap lines A and B) of Sherman live-traps set at approximately 10- meter (32-foot) intervals. Traps were sign-set (i.e., set at burrow entrances, runs, woodrat [Neotoma spp.] nests, rock outcrops, etc.) to the extent feasible in order to capture the greatest diversity possible. In each trap array the trap lines were set parallel, approximately 7 meters (23 feet) apart. Each trap line consisted of 20 traps, for a total of 40 traps per night, covering approximately 200 meters (656 feet) of distance. Meandering trap lines were set to sample the widest area possible for species and to obtain greater species diversity information. Traps were set in locations that provided the greatest chance for diversified data collection (e.g., interface between community types, areas of microhabitat changes, etc.). The location of each trap was recorded using a GPS unit and marked in the field using whisker nails and flagging tape.

Trap arrays were set and baited with Quaker Oats each evening before dusk, and were checked the following morning near dawn before daytime temperatures reached levels that could result in animal mortality. All captured animals were processed (i.e., data collected regarding the weight, ear length, hind foot length, sex, age class, and sexual maturity of the individual), identified to species, and marked with a semi-permanent marker on their abdominal fur to determine if they were recaptured. No ear notching, toe clipping, fur cutting, micro-chipping, or any other means of permanent marking was performed during this trapping study. After the captured animal was

processed, it was carefully released at the capture location. All traps that did not capture an animal and remained set (i.e., not sprung/ closed) during the morning checks were sprung/closed so that no additional animals could be captured during the day. Representative photographs were taken of the trap arrays. Photos were taken of all captured mammals and reviewed by Dudek senior biologist Phil Behrends.

In addition to the species captured during the trapping, small mammal species identified through other surveys (e.g., pitfall arrays and nocturnal surveys) were included in the species compendium (Appendix B).

Bats

Anabat technologies were used to identify foraging and roosting bats present within the Sycamore South and Hagey Study Areas. Prior to conducting bat habitat assessment and acoustical surveys, a review of the literature of bats in California was conducted to identify species with potential to occur in the survey area. All areas identified as having high potential for bat roosting and foraging that allowed vehicular access were surveyed using the Anabat bioacoustics survey system.

Passive acoustic recording of bat calls was conducted at two monitoring locations, with one located on each parcel (Figures 8a-b). One Anabat ultrasonic detector (SD2; Titley Electronics, Ballina, Australia) was utilized in these passive surveys. The Anabat locations were selected by Dudek biologist Brock Ortega. Dudek biologist Paul Lemons conducted a site reconnaissance survey to further refine the monitoring locations where it was presumed that bat activity would be highest, based on localized topography and presence of drainages. Following the reconnaissance survey, the Anabat microphone was attached to a pole, which was then hung from a tree at each location. Locations were chosen at different habitats as feasible and were set at least 305 meters (1,000 feet) apart. The Anabat units were deployed and run continuously for approximately one week at each location during both July and August 2012 (Table 3). Two survey passes were conducted during both July and September 2012 (Table 3).

Table 3
Schedule of Passive Acoustic Monitoring

Location	Dates of Deployment	Total No. Detector Nights
Hagey Study Area	6/27/12–7/5/12; 8/15/12 – 8/22/12	8 7
Sycamore South Study Area	7/5/12 – 7/12/12; 8/22/12 – 8/31/12	7 8

After completion of these surveys, identification of species used the methods of O'Farrell et al. (1999) based on frequency characteristics, call shape, and comparison with a comprehensive library of vocal signatures developed by O'Farrell and colleagues. Thus, species richness (number of species verified as present) was obtained for each survey location. An index of abundance (IA), or the magnitude of each species contribution to spatial use, was obtained using the sum of one-minute time increments for which a species was detected as present, divided by the number of nights of sampling (Miller 2001). Species were identified by O'Farrell Biological Consulting, LLC for Dudek.

Representative photographs were taken of the bat survey locations (Appendix F).

Medium to Large Mammals

Dirt trails and roads cross through the Study Areas and function as wildlife corridors. Therefore, two (2) baited motion-sensing cameras were installed with one located within both Hagey and Sycamore South Study Areas (Figures 8a-b). Each camera was set where it was accessible and protected from the public, but placed near potential higher-use movement areas (e.g., dirt roads leading to important resources, such as canyons or creeks). The ground in front of the camera was baited with a scent lure, such as Gusto, and each camera was set so that the bait station and travel path were covered. Cameras were set in place for two (2) weeks per month, and photographs were downloaded, the bait refreshed, and batteries checked at approximately one-week intervals. Camera stations were installed and run in June, July, and August 2012 (Table 2).

Following the camera study, all photographs were reviewed by at least two Dudek biologists to determine species and number present. All data, including time and date of photograph, species captured, and moon phase, were cataloged on an Excel spreadsheet. Example photographs of species captured are included in Appendix F.

4.0 RESULTS AND DISCUSSION

4.1 Vegetation Communities/Habitat

Vegetation and land cover communities present within the Hagey and Sycamore South Study Areas were mapped based on the VCM and cross-walked to the Holland/Oberbauer classification system. There are eleven plant alliances, associations, or semi-natural stands present within the Hagey Study Area (Table 4). Figure 9a shows the VCM code distribution of vegetation communities and land covers within the Hagey Study Area. Vegetation codes developed by Holland (1986) are included in Table 4, and are presented in Figure 9b, for reference. Descriptions of the vegetation communities follow the VCM code. The VCM does not include unvegetated habitat (e.g., disturbed habitat, urban/developed); therefore, unvegetated habitat is described using the Oberbauer-modified Holland classification system.

Table 4
Hagey Study Area Vegetation Communities and Land Covers

VCM Code	VCM Alliance/ Association	VCM Common Name	Holland Code	Holland Classification	Acres on Site*
Drought Deciduous Shrublands					
4.1	*Adenostoma fasciculatum* Alliance	Chamise Chaparral Alliance	37200	Chamise Chaparral	3.60
4.1.4	*Adenostoma fasciculatum – Ceanothus tomentosus* Association	Chamise Chaparral-Woolly-leaved Ceanothus Association	37120	Chamise Chaparral	1.42
4.1.5	*Adenostoma fasciculatum – Acmispon glaber* Association	Chamise Chaparral-Deerweed Association	37200	Chamise Chaparral	8.30
4.18.1	*Ceanothus tomentosus* Association	Woolly-leaved Ceanothus Association	37120	Southern Mixed Chaparral	1.32
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 – Ceaothus tomentosus* Association	Chamise Chaparral-Mission Manzanita-Woolly-leaved Ceanothus Association	37120	Southern Mixed Chaparral	12.98
4.35.1	*Malosma laurina – Acmispon glaber* Association	Laurel sumac - Deerweed Association	32000	Coastal Scrub	52.15
4.37.2	*Quercus* (*berberidifolia, xacutidens*) *–Cercocarpus minutiflorus* Association	Scrub Oak -Mountain-Mahogany Association	37900	Scrub Oak Chaparral	0.55
4.44.2	*Salvia mellifera – Malsosma laurina* Association	Black Sage - Laurel Sumac Association	32500	Diegan Coastal Sage Scrub	7.18

Table 4
Hagey Study Area Vegetation Communities and Land Covers

VCM Code	VCM Alliance/ Association	VCM Common Name	Holland Code	Holland Classification	Acres on Site*
4.7.1	*Artemisia californica – Eriogonum fasciculatum – Malosma laurina* Association	California Sagebrush - California buckwheat - Laurel Sumac Association	32500	Diegan Coastal Sage Scrub	11.86
				Drought Deciduous Shrublands Total	*108.31*
Upland Herbaceous Vegetation					
5.8	*Bromus* (*diandrus, hordaceus*)-*Brachypodium distachyon* Semi-Natural Stands	Annual Brome Grasslands Semi-Natural Stands	42200	Non-Native Grassland	0.12
				Upland Herbaceous Vegetation Total	*0.12*
Unvegetated					
N/A	N/A	N/A	11300	Disturbed Habitat	3.33
N/A	N/A	N/A	12000	Urban/Developed	0.12
				Unvegetated Total	*3.45*
				Grand Total	111.88

*Does not include 100-foot buffer acreage

There are eleven plant alliances, associations, or semi-natural stands present within the Sycamore South Study Area as classified by the VCM (Table 5). Figure 9c shows the VCM code distribution of vegetation communities and land covers within the Sycamore South Study Area. Figure 9d shows the Holland/Oberbauer vegetation codes for the Sycamore South Study Area.

Figures 9e and 9f illustrate the VCM and Holland (1986) vegetation codes, respectively, for the entirety of the Sycamore Canyon and Goodan Ranch Preserves and the two Study Areas.

Table 5
Sycamore South Vegetation Communities and Land Covers

VCM Code	VCM Alliance/ Association	VCM Common Name	Holland Code	Holland Classification	Acres on Site*
Drought Deciduous Shrublands					
4.1	*Adenostoma fasciculatum* Alliance	Chamise Chaparral Alliance	37200	Chamise Chaparral	20.93
4.1.4	*Adenostoma fasciculatum – Ceanothus tomentosus* Association	Chamise Chaparral-Woolly-leaved Ceanothus Association	37120	Southern Mixed Chaparral	55.60
4.18.1	*Ceanothus tomentosus* Association	Woolly-leaved Ceanothus Association	37120	Southern Mixed Chaparral	5.00

Table 5
Sycamore South Vegetation Communities and Land Covers

VCM Code	VCM Alliance/ Association	VCM Common Name	Holland Code	Holland Classification	Acres on Site*
4.2.3	*Adenostoma fasciculatum – Cercocarpus betuloides – Ceaothus tomentosus* Association	Chamise Chaparral-Mission Manzanita-Woolly-leaved Ceanothus Association	37120	Southern Mixed Chaparral	14.09
4.23.1	*Eriogonum fasciculatum* Association	California Buckwheat Scrub Association	32500	Diegan Coastal Sage Scrub	4.14
4.32.1	*Acmispon glaber* Association	Deerweed Association	42200	Non-Native Grassland	0.88
4.44	*Salvia mellifera* Alliance	Black Sage Scrub Alliance	32500	Diegan Coastal Sage Scrub	0.18
4.44.1	*Salvia mellifera – Eriogonum fasciculatum* Association	Black Sage - California Buckwheat Scrub Association	32500	Diegan Coastal Sage Scrub	27.48
4.44.2	*Salvia mellifera – Malsosma laurina* Association	Black Sage - Laurel Sumac Association	32500	Diegan Coastal Sage Scrub	15.72
4.7.1	*Artemisia californica – Eriogonum fasciculatum – Malosma laurina* Association	California Sagebrush - California Buckwheat - Laurel Sumac Association	32500	Diegan Coastal Sage Scrub	2.97
				Drought Deciduous Shrublands Total	*146.99*
		Upland Herbaceous Vegetation			
5.8	*Bromus* (*diandrus, hordaceus*)- *Brachypodium distachyon* Semi-Natural Stands	Annual Brome Grasslands Semi-Natural Stands	42200	Non-Native Grassland	0.88
				Upland Herbaceous Vegetation Total	*0.88*
		Unvegetated			
N/A	N/A	N/A	11300	Disturbed Habitat	2.39
				Unvegetated Total	*2.39*
				Grand Total	150.26

* Does not include 100 foot buffer acreage.

The following vegetation community and land cover descriptions follow the VCM codes. Vegetation communities in both Sycamore South and Hagey Study Areas are described.

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 (SANDAG 2011). Other shrubs may occur as associates, or co- or sub-dominants. Due to recent high intensity and frequent fires in San Diego County, much of this alliance is at risk of conversion to post-fire vegetation stands of laurel sumac or deerweed, or to non-native grasslands (SANDAG 2011).

The chamise chaparral alliance is mapped on 20.93 acres within the Sycamore South Study Area and 3.6 acres within the Hagey Study Area. This alliance is found in several patches throughout each Study Area, and is frequently bordered by other associations within this alliance. Under the Holland Classification, chamise chaparral is considered a MSCP Tier IIIA vegetation community.

Chamise Chaparral-Woolly-leaved Ceanothus Association (4.1.4)

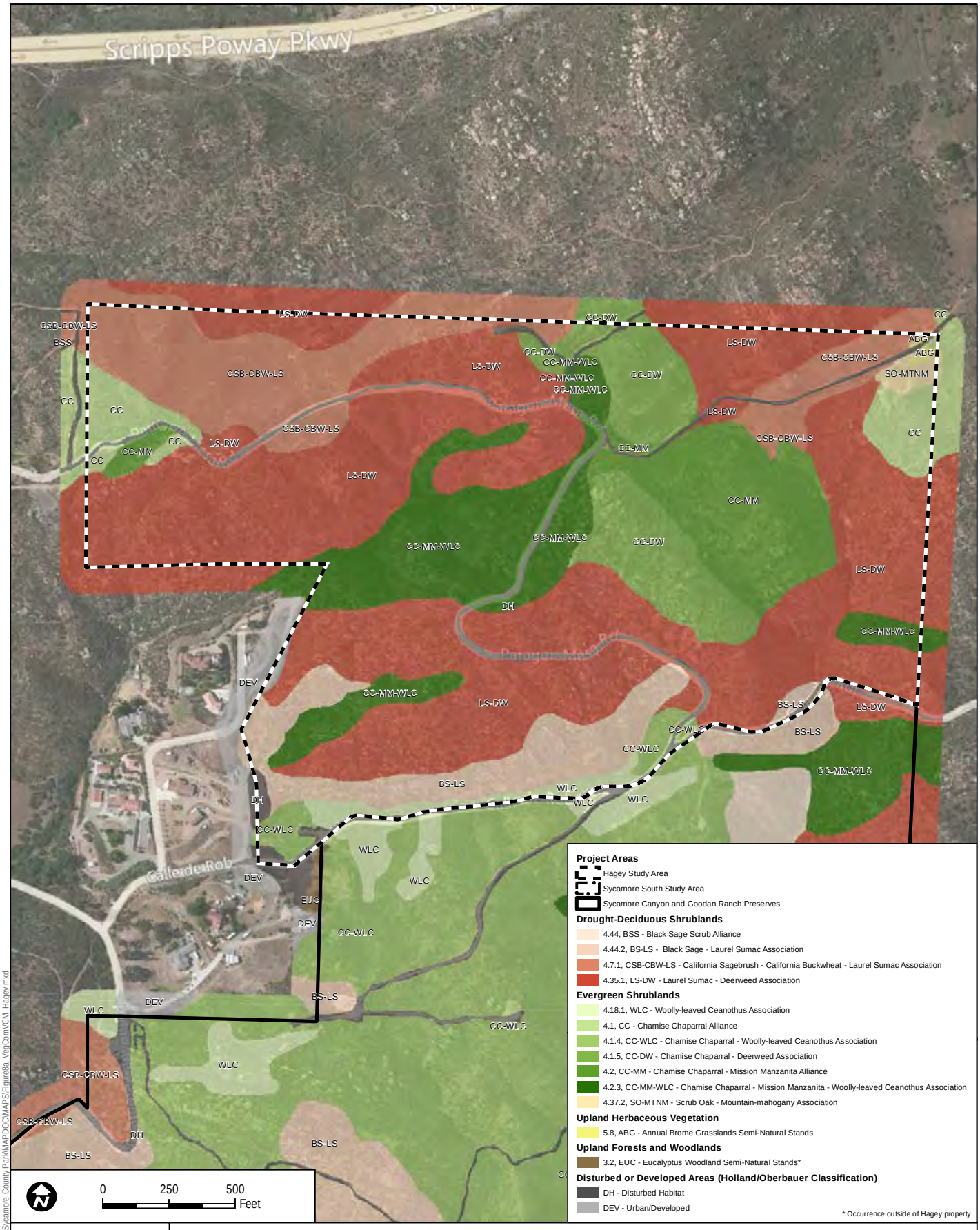
Chamise and woolly-leaved ceanothus (*Ceanothus tomentosus*) are codominants in this association, and form a mostly continuous shrub layer (SANDAG 2011). Other species commonly found in this association include oaks, manzanita, sages, and other species of ceanothus (e.g., *C. leucodermis, C. oliganthus*). This association is commonly found on slopes of cismontane foothills (SANDAG 2011).

It is mapped on 55.6 acres in the Sycamore South Study Area and 1.42 acres in the Hagey Study Area. This is the dominant vegetation community mapped within the Sycamore South Study Area. Under the Holland Classification, the chamise chaparral-woolly-leaved ceanothus association is considered a MSCP Tier IIIA vegetation community.

Chamise Chaparral-Deerweed Association (4.1.5)

The chamise chaparral – deerweed association is characterized by more open cover than other associations within this alliance. It is a transitional association to other chaparral types that usually occurs due to fire or other disturbance (SANDAG 2011). Other species found at low densities within this association include laurel sumac, California sagebrush, peak rush rose (*Helianthemum scoparium*), and phacelia (*Phacelia cicutaria, P. paryii*).

Approximately 8.3 acres of chamise chaparral – deerweed association is mapped within the central region of the Hagey Study Area. This association is not mapped within the Sycamore South Study Area. Under the Holland Classification, the chamise chaparral – deerweed association is considered a MSCP Tier IIIA vegetation community.



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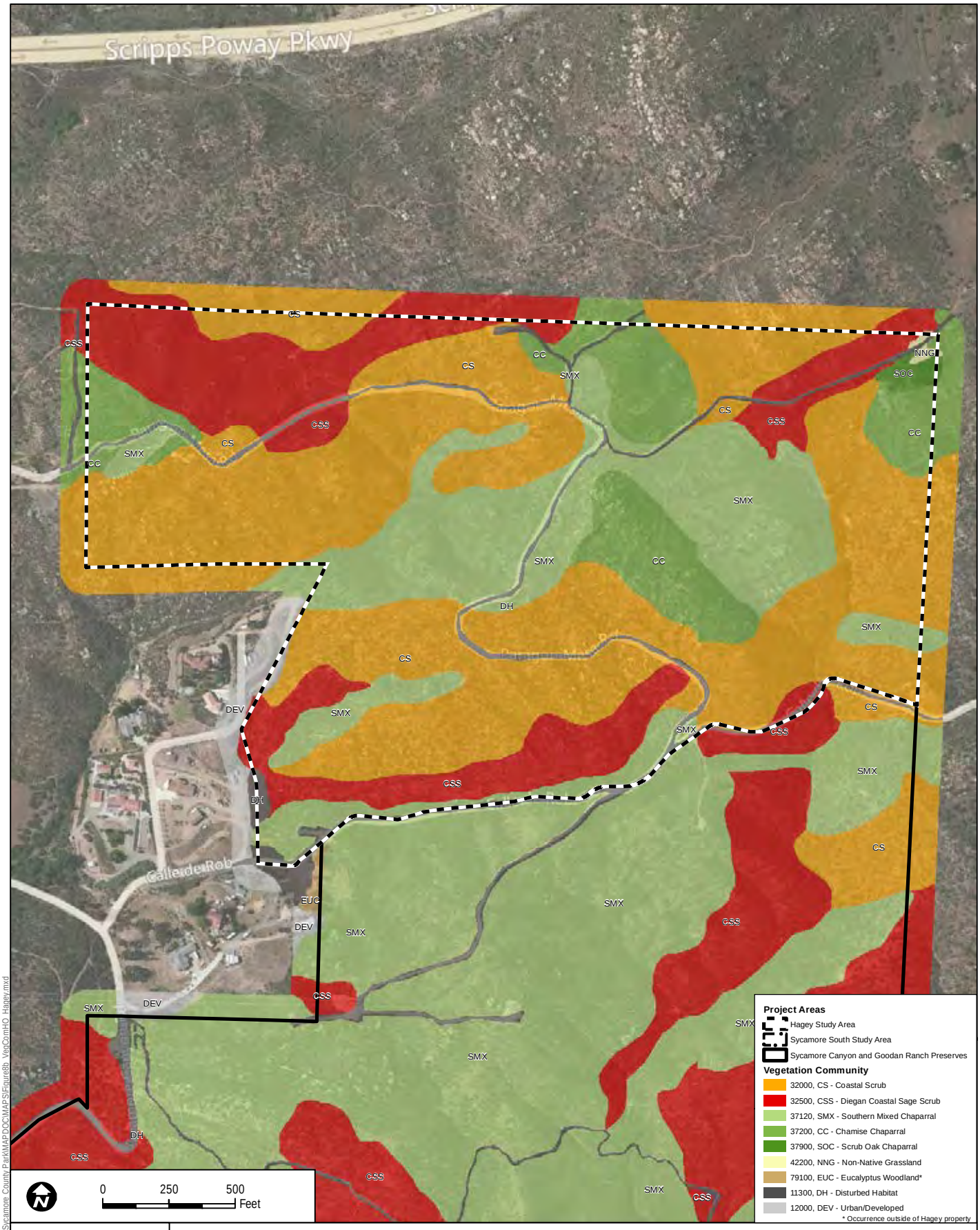
FIGURE 9a

Vegetation Communities and Land Cover Types- Hagey Study Area (VCM)

Sycamore South and Hagey Study Areas - Baseline Biodiversity Survey

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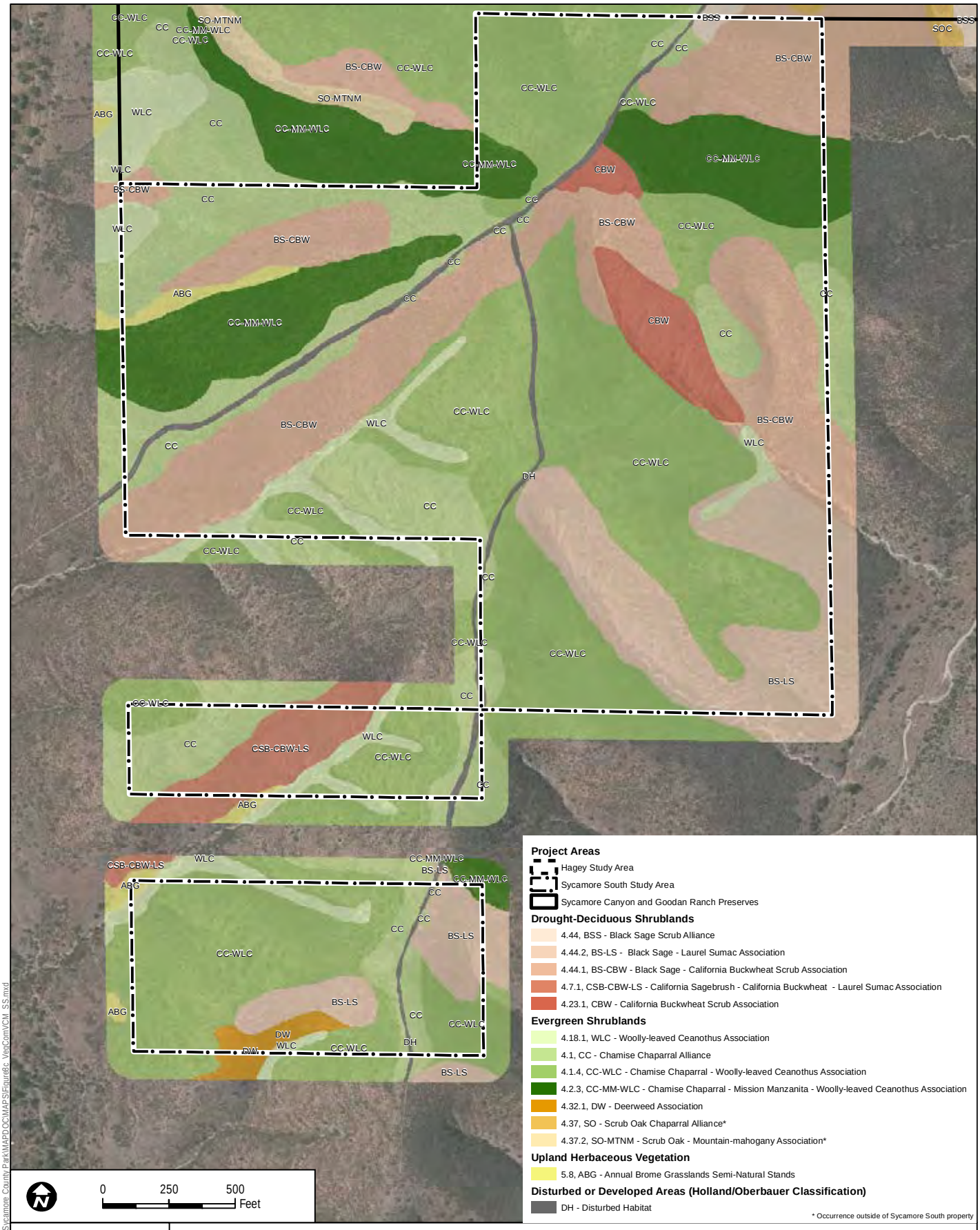
FIGURE 9b

Vegetation Communities and Land Cover Types- Hagey Study Area (Holland)

Sycamore South and Hagey Study Areas - Baseline Biodiversity Survey

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FIGURE 9c

Vegetation Communities and Land Cover Types- Sycamore South Study Area (VCM)

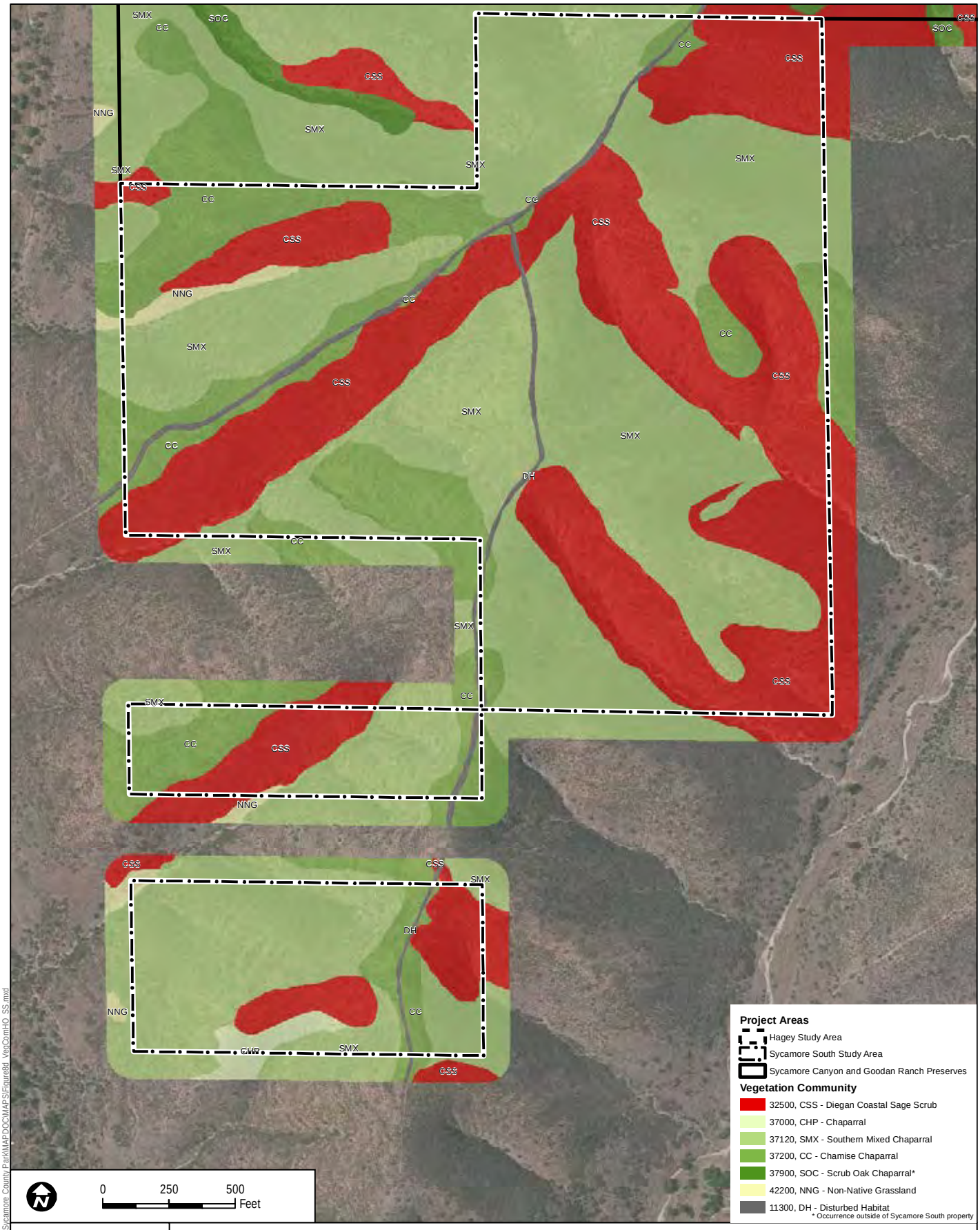
Sycamore South and Hagey Study Areas - Baseline Biodiversity Survey

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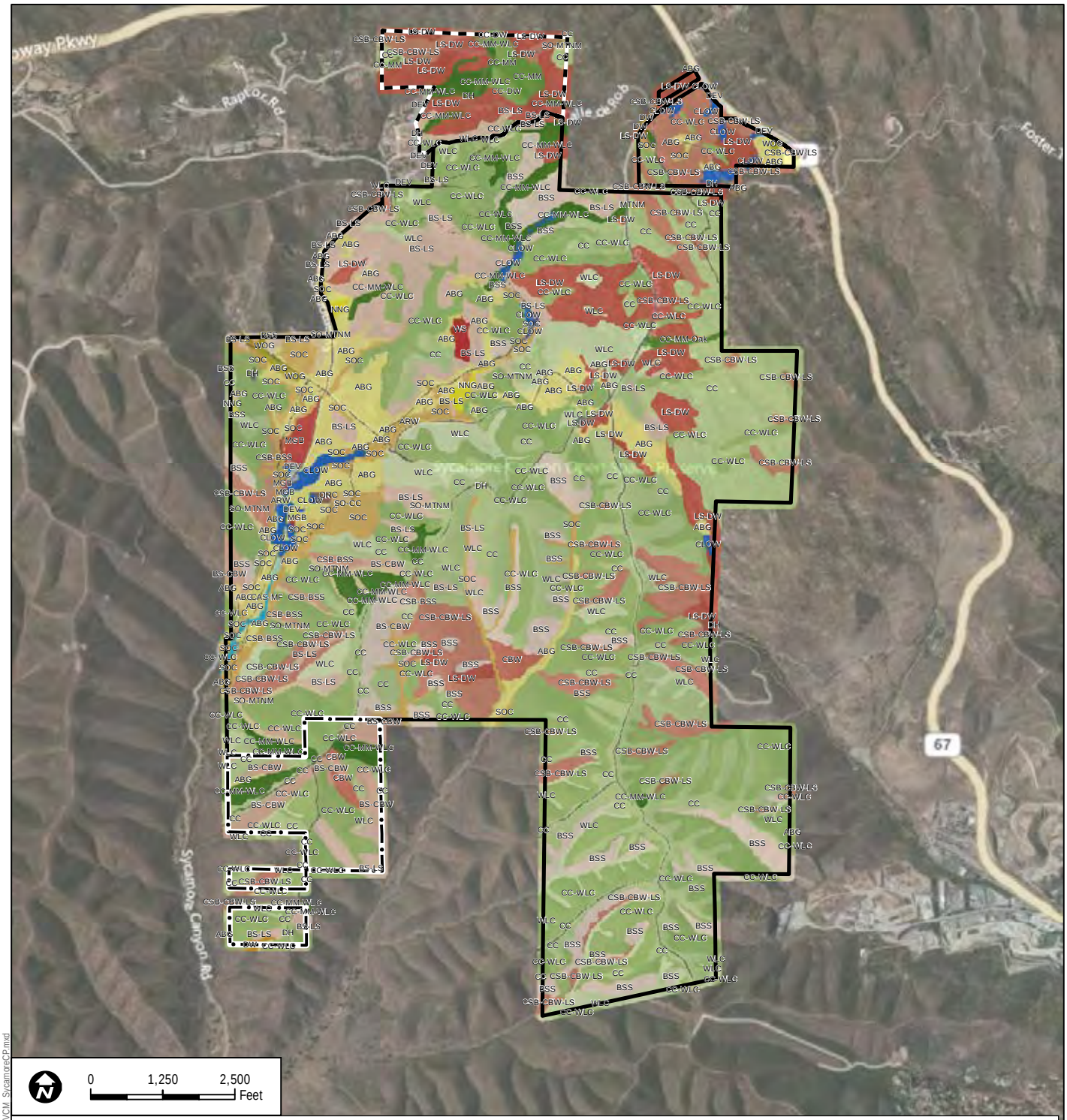
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FIGURE 9d

Vegetation Communities and Land Cover Types- Sycamore South Study Area (Holland)

Sycamore South and Hagey Study Areas - Baseline Biodiversity Survey

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Project Areas
- Hagey Study Area
- Sycamore South Study Area
- Sycamore Canyon and Goodan Ranch Preserves

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

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

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

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

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

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

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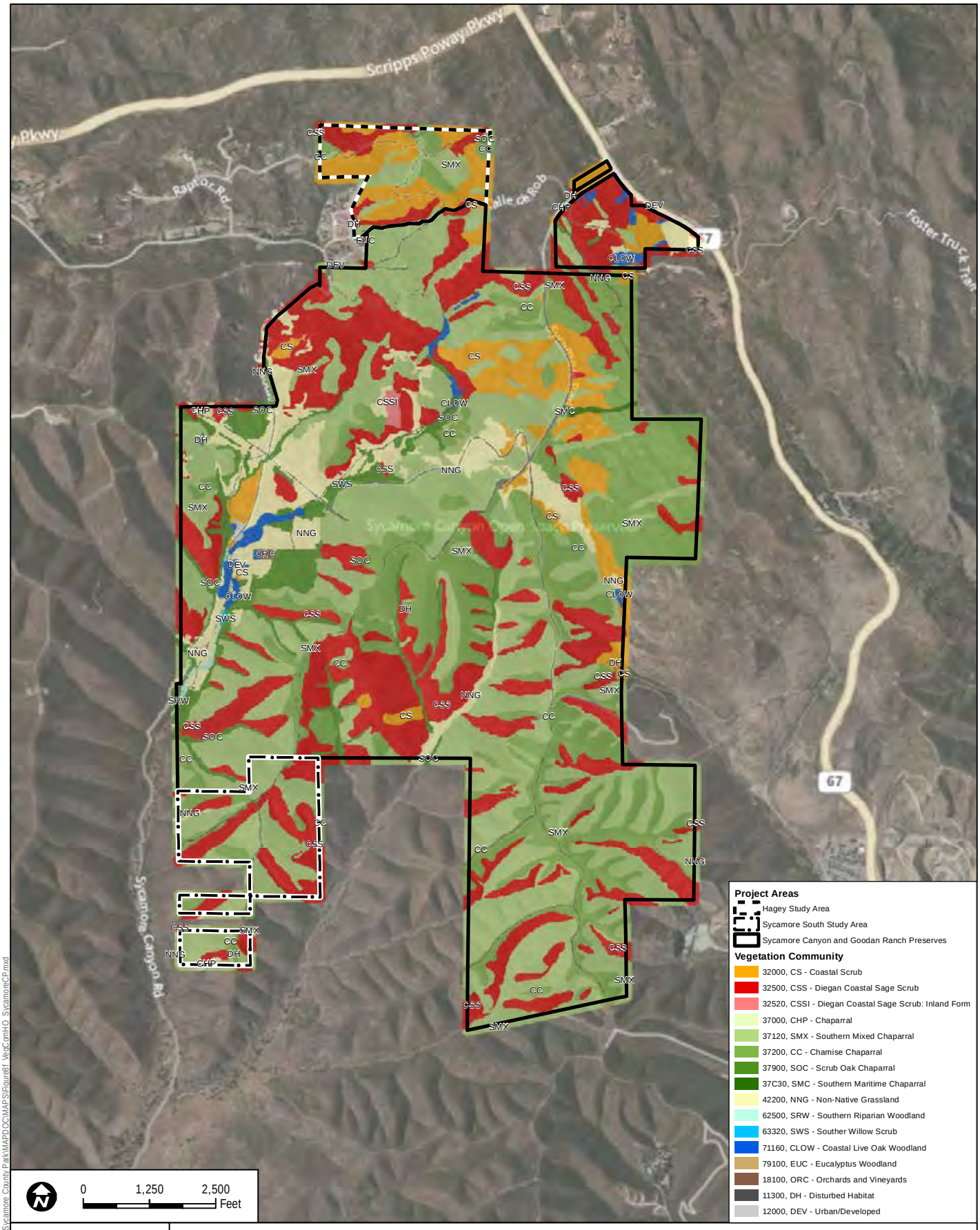
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FIGURE 9e

Vegetation Communities and Land Cover Types- Sycamore Canyon and Gooden Ranch Preserves (VCM)

Sycamore South and Hagey Study Areas - Baseline Biodiversity Survey

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SOURCE: Bing

FIGURE 9f

Vegetation Communities and Land Cover Types- Sycamore Canyon and Gooden Ranch Preserves (Holland)

Sycamore South and Hagey Study Areas - Baseline Biodiversity Survey

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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 (SANDAG 2011). Woolly-leaved ceanothus comprises at least 30% of the relative cover in the shrub canopy. Subdominant shrubs include oaks, mountain-mahogany, ceanothus, and heartleaf keckiella (*Keckiella cordiflora*) (SANDAG 2011).

This association is mapped within 1.32 acres in the Hagey Study Area, and 5.0 acres in the Sycamore South Study Area. Under the Holland Classification, the woolly-leaved ceanothus association is considered a MSCP Tier IIIA vegetation community.

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 (SANDAG 2011). Chamise and mission manzanita (*Xylococcus bicolor*) are codominants, with subdominant shrubs including ceanothus, our lord's candle, scrub oak (*Quercus berberidifolia*), and sages. The herbaceous layer in this alliance is sparse or intermittent (SANDAG 2011).

This alliance is mapped on 8.95 acres within the central region of the Hagey Study Area, and is not mapped within the Sycamore South Study Area. Under the Holland Classification, the chamise chaparral – mission manzanita alliance is considered a MSCP Tier IIIA vegetation community.

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 (SANDAG 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 (SANDAG 2011).

The chamise chaparral – mission manzanita – woolly-leaved ceanothus association comprises part of the central-west region of the Hagey Study Area, and occupies 12.98 acres. Within the Sycamore South Study Area, this association totals 14.09 acres of the northern part of the Study Area. Under the Holland Classification, the chamise chaparral-mission manzanita-woolly-leaved ceanothus association is considered a MSCP Tier II vegetation community.

California Buckwheat Scrub Association (4.23.1)

The California buckwheat scrub occurs on 4.14 acres within the Sycamore South Study Area; it is not mapped within the Hagey Study Area. This association is characterized by California buckwheat scrub dominant in an open shrub canopy with California sagebrush, chamise, ceanothus, deerweed (*Acmispon glaber* ssp. *glaber*), and sages (*Salvia* spp.) (SANDAG 2011). This association may be an early successional stage to a different shrub community, or it may persist as a stable association. Nonnative grasses and forbs are commonly found in this association (SANDAG 2011). Under the Holland Classification, the California buckwheat scrub association is considered a MSCP Tier II vegetation community.

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 (SANDAG 2011). A total of 0.88 acres of deerweed association is mapped within the Sycamore South Study Area and is not within the Hagey Study Area. Under the Holland Classification, deerweed association is considered a MSCP Tier IIIB vegetation community.

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 (SANDAG 2011). Laurel sumac and deerweed are codominant, although deerweed is often dominant to laurel sumac. Subdominant shrubs include California sagebrush, ceanothus, sages, and spiny redberry. Herbs common in this association include island false bindweed (*Calystegia macrostegia*), Cucamonga manroot (*Marah macrocarpus*), American wild carrot (*Daucus pusillus*), narrowleaf cottonrose (*Logfia gallica*), and lupines (*Lupinus* spp.) (SANDAG 2011).

This association is dominant within the Hagey Study Area, and is mapped on 52.15 acres throughout the site. The laurel sumac – deerweed association is not mapped within the Sycamore South Study Area. Under the Holland Classification, the laurel sumac – deerweed association is considered a MSCP Tier II vegetation community.

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 (SANDAG 2011). Scrub oak is typically at least 50% of the relative cover in the shrub canopy. Subdominant species include poison oak (*Toxicodendron diversilobum*), chamise, manzanita, ceanothus, and monkeyflower. Herbaceous diversity and cover is low, and is present primarily in habitat openings. Species diversity increases after fires (SANDAG 2011). The scrub oak- mountain-mahogany association occurs on 0.55 acres within the Hagey Study Area and does not occur within the Sycamore South Study Area. Under the Holland Classification, this association is considered a MSCP Tier IIIA vegetation community.

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 (SANDAG 2011). In the black sage scrub alliance, black sage is codominant with other shrubs such as chamise, California sagebrush, California encelia (*Encelia californica*), or white sage (*Salvia apiana*) (SANDAG 2011). There are 0.18 acres of black sage scrub alliance mapped within the Sycamore South Study Area. Under the Holland Classification, the black sage scrub alliance is considered a MSCP Tier II vegetation community.

Black Sage - California Buckwheat Scrub Association (4.44.1)

Approximately 27.48 acres of black sage-California buckwheat scrub association is mapped within the Sycamore South Study Area where it occurs on primarily south facing slopes located in the northern parcel. This association does not occur in the Hagey Study Area. This association contains black sage and California buckwheat as codominants in the shrub canopy (SANDAG 2011). Other shrubs found within this association include coyotebrush (*Baccharis pilularis*), California sagebrush, and coast prickly pear (*Opuntia littoralis*). The black sage-California buckwheat scrub association is found in coastal or inland xeric regions (SANDAG 2011). Under the Holland Classification, the black sage-California buckwheat scrub association is considered a MSCP Tier II vegetation community.

Black Sage - Laurel Sumac Association (4.44.2)

Black sage and laurel sumac are codominants in the black sage – laurel sumac association, which is found throughout the central and southern coasts of California, including the Transverse and Peninsular ranges, and into Baja California. Other shrubs found in this association, at lower percent cover, include California sagebrush (Artemisia californica), California buckwheat (*Eriogonum fasciculatum*), orange bush monkeyflower (*Mimulus auranticus*), and ceanothus (*Ceanothus* sp.), among others (SANDAG 2011). The tree canopy, if present, is sparse, and herbaceous cover is high in openings (SANDAG 2011).

A total of 15.72 acres of black sage-laurel sumac association is mapped on slopes within the southern area of the Sycamore South Study Area. This association is mapped on 7.18 acres along the southern border of the Hagey Study Area. Under the Holland Classification, the black sage-laurel sumac association is considered a MSCP Tier II vegetation community.

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

California sagebrush, California buckwheat, and laurel sumac are all codominant in an open shrub canopy of this association. Other species commonly found in this association include lemonadeberry (*Rhus integrifolia*), California ecelia, our lord's candle (*Hesperoyucca whipplei*), and spiny redberry (*Rhamnus crocea*) (SANDAG 2011). There is an open herbaceous layer characterized by high diversity. This association is frequently a transitional stage due to fire or other disturbance (SANDAG 2011).

This association is mapped on 11.86 acres within the Hagey Study Area, and on 2.97 acres within the Sycamore South Study Area. This association occurs along the northern extent of the Hagey Study Area. Under the Holland Classification, the California sagebrush – California buckwheat – laurel sumac association is considered a MSCP Tier II vegetation community.

Annual Brome Grasslands Semi-Natural Stands (5.8)

Annual brome grasslands semi-natural stands is characterized by a dense to sparse cover of annual grasses, particularly bromes (*Bromus diandrus, B. hordaceus, B. madritensis*), which are dominant or co-dominant in the herbaceous layer. There may be trees or shrubs present, although at very low densities (SANDAG 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 (SANDAG 2011). Annual brome grasslands typically occur adjacent to roads or other developed areas where there has been some historic disturbance (SANDAG 2011). This habitat may support special-status species and provide valuable foraging habitat for raptors.

Annual brome grasslands semi-natural stands occupies 0.12 acres in the northeastern corner of the Hagey Study Area and 0.88 acres along the western border within the Sycamore South Area. Under the Holland Classification, annual brome grasslands semi-natural stands is considered a MSCP Tier IIIB vegetation community.

Disturbed Habitat (Holland 11300)

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

There are 3.33 acres of disturbed habitat within the Hagey Study Area and 2.39 acres within Sycamore South. In both areas, the disturbed habitat consists primarily of ruderal areas adjacent to dirt roads.

Urban/Developed (Holland 12000)

Land designated as urban/developed is not addressed by the VCM; this description follows Oberbauer et al. (2008). Developed land is generally subject to significant human disturbance associated with development. There are 0.12 acres of developed land in the Hagey Study Area and no urban/developed areas are mapped in the Sycamore South Study Area. The developed land is composed of dirt roads that run throughout the Study Area. Developed land is an MSCP Tier IV vegetation community, indicating that it has limited habitat value.

4.2 Plants

A total of 183 vascular plant species, 158 native and 25 non-native, were observed or detected within the Study Area during the 2012 baseline surveys. Appendix A lists all of the plant species observed.

4.2.1 Special-Status Plant Species Observed

The following section discusses special-status plant species observed within the Study Areas. 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 CNPS (e.g.,

CRPR 1, 2, 3, and 4 Plant Species); or is included on the County of San Diego Sensitive Plant List (Group A, B, C, or D Listed Plants).

Three (3) special-status plant species were identified within the Study Areas, rush-like bristleweed (*Xanthisma junceum*), delicate clarkia (*Clarkia delicata*), and ashy spike-moss (*Selaginella cinerascens*).

Rush-like Bristleweed (*Xanthisma junceum*)

CRPR 4.3, County List D

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

Rush-like bristleweed only occurs within the Hagey Study Area and is found throughout the site. This species occurs in coastal scrub and chamise chaparral communities in the Study Area. Several of the locations are situated near the main access road Calle de Rob (Figure 10a).

Delicate Clarkia (*Clarkia delicata*)

CRPR 1B.2, County List A

Delicate clarkia (*Clarkia delicata*) is an annual herb typically located in chaparral or cismontane woodlands with gabbroic soils, especially on the periphery of oak woodlands and cismontane chaparral (Reiser 1994). It is found in areas of elevation from 235 to 1,000 meters AMSL (771 to 3,281 feet) and blooms from April to June (CNPS 2012). This species is endemic to San Diego County (CNPS 2012).

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

Within the Sycamore South Study Area, the species was mapped in chamise chaparral slightly outside the Study Area (Figure 10b). This population had not previously been recorded.



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SOURCE: Bing

FIGURE 10a

Special-status Plant Locations - Hagey Study Area

Sycamore South and Hagey Study Areas - Baseline Biodiversity Survey

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Ashy Spike-Moss (*Selaginella cinerascens*)

CRPR 4.1, County List D

Ashy spike-moss is a rhizomatous herb in the Selaginellaceae family (CNPS 2012). It is endemic to Southern California and Baja California, Mexico, at elevations from 20 to 640 meters (65 to 2,100 feet) AMSL (CNPS 2012). This species is found in undisturbed chaparral and Diegan coastal sage scrub. Because ashy spike-moss rarely inhabits disturbed soils, Reiser (1994) states that the absence of this species within otherwise suitable habitat can indicate habitat degradation.

This species is prevalent throughout eastern San Diego County, mostly south of State Route 78. It is a dominant ground cover species in the Miramar Air Base, which is located in the vicinity of the Study Areas. Ashy spike-moss is declining locally due to habitat loss, although this primarily has affected populations along the coast of San Diego (Reiser 1994).

Ashy spike-moss was recorded in several locations throughout the Sycamore South Study Area, primarily along slopes or in drainages in areas primarily mapped as chamise chaparral (Figure 10b). This plant species was not mapped within the Hagey Study Area.

4.2.2 Special-Status Plant Species with High Potential to Occur

Based on an analysis of the elevation, soils, vegetation communities, and level of disturbance of the site, in conjunction with the known distribution of special-status species in the vicinity of the Study Areas and the results of rare plant surveys, one special-status plant species has a high potential to occur within the Hagey Study Area: Robinson's peppergrass (*Lepidium virginicum* var. *robinsonii*). For additional analysis of species' potential to occur within the Study Areas, please see Appendix D.

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). Robinson's peppergrass blooms from January to July, and is found at elevations from one to 885 meters (3 to 2,904 feet) AMSL (CNPS 2012).

Habitat and local site characteristics within the Study Areas would support this species, as the Study Areas are composed of dry, exposed areas. Robinson's peppergrass is found near the San Vicente Reservoir on the periphery of the coastal plain (Reiser 1994). Robinson's peppergrass 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).

4.2.3 Non-native and/or Invasive Plants

Two invasive non-native plant species of concern have been identified in the Sycamore South and Hagey Study Areas: rose natal grass and crimson fountain grass. Table 6 lists these non-native species of concern within the Study Areas and their associated California Invasive Plant Council (Cal-IPC) Inventory rating. Invasive plant species locations are shown on Figures 11a-b.

Table 6
Non-native Plant Species of Concern at the Sycamore South and Hagey Study Areas

Common Name	Scientific Name	Cal-IPC Rating*
Rose Natal Grass	*Melinis repens* ssp. *repens*	None
Crimson Fountain Grass	*Pennisetum setaceum*	Moderate

* Source: Cal-IPC California Invasive Plant Inventory Database, updated June 2012. Overall rating listed for southwest region, factoring impact, invasiveness, distribution, and documentation level.
Inventory Categories
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.

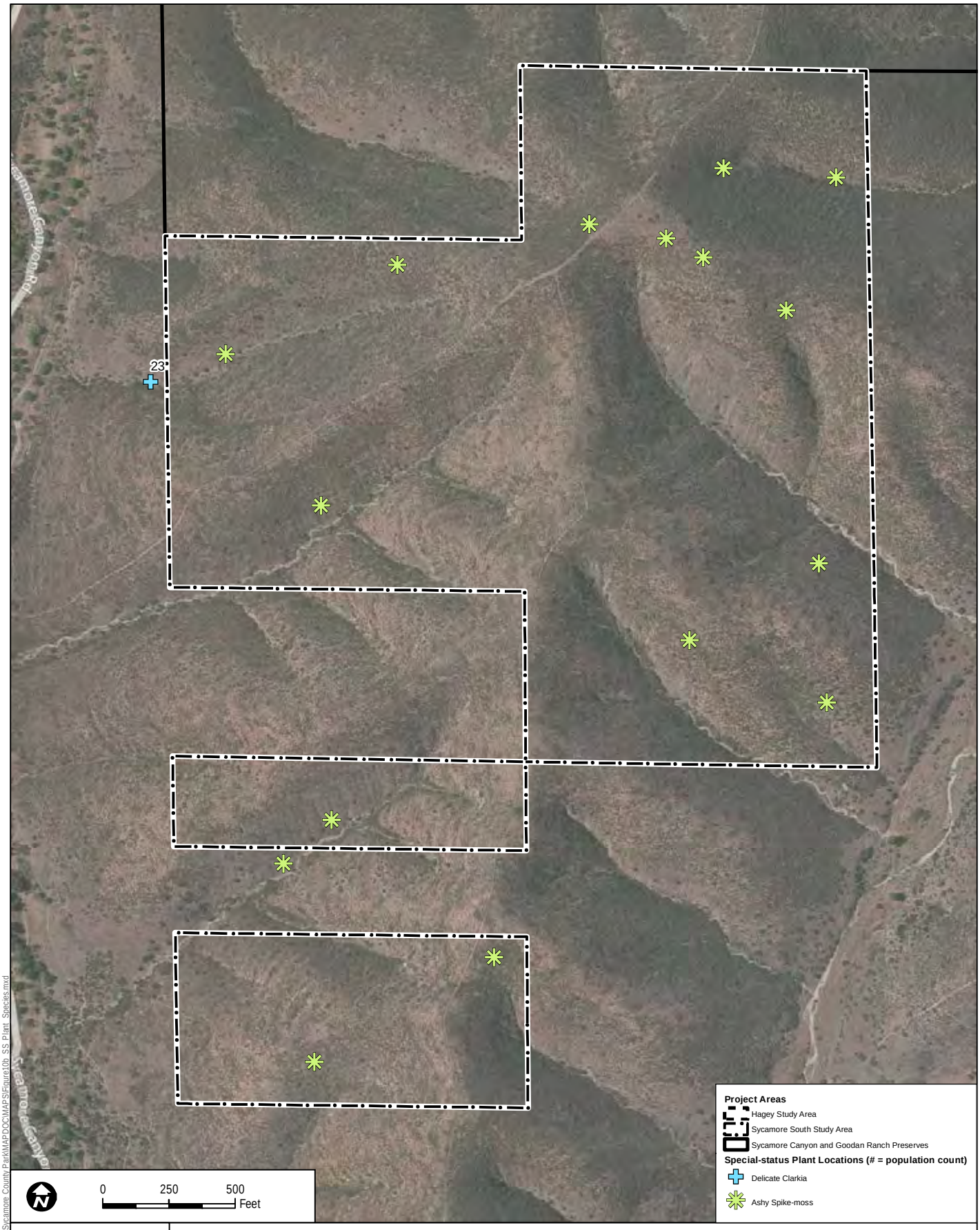
Rose Natal Grass (*Melinis repens* ssp. *repens*)

Rose Natal grass is an annual or a perennial grass in the Poaceae family that is native to South Africa but has now been introduced to North and South America (Invaders 2012). In the United States, this species now occurs in states along the Gulf of Mexico, and southwestern states including Southern California. Rose Natal grass is not rated by the Cal-IPC (Cal-IPC 2012).

Rose Natal grass is mapped within both Study Areas, although it is more extensive in the Hagey Study Area (Figures 11a-b). It tends to occur more frequently in rocky outcrops, particularly those with a southern aspect.

Crimson Fountain Grass (*Pennisetum setaceum*)

Crimson fountain grass is an annual or perennial grass in the Poaceae family that has been naturalized in California that is now found throughout Southern California, the Central Valley, and along the coast to the Bay Area (Jepson Flora Project 2012). It is found within coastal dune and scrub, chaparral, and grassland habitats. This species is rated as Moderate by the Cal-IPC (Cal-IPC 2012). Crimson fountain grass increases fuel load and therefore the fire frequency, intensity, and spread of fire.



SOURCE: Bing

FIGURE 10b

Special-status Plant Locations - Sycamore South Study Area

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Sycamore South and Hagey Study Areas - Baseline Biodiversity Survey

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Crimson fountain grass is mapped within both Study Areas, but is more prevalent within the Hagey Study Area (Figures 11a-b). Within the Hagey Study Area, crimson fountain grass is commonly located near roads or other areas of disturbance, and like rose Natal grass, is commonly found in rocky, south-facing outcrops. Only three locations were mapped within the Sycamore South Study Area.

4.2.3.1 Non-native Annual Plant Species

Ubiquitous non-native annual plant species are also present throughout the Study Areas, and are found throughout the chaparral communities within the Study Areas. Additional non-native plant species include tocalote (*Centauria melitensis*), shortpod mustard (*Hirschfeldia incana*), stork's bill (*Erodium* spp.), oats (*Avena* spp.), bromes (*Bromus* spp.), and festuca (*Festuca* spp.), among others. These non-native plant species were not mapped because of their distribution across the site. 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.

4.3 Wildlife

A total of 113 wildlife species were observed or detected within the Study Areas during the 2012 surveys, including: 9 reptiles, 35 birds, 25 mammals, and 44 invertebrates. No amphibians were observed during surveys; no focused surveys for amphibians were performed. A total of 18 special-status species were observed or detected including two species covered under the MSCP. Appendix B lists all of the wildlife species observed or detected within the Study Area.

4.3.1 Invertebrates

A number of large invertebrates were captured within herpetological pitfall trap arrays. These were identified to genus where feasible. These included: armored stink beetle (*Eleodes armata*), wooly ground beetle (*Eleodes osculans*), darkling ground beetle (*Tenebrionidae* spp.), anthaxias beetle (*Anthaxia* spp.), click beetle (Family *Elateridae*), Jerusalem cricket (*Stenopelmatus fuscus*), house crickets (Subfamily *Nemobiinae*), field cicket (Subfamily *Gryllinae*), venerable silverfish (*Tricholepidion* spp.), common silverfish (*Lepism*a spp.), pill bugs (Family *Armadillidiidae*), millipedes (Class *Diplopoda*), centipedes (Class *Chilopoda*), tarantula (Superfamily *Theraphosoidea*), windscorpion (Family *Ammotrechidae*), grass spiders (Family *Agelenidae*), yellow sac spider (Family *Miturgidae*), wolf spider (Family *Lycosidae*), sow bug killer spider (Family *Dysderidae*), jumping spider (Family *Salticidae*), and scorpion (Order *Scorpiones*). Other invertebrates observed during surveys included bees (Superfamily *Apoidae*, primarily *Apis mellifera* [European honey bee] or *Bombus* spp. [bumble bees], occasionally *Megachile* sp. [leafcutter bee] or *Halictidae* sp. [sweat bee]), wasps (Superfamily *Vespoidea*,

primarily *Polistes* sp. [paper wasp]), harvester ant colonies (*Pogonomyrmex* spp.), flies (Order *Diptera*), dragonflies (Infraorder *Anisoptera*) and damselflies (Suborder *Zygoptera*).

4.3.1.1 Butterflies

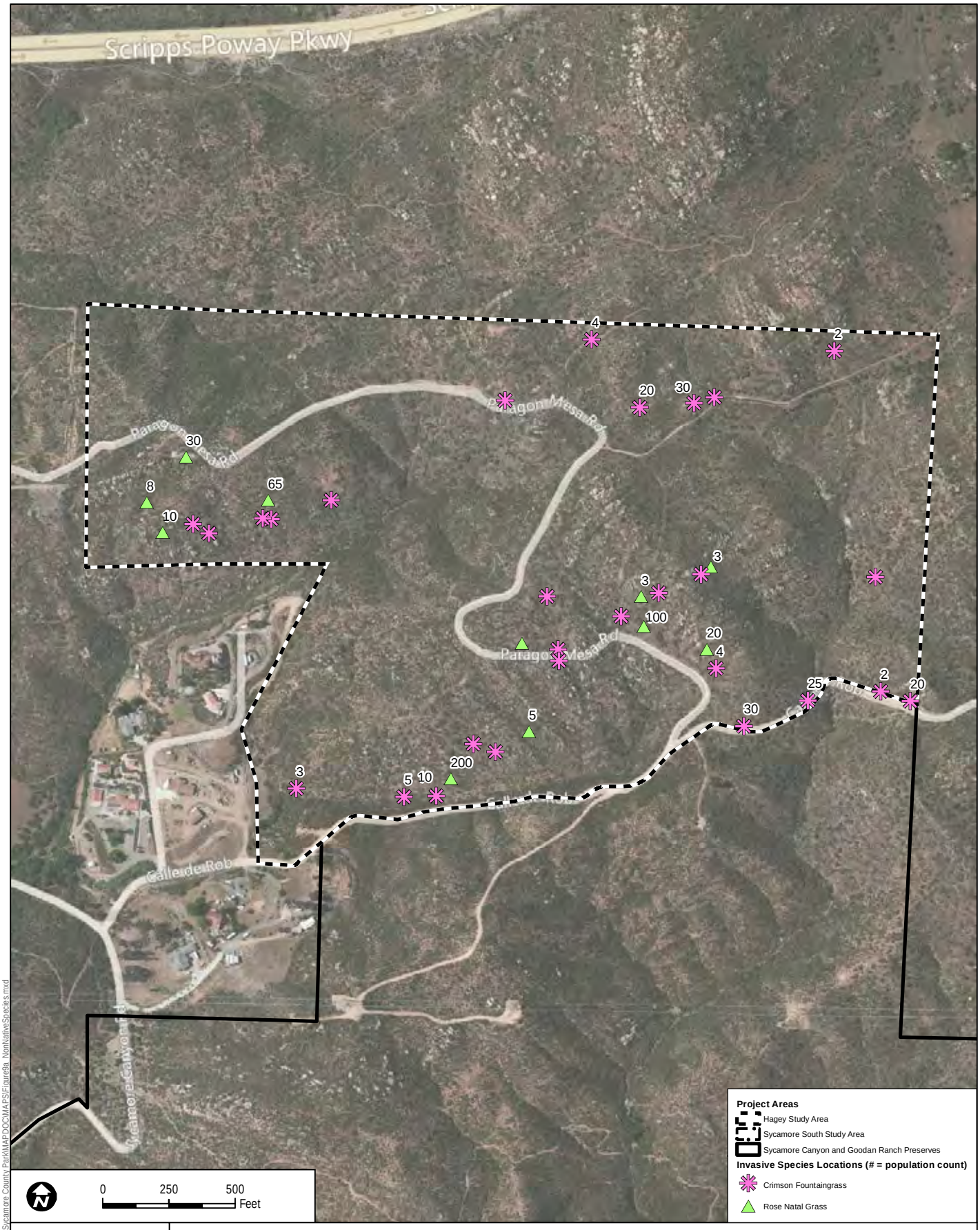
Fourteen butterfly species were observed during surveys conducted in the Study Areas. Species observed include: southern blue (*Glaucopsyche lygdamus australis*), acmon blue (*Icaria acmon acmon*), greenish blue (*Plebejus saepiolus*), blue (*Plebejus* sp.), hedgerow hairstreak (*Satyrium saepium*), hairstreak (*Satyrium* sp.), common buckeye (*Junonia coenia*), mylitta crescent (*Phyciodes mylitta*), lady (*Vanessa* sp.), Behr's metalmark (*Apodemia mormo virgulti*), funereal duskywing (*Erynnis funeralis*), western tiger swallowtail (*Papilo rutulus*), cabbage white (*Pieris rapae*), and moth (Family Saturniidae).

No special-status butterflies, specifically Quino checkerspot or Hermes copper, were observed in the Study Areas. This species is dependent not only on suitable habitat but on distribution of larval host plants. The host plant for Quino checkerspot, owl's clover (*Castilleja* sp.), was observed within the Sycamore South Study Area 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 either Study Area. Habitat characteristics, particularly in the Sycamore South Study Area, are suitable for Quino checkerspot, and include open chaparral, ridge tops, sloping hillsides, and crytogamic crusts. Quino checkerspot are known from the Sycamore Canyon and Goodan Ranch Preserves; one adult was observed in 2005 within the Preserves, located northeast of the Sycamore South Study Area (County of San Diego 2008a). No host plants were observed for Hermes copper butterfly. Hermes copper was recorded within the Preserves before the 2003 Cedar Fire (County of San Diego 2008a).

4.3.2 Herpetofauna

4.3.2.1 Amphibians

No focused surveys for amphibians were conducted during the survey effort for the Sycamore South and Hagey Study Areas. No amphibians were recorded within either Study Area.



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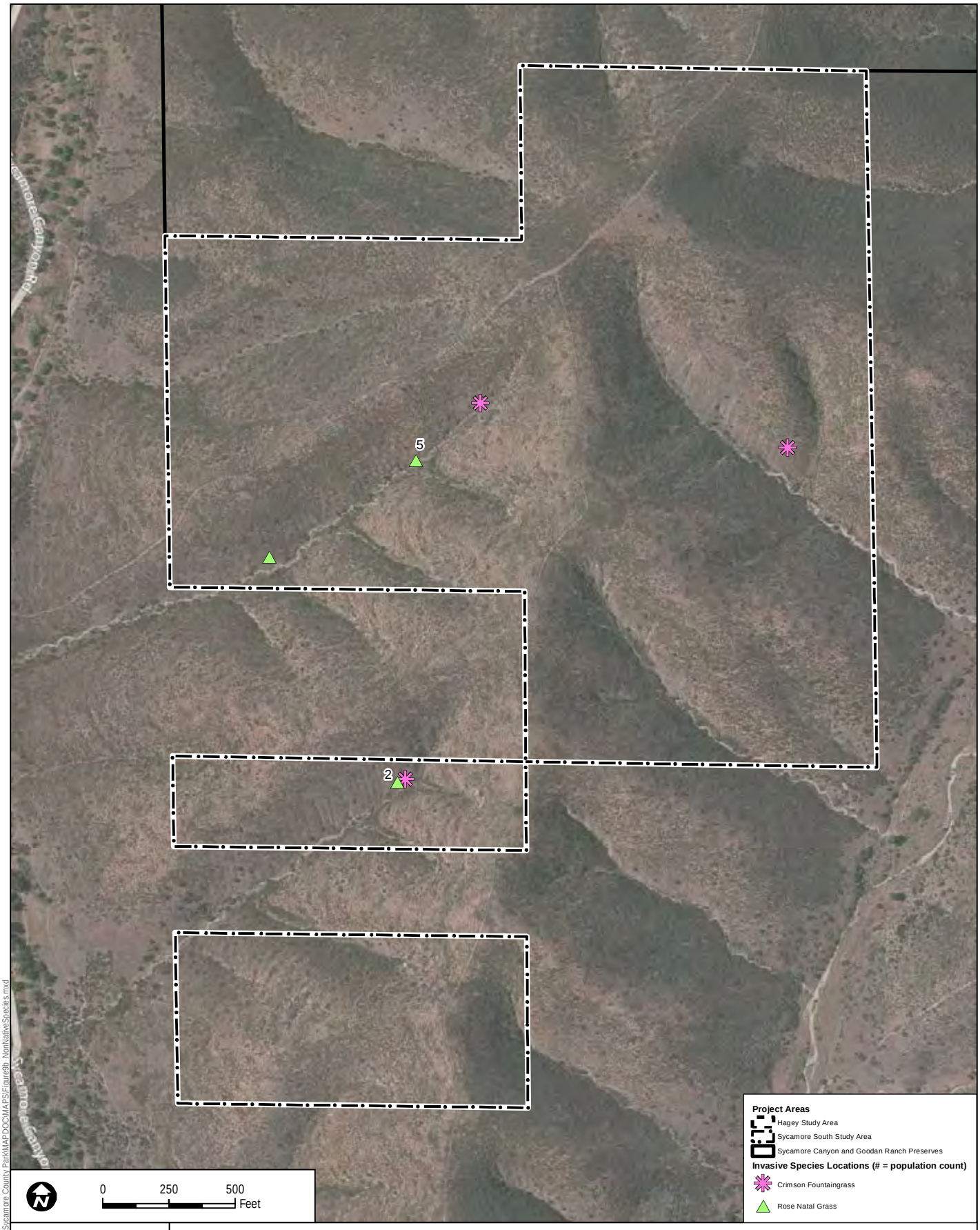
SOURCE: Bing

FIGURE 11a

Invasive Species Locations - Hagey Study Area

Sycamore South and Hagey Study Areas - Baseline Biodiversity Survey

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SOURCE: Bing

FIGURE 11b

Invasive Species Locations - Sycamore South Study Area

Sycamore South and Hagey Study Areas - Baseline Biodiversity Survey

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4.3.2.2 Reptiles

Nine reptile species were observed in the Study Areas during herpetological surveys and incidental sightings. Coast horned lizard (*Phrynosoma blainvillii* ssp. *coronatum*), orange-throated whiptail (*Aspidoscelis hyperythra beldingi*), common side-blotched lizard (*Uta stansburiana*), western fence lizard (*Sceloporus occidentalis*), and long-nosed snake (*Rhinocheilus lecontei*) were recorded during herpetological arrays (Table 7). One species, granite spiny lizard (*Sceloporus orcutti*) was observed during the coverboard surveys (Table 8). Additional species observed incidentally within the Study Areas include southern Pacific rattlesnake (*Crotalus oreganus helleri*), striped racer (*Coluber lateralis*) and northern red diamond rattlesnake (*Crotalus ruber ruber*). Orange-throated whiptail was the most common reptile species observed. Three of the reptile species observed are CDFW Species of Special Concern (CSC): coast horned lizard, orange-throated whiptail, and northern red diamond rattlesnake. Coast horned lizard and orange-throated whiptail are covered under the MSCP.

Table 7, Pitfall Trap Results, provides a summary of the species observed during pitfall trap herpetological surveys. Table 8, Coverboard Survey Results, summarizes the species recorded during coverboard surveys. Survey locations are shown on Figure 8a and 8b for the Hagey and Sycamore South Study Areas, respectively.

4.3.3 Birds

Twenty-nine bird species were observed within the Study Areas during avian point count surveys. The most common species observed in terms of numbers of individuals recorded were spotted towhee (*Pipilo maculatus*), wrentit (*Chamea fasciata*), mourning dove (*Zenaida macroura*), and southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*). The following birds were observed during the nocturnal surveys: barn owl (*Tyto alba*), lesser nighthawk (*Chordeiles acutipennis*), common poorwill (*Phalaenoptilus nuttallii*), great horned owl (*Bubo virginianus*), Cassin's kingbird (*Tyrannus vociferans*), house finch (*Carpodacus mexicanus*), California towhee (*Melozone crissalis*), killdeer (*Charadrius vocferus*), and northern mockingbird (*Mimus polyglottos*). A total of thirty-five bird species were detected within the Study Areas, including six species that were not recorded during the avian point count surveys (Appendix B).

Table 7
Pitfall Trap Results

Common Name	Scientific Name	Status	June 5-8, 2012		July 10-13, 2012		August 14-17, 2012		Total
			Sycamore South	*Hagey*	*Sycamore South*	*Hagey*	*Sycamore South*	*Hagey*	
Coast horned lizard	*Phrynosoma coronatum* ssp. *coronatum*	CSC, Group 2, MSCP	--	--	1	--	1	--	2
Orange-throated whiptail	*Aspidoscelis hyperythra beldingi*	CSC, Group 2, MSCP	1	2	5	2	4	3	17
Common side-blotched lizard	*Uta stansburiana*	None	--	--	5	2	2	2	11
Western fence lizard	*Sceloporus occidentalis*	None	1	--	1	--	--	--	2
Long-nosed snake	*Rhinocheilus lecontei*	None	--	--	1	--	--	--	1
Total	2	2	2	2	13	4	7	5	33

* CSC: California Species of Special Concern (CDFW)
MSCP: Covered species under the MSCP

Table 8
Coverboard Survey Results

Coverboard Number	5/24/12	6/25/12	7/25/12
Hagey C-1	--	--	--
Hagey C-2	--	--	--
Hagey C-3	--	--	--
Hagey C-4	--	--	Granite spiny lizard (*Sceloporus orcutti*)*
Sycamore South C-1	--	--	--
Sycamore South C-2	--	--	--
Sycamore South C-3	--	--	--
Sycamore South C-4	--	--	--
Sycamore South C-5	--	--	--
Sycamore South C-6	--	--	--

* Species Conservation Status: None

Three special-status bird species, all covered under the MSCP, were observed during avian point count surveys: coastal California gnatcatcher (*Polioptila californica californica*), barn owl, and southern California rufous-crowned sparrow (Figures 12a-b). Gnatcatcher is also a federally threatened species, and a California CSC.

Many species, such as the Southern California rufous-crowed sparrow or barn owl are likely permanent residents of the Preserve and are presumed to nest within the Study Areas. Other species, such as red-tailed hawk (*Buteo jamaicensis*), may nest on site but likely use the Study Areas primarily for foraging and occasionally for roosting. No species were observed with nests or exhibiting nesting behavior.

Table 9, Avian Point Count Survey Results, provides a summary of the results of the avian point counts for each survey point. The numbers in each cell represent the number of unique species counts on that particular day. The number in parentheses that follows is the total number of birds observed, including any flyovers. Survey locations are shown on Figure 8a-b.

Table 9
Avian Point Count Survey Results

	April 26, 2012		May 24, 2012		June 25, 2012		
Survey Point	*AM*	*PM*	*AM*	*PM*	*AM*	*PM*	Total
BC-H-1	0	1 (1)	2 (3)	4 (5)	2 (3)	2 (2)	6 (15)
BC-H-2	2 (2)	0	6 (12)	3 (3)	5 (9)	2 (3)	10 (28)
BC-H-3	8 (11)	0	11 (23)	3 (4)	11 (20)	2 (1)	21 (60)
BC-S-1	9 (14)	2 (3)	10 (22)	2 (3)	11 (18)	0	19 (60)
BC-S-2	9 (12)	2 (3)	7 (14)	3 (3)	10 (21)	1 (1)	18 (52)
Total	14 (39)	2 (6)	16 (74)	9 (18)	18 (71)	4 (7)	29 (215)

Note: The numbers represent unique species counts. The number in parentheses is the total, including flyover species if any were observed.

Survey point BC-H-3, located in laurel sumac – deerweed association in the south-central region of the Hagey Study Area, had the greatest species diversity. Survey points BC-S-1 and BC-S-2, located in chamise chaparral alliance and chamise chaparral – woolly-leaved ceanothus association in the Sycamore South Study Area, had high species diversity. Due to survey design, survey point BC-H-1 was consistently the first survey point that was surveyed, beginning at 0500. As such, there was relatively little species diversity and abundance due to temporal constraints. Survey points were always surveyed in the same order, to ensure consistent protocol and results.

Table 10, Avian Point Count Species Observed, describes the species recorded during avian point count surveys at the Sycamore South and Hagey Study Areas. The bird species observed during surveys are listed by site, date, and time of day.

4.3.4 Mammals

4.3.4.1 Small Mammals

Eight small mammals, all rodents, were trapped within the Sycamore South and Hagey Study Areas during the small mammal trapping surveys, including the CDFW CSC northwestern San Diego pocket mouse (*Chaetodipus fallax fallax*), Dulzura pocket mouse (*Chaetodipus californicus femoralis*), and San Diego desert woodrat (*Neotoma lepida intermedia*). None of these species are covered under the MSCP. The most common species trapped was the Cactus mouse (*Peromyscus eremicus*).

Table 11, Small Mammal Survey Results, provides a summary of total number of individuals captured in each trap line during the two trapping sessions. The first number is the number of new individuals captured, and the second number in parentheses is the total number captured, including recaptured individuals.

4.3.4.2 Bats

Ten bat species were identified within the Study Areas using the Anabat survey system, including pallid bat (*Antrozous pallidus*), big brown bat (*Eptesicus fuscus*), western red bat (*Lasiurus blossevillii*), western yellow bat (*Lasiurus xanthinus*), California myotis (*Myotis californicus*), western small-footed myotis (*Myotis ciliolabrum*), Yuma myotis (*Myotis yumanensis*), pocketed free-tailed bat (*Nyctinomops femorosaccus*), canyon bat (*Parastrellus hesperus*), and Brazilian free-tailed bat (*Tadarida brasiliensis*). Three of these species are CDFW CSC: pallid bat, western red bat, and pocketed free-tailed bat.

Table 12, Bat Survey Results by Survey Pass, shows the number of minutes of bat activity during each survey pass. Table 13, Bat Survey Results by Location, shows the number of minutes of bat activity for each bat survey location. Number of minutes of bat activity is more useful than exact numbers of individuals because they are not marked and thus we are unable to differentiate between individuals. Minutes of activity can be analyzed and compared to other sites more directly for future management and monitoring efforts.

Brazilian free-tailed bat was the most common species recorded. Other relatively common species included canyon bat and Yuma myots. In general, there were more bat species detection minutes during the month of August when compared with the first survey pass done during July. There were more bat species detection minutes within the Hagey Study Area (671 minutes) than in the Sycamore South Study Area (393 minutes).

Table 10
Avian Point Count Species Observed

Common Name	Scientific Name	4/26/12 AM					4/26/12 PM					5/24/2012 AM					5/24/2012 PM					6/25/2012 AM					6/25/2012 PM					Total
		BC-H-1	*BC-H-2*	*BC-H-3*	*BC-SS-1*	*BC-SS-2*	*BC-H-1*	*BC-H-2*	*BC-H-3*	*BC-SS-1*	*BC-SS-2*	*BC-H-1*	*BC-H-2*	*BC-H-3*	*BC-SS-1*	*BC-SS-2*	*BC-H-1*	*BC-H-2*	*BC-H-3*	*BC-SS-1*	*BC-SS-2*	*BC-H-1*	*BC-H-2*	*BC-H-3*	*BC-SS-1*	*BC-SS-2*	*BC-H-1*	*BC-H-2*	*BC-H-3*	*BC-SS-1*	*BC-SS-2*	
American crow	*Corvus brachyrhynchos*																							1							1
Anna's hummingbird	*Calypte anna*																						1								1
Barn owl	*Tyto alba*																1	1			1							1	1			5
Bewick's wren	*Thryomanes bewickii*			2	1	2							3	1	2									1	2							14
Black-chinned sparrow	*Spizella atrogularis*				2	1							1		1	1									1	1						8
Bushtit	*Psaltriparus minimus*													4	5											5						14
California gnatcatcher	*Polioptila californica*				1									1																		2
California quail	*Callipepla californica*					1																		1	2							4
California thrasher	*Toxostoma redivivum*			1	1									1																		3
California towhee	*Melozone crissalis*			1	1								2	2	2			1	1				2	1		1						14
Cassin's kingbird	*Tyrannus vociferans*																2					2	3	3	1	1	1					13
Common poorwhill	*Phalaenoptilus nuttallii*		1				1				1	2	2				1	1				1										10
Common raven	*Corvus corax*					1									1	1								1	1	2						7
Great horned owl	*Bubo virginianus*									2	1										1											4
House finch	*Carpodacus mexicanus*																		2	1												3
Hummingbird sp.	*Calypte sp.*													1																		1
Killdeer	*Charadrius vociferus*																1												1			2
Lesser goldfinch	*Spinus psaltria*				1	1								2	2										3							9
Lesser nighthawk	*Chordeiles acutipennis*									1										2	1			1			2	1			1	9
Mourning dove	*Zenaida macroura*			1										4	1	2							1	2	3	3						17
Northern mockingbird	*Mimus polyglottos*																		1													1

Table 10
Avian Point Count Species Observed

Common Name	Scientific Name	4/26/12 AM					4/26/12 PM					5/24/2012 AM					5/24/2012 PM					6/25/2012 AM					6/25/2012 PM					Total
		BC-H-1	*BC-H-2*	*BC-H-3*	*BC-SS-1*	*BC-SS-2*	*BC-H-1*	*BC-H-2*	*BC-H-3*	*BC-SS-1*	*BC-SS-2*	*BC-H-1*	*BC-H-2*	*BC-H-3*	*BC-SS-1*	*BC-SS-2*	*BC-H-1*	*BC-H-2*	*BC-H-3*	*BC-SS-1*	*BC-SS-2*	*BC-H-1*	*BC-H-2*	*BC-H-3*	*BC-SS-1*	*BC-SS-2*	*BC-H-1*	*BC-H-2*	*BC-H-3*	*BC-SS-1*	*BC-SS-2*	
Phainopepla	*Phainopepla nitens*																								1						1
Rufous-crowned sparrow	*Aimophila ruficeps canescens*			3	1	1						1	1	2		2							1	2	1	2						17
Say's phoebe	*Sayornis saya*															1																1
Spotted towhee	*Pipilo maculatus*		1	1	1	2							3	3	2	2							2	2	1	1						21
Western scrub-jay	*Aphelocoma californica*														1																	1
Wrentit	*Chamaea fasciata*			1	5	2								2	5	5								5	2	4						31
Yellow-rumped warbler	*Setophaga coronata*			1																												1

Table 11
Small Mammal Survey Results

Species		Status	7/24 -26/12				8/13 -15/12				Total
Common Name	*Scientific Name*		*Sycamore South A*	*Sycamore South B*	*Hagey A*	*Hagey B*	*Sycamore South A*	*Sycamore South B*	*Hagey A*	*Hagey B*	
Dulzura pocket mouse	*Chaetodipus californicus femoralis*	CSC, Group 2	--	--	1 (1)	--	--	--	--	--	1 (1)
Northwestern San Diego pocket mouse	*Chaetodipus fallax fallax*	CSC, Group 2	1 (1)	2 (2)	--	1 (1)	3 (5)	0 (1)	1 (1)	1 (1)	9 (12)
Dulzura kangaroo rat	*Dipodomys simulans*	None	4 (5)	3 (5)	1 (2)	3 (3)	8 (14)	3 (9)	5 (10)	2 (6)	28 (54)
San Diego desert woodrat	*Neotoma lepida intermedia*	CSC	1 (1)	--	--	2 (2)	2 (3)	0 (2)	5 (12)	1 (2)	11 (22)
California mouse	*Peromyscus californicus*	None	3 (3)	--	--	--	--	1 (4)	0 (1)	3 (6)	7 (11)
Cactus mouse	*Peromyscus eremicus*	None	6 (9)	5 (9)	7 (13)	3 (3)	2 (4)	4 (5)	8 (12)	5 (7)	40 (62)
North American deermouse	*Peromyscus maniculatus*	None	1 (1)	--	--	--	--	2 (2)	--	--	3 (3)
California ground squirrel	*Spermophilus beecheyi*	None	--	--	--	--	--	--	--	1 (1)	1 (1)
		Total	16 (20)	7 (16)	9 (16)	9 (9)	15 (26)	10 (20)	19 (36)	13 (23)	100 (166)

[1] CSC: California Species of Special Concern (CDFW); Group 2: Animals declining but not in immediate threat of extinction or extirpation (County)

Note: The first number is the number of new individuals captured, and the second number in parentheses is the total number captured, including recaptured individuals. Also, individuals caught during the first trapping session may have been recaptured during the second trapping period but would have been recorded as new individuals.

Table 12
Bat Survey Results by Survey Pass (in minutes of detection)

Species			July[2]		August[2]		
Common Name	*Scientific Name*	Status[1]	*Sycamore South*	*Hagey*	*Sycamore South*	*Hagey*	Total
Pallid bat	*Antrozous pallidus*	CSC, Group 2	0	0	0	1	1
Big brown bat	*Eptesicus fuscus*	None	5	0	8	5	18
Western red bat	*Lasiurus blossevillii*	CSC, Group 2	0	0	2	3	5
Western yellow bat	*Lasiurus xanthinus*	CSC	1	0	2	0	3
California myotis	*Myotis californicus*	None	3	0	1	2	6
Western small-footed myotis	*Myotis ciliolabrum*	Group 2	0	12	3	22	37
Yuma myotis	*Myotis yumanensis*	Group 2	56	52	78	49	235
Pocketed free-tailed bat	*Nyctinomops femorosaccus*	CSC, Group 2	4	19	10	13	46
Canyon bat	*Parastrellus hesperus*	None	0	65	49	132	246
Brazilian free-tailed bat	*Tadarida brasiliensis*	None	14	97	157	199	467
		Total	83	245	310	426	1,064

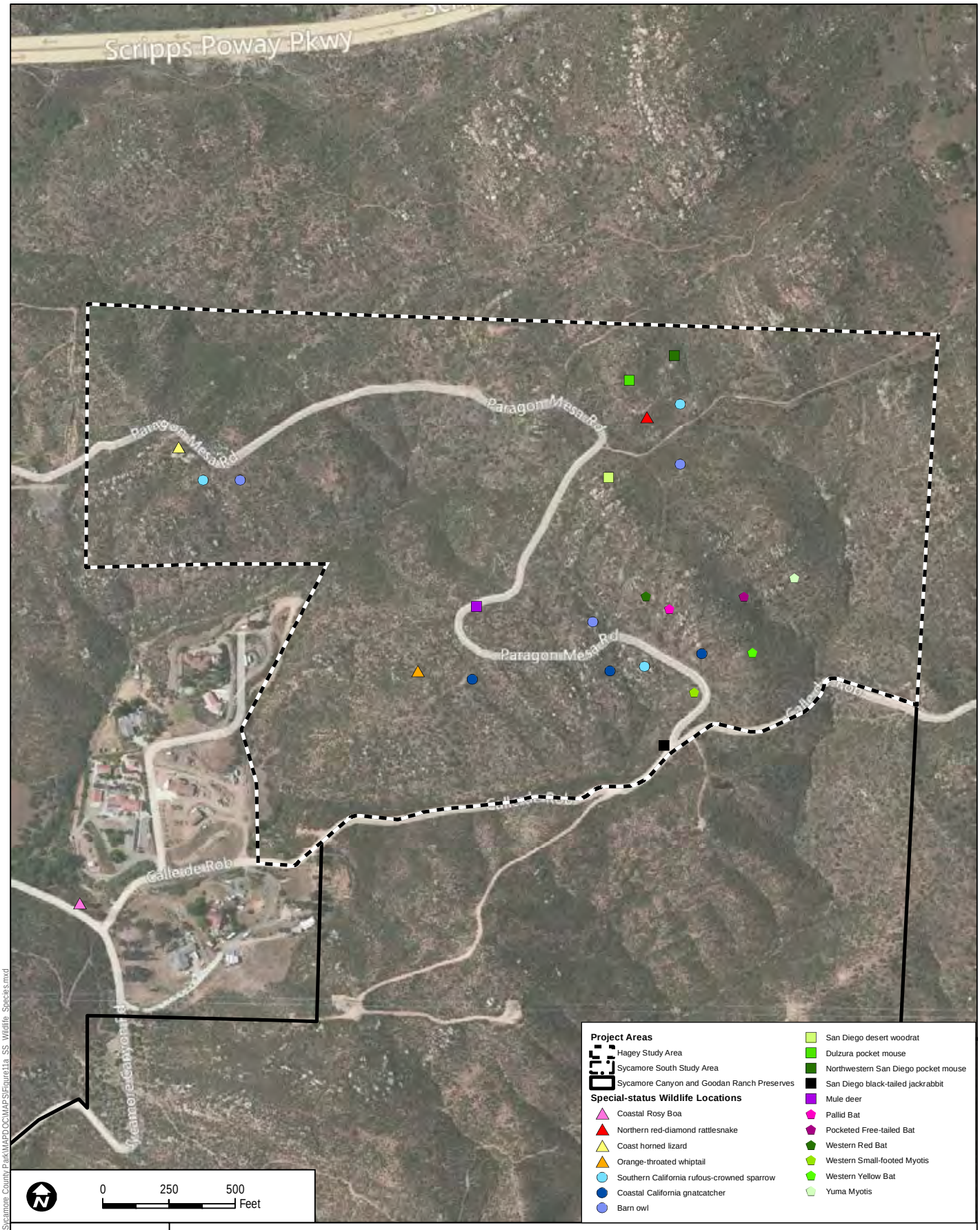
[1]CSC: California Species of Special Concern (CDFW); Group 2: Animals declining but not in immediate threat of extinction or extirpation (County)
[2] Refer to Table 3 for the specific dates of each bat survey location

Table 13
Bat Survey Results by Location (in minutes of detection)

Species			Location[2]		
Common Name	*Scientific Name*	Status[1]	*Sycamore South*	*Hagey*	Total
Pallid bat	*Antrozous pallidus*	CSC, Group 2	0	1	1
Big brown bat	*Eptesicus fuscus*	None	13	5	18
Western red bat	*Lasiurus blossevillii*	CSC, Group 2	2	3	5
Western yellow bat	*Lasiurus xanthinus*	CSC	3	0	3
California myotis	*Myotis californicus*	None	4	2	6
Western small-footed myotis	*Myotis ciliolabrum*	Group 2	3	34	37
Yuma myotis	*Myotis yumanensis*	Group 2	134	101	235
Pocketed free-tailed bat	*Nyctinomops femorosaccus*	CSC, Group 2	14	32	46
Canyon bat	*Parastrellus hesperus*	None	49	197	246
Brazilian free-tailed bat	*Tadarida brasiliensis*	None	171	196	467
		Total	393	671	1,064

[1] CSC: California Species of Special Concern (CDFW); Group 2: Animals declining but not in immediate threat of extinction or extirpation (County)
[2] Survey locations are shown on Figure 8a-b.

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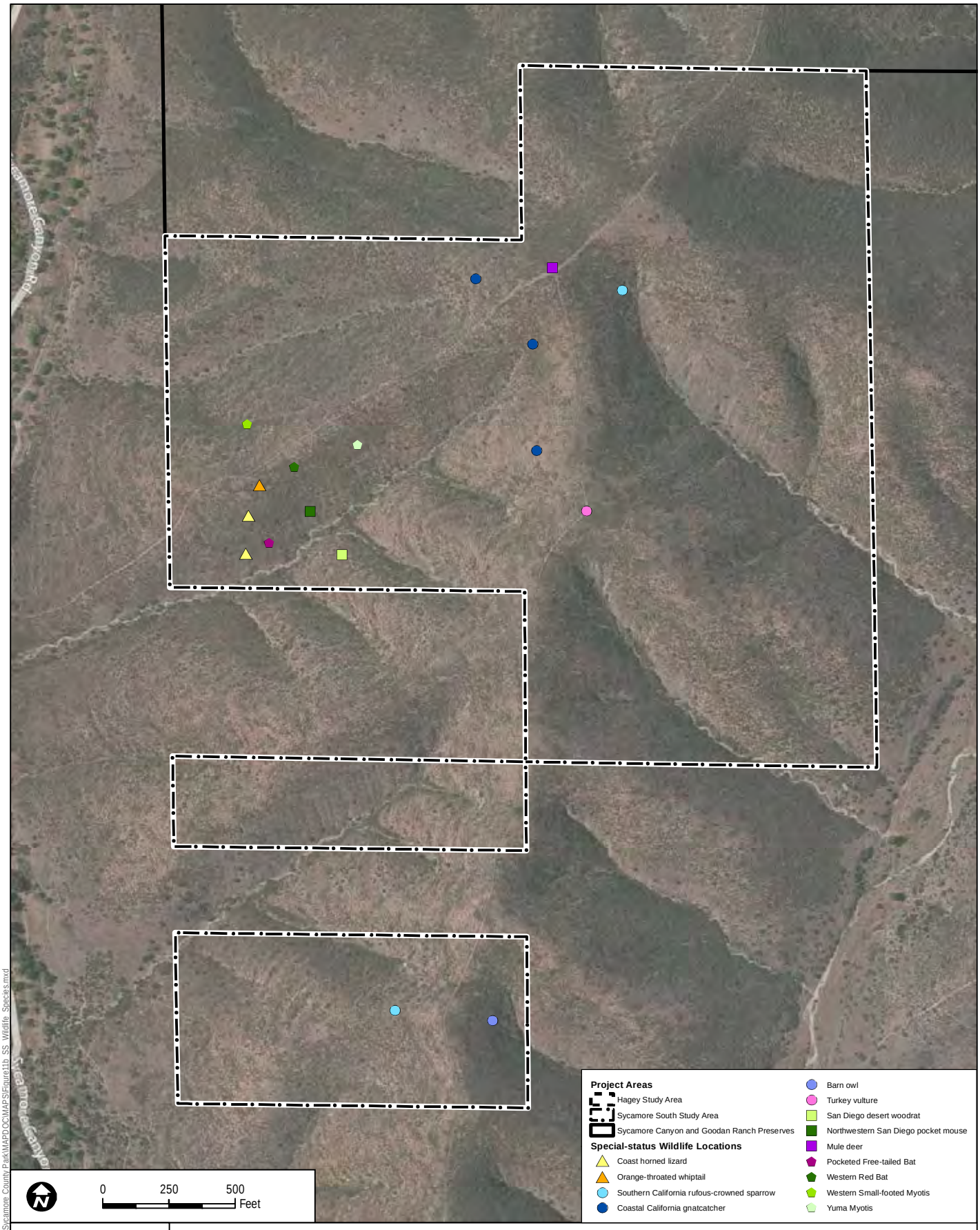
SOURCE: Bing

FIGURE 12a

Special-status Wildlife Locations - Hagey Study Area

Sycamore South and Hagey Study Areas - Baseline Biodiversity Survey

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SOURCE: Bing

FIGURE 12b

Special-status Wildlife Locations - Sycamore South Study Area

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Sycamore South and Hagey Study Areas - Baseline Biodiversity Survey

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4.3.4.3 Medium and Large Mammals

Three large mammal species were detected by the camera stations located within the Study Areas: coyote (*Canis latrans*), bobcat (*Lynx rufous*) and mule deer (*Odocoileus hemionus*). Also detected were domestic dog (*Canis lupis familiaris*), which were on leashes. Medium-sized mammals detected included raccoon (*Procyon lotor*). A summary of the camera study results are provided in Table 14. The Study Areas and adjacent preserves likely function as a wildlife movement corridor within the MSCP. One special-status mammal species, San Diego black-tailed jackrabbit (*Lepus californicus bennettii*) was recorded within the Hagey Study Area and was observed while driving to a survey location.

Table 14
Medium and Large Mammal Survey Results

Common Name[1]	Scientific Name	Status[2]	Sycamore South Study Area			Hagey Study Area			Total
			May 22 – June 4	*June 26 – July 10*	*July 31- August 14*	*May 22 – June 4*	*June 26 –July 10*	*July 31 –August 14*	
Coyote	*Canis latrans*	None	17	3	--	13	9	8	50
Bobcat	*Lynx rufus*	None	1	--	1	--	--	--	2
Raccoon	*Procyon lotor*	None	--	--	--	1	--	--	1
Mule deer	*Odocoileus hemionus*	Group 2, MSCP	1	6	1	--	3	2	13
Domestic dog	*Canis lupis familiaris*	None	7	1	--	--	--	--	8
Mourning dove	*Zenaida macroura*	None	--	--	--	--	1	--	1
Common raven	*Corvus corax*	None	5	--	--	--	--	--	5
Roadrunner	*Geococcyx californianus*	None	1	1	--	--	--	--	2
Brush rabbit	*Sylvilagus bachmani*	None	--	3	--	--	--	--	3
		Total	32	14	3	14	13	10	85

[1] Number identified refers to the total number of detections. In many cases, these represent numerous visits by the same individual(s) over the study period. However, due to the study design (i.e., no mark and recapture involved), it is not possible to differentiate between individuals in most cases.
[2] Group 2: Animals declining but not in immediate threat of extinction or extirpation (County); MSCP: Covered species under MSCP

4.3.5 Special-Status Wildlife Observed

Seventeen special-status wildlife species were observed or detected within the Study Areas during the 2012 surveys (Figures 12a-b), including five species that are covered under the MSCP. Observed special-status species are discussed as follows.

Reptiles

Coast Horned Lizard *(Phrynosoma blainvillii* ssp. *coronatum)*

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

The coast horned lizard (*Phrynosoma blainvillii*) occurs throughout most of California in locations west of the desert and Cascade-Sierran highlands, in elevations from sea level to around 2,438 meters (8,000 feet) AMSL (Stebbins 2003). Despite a wide-ranging distribution, the coast horned lizard seems to be restricted to localized populations because of its association with loose soils that have a high sand content (Jennings and Hayes 1994). The species is found in a wide variety of vegetation types with the requisite loose sandy soils, including California sagebrush scrub, annual grassland, chaparral, oak woodland, riparian woodland, and coniferous forest (Klauber 1939; Stebbins 1954). Up to 90% of the diet of the coast horned lizard consists of native harvester ants (*Pogonomyrmex* spp.) (Pianka and Parker 1975), and coast horned lizards do not appear to eat non-native Argentine ants (*Linepithema humile*) (Jennings and Hayes 1994).

Two individuals were recorded during herpetological trapping within the Sycamore South Study Area (Figure 12b). One adult was recorded during the July survey and one juvenile was recorded during the August survey. A third coast horned lizard was observed on a road within the Hagey Study Area (Figure 12a).

Northern Red Diamond Rattlesnake *(Crotalus ruber ruber)*

California Species of Special Concern, County Group 2

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

High-quality suitable habitat occurs within the Sycamore South and Hagey Study Areas for northern red diamond rattlesnake. One red diamond rattlesnake was captured within the Hagey Study Area during small mammal trapping (Figure 12a). Red diamond rattlesnakes were also recorded near the ranger station within the Sycamore Canyon and Goodan Ranch Preserves during 2012.

Orange-throated Whiptail *(Aspidoscelis hyperythra beldingi)*

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

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

Orange-throated whiptails were recorded at both Sycamore South and Hagey Study Areas during all three survey passes in June, July, and August (Figure 12a-b). A total of 17 whiptails were captured during herpetological array surveys; this species was the most common reptile captured. High-quality suitable habitat for orange-throated whiptail occurs within the Study Areas.

Birds

Barn owl *(Tyto alba)*

County Group 2

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

Barn owls were heard during night avian point count surveys at both Sycamore South and Hagey Study Areas. Specifically, barn owls were heard at avian point count locations BC-H-1, BC-H-2, BC-H-3, and BC-S-2 (Figure 12a-b) during the surveys on May 24 and June 25, 2012. Although there is no suitable roosting or nesting areas within the Study Areas, there are suitable roosting sites in the vicinity of the Study Areas. Residential homes and large ornamental trees are found in residential areas surrounding the Hagey Study Area. Sycamore Canyon, located west of the Sycamore South Study Area, has suitable trees (primarily sycamore, Platanus racemosa) that can serve as suitable roosting habitat. Both Study Areas provide high quality foraging habitat.

Coastal California gnatcatcher *(Polioptila californica californica)*

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

The coastal California gnatcatcher (*Polioptila californica californica*) occurs in coastal Southern California and Baja California year-round, where it depends on a variety of arid scrub habitats. The California gnatcatcher occurs mainly on cismontane slopes (coastal side of the mountains) in Southern California, ranging from Ventura and northern Los Angeles counties south through the Palos Verdes Peninsula to Orange, Riverside, San Bernardino, and San Diego counties. Most California gnatcatcher locality records occurred at or below an elevation of 984 feet AMSL (Atwood 1990), although they may occur as high as 3,000 feet AMSL (65 FR 63680).

The California gnatcatcher typically occurs in or near coastal scrub vegetation, which is composed of relatively low-growing, dry-season deciduous and succulent plants. Characteristic plants of this community include California sagebrush, various species of sage, California buckwheat, lemonadeberry, California bush sunflower (*Encelia californica*), and cactus (e.g., *Opuntia* spp.). California gnatcatchers glean insects and spiders from foliage of shrubs, primarily California buckwheat and coastal sagebrush (Atwood 1993). The California gnatcatcher has declined due to widespread destruction of its coastal scrub habitat (Atwood 1990).

There is suitable coastal sage scrub habitat for California gnatcatcher within both Study Areas. Nesting status of gnatcatcher was not determined during biological surveys. Two males were heard calling from avian point count location BC-S-1 in the Sycamore South Study Area on April 26, 2012, and were not visually observed (Figure 12b). A third individual was heard calling near the BC-H-3 avian point count location within the Hagey Study Area on May 24, 2012 (Figure 12a).

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).

Several rufous-crowned sparrows were observed in coastal sage scrub or southern mixed chaparral habitats near avian point count locations BC-H-1, BC-H-2, BC-H-3, BC-S-1, and BC-S-2 within the Hagey and Sycamore South Study Areas (Figure 12a-b). This species was recorded during all three avian point count surveys. Southern California rufous-crowned sparrows were recorded during avian point count surveys as well as during general biological surveys.

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).

There is suitable open habitat and foraging areas for turkey vultures within both Study Areas, but no nesting habitat. Turkey vultures were recorded soaring over the Sycamore South Study Area (Figure 12b).

Mammals

Small Mammals

Dulzura Pocket Mouse (*Chaetodipus californicus femoralis*)

California Species of Special Concern, County Group 2

Dulzura pocket mouse inhabits coastal scrub, chamise-redshank, montane chaparral, sagebrush, grassland, valley foothill hardwood, valley foothill hardwood-conifer, and montane hardwood habitats from San Francisco Bay to Mexico (Zeiner et al. 1990b). Dulzura pocket mouse eats the

seeds of annual grasses and forbs, and insects and leafy vegetation in brushy areas, while foraging mainly from the ground (Zeiner et al. 1990b). This species is nocturnal and reduces activity during cold winters (Zeiner et al. 1990b). Between April and June, usually four offspring are born in the burrows pocket mice dig in soft soil (Zeiner et al. 1990b).

One individual Dulzura pocket mouse was captured during small mammal trapping in the Hagey Study Area (Figure 12a). This species was only detected during the first trapping session in July 2012.

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

California Species of Special Concern, County Group 2

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

Nine individual northwestern San Diego pocket mice were captured during small mammal trapping in both the Sycamore South and Hagey Study Areas (Figure 12a-b). More individuals were trapped within the Sycamore South Study Area than in the Hagey Study Area. This species was detected during both trapping sessions at all trapping locations.

San Diego Desert Woodrat (*Neotoma lepida intermedia*)

California Species of Special Concern, County Group 2

Desert woodrats are found in a variety of shrub and desert habitats and are primarily associated with rock outcroppings, boulders, cacti, or areas of dense undergrowth (Bleich 1973; Bleich and Schwartz 1975; Brown et al. 1972; Cameron and Rainey 1972; Thompson 1982). Desert woodrats are noted for their opportunistic and flexible behavior in using various materials, such as twigs and other debris (sticks, rocks, dung), to build elaborate dens or “middens,” which typically include several chambers for nesting and food as well as several entrances.

Desert woodrats are primarily herbivorous, and their diet may include leaves, seeds, berries, parts of flowers, and yucca shoots (Cameron and Rainey 1972).

A total of seven (7) San Diego desert woodrats were observed during small mammal trapping; 4 were recorded in the Sycamore South Study Area and 3 were recorded in the Hagey Study Area (Figure 12a-b). San Diego desert woodrats were recorded during both July and August surveys. This species is impacted by edge effects, primarily relating to increased predation from cats or other mesopredators.

Bats

Pallid bat (*Antrozous pallidus*)

California Species of Special Concern, County Group 2

The pallid bat is locally common in arid deserts (especially the Sonoran life zone) and grasslands throughout the western United States and also occurs in shrublands, woodlands, and forests at elevations up to 2,440 meters (8,000 feet) (Hermanson and O'Shea 1983; Hall 1981). Although this species prefers rocky outcrops, cliffs, and crevices with access to open habitats for foraging, it has been observed far from such areas (Hermanson and O'Shea 1983).

Pallid bats forage for a variety of insects, including flightless arthropods picked up from the ground (e.g., scorpions and ground crickets), insects gleaned from vegetation (e.g., cicadas), insects taken in flight, and small vertebrates such as horned lizards and pocket mice that are taken on the ground.

Pallid bat was detected during the second bat survey pass in August within the Hagey Study Area (Figure 12a).

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).

Pocketed free-tailed bat was detected during both passes of passive bat surveys at both survey locations within the Study Areas (Figure 12a-b).

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.

Western red bats were detected during the second bat survey pass at both the Sycamore South and Hagey Study Areas (Figure 12a-b).

Western Yellow Bat (*Lasiurus xanthinus*)

California Species of Special Concern

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

Western yellow bats were recorded in the Sycamore South Study Area during both survey passes (Figure 12b).

Western Small-Footed Myotis (*Myotis ciliolabrum*)

County Group 2

Western small-footed myotis is found from coastal California south of Contra Costa County to the Mexican border, and occurs throughout the Central Valley, slopes of the Sierra Nevadas, and desert habitats (Zeiner et al. 1990b). Arid habitats are generally preferred by this species, including brushy uplands near water sources. The western small-footed myotis has been observed to drink water soon after emerging from roosting areas at dusk. 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).

Western small-footed myotis were detected within the Hagey Study Area during both survey passes, and at the Sycamore South Study Area only during the August survey pass (Figure 12a-b).

Yuma Myotis (*Myotis yumanensis*)

County Group 2

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

Yuma myotis were detected during both passes of passive bat surveys at both survey locations (Figure 12a-b).

Medium Mammals

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

California Species of Special Concern, County Group 2

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).

One black-tailed jackrabbit was observed crossing the main road within the Hagey Study Area (Figure 12a). This species was not recorded during focused surveys. The jackrabbits were more common in the open grasslands within the Sycamore Canyon and Goodan Ranch Preserves.

Large Mammals

Mule Deer (*Odocoileus hemionus*)

County Group 2, MSCP Covered Species

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

Although this species is not considered special-status or declining in its range, mule deer is covered under the MSCP because it is San Diego County's only large herbivore, and it performs important ecosystem functions. This species also has aesthetic and intrinsic conservation values.

Mule deer were observed on wildlife cameras installed at both Sycamore South and Hagey Study Areas (Figure 12a-b); mule deer were recorded during all three camera survey periods. Mule deer tracks were observed throughout both Study Areas as well. Adults and juveniles were captured on cameras within the Sycamore South Study Area; only adults were recorded within the Hagey Study Area.

4.3.6 Special-Status Wildlife with High Potential to Occur

Based on an analysis of the elevation, soils, vegetation communities, and level of disturbance of the site in conjunction with the known distribution of special-status species in the vicinity of the Study Areas and the results of focused wildlife surveys, eight wildlife species have a high potential to occur within the Study Areas. These species include one (1) invertebrate, three (3) reptile, three (3) bird, and one (1) mammal species.

Invertebrates

Quino checkerspot butterfly *(Euphydryas editha quino)*

Federally Endangered, County Group 1

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

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

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

Reptiles

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

California Species of Special Concern, County Group 2

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

generalist in its diet and an opportunistic feeder that probably preys on anything it can overpower, including small mammals (*Dipodomys*), lizards (*Aspidoscelis*, *Coleonyx*), and the eggs of lizards and snakes (Stebbins 2003).

There is suitable chaparral for this species within both Study Areas. Additionally, there are suitable rocky areas for a coast patch-nosed snake to take refuge during midday heat.

Coastal Rosy Boa *(Lichanura trivirgata roseofusca)*

County Group 2

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

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

One coastal rosy boa was observed crossing Sycamore Canyon Road before the north entrance to the Sycamore Canyon and Goodan Ranch Preserves (Figure 12a). There is suitable chaparral habitat throughout the Study Areas for this species.

Coastal Western Whiptail *(Aspidoscelis tigris stejnegeri)*

County Group 2

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

Coastal western whiptails have high potential to be located within both Sycamore South and Hagey Study Areas. High-quality suitable habitat for this species occurs within the Study Areas.

Birds

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

California Watch List, County Group 1

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

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

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

There is suitable dry chaparral and coastal scrub habitat within both the Sycamore South and Hagey Study Areas.

Red-Shouldered Hawk *(Buteo lineatus)*

County Group 1

Red-shouldered hawk inhabits low-elevation (below 5,000 feet or 1,524 meters AMSL) riparian woodlands, particularly in areas with interspersed swamps and emergent wetlands. Red-shouldered hawks forage primarily along wet meadow, swamp, and emergent wetland edges for

a variety of prey including mammals, snakes, lizards, amphibians, small or young birds, and large insects. They nest in dense riparian habitats near permanent water (Zeiner et al. 1990a). Red-shouldered hawks are diurnally active and yearlong residents. Breeding occurs from February through July (Zeiner et al. 1990a).

There is no suitable nesting habitat within either Study Area, but there is suitable foraging habitat within both Study Areas. Red-shouldered hawks were recorded within the Sycamore Canyon and Goodan Ranch Preserves.

Western bluebird *(Sialia mexicana)*

County Group 2, MSCP Covered Species

Western bluebirds are fairly common throughout most of California, with the exception of high mountains and eastern deserts (Zeiner et al. 1990a). This species inhabits oak woodlands, coniferous forests, valley foothill hardwood-conifer habitats, and open or mature forests. Edges of habitats are utilized by this species, in particular. Western bluebirds eat small insects, such as grasshoppers, caterpillars, beetles, and ants (Zeiner et al. 1990a). During the nonbreeding season, bluebirds will also consume berries of elderberry or mistletoe, among other species.

Western bluebirds were observed elsewhere within the Sycamore Canyon and Goodan Ranch Preserves, but not within the Study Areas. There is no suitable woodland or forested habitats within the Study Areas, but birds may forage in the chaparral habitats in the Study Areas.

Mammals

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

County Group 2, MSCP Covered Species

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

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

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

Sycamore Canyon and Goodan Ranch Preserves are located within a known wildlife movement corridor and suitable habitat for this species occurs throughout the Study Areas (County of San Diego 2009b). Mountain lions were not recorded on wildlife cameras during biological surveys for the Study Areas.

4.3.7 Invasive Species

Brown-headed cowbirds (*Molothrus ater*) were detected during general biological surveys within the Study Areas. Brown-headed cowbird is a brood parasite that adversely affects native passerine populations. The number of individual brown-headed cowbirds observed was not recorded, and therefore, the extent of potential nest parasitism cannot be evaluated. Many avian species present within the Study Areas, such as California gnatcatcher, serve as suitable hosts for brown-headed cowbirds. The entire site would provide suitable breeding resources for cowbirds.

4.4 Wildlife Movement

The Sycamore South and Hagey Study Areas are located on the southern and northern extents, respectively, of the Sycamore Canyon and Goodan Ranch Preserves. The Preserves are generally surrounded by other PAMAs or undeveloped areas, thereby increasing the conservation values associated with the Preserves. The Preserves are situated such that they 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 west of the Preserves. 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 Hagey Study Area 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 Preserves as evidenced through wildlife camera data, track and scat observations, and visual observations of mule deer, coyote, and a radio-collared bobcat.

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5.0 CONCLUSIONS AND MANAGEMENT RECOMMENDATIONS

Surveys conducted in 2012 documented fourteen plant alliances, associations, or semi-natural stands, and 183 plant and 113 wildlife species were observed or detected within the Study Areas during surveys, including 9 reptiles, 35 birds, 25 mammals, and 44 invertebrates. This list includes 20 special-status species (three plant species and 17 wildlife species), of which five (5) are covered under the MSCP.

This section provides resource-specific conclusions and management recommendations for vegetation alliance, association, or semi-natural stand, plants, wildlife, non-native species, habitat restoration, fire management, public access, and hydrological management based on site assessments during the 2012 survey effort. These recommendations are based on the results of the baseline biological diversity surveys, the management and monitoring guidelines and conservation goals provided in the MSCP Framework Management Plan (FMP) (County of San Diego 2008b), and the RMP prepared for the Sycamore Canyon and Goodan Ranch Preserves (County of San Diego 2009a). The FMP includes plan-wide stewardship and management guidelines, habitat- and species-specific management guidelines, and monitoring guidelines, as well as specific conservation goals for the South County MSCP.

Area-specific management directives (ASMD) are required for management of the Study Areas.

5.1 Vegetation Communities/Habitats

The Study Areas consist of fourteen (14) plant alliances, associations, or semi-natural stands based on the VCM classification system: annual brome grasslands semi-natural stands, black sage-California buckwheat scrub association, black sage scrub alliance, California buckwheat scrub association, California sagebrush – California buckwheat – laurel sumac association, chamise chaparral alliance, chamise chaparral – woolly-leaved ceanothus association, chamise chaparral – deerweed association, chamise chaparral – mission manzanita alliance, chamise chaparral – mission manzanita – woolly-leaved ceanothus association, deerweed association, laurel sumac – deerweed association, scrub oak – mountain mahogany association, and woolly-leaved ceanothus association.

The RMP conservation goals for the Sycamore Canyon and Goodan Ranch Preserves, which are also applicable to the Sycamore South and Hagey Study Areas, primarily focus on minimizing impacts to sensitive habitats, particularly black sage scrub alliance and associations, and California sagebrush – California buckwheat – laurel sumac associations, which are important to the California gnatcatcher and southern California rufous crowned sparrow, among other species.

Chamise chaparral and black sage associations are extensive in the Study Areas, and management considerations therefore address upland habitats. These habitats are primarily undisturbed and generally high quality habitat. No specific habitat restoration or non-native plant species removal or control is currently recommended within these areas. However, control of invasive species such as crimson fountain grass and rose Natal grass should be considered as an ongoing management goal. When implemented, guidelines for habitat restoration and non-native species removal should follow the Implementation Measures outlined in the RMP for the Sycamore Canyon and Goodan Ranch Preserves (Section 5.3, County of San Diego 2009a). Applicable measures have been identified in the RMP for habitat restoration, non-native plant species removal and methods to prevent establishment within the Preserves, and fire control and management. It is anticipated that the Implementation Measures previously outlined for the Preserves will be applicable for the Sycamore South and Hagey Study Areas.

Additionally, it is recommended that the County conduct ongoing habitat monitoring within the Study Areas to maintain a current inventory of the distribution and species composition, and other basic characteristics of the vegetation communities on site. Ongoing monitoring within the Study Areas will identify any adverse changes in vegetation community distribution and habitat quality, such as changes from fire, invasion by non-natives, or decline of existing species, and monitoring will indicate whether modifications to current management actions are needed. According to the MSCP, habitat monitoring should be repeated at least once every three years and should follow the CNPS Vegetation Rapid Assessment Protocol (CNPS 2004, County of San Diego 2009a).

5.2 Plants

The 2012 survey effort documented three (3) special-status plant species: delicate clarkia, ashy spike-moss, and rush-like bristleweed. These species, as well as other sensitive species with potential to occur on site, are generally threatened by development, non-native plant species, and human activity. Suppressed or too active fire regimes may also compromise sensitive species that require natural fire regimes to thrive. Recommendations for the preservation of these species include monitoring and removal of non-native plant species, future trail construction that avoids sensitive plant populations, maintaining fences or other barriers to prevent unauthorized public access, and continued monitoring of known sensitive plant populations. As the aforementioned species are not covered under the MSCP, there are no specific monitoring requirements as outlined in the MSCP SAP (County of San Diego 1998). However, if MSCP covered species are detected on site through future monitoring efforts, the MSCP monitoring requirements should be consulted, as outlined in Table 3-5 of the MSCP (County of San Diego 1998).

Future rare plant surveys should be conducted at appropriate times to maximize the detection of the one (1) special-status plant species with high potential to occur on site: Robinson's peppergrass.

Additional management strategies for sensitive plant species include:

- Control non-native plant populations (see Section 5.4.1)
- Maintain natural fire regimes within both Study Areas (see Section 5.6)

5.3 Wildlife

The current survey effort documented 17 special-status wildlife species, including (5) five species covered under the South County MSCP. Species-specific measures for management and monitoring of sensitive species are based on Table 3-5 of the MSCP, but management should use the best available monitoring information. Below are species-specific monitoring and management conditions for MSCP covered Species and other potentially occurring sensitive species found within the Sycamore South and Hagey Study Areas.

While regional MSCP monitoring protocols are being developed, preserve-level protocols have not yet been revised or identified. DPR will follow the habitat- and species-specific monitoring requirements outlined in Table 3-5 of the MSCP (County of San Diego 1998) and USFWS wildlife monitoring protocols (USFWS 2008).

5.3.1 Invertebrates

No special-status invertebrate species were detected within the Study Areas. A small population of owl's clover, the host plant for Quino checkerspot, was found within the Sycamore South Study Area. There is suitable habitat for this species within the Study Areas, and one individual was recorded within the Preserves in 2005 (County of San Diego 2008b). Therefore, it is suggested that DPR continues focused surveys for Quino checkerspot and maintains suitable habitat for this species. DPR may consider planting host plants for Quino checkerspot (*Plantago erecta, Castilleja exserta*) within the Sycamore South Study Area, as public access will not be permitted in this area.

5.3.2 Herptofauna

Amphibians

No special-status amphibian species were detected within the Study Areas or have a high or moderate potential to occur. The Study Areas lack suitable habitat for special-status amphibian species, and therefore no management recommendations for amphibians are provided in this report.

Reptiles

Three (3) special-status reptile species were detected within the Study Areas: coast horned lizard, northern red diamond rattlesnake, and orange-throated whiptail. Management guidelines for the two (2) covered species under the MSCP, coast horned lizard and orange-throated whiptail, are outlined in the RMP (County of San Diego 2009a) and generally follow ASMDs stated in the MSCP (Table 3-5, County of San Diego 1998). Management to minimize detrimental edge effects to both species is recommended. Edge effects are more likely to impact sensitive species within the Hagey Study Area, as this site is located within residential development. Potential edge effects that could affect these species include incidental mortality on roads, mortality due to escaped pets, and increased frequency of non-native species. As the Sycamore South Study Area is surrounded by open space or other conserved areas, edge effects are not predicted to be a substantial issue. Additional measures outlined in the MSCP for managing populations of coast horned lizard include maintaining populations of native ant species and eradicating Argentine ant populations. Again, greater management for these potential issues is anticipated within the Hagey Study Area as compared with the Sycamore South Study Area.

Additionally, three (3) special-status reptiles have a high potential to occur within the Study Areas: coast patch-nosed snake, coastal western whiptail, and coastal rosy boa. It is presumed that general habitat management for orange-throated whiptails and coast horned lizards is an appropriate strategy for these special-status reptile species. Monitoring surveys, specifically herpetological pitfall arrays and coverboard traps, for special-status species should be conducted every three years or as directed by USGS or DPR; this will provide updates to the species inventory.

Additional management strategies recommended by Dudek for sensitive herpetofauna include:

- Maintain slow speeds on trails within the Hagey Study Area
- Coordination with local landowners to control pets, mesopredators, and other species that may impact sensitive herpetofauna
- Install signage to inform public of impact of reptile collection and the penalties for unauthorized collection
- Non-native plant control and/or removal
- Future trail planning should exclude rock outcrops or other areas known to be suitable habitat for special-status species
- Control access to the Study Areas, particularly at night, when most species are active.

5.3.3 Birds

Four special-status birds were detected within the Study Areas: barn owl, southern California rufous-crowned sparrow, coastal California gnatcatcher, and turkey vulture.

Table 3-5 of the MSCP identifies management directives for the aforementioned covered bird species that should be included in the RMP. In general, it is suggested that habitats are conserved, natural ecosystem processes are maintained, and adverse environmental effects are minimized to the greatest extent possible. Management considerations for the rufous-crowned sparrow are included in the RMP, but the RMP will need to be updated to include management for the coastal California gnatcatcher. Management for southern California rufous-crowned sparrow suggests maintenance of active fire regimes and other ecological processes to maintain open areas of coastal sage scrub with herbaceous components.

Management directives for coastal California gnatcatcher shall include measures to reduce edge effects, minimize disturbance during the nesting period, reduce the potential for habitat degradation due to unplanned fire, and maintain or improve habitat quality, including vegetation structure. In addition, management directives include no clearing of occupied habitat within the Biological Resource Core Areas between March 1 and August 15. Management for barn owl should emphasize conservation of roosting areas and general habitat maintenance for chaparral or black sage scrub alliances. Habitat connectivity with the remainder of the Preserve and other open space areas in the vicinity are appropriate directives for turkey vulture.

Additional special-status species not covered under the MSCP with a high potential to occur within the Study Areas include Bell's sage sparrow, red-shouldered hawk, and white-tailed kite. Potential management strategies for Bell's sage sparrow shall focus on preserving suitable coastal sage scrub, especially open chaparral with shrubs one to two meters in height. An active fire regime that maintains this type of semi-open habitat structure is preferred. Red-shouldered hawk and white-tailed kite were both recorded within the Preserve, but not within the Study Areas. As such, it is presumed that management directives within the Preserve are sufficient in maintaining high-quality habitat that is utilized by these species. Management of the Study Areas should support habitat connectivity with the rest of the Preserve and suitable foraging areas.

Management directives that will help support bird species within the Study Areas include:

- Limit habitat management activities (e.g., controlled burn and herbicide application) during the breeding season (generally mid-March through August)
- Non-native plant control or removal
- Maintain natural ecological processes

- Coordinate with managers of adjacent conserved lands to facilitate spread of information, especially with respect to migratory birds or birds with larger home ranges (e.g. white-tailed kite, turkey vulture)
- As evidenced by the game cameras and direct observation, the southern Sycamore South property is subject to occasional low-altitude flights by helicopters. We recommend working with agencies (fire and police) and local helicopter companies to reduce or eliminate low-altitude flyovers of the preserve lands.

5.3.4 Mammals

Ten special-status mammal species were detected within the Study Areas, one of which is covered under the South County MSCP. Mule deer is a County Group 2 Species and is covered under the South County MSCP. Mule deer, although not considered sensitive, occupies a keystone position in Southern California ecosystems as the only large herbivore found in this area. General management to increase connectivity to other core areas or preserves within the MSCP system is important for this species. Monitoring for large mammals should also be enacted.

Mountain lion is identified as a primary species that will benefit from the recommended resource management actions for chaparral and black sage scrub alliances as discussed in Section 5.1. Monitoring of wildlife corridors will be done on a regional scale rather than individual preserve level.

Management actions for mule deer, as outlined in Table 3-5 of the MSCP, prioritize maintaining ecosystem function and processes within preserves. Core and linkage areas in the preserve system shall be monitored to allow for adaptive management. Camera stations utilized during the 2012 biological inventory surveys should be utilized for monitoring purposes. The Study Areas are located in the vicinity of other conserved lands, including Boulder Oaks Open Space to the northeast, and San Vicente Reservoir Cornerstone Lands to the east (See Figure 3b). As such, management of the Study Areas should incorporate regional management to support existing biological functions and coordination with managers of adjacent conserved lands and wildlife to ensure that the flow of wildlife is supported. Three special-status small mammals were recorded within the Preserve: Dulzura pocket mouse, northwestern San Diego pocket mouse, and San Diego desert woodrat. These species are all impacted by increases in mesopredators or domestic cats or dogs that result due to edge effects. DPR should coordinate with local landowners to advise them to limit pets outside, especially during the breeding season, and to clean up any litter or debris outside homes that may attract mesopredators, such as crows (*Corvus brachyrhyncos*) or coyotes.

The six special-status bat species will likely benefit from conservation measures aimed to conserve habitat within the Study Areas and in the vicinity, maintain open areas suitable for

foraging, and conservation of rock piles, trees, or other cavities that can be utilized as suitable day or night roosts.

5.3.5 Critical Habitat

The Sycamore Canyon and Goodan Ranch Preserves contain USFWS-designated critical habitat for the federally threatened and state endangered San Diego thornmint (*Acanthomintha ilicifolia*). This is also a CRPR 1B.1 and a County List A species. The Sycamore South and Hagey Study Areas do not contain USFWS-designated critical habitat. The surrounding area surrounding the Preserves contains critical habitat for arroyo toad (*Bufo californicus*), willowy monardella (*Monardella viminea*), and coastal California gnatcatcher. Of these species, gnatcatcher is found within the Study Areas, and there is low potential for San Diego thornmint and willowy monardella to occur within the Study Areas.

5.4 Non-Native Invasive Species Removal and Control

5.4.1 Plants

Two invasive, non-native plant species mapped within the Study Areas have been identified as target species in need of removal and control: rose Natal grass and crimson fountain grass. Additional non-native plant species mapped within the Study Areas include tocalote, shortpod mustard, stork's bill, oats, bromes, and festuca.

The Study Areas are overwhelmingly dominated by undisturbed native vegetation, and the threat of invasion by the aforementioned species is not considered to be of substantial concern. It is suggested that populations of non-native plant species are monitored and that eradication or management strategies are followed, as needed and as is appropriate.

Recommended removal methodologies include manual removal, mechanical removal, herbicides, and cut and daub. However, the appropriate removal methodology should ultimately be determined with consideration of many variables, including time of year, severity of infestation, presence of sensitive species, the degree of intermixing of invasive species with sensitive native habitats, and access.

5.4.2 Wildlife

Brown-headed cowbirds (Molothrus ater) were detected within the Study Areas. This species is a wildlife management concern within the Study Areas because it poses a threat to common and sensitive passerines within the Study Areas, including coastal California gnatcatcher. Brown-headed cowbirds were recorded as incidental observations during general biological surveys and

therefore abundance was not recorded. The RMP (County of San Diego 2009a) states that seven individuals were observed, and were presumed to be migrants or wanderers within the Preserves. Therefore it is recommended that management for this species first focuses on gathering additional information regarding the distribution and abundance of brown-headed cowbirds on site during the breeding season to understand the extent of breeding activity and the extent to which native species may be impacted.

Possible control methods include trapping adults using modified Australian crow traps or removing eggs from host nests (County of San Diego 2009a). It is recommended that DPR monitor brown-headed cowbird populations within the Study Areas to determine whether substantial action is needed.

European starlings (*Sturnus vulgaris*) were not recorded within the Study Areas, although they were recorded near the Ranger Station during surveys in preparation for the RMP (County of San Diego 2009a). This species was not assessed to pose a threat to native species within the Preserves.

Non-native Argentine ants often displace native ants, an important food source for the coast horned lizard, which was found within both the Sycamore South and Hagey Study Areas. Argentine ants were not recorded within the Study Areas during the 2012 surveys, although there is potential for this species to become established. Restriction of litter and food waste if the Study Areas are open to the public, inspection of planting stock if active restoration occurs on site, and education of nearby residents about measures they can take to reduce the risk and extent of invasion are measures that should be considered, especially within the Hagey Study Area due to increased proximity to residential development (County of San Diego 2009a).

Finally, while not considered to be invasive species, stray or pet dogs and cats most likely wander throughout the Study Areas, since it is located in the vicinity of homes and rural development. These animals were not observed to run through native habitat, but there is always a risk. Dogs do not kill nearly as many native species as pet cats do; however, they do stress native species and have the potential to kill. Cats kill native wildlife, particularly bird and lizard species. As such, an awareness program should be started with local homeowners to encourage them to keep animals indoors and not let them into the Preserve. If adverse effects from pets or stray animals become increasingly pervasive within the Preserve, additional control methods, such as trapping, should be considered.

5.5 Restoration Opportunities

The Study Areas are generally composed of high-quality native vegetation communities, primarily chaparral and coastal scrub. Restoration opportunities would include invasive plant

species control and passive restoration. The targeted species for invasive plant species control would be crimson fountain grass and rose Natal grass, which were observed in both the Hagey and the Sycamore South Study Areas. The numbers of these two invasive species are not great, and complete control would be feasible. However, the species will likely continue to invade into the Preserves and continued invasive species management would be required.

Additionally, there may be opportunities to restore unnecessary dirt roads or trails depending on the outcome of the public access planning for the two acquisition properties, which is forthcoming. Unwanted dirt roads or trails could be passively restored with a combination of trail closure and potentially decompaction of soils through ripping. If soils are ripped, then the areas should also be seeded and weeded until native species begin to establish, as soil disturbance often promotes weed establishment.

Finally, there are a few small patches of non-native annual grasslands in both the Hagey and Sycamore South Study Areas. These non-native grasslands are minor components of the plant communities, and are likely a consequence of recent and repeated fire disturbance. The non-native grasslands do not pose a significant threat to invading surrounding vegetation communities because the adjacent communities are well-established with dense cover of native shrub species. Further, the non-native grasslands provide valuable wildlife habitat, and are considered a sensitive community in the MSCP (Tier IIIB). Therefore, targeted restoration of the annual grasslands is not recommended. However, continued management of non-native invasive species should be conducted in these areas as part of the ongoing management efforts for the Preserves.

Additional restoration opportunities within the Study Areas, primarily the Sycamore South Study Area, focuses on enhancing habitat for Quino checkerspot. This would include planting owl's clover and plantain in suitable areas within the Study Area.

5.6 Fire Management

Both Study Areas were burned in 2003 because of the Cedar Fire. Additionally, parts of the Sycamore South Study Area were burned twice during that year. The RMP (County of San Diego 2009a) assessed that no fire management was needed because habitat was still recovering from the impacts of the Cedar Fire. Fire management strategies include maintaining fire access roads, roadside weed abatement, and creation of a Vegetation Management Plan (VMP) for the Sycamore South and Hagey Study Areas. Recommendations for fire management outlined in the RMP should be followed for the Study Areas.

Sunrise Powerlink, a recently installed SDG&E powerline, is located south of the Hagey Study Area. As such, any fire management activities and considerations during a wildfire should consider potential impacts to the powerline.

As wildfires recently burned the entirety of the Sycamore Canyon and Goodan Ranch Preserves, including the two Study Areas and the vicinity, it is not expected that substantial management for controlling future wildfires is currently needed.

Dudek is preparing a Vegetation Management Plan for the Study Areas that will include a short-term tactical fire suppression plan and long-term strategic vegetation management plan, which considers strategic fire prevention activities, fire suppression with regard to fire effects on habitat, and post-fire monitoring and rehabilitation. Fuel management recommendations could include prescriptions specific to the high-value vegetation resources present on site (i.e., black sage associations), based on a combination of prevention practices including grazing, mowing, herbicide application, prescribed fire, thinning, and fuel break creation. Management recommendations that would complement fuel reduction practices are also identified, including maintaining and delineating fuel modification zones, providing emergency fire access, promoting data sharing, controlling illegal access, increasing public education, reducing ignition, managing fuels, and suppressing fire.

5.7 Wildlife Linkages and Corridors

Wildlife are expected to move freely within the Study Areas and Preserves given that it is relatively open and the entire area is accessible to medium and large mammals. Important wildlife movement trends through this area connect with Iron Mountain to the east, and open spaces of Marine Corps Air Station (MCAS) Miramar and Mission Trails Regional Park to the south. Wildlife cameras documented movement of wildlife within both Study Areas, primarily along hiking trails. Corridor usage by mammals will be performed at a regional scale and not at an individual preserve level.

Wildlife that have been captured on wildlife cameras in the Study Areas include a radio-collared bobcat, mule deer, and coyote, as well as other small mammals and birds.

5.8 Additional Management Recommendations

5.8.1 Public Access

Current uses within the Sycamore Canyon and Goodan Ranch Preserves include hiking, equestrian activities, and biking. These uses are presumed to be compatible with wildlife and

habitat requirements of the Study Areas. Management will need to take place to monitor activity and protect sensitive and endangered resources in the Study Areas.

5.8.1.1 Hagey Study Area

There is currently no authorized public access to the Hagey Study Area. The perimeter of the Study Area is fenced with barbed wire. A pipe gate is located at the entrance on Calle de Rob, and a metal gate is located at the entrance on Raptor Road. There are currently no designated trails within the Hagey Study Area, although a dirt access road is found throughout the Study Area. DPR proposes to allow public access to the Hagey Study Area, and access constraints will be further discussed in the *Opportunities and Constraints Memo*, prepared by Dudek.

Public access should be included in this Study Area, and it is suggested that recreational needs and natural/cultural resource education be included with public trails and interpretive kiosks. The trails master plan developed for the Sycamore Canyon and Goodan Ranch Preserves should be adapted to include the Hagey Study Area, and should balance the desire to provide human access with wildlife habitat and movement needs. Most management directives outlined in the RMP (County of San Diego 2009a) are applicable to the Study Area.

5.8.1.2 Sycamore South Study Area

There is unauthorized public access to the Sycamore South Study Area; no gates, fencing, or signage is located within the Study Area to indicate trespassing. Two trails are found in the Study Area; the Ridge Trail is located along the main ridge and runs north-south and connects to the existing parking area. The other dirt trail follows a side ridge southwest to Sycamore Canyon. People were observed within the Sycamore South Study Area during biological surveys, both from visual observations and as captured on wildlife cameras. Additionally, it was noted that helicopters fly very close to the ridgeline within the Study Area.

DPR currently does not propose to allow public access within the Sycamore South Study Area. Fencing, boulders, security patrols, and appropriate signage will be needed to enforce a restriction of public access. Fences could be installed at the main access points to the Study Area, principally on the north or south border of the Ridge Trail, and at the west entrance to the Study Area. However, if these parcels are not regularly patrolled by DPR staff or other personnel, it is likely that trespassers (particularly hikers, motorbike users, equestrian riders) would create alternate unauthorized routes through native vegetation to pass through the Study Area. This may result in greater impacts to the Study Area than if no fencing were erected.

Another option would be to fence the entire Study Area, although this would likely be cost prohibitive, both in terms of supplies and personnel time needed to install and maintain extensive fencing.

As such, the benefits and risks of eliminating public access to the Sycamore South Study Area need to be evaluated. This subject will be further discussed in the *Opportunities and Constraints Memo*.

5.8.2 Hydrological Management

The Study Areas drain into the Peñasquitos and San Diego Watersheds, although no riparian habitats are found in either of these Study Areas. Care should be taken to ensure that natural drainage patterns are maintained, best management practices (BMPs) are utilized as needed, and that contaminants from runoff do not affect downstream riparian habitats.

Management directives outlined in the RMP (County of San Diego 2009a) are sufficient in detailing the hydrological management needed for the Study Areas.

6.0 REFERENCES

65 FR 63680. Final rule: "Endangered and Threatened Wildlife and Plants; Final Determination of Critical Habitat for the Coastal California Gnatcatcher." 2000.

AOU (American Ornithologists' Union). 2012. "Check-List of North American Birds: List of the 2,078 Bird Species Known From the AOU Check-list Area." AOU | Check-List of North American Birds | Browse the List. Accessed August 2012. http://www.aou.org/checklist/north/full.php.

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

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

Bing. 2012. http://www.bing.com/maps/

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

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

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

Bolger D.T., T.A. Scott, and J.T. Rotenberry. 1997. "Breeding Bird Abundance in an Urbanized Landscape in Coastal Southern California." *Conservation Biology* 11:406–421.

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

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

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

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

CDFG (California Department of Fish and Game). 2000. *Guidelines for Assessing the Effects of Proposed Projects on Rare, Threatened, and Endangered Plants and Natural Communities*. December 9, 1983. Revised May 8, 2000.

CDFG. 2011a. California Natural Diversity Database (CNDDB). Special Animals. Biannual publication, mimeo. January 2011.

CDFG. 2011b. CNDDB. State and Federally Listed Endangered and Threatened Animals of California. Biannual publication, mimeo. January 2011.

CDFG. 2012a. CNDDB. Rarefind. Version 4. Computer database. Quadrangles used in query: San Vicente Reservoir, San Pasqual, Ramona, Poway, La Mesa, Escondido, El Cajon Mountain, El Cajon, and Alpine.

CDFG. 2012b. CNDDB. Special Vascular Plants, Bryophytes, and Lichens List. Biannual publication, mimeo. July 2012.

CDFG. 2012c. CNDDB. State and Federally Listed Endangered and Threatened, and Rare Plants of California. Biannual publication, mimeo. July 2012.

County of San Diego. 1998. *Final Multiple Species Conservation Program: MSCP Plan*. August. Accessed August 2012. http://www.sdcounty.ca.gov/dplu/mscp/docs/SCMSCP/FinalMSCPProgramPlan.pdf

CNPS (California Native Plant Society). 2001. *CNPS Botanical Survey Guidelines*. December 9, 1983. Revised June 2, 2001. Accessed April 2012. http://cnps.org/cnps/rareplants/pdf/cnps_survey_guidelines.pdf.

CNPS. 2004. *Vegetation Rapid Assessment Protocol*. CNPS Vegetation Committee. November 5, 2001, Revised September 20, 2004. Available at: http://www.cnps.org/cnps/vegetation/pdf/rapid_assessement_protocol.pdf.

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

County of Riverside. 2008. "BIRDS." Volume 2 – The MSHCP Reference Document. *Western Riverside County Multiple Species Habitat Conservation Plan*. County of Riverside Transportation and Land Management Agency (TLMA). Accessed October 20, 2008. http://www.rctlma.org/mshcp/volume2/birds.html.

County of San Diego. 2008a. Appendix A- Baseline Biological Resources Evaluation, Sycamore Canyon and Goodan Ranch Preserves. December 2008. Accessed September 2012. http://www.sdcounty.ca.gov/reusable_components/images/parks/doc/Sycamore_Goodan_Bio.pdf

County of San Diego. 2008b. South County Subarea MSCP Framework Management Plan (FMP). Accessed August 2012. http://www.sdcounty.ca.gov/dplu/mscp/docs/SCMSCP/Framework_Mgmt_Plan.pdf

County of San Diego. 2009a. Resource Management Plan for Sycamore Canyon and Goodan Ranch Preserves San Diego County. June 2009. Accessed online August 2012. http://www.sdcounty.ca.gov/reusable_components/images/parks/doc/Sycamore_RMP_Final_6-30-09_Clean.pdf

County of San Diego. 2009b. County of San Diego rare species list.

County of San Diego. 2010. Guidelines for Determining Significance and Report Format and Content Requirements: Biological Resources. Fourth Revision. September 15, 2010. Accessed August 2012. http://www.co.san-diego.ca.us/dplu/docs/Biological_Report_Format.pdf.

Crother, B.I. 2008. Scientific and Standard English Names of Amphibians and Reptiles of North America North of Mexico, with Comments Regarding Confidence in our Understanding. 6th ed. Herpetological Circular No. 37. Edited by J.J. Moriarty. Shoreview, Minnesota: Society for the Study of Amphibians and Reptiles.

Dickson, B.G., and P. Beier. 2002. "Home-Range and Habitat Selection by Adult Cougars in Southern California." *Journal of Wildlife Management*. 66(4):1235–1245.

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

FRAP (Fire and Resource Assessment Program). 2012. California Department of Forestry and Fire Protection. Accessed August 2012. http://frap.cdf.ca.gov/.

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

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

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

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

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

Holland, R.F. 1986. *Preliminary Descriptions of the Terrestrial Natural Communities of California*. Nongame-Heritage Program, California Department of Fish and Game. October 1986.

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

Invaders. 2012. Natalgrass (*Melinis repens*). Citizen Scientists Combat Invasive Species. Accessed online August 2012. http://www.desertmuseum.org/invaders/invaders_natalgrass.php

Jennings, M.R., and M.P. Hayes. 1994. *Amphibian and Reptile Species of Special Concern in California*. Final report. Commissioned by the California Department of Fish and Game, Inland Fisheries Division Endangered Species Project. November 1, 1994. Accessed February 9, 2010. http://www.dfg.ca.gov/wildlife/nongame/publications/docs/herp_ssc.pdf.

Jepson Flora Project. 2012. "Jepson Interchange List of Currently Accepted Names of Native and Naturalized Plants of California." Berkeley, California: University of California. Accessed August 1, 2012. http://ucjeps.berkeley.edu/interchange/I_status_1+2.html.

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

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

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

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

Miller, B. W. 2001. "A method for determining relative activity of free flying bats using a new activity index for acoustic monitoring." *Acta Chiropterologica* 3:93–105.

NABA (North American Butterfly Association). 2001. *North American Butterfly Association (NABA) Checklist & English Names of North American Butterflies.* 2nd ed. Morristown, New Jersey: NABA. Accessed August 2012. http://www.naba.org/pubs/enames2.html.

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

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

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

Nussbaum, R.A., E.D. Brode, Jr., and R.M. Storm. 1983. Amphibians and Reptiles of the Pacific Northwest. University of Idaho Press, Moscow, Idaho.

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

O'Farrell, M. J., B. W. Miller, and W. L. Gannon. 1999. "Qualitative identification of free-flying bats using the Anabat detector." *Journal of Mammalogy* 80:11–23.

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

Project Clean Water. 2012. San Diego County Watersheds. Accessed August 2012. http://projectcleanwater.org/

Reiser, C.H. 1994. *Rare Plants of San Diego County*. May 1994. Accessed August 2012. http://sandiego.sierraclub.org/rareplants/008.html.

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

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

Stebbins, R.C. 2003. *Western Reptiles and Amphibians*. Peterson Field Guide, 3rd ed. New York, New York: Houghton Mifflin Company.

Stebbins, R.C. 1954. *Amphibians and Reptiles of Western North America*. Boston, Massachusetts: McGraw Hill Book Company. 537 pp.

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

Unitt, P. 1984. *The Birds of San Diego County*. San Diego, California: San Diego Society of Natural History.

USDA (U.S. Department of Agriculture). 2012. "California." State PLANTS Checklist (Online Plants Database). Accessed August 2012. http://plants.usda.gov/dl_state.html.

USDA. 2010. *Natural Resources Conservation Service Web Soil Survey*. http://websoilsurvey.nrcs.usda.gov/app/HomePage.htm.

USFWS (U.S. Fish and Wildlife Service). 1996. Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed, and Candidate Plants.

USFWS. 2008. Draft San Diego Multiple Species Conservation Program Animal Monitoring Protocols. Prepared for the City of San Diego Department of City Planning and Community Investment.

USGS (U.S. Geological Survey). 2008. "Herpetological Monitoring Using a Pitfall Trapping Design in Southern California."

Western Regional Climate Center (WRCC). 2012a. Climate of California. Accessed online August 2012. http://www.wrcc.dri.edu/narratives/california/

WRCC. 2012b. Period of Record General Climate Summary, Poway Valley. Accessed online August 2012. http://www.wrcc.dri.edu/summary/sca.html

Wiens, J.A. and J.T. Rotenberry. 1981. "Habitat Associations and Community Structure of Birds in Shrubsteppe Environments." *Ecological Monographs* 51:21–41.

Wilson, D.E., and D.M. Reeder, eds. 2005. *Mammal Species of the World: A Taxonomic and Geographic Reference*. 3rd ed. Baltimore, Maryland: Johns Hopkins University Press.

Zeiner, D.C., W.F. Laudenslayer, Jr., and K.E. Mayer, eds. 1988. *California's Wildlife, Volume 1: Amphibians and Reptiles*. Sacramento, California: CDFG.

Zeiner, D.C., W.F. Laudenslayer, Jr., K.E. Mayer, and M. White, eds. 1990a. *California's Wildlife, Volume 2: Birds*. Sacramento, California: CDFG.

Zeiner, D.C., W.F. Laudenslayer, Jr., K.E. Mayer, and M. White, ed. 1990b. *California's Wildlife, Volume 3: Mammals*. Sacramento, California: CDFG.

Zeveloff, S.I. and F.R. Collett. 1988. *Mammals of the Intermountain West*. Salt Lake City, Utah: University of Utah Press.

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APPENDIX A

Observed Species List – Plants

APPENDIX A
Observed Species List - Plants

Scientific Name	Common Name	Status (Federal/State/County, CRPR) [1]
Vascular Species-Dicots		
ANACARDIACEAE—Sumac or Cashew Family		
Malosma laurina	Laurel sumac	None/None/None
APIACEAE—Carrot Family		
Apiastrum angustifolium	Mock parsley	None/None/None
Daucus pusillus	American wild carrot	None/None/None
Tauschia arguta	Southern umbrellawort	None/None/None
ASTERACEAE—Sunflower Family		
Ambrosia psilostachya	Cuman ragweed	None/None/None
Artemisia californica	Coastal sagebrush	None/None/None
Baccharis sarothroides	Desertbroom	None/None/None
Brickellia californica	California brickellbush	None/None/None
**Centaurea melitensis*	Maltese star-thistle	None/None/None
Chaenactis artemisiifolia	White pincushion	None/None/None
Chaenactis glabriuscula	Yellow pincushion	None/None/None
Chaenactis glabriuscula var. *glabriuscula*	Yellow pincushion	None/None/None
Cirsium occidentale var. *californicum*	Cobwebby thistle	None/None/None
Corethrogyne filaginifolia	Common sandaster	None/None/None
Deinandra fasciculata	Clustered tarweed	None/None/None
Erigeron canadensis	Canadian horseweed	None/None/None
Erigeron foliosus	Leafy fleabane	None/None/None
Eriophyllum confertiflorum	Golden-yarrow	None/None/None
Gnaphalium palustre	Western marsh cudweed	None/None/None
Gutierrezia microcephala	Threadleaf snakeweed	None/None/None
Gutierrezia sarothrae	Broom snakeweed	None/None/None
Hazardia squarrosa	Sawtooth goldenbush	None/None/None
Helianthus gracilentus	Slender sunflower	None/None/None
Heterotheca grandiflora	Telegraphweed	None/None/None
**Hypochaeris glabra*	Smooth cat's ear	None/None/None
Isocoma menziesii	Menzies' goldenbush	None/None/None
Lasthenia gracilis	Needle goldfields	None/None/None
**Logfia gallica*	Narrowleaf cottonrose	None/None/None
Osmadenia tenella	False rosinweed	None/None/None
Porophyllum gracile	Slender poreleaf	None/None/None
Pseudognaphalium biolettii	Two-color rabbit-tobacco	None/None/None
Pseudognaphalium californicum	Ladies' tobacco	None/None/None
Pseudognaphalium canescens	Wright's cudweed	None/None/None
**Pseudognaphalium luteoalbum*	Jersey cudweed	None/None/None
Pseudognaphalium stramineum	Cottonbatting plant	None/None/None

APPENDIX A (Continued)

Scientific Name	Common Name	Status (Federal/State/County, CRPR)[1]
Rafinesquia californica	California plumeseed	None/None/None
Senecio californicus	California ragwort	None/None/None
**Sonchus asper* ssp. *asper*	Spiny sowthistle	None/None/None
**Sonchus oleraceus*	Common sowthistle	None/None/None
Stephanomeria exigua	Small wirelettuce	None/None/None
Stephanomeria exigua ssp. *deanei*	Deane's wirelettuce	None/None/None
Stylocline gnaphaloides	Mountain neststraw	None/None/None
Uropappus lindleyi	Lindley's silverpuffs	None/None/None
Xanthisma junceum	Rush-like bristleweed	None/None/None, 4.3
BORAGINACEAE—Borage Family		
Cryptantha angustifolia	Panamint cryptantha	None/None/None
Cryptantha intermedia	Clearwater cryptantha	None/None/None
Cryptantha micromeres	Pygmyflower cryptantha	None/None/None
Eriodictyon crassifolium var. *crassifolium*	Thickleaf yerba santa	None/None/None
Eucrypta chrysanthemifolia	Spotted hideseed	None/None/None
Pectocarya linearis ssp. *ferocula*	Sagebrush combseed	None/None/None
Phacelia cicutaria	Caterpillar phacelia	None/None/None
Phacelia parryi	Parry's phacelia	None/None/None
Pholistoma membranaceum	White fiestaflower	None/None/None
BRASSICACEAE—Mustard Family		
**Hirschfeldia incana*	Shortpod mustard	None/None/None
Lepidium virginicum ssp. *menziesii*	Intermediate pepperweed	None/None/None
Thysanocarpus curvipes	Sand fringepod	None/None/None
CACTACEAE—Cactus Family		
Opuntia littoralis	Coastal pricklypear	None/None/None
CAMPANULACEAE—Bellflower Family		
Triodanis biflora	Small Venus' looking-glass	None/None/None
CARYOPHYLLACEAE—Pink Family		
**Petrorhagia dubia*	Hairypink	None/None/None
Silene antirrhina	Sleepy silene	None/None/None
**Silene gallica*	Common catchfly	None/None/None
Silene laciniata	Cardinal catchfly	None/None/None
CONVOLVULACEAE—Morning-glory Family		
Calystegia macrostegia	Island false bindweed	None/None/None
Calystegia macrostegia ssp. *tenuifolia*	Island false bindweed	None/None/None
Calystegia purpurata	Pacific false bindweed	None/None/None
CRASSULACEAE—Stonecrop Family		
Crassula connata	Sand pygmyweed	None/None/None
CUCURBITACEAE—Gourd Family		
Marah macrocarpa	Cucamonga manroot	None/None/None
ERICACEAE—Heath Family		
Xylococcus bicolor	Mission manzanita	None/None/None

Scientific Name	Common Name	Status (Federal/State/County, CRPR)[1]
EUPHORBIACEAE—Spurge Family		
Acalypha californica	California copperleaf	None/None/None
Chamaesyce albomarginata	Whitemargin sandmat	None/None/None
Chamaesyce polycarpa	Smallseed sandmat	None/None/None
Croton setigerus	Dove weed	None/None/None
FABACEAE—Legume Family		
Acmispon glaber var. glaber	Common deerweed	None/None/None
Acmispon micranthus	San Diego bird's-foot trefoil	None/None/None
Acmispon strigosus	Strigose bird's-foot trefoil	None/None/None
Lathyrus vestitus	Pacific pea	None/None/None
Lathyrus vestitus var. alefeldii	Alefeld's pea	None/None/None
Lupinus bicolor	Miniature lupine	None/None/None
Trifolium bifidum	Notchleaf clover	None/None/None
Trifolium obtusiflorum	Clammy clover	None/None/None
Vicia ludoviciana ssp. ludoviciana	Louisiana vetch	None/None/None
FAGACEAE—Oak Family		
Quercus agrifolia	California live oak	None/None/None
Quercus berberidifolia	Scrub oak	None/None/None
GENTIANACEAE—Gentian Family		
Zeltnera venusta	Charming centaury	None/None/None
GERANIACEAE—Geranium Family		
**Erodium botrys*	Longbeak stork's bill	None/None/None
**Erodium cicutarium*	Redstem stork's bill	None/None/None
GROSSULARIACEAE—Gooseberry Family		
Ribes indecorum	Whiteflower currant	None/None/None
LAMIACEAE—Mint Family		
Salvia apiana	White sage	None/None/None
Salvia columbariae	Chia	None/None/None
Salvia mellifera	Black sage	None/None/None
MALVACEAE—Mallow Family		
Malacothamnus fasciculatus	Mendocino bushmallow	None/None/None
Sidalcea malviflora	Dwarf checkerbloom	None/None/None
MONTIACEAE—Montia Family		
Calandrinia ciliata	Fringed redmaids	None/None/None
Claytonia perfoliata	Miner's lettuce	None/None/None
MYRSINACEAE—Myrsine Family		
**Anagallis arvensis*	Scarlet pimpernel	None/None/None
NYCTAGINACEAE—Four O'clock Family		
Mirabilis laevis	Desert wishbone-bush	None/None/None
Mirabilis laevis var. crassifolia	California four o'clock	None/None/None
ONAGRACEAE—Evening Primrose Family		
Camissonia strigulosa	Sandysoil suncup	None/None/None
Camissoniopsis bistorta	Southern suncup	None/None/None

Scientific Name	Common Name	Status (Federal/State/County, CRPR)[1]
Camissoniopsis hirtella	Santa Cruz Island suncup	None/None/None
Clarkia delicata	Delicate clarkia	None/None/List A, 1B.2
Clarkia epilobioides	Canyon clarkia	None/None/None
Clarkia purpurea	Winecup clarkia	None/None/None
OROBANCHACEAE—Broom-rape Family		
Castilleja exserta	Exserted Indian paintbrush	None/None/None
Cordylanthus rigidus	Stiffbranch bird's beak	None/None/None
Cordylanthus rigidus ssp. setigerus	Stiffbranch bird's beak	None/None/None
OXALIDACEAE—Oxalis Family		
Oxalis californica	California woodsorrel	None/None/None
PAEONIACEAE—Peony Family		
Paeonia californica	California peony	None/None/None
PAPAVERACEAE—Poppy Family		
Eschscholzia californica	California poppy	None/None/None
PHRYMACEAE—Lopseed Family		
Mimulus aurantiacus	Orange bush monkeyflower	None/None/None
Mimulus breviflorus	Shortflower monkeyflower	None/None/None
PLANTAGINACEAE—Plantain Family		
Antirrhinum coulterianum	Coulter's snapdragon	None/None/None
Antirrhinum nuttallianum	Violet snapdragon	None/None/None
Collinsia concolor	Chinese houses	None/None/None
Keckiella antirrhinoides ssp. antirrhinoides	Snapdragon penstemon	None/None/None
Penstemon spectabilis	Showy penstemon	None/None/None
Plantago erecta	Dotseed plantain	None/None/None
POLEMONIACEAE—Phlox Family		
Eriastrum filifolium	Lavender woollystar	None/None/None
Linanthus dianthiflorus	Fringed linanthus	None/None/None
Navarretia hamata	Hooked pincushionplant	None/None/None
Navarretia hamata ssp. leptantha	Hooked pincushionplant	None/None/None
POLYGONACEAE—Buckwheat Family		
Chorizanthe fimbriata	Fringed spineflower	None/None/None
Chorizanthe procumbens	Prostrate spineflower	None/None/None
Chorizanthe staticoides	Turkish rugging	None/None/None
Eriogonum fasciculatum var. fasciculatum	Eastern Mojave buckwheat	None/None/None
Lastarriaea coriacea	Leather spineflower	None/None/None
Polygonum californicum	California knotweed	None/None/None
Pterostegia drymarioides	Woodland pterostegia	None/None/None
RANUNCULACEAE—Buttercup Family		
Aquilegia formosa	Western columbine	None/None/None
Clematis pauciflora	Ropevine clematis	None/None/None
Delphinium parryi	San Bernardino larkspur	None/None/None
Thalictrum fendleri	Fendler's meadow-rue	None/None/None

Scientific Name	Common Name	Status (Federal/State/County, CRPR)[1]
RESEDACEAE—Mignonette Family		
**Reseda lutea*	Yellow mignonette	None/None/None
RHAMNACEAE—Buckthorn Family		
Ceanothus tomentosus	Woolyleaf ceanothus	None/None/None
Rhamnus crocea	Spiny redberry	None/None/None
ROSACEAE—Rose Family		
Adenostoma fasciculatum	Chamise	None/None/None
Cercocarpus betuloides var. *betuloides*	Birchleaf mountain mahogany	None/None/None
Cercocarpus minutiflorus	Smooth mountain mahogany	None/None/None
Heteromeles arbutifolia	Toyon	None/None/None
Prunus ilicifolia	Hollyleaf cherry	None/None/None
RUBIACEAE—Madder Family		
Galium angustifolium	Narrowleaf bedstraw	None/None/None
Galium aparine	Stickywilly	None/None/None
SCROPHULARIACEAE—Figwort Family		
Scrophularia californica	California figwort	None/None/None
SELAGINELLACEAE—Spike-moss Family		
Selaginella cinerascens	Ashy spike-moss	None/None/List D, 4.1
SOLANACEAE—Nightshade Family		
Solanum parishii	Parish's nightshade	None/None/None
Solanum xanti	chaparral nightshade	None/None/None
VIOLACEAE—Violet Family		
Viola pedunculata	Johnny-jump-up	None/None/None
Vascular Species-Moncots		
AGAVACEAE—Agave Family		
Chlorogalum pomeridianum	Wavyleaf soap plant	None/None/None
Hesperoyucca whipplei	Chaparral yucca	None/None/None
ALLIACEAE—Onion Family		
Allium peninsulare	Mexicali onion	None/None/None
CYPERACEAE—Sedge Family		
Carex praegracilis	Clustered field sedge	None/None/None
IRIDACEAE—Iris Family		
Sisyrinchium bellum	Western blue-eyed grass	None/None/None
JUNCACEAE—Rush Family		
Juncus dubius	Questionable rush	None/None/None
LILIACEAE—Lily Family		
Calochortus splendens	Splendid mariposa lily	None/None/None
POACEAE—Grass Family		
Aristida purpurea	Purple threeawn	None/None/None
**Avena barbata*	Slender oat	None/None/None
**Avena fatua*	Wild oat	None/None/None
**Brachypodium distachyon*	Purple false brome	None/None/None
**Bromus diandrus*	Ripgut brome	None/None/None

Scientific Name	Common Name	Status (Federal/State/County, CRPR) [1]
**Bromus hordeaceus*	Soft brome	None/None/None
**Bromus madritensis*	Compact brome	None/None/None
**Festuca myuros*	Rat-tail fescue	None/None/None
**Festuca perennis*	Italian ryegrass	None/None/None
**Gastridium phleoides*	Nit grass	None/None/None
**Lamarckia aurea*	Goldentop grass	None/None/None
Melica imperfecta	Smallflower melicgrass	None/None/None
**Melinis repens* ssp. *repens*	Rose Natal grass	None/None/None
Muhlenbergia microsperma	Littleseed muhly	None/None/None
Muhlenbergia rigens	Deergrass	None/None/None
**Pennisetum setaceum*	Crimson fountaingrass	None/None/None
Poa secunda	Sandberg bluegrass	None/None/None
Stipa cernua	Nodding needlegrass	None/None/None
Stipa coronata	Giant ricegrass	None/None/None
Stipa lepida	Foothill needlegrass	None/None/None
Stipa pulchra	Purple needlegrass	None/None/None
PTERIDACEAE—Brake Family		
Adiantum jordanii	California maidenhair	None/None/None
Pellaea mucronata	Birdfoot cliffbrake	None/None/None
Pentagramma triangularis ssp. *maxonii*	Maxon's goldback fern	None/None/None
THEMIDACEAE—Brodiaea Family		
Dichelostemma capitatum	Bluedicks	None/None/None
Dichelostemma capitatum ssp. *capitatum*	Bluedicks	None/None/None
Muilla maritima	Sea muilla	None/None/None

* Signifies non-native species.

[1] CRPR (California Rare Plant Rank):

1A	Plants Presumed Extinct in California
1B	Plants Rare, Threatened, or Endangered in California and Elsewhere
2	Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere
3	Plants About Which We Need More Information - A Review List
4	Plants of Limited Distribution - A Watch List

Threat Ranks

0.1	Seriously threatened in California
0.2	Fairly threatened in California
0.3	Not very threatened in California

County Designations:

County List A	Plants rare, threatened or endangered in California and elsewhere
County List B	Plants rare, threatened or endangered in California but common elsewhere
County List C	Plants which may be rare, but need more information to determine their true rarity status
County List D	Plants of limited distribution and are uncommon, but not presently rare or endangered

APPENDIX B

Observed Species List – Wildlife

APPENDIX B
Observed Species List - Wildlife

Scientific name	Common name	Status (Federal/State/County, MSCP)[1]
Reptiles		
IGUANIDAE - IGUANID LIZARDS		
Phrynosoma blainvillei ssp. *coronatum*	Coast horned lizard	None/CSC/Group 2, MSCP
Sceloporus occidentalis	Western fence lizard	None/None/None
Sceloporus orcutti	Granite spiny lizard	None/None/None
Uta stansburiana	Common side-blotched lizard	None/None/None
TEIIDAE - WHIPTAIL LIZARDS		
Aspidoscelis hyperythra beldingi	Orange-throated whiptail	None/CSC/Group 2, MSCP
COLUBRIDAE - COLUBRID SNAKES		
Coluber lateralis	Striped racer	None/None/None
Rhinocheillus lecontei	Long-nosed snake	None/None/None
VIPERIDAE - VIPERS		
Crotalus oreganus helleri	Southern Pacific rattlesnake	None/None/None
Crotalus ruber ruber	Northern red-diamond rattlesnake	None/CSC/Group 2
Birds		
CATHARTIDAE - NEW WORLD VULTURES		
Cathartes aura	Turkey vulture	None/None/Group 1
ACCIPITRIDAE – HAWKS, KITES, EAGLES, AND ALLIES		
Buteo jamaicensis	Red-tailed hawk	None/None/None
ODONTOPHORIDAE – NEW WORLD QUAIL		
Callipepla californica	California quail	None/None/None
CHARADRIIDAE – LAPWINGS AND PLOVERS		
Charadrius vociferus	Killdeer	None/None//None
COLUMBIDAE - PIGEONS & DOVES		
Zenaida macroura	Mourning dove	None/None/None
CUCULIDAE – CUCKOOS, ROADRUNNERS, AND ANIS		
Geococcyx californianus	Greater roadrunner	None/None/None
TYTONIDAE - BARN OWLS		
Tyto alba	Barn owl	None/None/Group 2
STRIGIDAE - TYPICAL OWLS		
Bubo virginianus	Great horned owl	None/None/None
CAPRIMULGIDAE - GOATSUCKERS		
Chordeiles acutipennis	Lesser nighthawk	None/None/None
Phalaenoptilus nuttallii	Common poorwill	None/None/None
TROCHILIDAE - HUMMINGBIRDS		
Calypte anna	Anna's hummingbird	None/None/None
Calypte sp.	Hummingbird	None/None/None
TYRANNIDAE - TYRANT FLYCATCHERS		
Sayornis nigricans	Black phoebe	None/None/None
Sayornis saya	Say's phoebe	None/None/None
Tyrannus vociferans	Cassin's kingbird	None/None/None

APPENDIX B (Continued)

Scientific name	Common name	Status (Federal/State/County, MSCP)[1]
CORVIDAE – CROWS AND JAYS		
Aphelocoma californica	Western scrub-jay	None/None/None
Corvus brachyrhynchos	American crow	None/None/None
Corvus corax	Common raven	None/None/None
AEGITHALIDAE – LONG-TAILED TITS AND BUSHTITS		
Psaltriparus minimus	Bushtit	None/None/None
TROGLODYTIDAE - WRENS		
Catherpes mexicanus	Canyon wren	None/None/None
Thryomanes bewickii	Bewick's wren	None/None/None
POLIOPTILIDAE – GNATCATCHERS AND GNATWRENS		
Polioptila californica californica	Coastal California gnatcatcher	FT/CSC/Group 1, MSCP
SYLVIIDAE – SYLVIID WARBLERS		
Chamaea fasciata	Wrentit	None/None/None
MIMIDAE – MOCKINGBIRDS AND THRASHERS		
Mimus polyglottos	Northern mockingbird	None/None/None
Toxostoma redivivum	California thrasher	None/None/None
PTILOGONATIDAE - SILKY-FLYCATCHERS		
Phainopepla nitens	Phainopepla	None/None/None
PARULIDAE – WOOD-WARBLERS		
Setophaga coronata	Yellow-rumped warbler	None/None/None
EMBERIZIDAE - EMBERIZIDS		
Aimophila ruficeps canescens	Southern California rufous-crowned sparrow	None/WL/Group 1, MSCP
Melospiza melodia	Song sparrow	None/None/None
Melozone crissalis	California towhee	None/None/None
Pipilo maculatus	Spotted towhee	None/None/None
Spizella atrogularis	Black-chinned sparrow	None/None/None
ICTERIDAE - BLACKBIRDS		
**Molothrus ater*	Brown-headed cowbird	None/None/None
FRINGILLIDAE – FRINGILLINE AND CARDUELINE FINCHES AND ALLIES		
Carpodacus mexicanus	House finch	None/None/None
Spinus psaltria	Lesser goldfinch	None/None/None
Mammals		
VESPERTILIONIDAE - EVENING BATS		
Antrozous pallidus	Pallid bat	None/CSC/Group 2
Eptesicus fuscus	Big brown bat	None/None/None
Lasiurus blossevillii	Western red bat	None/CSC/Group 2
Lasiurus xanthinus	Western yellow bat	None/CSC/None
Myotis californicus	California myotis	None/None/None
Myotis ciliolabrum	Western small-footed myotis	None/None/None
Myotis yumanensis	Yuma myotis	None/None/Group 2
Parastrellus hesperus	Canyon bat	None/None/None
MOLOSSIDAE - FREE-TAILED BATS		
Nyctinomops femorosaccus	Pocketed free-tailed bat	None/CSC/Group 2
Tadarida basiliensis	Brazilian free-tailed bat	None/None/None
LEPORIDAE - HARES & RABBITS		
Lepus californicus bennettii	San Diego black-tailed jackrabbit	None/CSC/Group 2

Scientific name	Common name	Status (Federal/State/County, MSCP)[1]
Sylvilagus bachmani	Brush rabbit	None/None/None
SCIURIDAE - SQUIRRELS		
Spermophilus beecheyi	California ground squirrel	None/None/None
HETEROMYIDAE - POCKET MICE & KANGAROO RATS		
Chaetodipus californicus femoralis	Dulzura pocket mouse	None/CSC/Group 2
Chaetodipus fallax fallax	Northwestern San Diego pocket mouse	None/CSC/Group 2
Dipodomys simulans	Dulzura kangaroo rat	None/None/None
MURIDAE - RATS & MICE		
Neotoma lepida intermedia	San Diego desert woodrat	None/CSC/Group 2
Peromyscus boylii	Brush deermouse	None/None/None
Peromyscus californicus	California deermouse	None/None/None
Peromyscus eremicus	Cactus deermouse	None/None/None
CANIDAE - WOLVES & FOXES		
Canis latrans	Coyote	None/None/None
Canis lupis familiaris	Domestic dog	None/None/None
PROCYONIDAE - RACCOONS & RELATIVES		
Procyon lotor	Raccoon	None/None/None
FELIDAE - CATS		
Lynx rufus	Bobcat	None/None/None
CERVIDAE - DEERS		
Odocoileus hemionus	Mule deer	None/None/Group 2, MSCP
Invertebrates - Butterflies		
HESPERIIDAE - SKIPPERS		
Erynnis funeralis	Funereal duskywing	None/None/None
PAPILIONIDAE – SWALLOWTAILS		
Papilio rutulus	Western tiger swallowtail	None/None/None
PIERIDAE - WHITES AND SULFURS		
Pieris rapae	Cabbage white	None/None/None
RIODINIDAE - METALMARKS		
Apodemia mormo virgulti	Behr's metalmark	None/None/None
LYCAENIDAE - BLUES, HAIRSTREAKS, & COPPERS		
Glaucopsyche lygdamus australis	Southern blue	None/None/None
Plebejus acmon	Acmon blue	None/None/None
Plebejus saepiolus	Greenish blue	None/None/None
Plebejus sp.	Blue	None/None/None
Satyrium saepium	Hedgerow hairstreak	None/None/None
Satyrium sp.	Hairstreak	None/None/None
NYMPHALIDAE - BRUSH-FOOTED BUTTERFLIES		
Junonia coenia	Common buckeye	None/None/None
Phyciodes mylitta	Mylitta crescent	None/None/None
Vanessa sp.	Lady	None/None/None
SATURNIDS – MOTHS		
Saturniidae	Moth	None/None/None
Invertebrates – Other		
Ammotrechidae sp.	Windscorpion	None/None/None
Anthaxia sp.	Anthaxia beetle	None/None/None

Scientific name	Common name	Status (Federal/State/County, MSCP)[1]
Apis mellifera	European honey bee	None/None/None
Bombus sp.	Bumble bees	None/None/None
Chilopoda sp.	Centipede	None/None/None
Diplopoda sp.	Millipede	None/None/None
Eleodes osculans	Wooly ground beetle	None/None/None
Eleodes armata	Armored stink beetle	None/None/None
Family Agelenidae	grass spider	None/None/None
Family Armadillidiidae	pill bug	None/None/None
Family Dysderidae	sow bug killer spider	None/None/None
Family Elateridae	click beetle	None/None/None
Family Lycosidae	wolf spider	None/None/None
Family Miturgidae	yellow sac spider	None/None/None
Family Salticidae	jumping spider	None/None/None
Family Tenebrionidae	darkling ground beetle	None/None/None
Halictidae sp.	sweat bee	None/None/None
Infraorder Anisoptera	dragonfly	None/None/None
Lepisma sp.	common silverfish	None/None/None
Megachile sp.	leafcutter bee	None/None/None
Order Diptera	flies	None/None/None
Order Scorpiones	scorpion	None/None/None
Pogonomyrmex sp.	Harvester ant	None/None/None
Stenopelmatus fuscus	Jerusalem cricket	None/None/None
Subfamily Gryllinae	field cricket	None/None/None
Subfamily Nemobiinae	house cricket	None/None/None
Suborder Zygoptera	damselfly	None/None/None
Superfamily Theraphosidea	tarantula	None/None/None
Superfamily Vespoidea	wasp	None/None/None
Tricholepidion sp.	Venerable silverfish	None/None/None

[1] Status Designations:

Federal Designations:

FT Federally listed as Threatened

State Designations:

CSC California Species of Special Concern

FP California Department of Fish and Game Fully Protected Species

WL California Department of Fish and Game Watch List Species

County Designations:

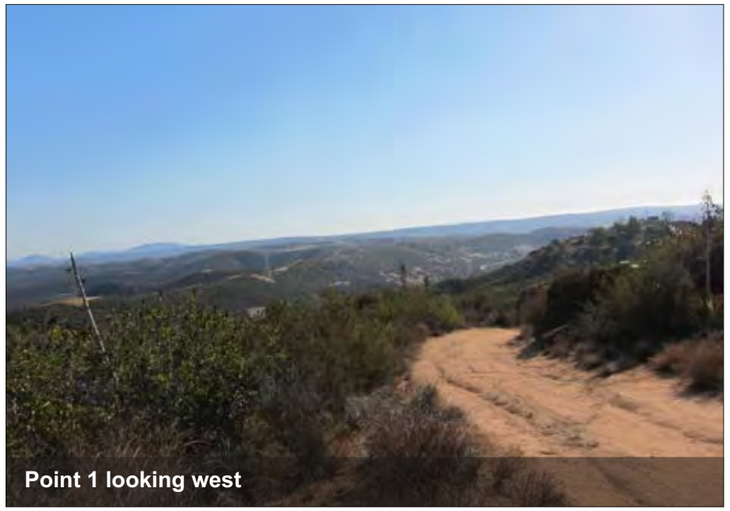
Group 1 Animals of high sensitivity (listed or specific natural history requirements)

Group 2 Animals declining, but not in immediate threat of extinction or extirpation

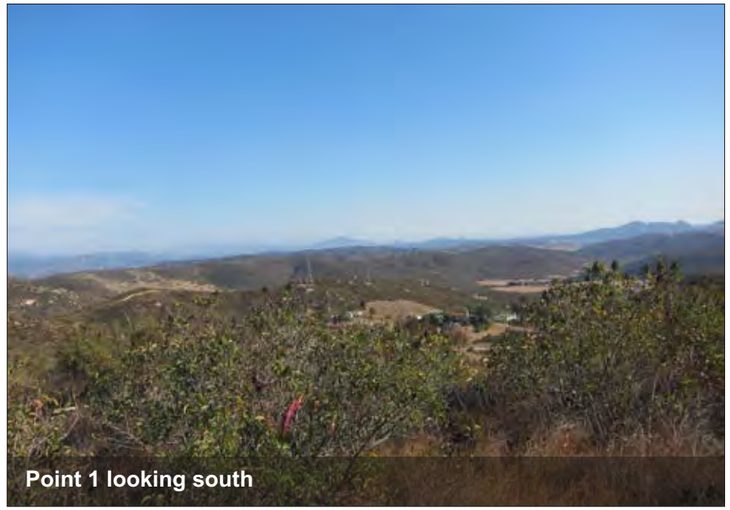
MSCP Covered species under MSCP

APPENDIX C

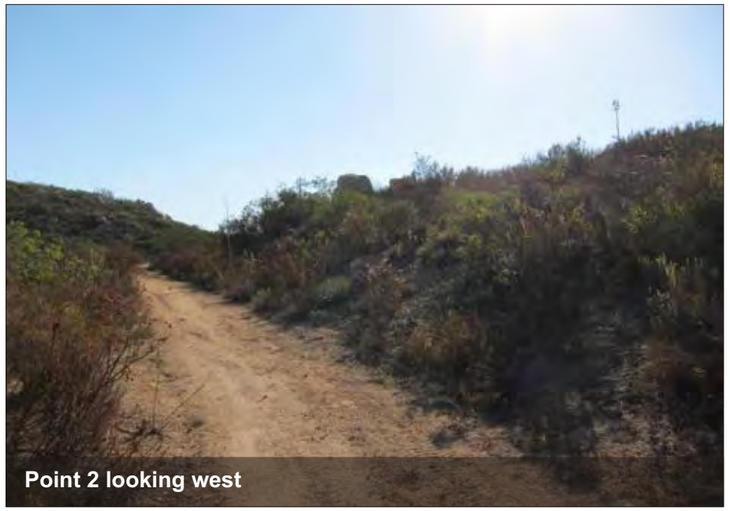
Avian Point Count Location Photographs


Point 1 looking west


Point 1 looking north


Point 1 looking south


Point 1 looking east



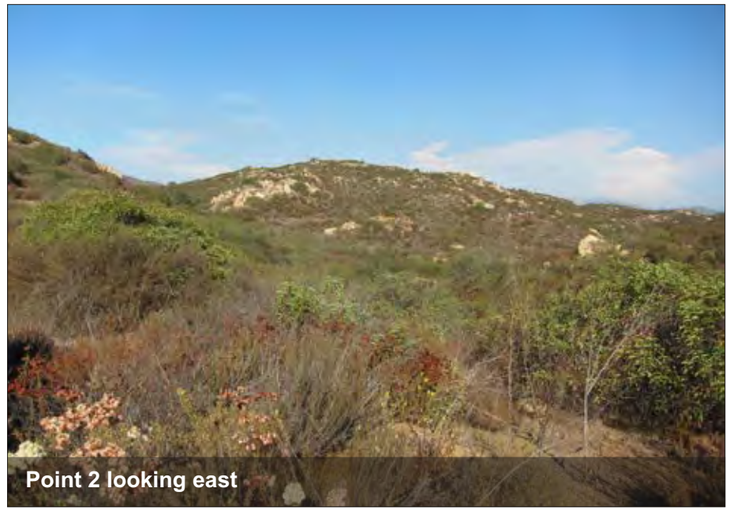
Point 2 looking west



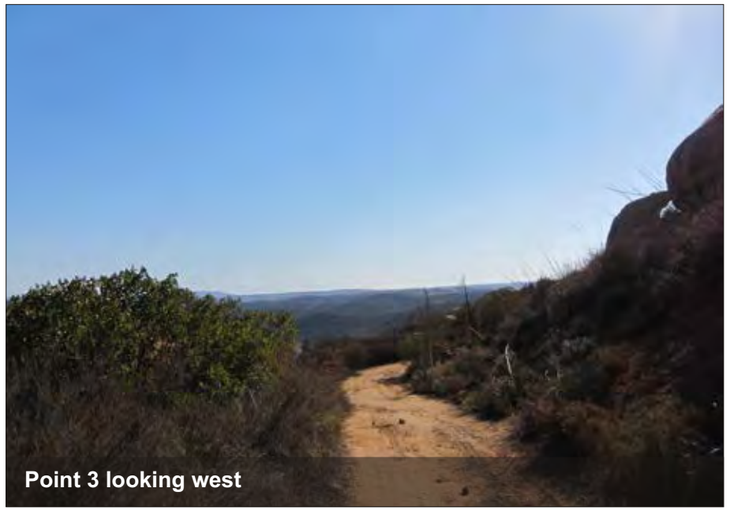
Point 2 looking north



Point 2 looking south



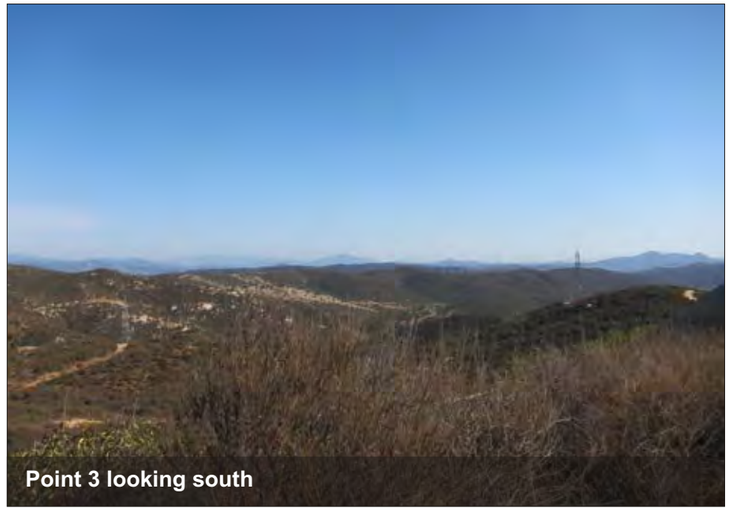
Point 2 looking east



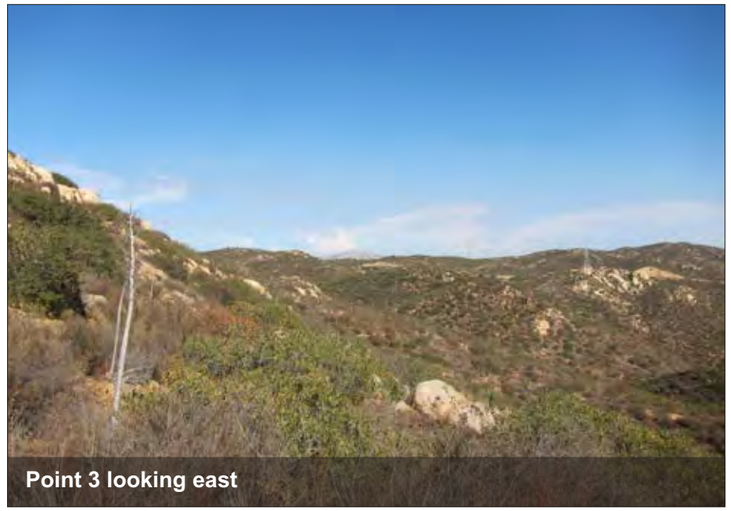
Point 3 looking west



Point 3 looking north



Point 3 looking south



Point 3 looking east



Point 1 looking west



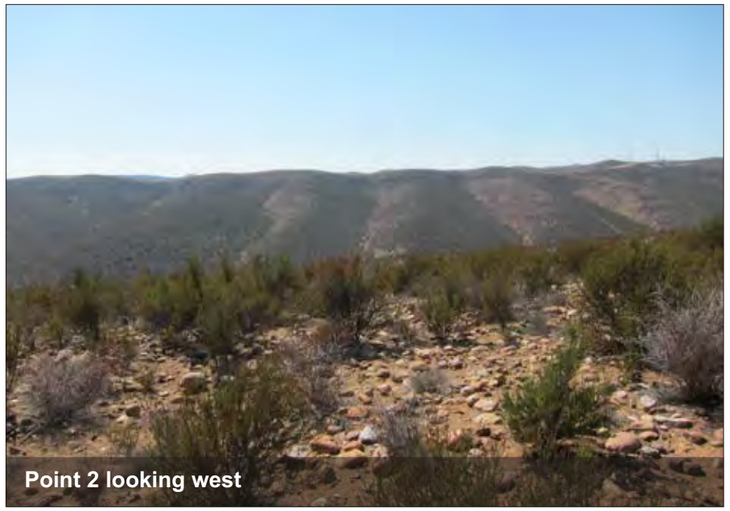
Point 1 looking north



Point 1 looking south



Point 1 looking east



Point 2 looking west



Point 2 looking north



Point 2 looking south



Point 2 looking east

APPENDIX D

Sensitive Plant Species Detected or Potentially Occurring at Sycamore South or Hagey Study Areas Site Elevation 668-1421 Feet

APPENDIX D
Special-Status Plant Species Detected or Potentially Occurring at the Sycamore South or Hagey Study Areas, Site Elevation 668–1,421 Feet (204 to 433 Meters)

Scientific Name	Common Name	Status[1] Federal/State/County List/CRPR	Primary Habitat Associations/Life Form/Blooming Period/Elevation Range	Known Occurrences (CNDDB/CNPS)	Suitable Habitat/Soils/Elevation	Status On Site or Potential to Occur
Abronia maritima	Red sand–verbena	None/None/List D/4.2	Coastal dunes/perennial herb/February–November/ 0–100 meters	Not recorded in the vicinity.2	No suitable coastal dune habitats; no preferred soil types included in species description. Study Areas are outside elevation range.	Not likely to occur. No suitable vegetation. Outside elevation range. Not recorded in the vicinity.2
Abronia villosa var. *aurita*	Chaparral sand-verbena	None/None/List A/1B.1	Chaparral, coastal scrub, desert dunes; sandy/annual herb/January–September/ 75–1,600 meters	Not recorded in the vicinity.2	No suitable vegetation but sandy loam soils present within Hagey Study Area. Within elevation range.	Low potential to occur. No suitable vegetation but suitable soils on site. Within elevation range. Not recorded in the vicinity.2
Acanthomintha ilicifolia	San Diego thornmint	FT/SE/List A, MSCP/1B.1	Chaparral, coastal scrub, valley and foothill grassland, vernal pools; clay, openings/annual herb/April–June/10–960 meters	Recorded within San Vicente Reservoir quadrangle, and surrounding quadrangles.	Suitable chaparral habitat but no clay soils. Within elevation range.	Low potential to occur. Suitable habitat on site but no suitable soils. Within elevation range. Recorded in the vicinity.2
Acmispon [=Lotus] haydonii	Pygmy lotus	None/None/List A/1B.3	Pinyon and juniper woodland, Sonoran desert scrub; rocky/perennial herb/ January-June/520–1200 meters	Not recorded in the vicinity.2	No suitable vegetation but rocky soils present within Sycamore South Study Area. Below elevation range.	Not likely to occur. Not recorded in the vicinity.2 No suitable vegetation but rocky soils present. Below elevation range.

Scientific Name	Common Name	Status[1] Federal/State/County List/CRPR	Primary Habitat Associations/Life Form/Blooming Period/Elevation Range	Known Occurrences (CNDDB/CNPS)	Suitable Habitat/Soils/Elevation	Status On Site or Potential to Occur
Adolphia californica	California adolphia	None/None/List B/2.1	Chaparral, coastal scrub, valley and foothill grassland; clay/deciduous shrub/December–May/ 45–740 meters	Recorded within surrounding La Mesa quadrangle.	Suitable chaparral habitat but no clay soils. Within elevation range.	Low potential to occur. Suitable habitat on site but no suitable soils. Within elevation range. Recorded in the vicinity.2 Would likely have been detected during surveys if present.
Agave shawii	Shaw's agave	None/None/List B, MSCP /2.1	Coastal bluff scrub, coastal scrub/leaf succulent/September–May/ 10–75 meters	Not recorded in the vicinity.2	No suitable coastal scrub habitats; no preferred soil types included in species description. Study Areas are outside elevation range.	Not likely to occur. Not recorded in the vicinity.2 No suitable habitat. Outside elevation range. Would likely have been detected during surveys if present.
Ambrosia chenopodiifolia	San Diego bursage	None/None/List B/2.1	Coastal scrub/shrub/ April–June/ 55–155 meters	Not recorded in the vicinity.2	No suitable coastal scrub habitats; no preferred soil types included in species description. Study Areas are outside elevation range.	Not likely to occur. Not recorded in the vicinity.2 No suitable habitat. Outside elevation range. Would likely have been detected during surveys if present.
Ambrosia monogyra	Singlewhorl burrobrush	None/None/None/2.2	Chaparral, Sonoran desert scrub/sandy/perennial shrub/August–November/ 10–500 meters	Recorded within surrounding La Mesa quadrangle.	Suitable chaparral habitat and sandy loam soils within Hagey Study Area. Within elevation range.	Low potential to occur. Suitable habitat and soils on site. Within elevation range. Recorded in the vicinity.2 Would likely have been detected during surveys if present.

Scientific Name	Common Name	Status[1] Federal/State/County List/CRPR	Primary Habitat Associations/Life Form/Blooming Period/Elevation Range	Known Occurrences (CNDDB/CNPS)	Suitable Habitat/Soils/Elevation	Status On Site or Potential to Occur
Ambrosia pumila	San Diego ambrosia	FE/None/List A, MSCP/1B.1	Chaparral, coastal scrub, valley and foothill grassland, vernal pools; sandy loam or clay, sometimes alkaline, often in disturbed areas/rhizomatous herb/April–October/ 20–415 meters	Recorded within surrounding La Mesa and El Cajon quadrangles.	Suitable chaparral habitat and sandy loam soils present within Hagey Study Area. Some disturbed areas within Study Areas. Within elevation range.	Moderate potential to occur. Suitable habitat and sandy loam soils on site. Within elevation range. Recorded in the vicinity.[2]
Androsace elongata ssp. *acuta*	California androsace	None/None/List D/4.2	Chaparral, coastal scrub, cismontane woodland, valley and foothill grassland, meadows and seeps, pinyon and juniper woodland/annual herb/March-June/ 150–1,200 meters	Not recorded in the vicinity.[2]	Suitable chaparral habitat; no preferred soils included in species description. Within elevation range.	Low potential to occur. Suitable chaparral habitat. Within elevation range. Not recorded in the vicinity.[2] This species is very rare in Southern California (CNPS 2012).
Aphanisma blitoides	Aphanisma	None/None/List A, MSCP/1B.2	Coastal bluff scrub, coastal dunes, coastal scrub; sandy/annual herb/ March–June/ 1–305 meters	Not recorded in the vicinity.[2]	No suitable coastal scrub habitat but sandy loam soils present within Hagey Study Area. Within elevation range.	Low potential to occur. No suitable habitat or soils. Within elevation range. Not recorded in the vicinity.[2]
Arctostaphylos glandulosa ssp. *crassifolia*	Del Mar manzanita	FE/None/List A, MSCP/1B.1	Maritime chaparral; sandy/evergreen shrub/December–June/ 0–365 meters	Recorded within the La Mesa quadrangle.	No maritime chaparral but sandy loam soils present within Hagey Study Area. Within elevation range.	Low potential to occur. No suitable habitat but suitable soils on site. Within elevation range. Recorded in the vicinity.[2] Would likely have been detected during surveys if present.

Scientific Name	Common Name	Status[1] Federal/State/County List/CRPR	Primary Habitat Associations/Life Form/Blooming Period/Elevation Range	Known Occurrences (CNDDB/CNPS)	Suitable Habitat/Soils/Elevation	Status On Site or Potential to Occur
Arctostaphylos otayensis	Otay manzanita	None/None/List A, MSCP/1B.2	Chaparral, cismontane woodland; metavolcanic/evergreen shrub/January–April/ 275–1,700 meters	Not recorded in the vicinity.[2]	Suitable chaparral habitat but no metavolcanic soils present. Within lower extent of elevation range.	Low potential to occur. Suitable habitat but no suitable soils on site. Within elevation range. Not recorded in the vicinity.[2] Would likely have been detected during surveys if present.
Arctostaphylos rainbowensis	Rainbow manzanita	None/None/List A/1B.1	Chaparral/evergreen shrub/December–March/ 205–670 meters	Not recorded in the vicinity.[2]	Suitable chaparral habitat; no preferred soils included in species description. Within lower extent of elevation range.	Low potential to occur. Suitable habitat on site. Within elevation range. Not recorded in the vicinity.[2] Would likely have been detected during surveys if present.
Artemisia palmeri	San Diego sagewort	None/None/List D/4.2	Chaparral, coastal scrub, riparian forest and scrub, riparian woodland; sandy, mesic/deciduous shrub/ May–September/ 15–915 meters	Recorded in San Vicente Reservoir quadrangle, as well as El Cajon, La Mesa, and Alpine quadrangles.	Suitable chaparral habitats and sandy loam soils within Hagey Study Area, but no mesic regions. Within elevation range.	Moderate potential to occur. No suitable mesic habitat on site but suitable soils. Within elevation range. Recorded in the vicinity.[2] Would likely have been detected during surveys if present.
Asplenium vespertinum	Western spleenwort	None/None/List D/4.2	Chaparral, cismontane woodland, coastal scrub; rocky/rhizomatous herb/February–June/ 180–1,000 meters	Not recorded in the vicinity.[2]	Suitable chaparral habitat and rocky soils within Sycamore South Study Area. Within elevation range.	Moderate potential to occur. Suitable habitat and soils on site. Within elevation range. Not recorded in the vicinity.[2]
Astragalus crotalariae	Salton milk-vetch	None/None/List D/4.3	Sonoran desert scrub; sandy or gravelly/perennial herb/ January–April/-60–250 meters	Not recorded in the vicinity.[2]	No suitable habitat but suitable sandy loam soils within Hagey Study Area. Within upper extent of elevation range.	Low potential to occur. No suitable habitat but suitable soils on site. Within elevation range. Not recorded in the vicinity.[2]

Scientific Name	Common Name	Status[1] Federal/State/County List/CRPR	Primary Habitat Associations/Life Form/Blooming Period/Elevation Range	Known Occurrences (CNDDB/CNPS)	Suitable Habitat/Soils/Elevation	Status On Site or Potential to Occur
Astragalus deanei	Dean's milk-vetch	None/None/List A, MSCP /1B.1	Chaparral, cismontane woodland, coastal scrub, riparian forest /perennial herb/February–May/ 75–695 meters	Recorded within surrounding El Cajon, El Cajon Mountain, and Alpine quadrangles.	Suitable habitat; no preferred soils listed in species description. Within elevation range.	Low potential to occur. Very few known occurrences. Suitable habitat on site. Within elevation range. Recorded in the vicinity.[2]
Astragalus douglasii var. *perstrictus*	Jacumba milk-vetch	None/None/List A/1B.2	Chaparral, cismontane woodland, pinyon and juniper woodland, riparian scrub, valley and foothill grassland; rocky/perennial herb/April–June/ 900–1,370 meters	Not recorded in the vicinity.[2]	Suitable chaparral habitat and rocky loam soils within Sycamore South Study Area. Below elevation range.	Low potential to occur. Suitable habitat and soils on site. Below elevation range. Not recorded in the vicinity.[2]
Astragalus insularis var. *harwoodi*	Harwood's milk-vetch	None/None/List B/2.2	Desert dunes, Mojavean desert scrub; sandy or gravelly/annual herb/January–May/ 0–710 meters	Not recorded in the vicinity.[2]	No suitable habitat on site but sandy loam soils within Hagey Study Area. Within elevation range.	Low potential to occur. No suitable habitat but suitable soils present. Within elevation range. Not recorded in the vicinity.[2]
Astragalus lentiginosus var. *borreganus*	Borrego milk-vetch	None/None/List D/4.3	Mojavean desert scrub, Sonoran desert scrub; sandy/annual herb/ February–May/ 30–320 meters	Not recorded in the vicinity.[2]	No suitable habitat but sandy loam soils within Hagey Study Area. Within elevation range.	Low potential to occur. No suitable habitat but suitable soils on site. Within elevation range. Not recorded in the vicinity.[2]
Astragalus magdalenae var. *peirsonii*	Peirson's milk-vetch	FT/SE/List A/1B.2	Desert dunes/perennial herb/December–April/ -55–250 meters	Not recorded in the vicinity.[2]	No suitable habitat; preferred soils not recorded for this species. Within elevation range.	Low potential to occur. No suitable habitat. Within elevation range. Not recorded in the vicinity.[2]
Astragalus oocarpus	San Diego milk-vetch	None/None/List A/1B.2	Chaparral (openings), cismontane woodland/perennial herb/ May–August/305–1,524 meters	Recorded within surrounding El Cajon Mountain, Alpine, and Ramona quadrangles.	Suitable habitat on site; preferred soils not recorded for this species. Within elevation range.	Moderate potential to occur. Suitable habitat on site. Within elevation range. Recorded in the vicinity.[2]

Scientific Name	Common Name	Status[1] Federal/State/County List/CRPR	Primary Habitat Associations/Life Form/Blooming Period/Elevation Range	Known Occurrences (CNDDB/CNPS)	Suitable Habitat/Soils/Elevation	Status On Site or Potential to Occur
Astragalus pachypus var. *jaegeri*	Jaeger's milk-vetch	None/None/List A/1B.1	Chaparral, cismontane woodland, coastal scrub, valley and foothill grasslands; rocky or sandy/ shrub/ December–June/ 365–915 meters	Not recorded in the vicinity[2]. Most known occurrences are from Riverside County.	Suitable chaparral habitat and rocky loam soils within Sycamore South Study Area or sandy loam soils within Hagey Study Area. Within elevation range.	Low potential to occur. Suitable habitat and soils on site. Within elevation range. Not recorded in the vicinity.[2]
Astragalus tener var. *titi*	Coastal dunes milk-vetch	FE/SE/List A, MSCP/1B.1	Coastal bluff scrub, coastal dunes, coastal prairie; often vernally mesic areas/annual herb/March–May/ 1–50 meters	Not recorded in the vicinity.[2]	No suitable coastal habitats or mesic regions on site. Outside elevation range.	Not likely to occur. No suitable habitat or mesic regions. Outside elevation range. Not recorded in the vicinity.[2]
Atriplex coulteri	Coulter's saltbush	None/None/List A/1B.2	Coastal bluff scrub, coastal dunes, coastal scrub, valley and foothill grassland; alkaline or clay/perennial herb/ March–October/ 3–460 meters	Recorded within surrounding Poway and San Pasqual quadrangles.	No suitable habitat or alkaline/clay soils on site. Within elevation range.	Low potential to occur. No suitable soils on site. Limited suitable habitat. Within elevation range. Recorded in the vicinity.[2]
Atriplex pacifica	South Coast saltscale	None/None/List A/1B.2	Coastal bluff scrub, coastal dunes, coastal scrub, playas/annual herb/ March–October/ 0–140 meters	Recorded within surrounding Poway quadrangle.	No suitable coastal habitats or playas on site. Outside elevation range.	Low potential to occur. Limited suitable habitat on site. Outside elevation range. Recorded in the vicinity.[2]
Atriplex parishii	Parish's brittlescale	None/None/List A/1B.1	Chenopod scrub, playas, vernal pools; alkaline/annual herb/June–October/ 25–1,900 meters	Recorded within surrounding San Pasqual quadrangle.	No suitable habitat or alkaline soils on site. Within elevation range.	Low potential to occur. No suitable habitat or soils on site. Within elevation range. Recorded in the vicinity.[2]
Atriplex serenana var. *davidsonii*	Davidson's saltscale	None/None/List A/1B.2	Coastal bluff scrub, coastal scrub; alkaline/annual herb/ April–October/10–200 meters	Not recorded in the vicinity.[2]	No suitable coastal habitats or alkaline soils on site. Outside elevation range.	Not likely to occur. No suitable habitat or soils on site. Outside elevation range. Not recorded in the vicinity.[2]

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Ayenia compacta	California ayenia	None/None/List B/2.3	Mojavean desert scrub, Sonoran desert scrub; rocky/perennial herb/March–April/ 150–1,095 meters	Not recorded in the vicinity.[2]	No suitable habitat on site but rocky loam soils within Sycamore South Study Area. Within elevation range.	Low potential to occur. No suitable habitat on site but suitable soils within Sycamore South Study Area. Within elevation range. Not recorded in the vicinity.[2]
Azolla microphylla [=mexicana]	Mexican mosquito fern	None/None/List D/4.2	Marshes and swamps; ponds, slow water/annual/perennial herb/August/30–100 meters	Not recorded in the vicinity.[2]	No suitable habitat marsh/swamp habitat on site. Outside elevation range.	Not likely to occur. No suitable habitat on site. Outside elevation range. Not recorded in the vicinity.[2] Would likely have been detected during surveys if present.
Baccharis vanessae	Encinitas baccharis	FT/SE/List A, MSCP/1B.1	Chaparral, cismontane woodland; sandstone/deciduous shrub/August–November/ 60–720 meters	Recorded within surrounding Alpine, Poway, and San Pasqual quadrangles.	Suitable chaparral habitat but no sandstone soils. Within elevation range.	Low potential to occur. Suitable habitat but no suitable soils on site. Within elevation range. Recorded in the vicinity.[2] Would likely have been detected during surveys if present.
Berberis fremontii [=B. higginsiae]	Fremont barberry	None/None/List C/3	Chaparral , Joshua tree "woodland", pinyon and juniper woodland; rocky/evergreen shrub/April–June/ 840–1,850 meters	Not recorded in the vicinity.[2]	Suitable chaparral habitat and rocky loam soils within Sycamore South Study Area. Below elevation range.	Low potential to occur. Suitable habitat and soils. Below elevation range. Not recorded in the vicinity.[2] Would likely have been detected during surveys if present.
Berberis nevinii	Nevin's barberry	FE/SE/List A, MSCP/1B.1	Chaparral, cismontane woodland, coastal scrub, riparian scrub; sandy or gravelly/evergreen shrub/March–June/ 274–825 meters	Not recorded in the vicinity.[2]	Suitable chaparral habitat and sandy loam soils within Hagey Study Area. Within elevation range.	Low potential to occur. Suitable habitat and soils on site. Within elevation range. Not recorded in the vicinity.[2] Would likely have been detected during surveys if present.

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Bergerocactus emoryi	Golden-spined cereus	None/None/List B/2.2	Closed-cone coniferous forest, chaparral, coastal scrub; sandy/stem succulent/May–June/ 3–395 meters	Not recorded in the vicinity.[2]	Suitable chaparral habitat and sandy loam soils within Hagey Study Area. Within elevation range.	Low potential to occur. Suitable habitat and soils. Within elevation range. Not recorded in the vicinity.[2] Would likely have been detected during surveys if present.
Bloomeria [=Muilla] clevelandii	San Diego goldenstar	None/None/List A , MSCP/1B.1	Chaparral, coastal scrub, valley and foothill grassland, vernal pools; clay/bulbiferous herb/April–May/50–465 meters	Recorded within San Vicente Reservoir quadrangle, as well as surrounding El Cajon, Alpine, and Poway quadrangles.	Suitable habitat but no clay soils. Within elevation range.	Moderate potential to occur. Suitable habitat but no suitable soils on site. Within elevation range. Recorded in the vicinity.[2]
Boechera johnstonii [=B. hirshbergiae (=Arabis h.)]	Hirshberg's rockcress	None/None/List A/Not listed	Chaparral, oak-pine savanna; rocky or gravelly soil/perennial herb/April–June/1,357–2,072 meters	Not recorded in the vicinity.[2]	Suitable chaparral habitat and rocky soils within Sycamore South Study Area. Below elevation range.	Low potential to occur. Suitable habitat and soils on site. Below elevation range. Not recorded in the vicinity.[2]
Brodiaea filifolia	Thread-leaved brodiaea	FT/SE/List A, MSCP/1B.1	Chaparral (openings) coastal scrub, cismontane woodland, playas, valley and foothill grassland, vernal pools; often clay/bulbiferous herb/ March–June/25–1,120 meters	Recorded within surrounding Poway quadrangle.	Suitable chaparral habitat but no clay soils. Within elevation range.	Moderate potential to occur. Suitable habitat but no suitable soils on site. Within elevation range. Recorded in the vicinity.[2]

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Brodiaea orcuttii	Orcutt's brodiaea	None/None/List A, MSCP/1B.1	Closed-cone coniferous forest, chaparral, cismontane woodland, meadows and seeps, valley and foothill grassland, vernal pools; mesic, clay, sometimes serpentine/bulbiferous herb/May-July/ 30–1,692 meters	Recorded within San Vicente Reservoir quadrangle, as well as surrounding El Cajon, El Cajon Mountain, Alpine, La Mesa, Ramona, and Poway quadrangles.	Suitable chaparral habitat but no mesic, clay, or serpentine soils on site. Within elevation range.	Moderate potential to occur. Suitable habitat but no suitable soils on site. Within elevation range. Recorded in the vicinity.[2]
Bursera microphylla	Little-leaf elephant tree	None/None/List B/2.3	Sonoran desert scrub; rocky/deciduous tree/ June–July/200–700 meters	Not recorded in the vicinity.[2]	No suitable habitat but rocky loam soils within Sycamore South Study Area. Within elevation range.	Low potential to occur. No suitable habitat but suitable soils present. Within elevation range. Not recorded in the vicinity.[2] Would likely have been detected during surveys if present.
Calamagrostis densa	Tufted pine grass	None/None/MSCP/None	Chaparral/perennial herb/June–August/ 0–2,300 meters	Not recorded in the vicinity.[2]	Suitable chaparral habitat; preferred soils not identified for this species. Within elevation range.	Moderate potential to occur. Suitable habitat on site. Within elevation range. Not recorded in the vicinity.[2]
Calandrinia breweri	Brewer's calandrinia	None/None/List D/4.2	Chaparral, coastal scrub; sandy or loamy, disturbed sites and burns/annual herb/March–June/ 10–1,220 meters	Not recorded in the vicinity.[2]	Suitable habitat and sandy loam soils within Hagey Study Area. Within elevation range.	Moderate potential to occur. Suitable habitat and soils on site. Within elevation range. Not recorded in the vicinity.[2]

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California [=Erodium] macrophylla	Round-leaved filaree	None/None/List B/1B.1	Cismontane woodland, valley and foothill grassland; clay /annual herb/ March–May/ 15–1,200 meters	Recorded within surrounding El Cajon Mountain quadrangle.	No suitable woodland or grassland habitat or clay soils on site. Within elevation range.	Low potential to occur. No suitable habitat or soils on site. Within elevation range. Recorded in the vicinity.[2]
Calliandra eriophylla	Pink fairy Duster	None/None/List B/2.3	Sonoran desert scrub; sandy or rocky/deciduous shrub/January–March/ 120–1,500 meters	Not recorded in the vicinity.[2]	No suitable habitat but suitable soils within either Study Area. Within elevation range.	Low potential to occur. No suitable habitat but suitable soils on site. Within elevation range. Not recorded in the vicinity.[2] Would likely have been detected during surveys if present.
Calochortus catalinae	Catalina mariposa lily	None/None/List D/4.2	Chaparral, cismontane woodland, coastal scrub, valley and foothill grassland/bulbiferous herb/March–June/ 15–700 meters	Not recorded in the vicinity.[2]	Suitable chaparral habitat on site; no preferred soils included in species description. Within elevation range.	Moderate potential to occur. Suitable habitat on site. Within elevation range. Not recorded in the vicinity.[2]
Calochortus dunnii	Dunn's mariposa lily	None/SR/List A, MSCP /1B.2	Closed-cone coniferous forest, chaparral, valley and foothill grassland; gabbroic or metavolcanic, rocky/bulbiferous herb/April–June/ 185–1,830 meters	Recorded within surrounding El Cajon Mountain quadrangle.	Suitable chaparral habitat and rocky loam soils within Sycamore South Study Area. Within elevation range.	Moderate potential to occur. Suitable habitat and soils on site. Within elevation range. Recorded in the vicinity.[2]
Camissonia lewisii	Lewis's evening primrose	None/None/List C/3	Coastal bluff scrub, cismontane woodland, coastal dunes, coastal scrub, valley and foothill grassland; sandy or clay/annual herb/March–May/– 300 meters	Recorded within surrounding Ramona quadrangle.	No suitable habitat but sandy loam soils within Hagey Study Area. Within elevation range.	Low potential to occur. No suitable habitat but suitable soils on site. Within elevation range. Recorded in the vicinity.[2]

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Carex obispoensis	San Luis Obispo sedge	None/None/None/1B.2	Closed-cone coniferous forest, Chaparral, Coastal prairie, Coastal scrub, Valley and foothill grassland/often serpentinite seeps, sometimes gabbro; often on clay soils/perennial rhizomatous herb/April–June/10–820 meters	Recorded within surrounding Alpine quadrangle.	Suitable chaparral habitat but no suitable soils on site. Within elevation range.	Low potential to occur. Suitable habitat but no suitable soils on site. Within elevation range. Recorded in the vicinity.[2]
Carlowrightia arizonica	Arizona carlowrightia	None/None/List B/2.2	Sonoran desert scrub/sandy, granitic alluvium/deciduous shrub/March–May/ 285– 430 meters	Not recorded in the vicinity.[2]	No suitable habitat but sandy loam soils within Hagey Study Area. Within elevation range.	Low potential to occur. Suitable soils but no suitable habitat. Within elevation range. Not recorded in the vicinity.[2] Would likely have been detected during surveys if present.
Caulanthus simulans	Payson's jewel-flower	None/None/List D/4.2	Chaparral, coastal scrub; sandy and granitic/annual herb/March–May/90– 2,200 meters	Not recorded in the vicinity.[2]	Suitable chaparral habitat and sandy loam soils. Within elevation range.	Moderate potential to occur. Suitable habitat and soils on site. Within elevation range. Not recorded in the vicinity.[2]
Caulanthus heterophyllus var. *pseudosimulans*	Slender-pod jewelflower	None/None/MSCP/None	Coastal sage scrub, chaparral; annual herb/March–May 0–1,300 meters	Not recorded in the vicinity.[2]	Suitable habitat on site. Within elevation range.	Moderate potential to occur. Suitable habitat on site. Within elevation range. Not recorded in the vicinity.[2]
Ceanothus cyaneus	Lakeside ceanothus	None/None/List A, MSCP/1B.2	Closed-cone coniferous forest, chaparral/evergreen shrub/April–June/235– 755 meters	Recorded within San Vicente Reservoir, as well as surrounding Alpine, El Cajon, and El Cajon Mountain quadrangles.	Suitable chaparral habitat; no preferred soils identified for this species. Within elevation range.	Moderate potential to occur. Suitable habitat on site. Within elevation range. Recorded in the vicinity.[2] Would likely have been detected during surveys if present.

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Ceanothus verrucosus	Wart-stemmed ceanothus	None/None/List B, MSCP /2.2	Chaparral/evergreen shrub/December–May / 1–380 meters	Recorded within surrounding La Mesa and El Cajon Mountain quadrangles.	Suitable chaparral habitat; no preferred soils identified for this species. Within elevation range.	Moderate potential to occur. Suitable habitat on site. Within elevation range. Recorded in the vicinity.[2] Would likely have been detected during surveys if present.
Centromadia [=Hemizonia] parryi ssp. *australis*	Southern tarplant	None/None/List A/1B.1	Marshes and swamps (margins), valley and foothill grassland (vernally mesic), vernal pools/annual herb/ May–November/0–425 meters	Recorded within surrounding Ramona quadrangle.	No suitable habitat or mesic areas on site. Within elevation range.	Low potential to occur. No suitable habitat or mesic areas on site. Within elevation range. Recorded in the vicinity.[2]
Centromadia [=Hemizonia] pungens ssp. *laevis*	Smooth tarplant	None/None/List A/1B.1	Chenopod scrub, meadows and seeps, playas, riparian woodland, valley and foothill grassland; alkaline/annual herb/April–September/ 0–640 meters	Recorded within surrounding El Cajon quadrangle.	No suitable habitat or soils on site. Within elevation range.	Low potential to occur. No suitable habitat or soils on site. Within elevation range. Recorded in the vicinity.[2]
Chaenactis carphoclinia var. *peirsonii*	Peirson's pincushion	None/None/List A/1B.3	Sonoran desert scrub; sandy/annual herb/ March–April/3–500 meters	Not recorded in the vicinity.[2]	No suitable habitat; suitable sandy loam soils within Hagey Study Area. Within elevation range.	Low potential to occur. No suitable habitat but suitable soils on site. Within elevation range. Not recorded in the vicinity.[2]
Chaenactis glabriuscula var. *orcuttiana*	Orcutt's pincushion	None/None/List A/1B.1	Coastal bluff scrub, sandy; coastal dunes/annual herb/January–August/ 0–100 meters	Not recorded in the vicinity.[2]	No suitable habitat; suitable sandy loam soils within Hagey Study Area. Outside elevation range.	Low potential to occur. No suitable habitat but suitable soils on site. Outside elevation range. Not recorded in the vicinity[2].

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Chaenactis parishii	Parish's chaenactis	None/None/List A/1B.3	Chaparral; rocky/perennial herb /May–July/1,300–2,500 meters	Not recorded in the vicinity.[2]	Suitable chaparral habitat and rocky loam soils within Sycamore South Study Area. Below elevation range.	Low potential to occur. Suitable habitat and soils on site. Below elevation range. Not recorded in the vicinity.[2]
Chamaebatia australis	Southern mountain misery	None/None/List D/4.2.	Chaparral; gabbroic or metavolcanic/evergreen shrub/November–May/ 300–1,020 meters	Not recorded in the vicinity.[2]	Suitable chaparral but no suitable gabbroic or metavolcanic soils on site. Within elevation range.	Low potential to occur. Suitable habitat but no suitable soils on site. Within elevation range. Not recorded in the vicinity.[2] Would likely have been detected during surveys if present.
Chamaesyce arizonica	Arizona spurge	None/None/List B/2.3	Sonoran desert scrub; sandy/perennial herb/ March–April/50–300 meters	Not recorded in the vicinity.[2]	No suitable habitat but sandy loam soils within Hagey Study Area. Within elevation range.	Low potential to occur. Suitable soils but no suitable habitat on site. Within elevation range. Not recorded in the vicinity.[2]
Chamaesyce platysperma	Flat-seeded spurge	None/None/List A/1B.2	Desert dunes, Sonoran desert scrub; sandy/annual herb/February–September/65–100 meters	Not recorded in the vicinity.[2]	No suitable habitat on site but sandy loam soils within Hagey Study Area. Outside elevation range.	Low potential to occur. Suitable soils but no suitable habitat on site. Outside elevation range. Not recorded in the vicinity.[2]
Chamaesyce revoluta	Thread-stemmed spurge	None/None/List D/4.3	Mojavean desert scrub; rocky/annual herb/ August-September/ 1,095–3,100 meters	Not recorded in the vicinity.[2]	No suitable habitat but rocky loam soils within Sycamore South Study Area. Below elevation range.	Low potential to occur. Suitable soils but no suitable habitat on site. Below elevation range. Not recorded in the vicinity.[2]
Chloropyron maritimum ssp. *maritimum [=Cordylanthus maritimus* ssp. *maritimus]*	Salt marsh bird's-beak	FE/SE/List A, MSCP /1B.2	Coastal dunes, coastal saltwater marshes and swamps/annual herb hemiparisitic/May–October/0–30 meters	Not recorded in the vicinity.[2]	No suitable habitat on site; preferred soils not identified for this species. Outside elevation range.	Not expected to occur. No suitable habitat. Outside elevation range. Not recorded in the vicinity.[2]

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Chorizanthe leptotheca	Peninsular spineflower	None/None/List D/4.2	Chaparral, coastal scrub, lower montane conifer forest; alluvial fan, granitic/annual herb/ May–August/300–1,900 meters	Not recorded in the vicinity.[2]	Suitable habitat but no alluvial fans or granitic soils present. Within elevation range.	Moderate potential to occur. Suitable habitat but no suitable soils on site. Within elevation range. Not recorded in the vicinity.[2]
Chorizanthe orcuttiana	Orcutt's spineflower	FE/SE/List A/1B.1	Maritime chaparral, closed-cone coniferous forest, coastal scrub; sandy openings/annual herb/March–May/ 3–125 meters	Not recorded in the vicinity.[2]	No suitable habitat but sandy loam soils within Hagey Study Area. Outside elevation range.	Low potential to occur. Suitable soils but no suitable habitats. Outside elevation range. Not recorded in the vicinity.[2]
Chorizanthe parryi var. *fernandina*	San Fernando Valley spineflower	FC/SE/List A/1B.1	Coastal scrub; sandy; valley and foothill grassland/annual herb/April–June/ 150–1,220 meters	Not recorded in the vicinity.[2]	Suitable habitat and sandy loam soils on site. Within elevation range.	Low potential to occur. Suitable habitat and soils on site. Within elevation range. Not recorded in the vicinity.[2] No records from San Diego County (CNPS 2012).
Chorizanthe polygonoides var. *longispina*	Long-spined spineflower	None/None/List A/1B.2	Chaparral, coastal scrub, meadows and seeps, valley and foothill grassland, vernal pools; often clay/annual herb/ April–July/30–1,530 meters	Recorded within surrounding La Mesa, Poway, El Cajon, and El Cajon Mountain quadrangles.	Suitable habitat but no clay soils. Within elevation range.	Low potential to occur. Suitable habitat but no suitable soils on site. Within elevation range. Recorded in the vicinity.[2]
Cistanthe [=Calandrinia] maritima	Seaside cistanthe (calindrinia)	None/None/List D/4.2	Coastal bluff scrub, coastal scrub, valley and foothill grassland; sandy/annual herb/March–June /5–300 meters	Not recorded in the vicinity.[2]	Suitable habitat and sandy loam soils within Hagey Study Area. Within elevation range.	Moderate potential to occur. Suitable soils and habitat. Within elevation range. Not recorded in the vicinity.[2]

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Clarkia delicata	Delicate clarkia	None/None/List A/1B.2	Chaparral, cismontane woodland; often gabbroic/annual herb/ April–June/235–1,000 meters	Recorded within San Vicente Reservoir quadrangle, as well as surrounding Alpine, Poway, El Cajon, and El Cajon Mountain quadrangles.	Suitable habitat, soils and elevation on site. Species recorded on site.	Recorded in study area during focused surveys.
Clinopodium [=Satureja] chandleri	San Miguel savory	None/None/List A, MSCP/1B.2	Chaparral, cismontane woodland, coastal scrub, riparian woodland, valley and foothill grassland; rocky, gabbroic or metavolcanic /shrub/March–July/ 120–1,075 meters	Recorded within San Vicente Reservoir quadrangle, as well as surrounding Alpine quadrangle.	Suitable habitat present and rocky loam soils within Sycamore South Study Area. Within elevation range.	Moderate potential to occur. Suitable habitat and soils on site. Within elevation range. Recorded in the vicinity.[2] Would likely have been detected during surveys if present.
Colubrina californica	Las Animas colubrina	None/None/List B/2.3	Mojavean desert scrub, Sonoran desert scrub/deciduous shrub/ April–June/10–1,000 meters	Not recorded in the vicinity.[2]	No suitable habitat; preferred soils not identified for this species. Within elevation range.	Low potential to occur. No suitable habitat on site. Within elevation range. Not recorded in the vicinity.[2] Would likely have been detected during surveys if present.
Comarostaphylis diversifolia ssp. *diversifolia*	Summer holly	None/None/List A/1B.2	Chaparral, cismontane woodland/evergreen shrub/April–June/30–790 meters	Recorded within San Vicente Reservoir quadrangle, as well as surrounding La Mesa and Poway quadrangles.	Suitable chaparral habitat; preferred soils not identified for this species. Within elevation range.	Moderate potential to occur. Suitable habitat on site. Within elevation range. Recorded in the vicinity.[2] Would likely have been detected during surveys if present.

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Convolvulus simulans	Small-flowered morning-glory	None/None/List D/4.2	Chaparral (openings), coastal scrub, valley and foothill grassland; clay, serpentinite seeps/annual herb/March–July/30–700 meters	Not recorded in the vicinity.[2]	Suitable habitat but no clay or serpentinite soils. Within elevation range.	Low potential to occur. Suitable habitat but no suitable soils on site. Within elevation range. Not recorded in the vicinity.[2]
Corethrogyne filaginifolia var. *incana*	San Diego sand aster	None/None/List A/1B.1	Chaparral, coastal bluff scrub, coastal scrub/perennial herb/June–September/ 3–115 meters	Not recorded in the vicinity.[2]	Suitable habitat; preferred soils not identified for this species. Outside elevation range.	Low potential to occur. Suitable soils on site. Outside elevation range. Not recorded in the vicinity.[2]
Corethrogyne filaginifolia var. *linifolia*	Del Mar Mesa sand aster	None/None/List A, MSCP/1B.1	Maritime chaparral (openings), coastal bluff scrub, coastal scrub; sandy/perennial herb/May–September/ 15–150 meters	Not recorded in the vicinity.[2]	Suitable habitat and suitable sandy loam within Hagey Study Area. Outside elevation range.	Low potential to occur. Suitable soils and habitat. Outside elevation range. Not recorded in the vicinity.[2]
Cryptantha costata	Ribbed cryptantha	None/None/List D/4.3	Desert dunes, Mojavean desert scrub, Sonoran desert scrub; sandy/annual herb/ February–May/-60–500 meters	Not recorded in the vicinity.[2]	No suitable habitat but sandy loam soils within Hagey Study Area. Within elevation range.	Not expected to occur. Suitable soils but no suitable habitat. Within elevation range. Not recorded in the vicinity.[2]
Cryptantha ganderi	Gander's cryptantha	None/None/List A/1B.1	Desert dunes, Sonoran desert scrub; sandy/annual herb/February-May/ 160–400 meters	Not recorded in the vicinity.[2]	No suitable habitat but sandy loam soils within Hagey Study Area. Within elevation range.	Not expected to occur. Suitable soils but no suitable habitat. Within elevation range. Not recorded in the vicinity.[2]
Cryptantha holoptera	Winged cryptantha	None/None/List D/4.3	Mojavean desert scrub, Sonoran desert scrub/annual herb/March–April/100–1,690 meters	Not recorded in the vicinity.[2]	No suitable habitat; preferred soils not identified for this species. Within elevation range.	Not expected to occur. No suitable habitat. Within elevation range. Not recorded in the vicinity.[2]

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Cylindropuntia [=Opuntia] californica var. *californica*	Snake cholla	None/None/List A, MSCP /1B.1	Chaparral, coastal scrub/stem succulent/April–May/ 30–150 meters	Not recorded in the vicinity.[2]	Suitable chaparral habitat; preferred soils not identified for this species. Outside elevation range.	Low potential to occur. Suitable habitat on site. Outside elevation range. Not recorded in the vicinity.[2] Would likely have been detected during surveys if present.
Cylindropuntia echinocarpa [=Opuntia wigginsii]	Wiggins cholla	None/None/List C/3.3	Sonoran desert scrub; sandy/stem succulent/March/30–885 meters	Not recorded in the vicinity.[2]	No suitable desert scrub habitat but sandy loam soils within Hagey Study Area. Within elevation range.	Low potential to occur. Suitable soils but no suitable habitat. Within elevation range. Not recorded in the vicinity.[2] Would likely have been detected during surveys if present.
Cylindropuntia (=Opuntia) wolfi	Wolf's cholla	None/None/List D/4.3	Sonoran desert scrub/stem succulent/ March–May/100–1,200 meters	Not recorded in the vicinity.[2]	No suitable habitat; preferred soils not identified for this species. Within elevation range.	Low potential to occur. No suitable habitat. Within elevation range. Not recorded in the vicinity.[2] Would likely have been detected during surveys if present.
Deinandra [=Hemizonia] conjugens	Otay tarplant	FT/SE/List A, MSCP /1B.1	Coastal scrub, valley and foothill grassland; clay/annual herb/May–June/25–300 meters	Not recorded in the vicinity.[2]	Suitable coastal scrub habitat but no clay soils. Within elevation range.	Low potential to occur. Suitable habitat but no suitable soils on site. Within elevation range. Not recorded in the vicinity.[2]
Deinandra [=Hemizonia] floribunda	Tecate tarplant	None/None/List A/1B.2	Chaparral, coastal scrub/annual herb/ August–October/ 70–1220 meters	Not recorded in the vicinity.[2]	Suitable habitat present; preferred soils not identified for this species. Within elevation range.	Moderate potential to occur. Suitable habitat on site. Within elevation range. Not recorded in the vicinity.[2]
Deinandra [=Hemizonia] mohavensis	Mojave tarplant	None/SE/List A/1B.3	Chaparral, coastal scrub, riparian scrub; mesic/annual herb/June–October/640–1600 meters	Not recorded in the vicinity.[2]	Suitable chaparral habitat but no mesic areas on site. Below elevation range.	Low potential to occur. Suitable habitat but no suitable mesic areas. Below elevation range. Not recorded in the vicinity.[2]

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Deinandra [=Hemizonia] paniculata	Paniculate tarplant	None/None/List D/4.2	Coastal scrub, valley and foothill grassland; usually vernally mesic/annual herb/April–November/ 25–940 meters	Not recorded in the vicinity.[2]	Suitable coastal scrub but no mesic areas. Within elevation range.	Low potential to occur. Suitable habitat but no suitable soils. Within elevation range. Not recorded in the vicinity.[2]
Delphinium hesperium ssp. *cuyamacae*	Cuyamaca larkspur	None/SR/List A/1B.2	Lower montane coniferous forest, meadows and seeps, vernal pools; mesic areas/perennial herb/ May–July/1220–1631 meters	Not recorded in the vicinity.[2]	No suitable habitat or mesic areas. Below elevation range.	Not expected to occur. No suitable habitat or soils. Below elevation range. Not recorded in the vicinity.[2]
Delphinium parishii ssp. *subglobosum*	Colorado Desert larkspur	None/None/List D/4.3	Chaparral, cismontane woodland, pinyon and juniper woodland, Sonoran desert scrub/perennial herb/ March–June/600–1800 meters	Not recorded in the vicinity.[2]	Suitable habitat present; preferred soils not identified for this species. Below elevation range.	Low potential to occur. Suitable habitat on site. Below elevation range. Not recorded in the vicinity.[2]
Dichondra occidentalis	Western dichondra	None/None/List D/4.2	Chaparral, cismontane woodland, coastal scrub, valley and foothill grassland/rhizomatous herb/March–July/ 50–500 meters	Not recorded in the vicinity.[2]	Suitable habitat on site; preferred soils not identified for this species. Within elevation range.	Moderate potential to occur. Suitable habitat on site. Within elevation range. Not recorded in the vicinity.[2]
Dicranostegia orcuttiana [=Cordylanthus orcuttianus]	Orcutt's bird's-beak	None/None/List B, MSCP/2.1	Coastal scrub/annual herb hemiparisitic/April–June/ 10–350 meters	Not recorded in the vicinity.[2]	Suitable coastal scrub habitat on site; preferred soils not identified for this species. Within elevation range.	Low potential to occur. Suitable habitat on site. Within elevation range. Not recorded in the vicinity.[2]

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Dieteria [=Machaeranthera] asteroides var. *lagunensis*	Mount Laguna Aster	None/SR/List B/2.1	Cismontane woodland, lower montane coniferous forest/perennial herb/ July–August/800–2,400 meters	Not recorded in the vicinity.[2]	No suitable habitat on site; preferred soils not identified for this species. Below elevation range.	Not expected to occur. No suitable habitat on site. Below elevation range. Not recorded in the vicinity.[2]
Ditaxis serrata var. *californica*	California ditaxis	None/None/List C/3.2	Sonoran desert scrub/perennial herb/March–December/ 30–1,000 meters	Not recorded in the vicinity.[2]	No suitable habitat on site; preferred soils not identified for this species. Within elevation range.	Not expected to occur. No suitable habitat on site. Within elevation range. Not recorded in the vicinity.[2]
Downingia concolor var. *brevior*	Cuyamaca Lake downingia	None/SE/List A/1B.1	Meadows and seeps (vernally mesic), vernal pools/annual herb/May–July/1,380–1,500 meters	Not recorded in the vicinity.[2]	No suitable habitat; preferred soils not identified for this species. Below elevation range.	Not expected to occur. No suitable habitat. Below elevation range. Not recorded in the vicinity.[2]
Dudleya alainae	Banner dudleya (Reiser's dudleya)	None/None/List C/3.2	Chaparral, lower montane coniferous forest, Sonoran desert scrub; rocky/perennial herb/May–July/740–1,200 meters	Not recorded in the vicinity.[2]	Suitable chaparral habitat and rocky loam within Sycamore South Study Area. Below elevation range.	Low potential to occur. Suitable habitat and soils on site. Below elevation range. Not recorded in the vicinity.[2]
Dudleya attenuata ssp. *orcuttii*	Orcutt's dudleya	None/None/List B/2.1	Coastal bluff scrub, chaparral, coastal scrub; rocky or gravelly/perennial herb/May–July/3–50 meters	Not recorded in the vicinity.[2]	Suitable habitat on site and rocky loam soil within Sycamore South Study Area. Outside elevation range.	Low potential to occur. Suitable habitat and soils on site. Outside elevation range. Not recorded in the vicinity.[2]
Dudleya blochmaniae ssp. *blochmaniae*	Blochman's dudleya	None/None/List A /1B.1	Chaparral, coastal bluff scrub, coastal scrub, valley and foothill grassland, rocky; often clay or serpentinite/perennial herb/April–June/5–450 meters	Not recorded in the vicinity.[2]	Suitable habitat on site but no clay or serpentinite soils. Within elevation range.	Low potential to occur. Suitable habitat, but suitable soils not present on site. Within elevation range. Not recorded in the vicinity.[2]

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Dudleya brevifolia [=D. blochmaniea ssp. *brevifolia]*	Short-leaved dudleya	None/SE /List A, MSCP /1B.1	Maritime chaparral (openings), coastal scrub, Torrey sandstone/perennial herb/ April–May/30–250 meters	Not recorded in the vicinity.[2]	Suitable habitat but no suitable sandstone soils. Within elevation range.	Low potential to occur. Suitable habitat but no suitable soils. Within elevation range. Not recorded in the vicinity.[2]
Dudleya multicaulis	Many-stemmed dudleya	None/None/List A/1B.2	Chaparral, coastal scrub, valley and foothill grassland; often clays/perennial herb/ April–July/15–790 meters	Not recorded in the vicinity.[2]	Suitable chaparral habitat but no clay soils. Within elevation range.	Low potential to occur. Suitable habitat but no suitable soils. Within elevation range. Not recorded in the vicinity.[2]
Dudleya variegata	Variegated dudleya	None/None/List A, MSCP /1B.2	Chaparral, cismontane woodland, coastal scrub, valley and foothill grassland, vernal pools/clay/perennial herb/ April–June/3–580 meters	Recorded within San Vicente Reservoir quadrangle, as well as surrounding El Cajon, Alpine, Poway, and La Mesa quadrangles.	Suitable chaparral habitat but no clay soils. Within elevation range.	Moderate potential to occur. Suitable habitat but no suitable soils on site. Within elevation range. Recorded in the vicinity.[2]
Dudleya viscida	Sticky dudleya	None/None/List A, MSCP/1B.2	Coastal bluff scrub, chaparral, cismontane woodland, coastal scrub; rocky/perennial herb/May–June/10–550 meters	Not recorded in the vicinity.[2]	Suitable habitat on site and rocky loam soils within Sycamore South Study Area. Within elevation range.	Moderate potential to occur. Suitable habitat and soils. Within elevation range. Not recorded in the vicinity.[2]
Ericameria cuneata var. *macrocephala*	Laguna Mountains goldenbush	None/None/List A/1B.3	Chaparral; granitic/shrub/ September-December/ 1,195–1,850 meters	Not recorded in the vicinity.[2]	Suitable chaparral but no granitic soils. Below elevation range.	Not expected to occur. Suitable habitat but no suitable soils. Below elevation range. Not recorded in the vicinity.[2] Would likely have been detected during surveys if present.

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Ericameria palmeri ssp. *palmeri*	Palmer's goldenbush	None/None/List B, MSCP/1B.1	Chaparral, coastal scrub; mesic/evergreen shrub/ September–November/ 30–600 meters	Recorded within San Vicente Reservoir quadrangle, as well as surrounding El Cajon, Alpine, Poway, San Pasqual, and La Mesa quadrangles.	Suitable chaparral habitat; preferred soils not identified for this species. Within elevation range.	Moderate potential to occur. Suitable habitat on site. Within elevation range. Recorded in the vicinity.[2] Would likely have been detected during surveys if present.
Erigonum evanidum [=foliosum]	Vanishing wild buckwheat (leafy buckwheat)	None/None/List A/1B.1	Chaparral, cismontane woodland, lower montane coniferous forest, pinyon and juniper woodland; sandy/annual herb/July–October/1,100–2,225 meters	Recorded within surrounding Alpine quadrangle.	Suitable chaparral habitat and sandy loam soils within Hagey Study Area. Below elevation range.	Moderate potential to occur. Suitable habitat and soils on site. Below elevation range. Recorded in the vicinity.[2]
Eryngium aristulatum var. *parishii*	San Diego button-celery	FE/SE/List A, MSCP /1B.1	Coastal scrub, valley and foothill grassland, vernal pools, mesic areas/annual-perennial herb/April–June/ 20–620 meters	Recorded within surrounding Poway and La Mesa quadrangles.	Suitable coastal scrub habitat but no mesic areas. Within elevation range.	Low potential to occur. Suitable habitat but no suitable soils on site. Within elevation range. Recorded in the vicinity.[2]
Eryngium pendletonensis	Pendleton button-celery	None/None/List A/1B.1	Coastal bluff scrub, valley and foothill grassland, vernal pools; clay, vernally mesic/perennial herb/April–June/15–110 meters	Not recorded in the vicinity.[2]	No suitable habitat or clay soils on site. No mesic areas. Outside elevation range.	Not expected to occur. No suitable habitat or soils. Outside elevation range. Not recorded in the vicinity.[2]
Erysimum ammophilum	Sand-loving wallflower	None/None/MSCP/ 1B.2	Chaparral (maritime), coastal dunes, coastal scrub; sandy, openings/ perennial herb/ February – June/ 0-60 meters	Not recorded in the vicinity.[2]	No suitable habitat. Outside elevation range.	Not expected to occur. No suitable habitat. Coastal species. Not recorded in the vicinity.[2]

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Eucnide rupestris	Rock nettle	None/None/List B/2.2	Sonoran desert scrub/annual herb/December–April/ 500–600 meters	Not recorded in the vicinity.[2]	No suitable habitat; preferred soils not identified for this species. Below elevation range.	Not expected to occur. No suitable habitat. Below elevation range. Not recorded in the vicinity.[2]
Euphorbia misera	Cliff spurge	None/None/List B/2.2	Coastal bluff scrub, coastal scrub; rocky/shrub/ December–August/ 10–500 meters	Not recorded in the vicinity.[2]	Suitable coastal scrub habitat and rocky loam within Sycamore South Study Area. Within elevation range.	Low potential to occur. Suitable habitat and soils on site. Within elevation range. Not recorded in the vicinity.[2] Would likely have been detected during surveys if present.
Ferocactus viridescens	San Diego barrel cactus	None/None/List B, MSCP/2.1	Chaparral, coastal scrub, valley and foothill grassland, vernal pools/stem succulent/ May–June/3–450 meters	Recorded within San Vicente Reservoir quadrangle, as well as surrounding El Cajon, Poway, and La Mesa quadrangles.	Suitable habitat present; preferred soils not identified for this species. Within elevation range.	Moderate potential to occur. Suitable habitat on site. Within elevation range. Recorded in the vicinity.[2] Would likely have been detected during surveys if present.
Frankenia palmeri	Palmer's frankenia	None/None/List B/2.1	Coastal dunes, coastal saltwater marsh and swamps, playas/perennial herb/May–July/0–10 meters	Not recorded in the vicinity.[2]	No suitable habitat; preferred soils not identified for this species. Outside elevation range.	Not expected to occur. No suitable habitat on site. Outside elevation range. Not recorded in the vicinity.[2]
Fremontodendron mexicanum	Mexican flannelbush	FE/SR/List A/1B.1	Closed-cone coniferous forest, chaparral, cismontane woodland; gabbroic, metavolcanic, or serpentintite/evergreen shrub/March–June/ 10–716 meters	Not recorded in the vicinity.[2]	Suitable chaparral habitat but no suitable soils on site. Within elevation range.	Low potential to occur. Suitable habitat but no suitable soils on site. Within elevation range. Not recorded in the vicinity.[2] Would likely have been detected during surveys if present.
Fritillaria biflora	Chocolate lily	None/None/List D/None	Valley grassland, foothill woodland/perennial herb/March-April/ 0–1,200 meters	Not recorded in the vicinity.[2]	No suitable habitat; preferred soils not identified for this species. Within elevation range.	Low potential to occur. No suitable habitat. Within elevation range. Not recorded in the vicinity.[2]

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Funastrum [=Cynanchum] utahense	Utah vine milkweed	None/None/List D/4.2	Mojavean desert scrub, Sonoran desert scrub; sandy or gravelly/perennial herb/ April–June/150–1,435 meters	Not recorded in the vicinity.[2]	No suitable habitat but sandy loam within Hagey Study Area. Within elevation range.	Low potential to occur. Suitable soils but no suitable habitat. Within elevation range. Not recorded in the vicinity.[2]
Galium angustifolium ssp. *borregoense*	Borrego beadstraw	None/SR/List A/1B.3	Sonoran desert scrub; rocky/perennial herb/March/350–1,250 meters	Not recorded in the vicinity.[2]	No suitable habitat but rocky loam within Sycamore South Study Area. Within elevation range.	Low potential to occur. Suitable soils but no suitable habitat. Within elevation range. Not recorded in the vicinity.[2]
Galium angustifolium ssp. *jacinticum*	San Jacinto Mountains bedstraw	None/None/List A/1B.3	Lower montane coniferous forest/perennial herb/ June–August/ 1,350–2100 meters	Not recorded in the vicinity.[2]	No suitable habitat; preferred soils not identified for this species. Below elevation range.	Low potential to occur. No suitable habitat. Below elevation range. Not recorded in the vicinity.[2]
Galium johnstonii	Johnston's bedstraw	None/None/List D/4.3	Chaparral, lower montane coniferous forest, pinyon-juniper woodland, riparian woodland /perennial herb/ June–July/1,220–2,300 meters	Not recorded in the vicinity.[2]	Suitable habitat; preferred soils not identified for this species. Below elevation range.	Not expected to occur. Suitable habitat on site. Below elevation range. Not recorded in the vicinity.[2]
Geothallus tuberosus	Campbell's liverwort	None/None/None/1B.1	Coastal scrub (mesic), Vernal pools/ephemeral liverwort/N/A/10–600 meters	Recorded within surrounding Poway quadrangle.	No suitable mesic habitat or soils on site. Within elevation range.	Low potential to occur. No suitable habitat on site. Within elevation range. Recorded in the vicinity.[2]
Geraea viscida	Sticky geraea	None/None/List B/2.3	Chaparral (often disturbed)/perennial herb/ May–June/450–1,700 meters	Not recorded in the vicinity.[2]	Suitable chaparral habitat on site. Preferred soils not identified for this species. Slightly below elevation range.	Low potential to occur. Suitable habitat on site. Slightly below elevation range. Not recorded in the vicinity.[2]

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Githopsis diffusa ssp. *filicaulis*	Mission Canyon bluecup	None/None/List C/3.1	Chaparral (mesic, disturbed areas)/annual herb/April–June/450–700 meters	Recorded within San Vicente Reservoir quadrangle, as well as surrounding El Cajon Mountain, Alpine, and La Mesa quadrangles.	No suitable mesic chaparral on site. Preferred soils not identified for this species. Slightly below elevation range.	Low potential to occur. No suitable mesic habitat on site. Slightly below elevation range. Recorded in the vicinity.[2]
Grindelia hallii [=G. hirsutula var. *hallii]*	San Diego gumplant	None/None/List A/1B.2	Chaparral, lower montane coniferous forest, meadows and seeps, valley and foothill grassland/perennial herb/ July–October/185–1,745 meters	Not recorded in the vicinity.[2]	Suitable chaparral habitat; preferred soils not identified for this species. Within elevation range.	Moderate potential to occur. Suitable habitat on site. Within elevation range. Not recorded in the vicinity.[2]
Harpagonella palmeri	Palmer's grapplinghook	None/None/List D/4.2	Chaparral, coastal scrub, valley and foothill grassland; clay/annual herb/March–May/20–955 meters	Not recorded in the vicinity.[2]	Suitable habitat but no clay soils. Within elevation range.	Low potential to occur. Suitable habitat but no suitable soils. Within elevation range. Not recorded in the vicinity.[2]
Hazardia orcuttii	Orcutt's hazardia	FC/ST/List A/1B.1	Chaparral (maritime), coastal scrub; often clay/evergreen shrub/August–October/ 80–85 meters	Not recorded in the vicinity.[2]	Moderately suitable habitat but no clay soils. Outside elevation range.	Low potential to occur. Moderately suitable habitat but no suitable soils. Outside elevation range. Not recorded in the vicinity.[2]
Herissantia crispa	Curly herissantia	None/None/List B/2.3	Sonoran desert scrub/annual-perennial herb/August–September/ 700–725 meters	Not recorded in the vicinity.[2]	No suitable habitat; preferred soils not identified for this species. Below elevation range.	Not expected to occur. No suitable habitat. Below elevation range. Not recorded in the vicinity.[2]

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Hesperocyparis [=Cupressus] forbesii	Tecate cypress	None/None/List A, MSCP/1B.1	Closed-cone coniferous forest, chaparral; clay, gabbroic or metavolcanic/evergreen tree/NA/80–1,500 meters	Recorded within surrounding Alpine quadrangle.	Moderately suitable habitat but no suitable soils on site. Within elevation range.	Low potential to occur. Moderately suitable habitat but no suitable soils on site. Within elevation range. Recorded in the vicinity.[2]. Would likely have been detected during surveys if present.
Hesperocyparis [=Cupressus] stephensonii	Cuyamaca cypress	None/None/List A/1B.1	Closed-cone coniferous forest, chaparral, cismontane woodland, riparian forest; gabbroic/evergreen tree/NA/1,035–1,705 meters	Not recorded in the vicinity.[2]	Suitable chaparral habitat on site but no gabbroic soils. Below elevation range.	Low potential to occur. Suitable habitat but no suitable soils. Below elevation range. Not recorded in the vicinity.[2] Would likely have been detected during surveys if present.
Heterotheca sessiliflora ssp. *sanjacintensis*	San Jacinto golden-aster	None/None/List D/None	Woodlands/366–1390 meters/unresolved in Jepson	Not recorded in the vicinity.[2]	No suitable woodland habitat. Preferred soils not identified for this species. Below elevation range.	Not expected to occur. No suitable habitat. Below elevation range. Not recorded in the vicinity.[2]
Heuchera brevistaminea	Mt. Laguna alumroot	None/None/List A/1B.3	Broadleafed upland forest, chaparral, cismontane woodland, riparian forest; rocky/rhizomatous herb/ April–July/1,370–2,000 meters	Not recorded in the vicinity.[2]	Suitable chaparral habitat and rocky loam within Sycamore South Study Area. Below elevation range.	Low potential to occur. Suitable habitat and soils. Below elevation range. Not recorded in the vicinity.[2]
Heuchera rubescens var. *versicolor*	San Diego County alumroot	None/None/List B/2.3	Chaparral, lower montane coniferous forest; rocky/rhizomatous herb/ May–June/1,500–4,000 meters	Not recorded in the vicinity.[2]	Suitable chaparral habitat and rocky loam within Sycamore South Study Area. Below elevation range.	Low potential to occur. Suitable habitat and soils. Below elevation range. Not recorded in the vicinity.[2]

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Holocarpha virgata ssp. *elongata*	Graceful tarplant	None/None/List D/4.2	Coastal scrub, cismontane woodland, chaparral, valley and foothill grassland/annual herb/May–November/ 60–1,100 meters	Not recorded in the vicinity.[2]	Suitable chaparral habitat; preferred soils not identified for this species. Within elevation range.	Moderate potential to occur. Suitable habitat on site. Within elevation range. Not recorded in the vicinity.[2]
Hordeum intercedens	Vernal barley	None/None/List C/3.2	Coastal dunes, coastal scrub, valley and foothill grassland (saline flats and depressions), vernal pools/annual herb/ March–June/5–1,000 meters	Not recorded in the vicinity.[2]	No suitable habitat on site; preferred soils not identified for this species. Within elevation range.	Low potential to occur. No suitable habitat on site. Within elevation range. Not recorded in the vicinity.[2]
Horkelia cuneata ssp. *puberula*	Mesa horkelia	None/None/List A/1B.1	Maritime chaparral, cismontane woodland, coastal scrub; sandy or gravelly/perennial herb/February–July/ 70–810 meters	Not recorded in the vicinity.[2]	Suitable habitat on site and sandy loam soils within Hagey Study Area. Within elevation range.	Moderate potential to occur. Suitable soils and habitat on site. Within elevation range. Not recorded in the vicinity.[2]
Horkelia truncata	Ramona horkelia	None/None/List A/1B.3	Chaparral/cismontane woodland; clay, gabbroic/perennial herb/ May–June/400–1,300 meters	Recorded within San Vicente Reservoir quadrangle, as well as surrounding El Cajon Mountain, El Cajon, Ramona, and San Pasqual quadrangles.	Suitable chaparral habitat but no clay or gabbroic soils on site. Slightly within elevation range.	Low potential to occur. Suitable habitat but no suitable soils on site. Slightly within elevation range. Recorded in the vicinity.[2]

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Horsfordia newberryi	Newberry's velvet-mallow	None/None/List D/4.3	Sonoran desert scrub; rocky/shrub/ February–December/ 3–800 meters	Not recorded in the vicinity.[2]	No suitable habitat but rocky loam within Sycamore South Study Area. Within elevation range.	Low potential to occur. Suitable soils but no suitable habitat. Within elevation range. Not recorded in the vicinity.[2]
Hosackia [=Lotus] crassifolius var. *otayensis*	Otay Mountains lotus	None/None/List A/1B.1	Chaparral (metavolcanic, often in disturbed areas)/perennial herb/May–August/ 915–1,005 meters	Not recorded in the vicinity.[2]	Moderately suitable habitat on site; no metavolcanic soils. Below elevation range.	Not expected to occur. Moderately suitable habitat. Below elevation range. Not recorded in the vicinity.[2]
Hulsea californica	San Diego sunflower	None/None/List A/1B.3	Chaparral, lower montane coniferous forest, upper montane coniferous forest; openings and burned areas/perennial herb/ April–June/915–2,915 meters	Not recorded in the vicinity.[2]	Suitable chaparral habitat; preferred soils not identified for this species. Below elevation range.	Not expected to occur. Suitable habitat on site. Below elevation range. Not recorded in the vicinity.[2]
Hulsea mexicana	Mexican hulsea	None/None/List B/2.3	Chaparral (volcanic, often on burns or disturbed areas)/annual-perennial herb/April–June/ 1,200–1,200 meters	Not recorded in the vicinity.[2]	Suitable chaparral habitat; preferred soils not identified for this species. Below elevation range.	Not expected to occur. Suitable habitat on site. Below elevation range. Not recorded in the vicinity.[2]
Hulsea vestita ssp. *callicarpha*	Beautiful hulsea	None/None/List D/4.2	Chaparral, lower montane coniferous forest; rocky or gravelly, granitic/perennial herb/May–October/ 915–3,050 meters	Not recorded in the vicinity.[2]	Suitable chaparral habitat and rocky loam within Sycamore South Study Area. Below elevation range.	Low potential to occur. Suitable habitat and soils on site. Below elevation range. Not recorded in the vicinity.[2]
Hymenothrix wrightii	Wright's hymenothrix	None/None/List D/4.3	Cismontane woodland, lower montane coniferous forest, valley and foothill grassland/perennial herb/ June–October/ 1,400–1,550 meters	Not recorded in the vicinity.[2]	No suitable habitat; preferred soils not identified for this species. Below elevation range.	Not expected to occur. No suitable habitat. Below elevation range. Not recorded in the vicinity.[2]

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Ipomopsis tenuifolia	Slender-leaved ipomopsis	None/None/List B/2.3	Chaparral, pinyon and juniper woodland, Sonoran desert scrub; gravelly or rocky/perennial herb/March–May/100–1,200 meters	Not recorded in the vicinity.[2]	Suitable chaparral habitat and rocky loam within Sycamore South Study Area. Within elevation range.	Low potential to occur. Suitable habitat and soils on site. Within elevation range. Not recorded in the vicinity.[2]
Isocoma menziesii var. *decumbens*	Decumbent goldenbush	None/None/List A/1B.2	Chaparral, coastal scrub (sandy, often disturbed areas)/shrub/ April–November/10–135 meters	Recorded within San Vicente Reservoir quadrangle, as well as surrounding Poway quadrangle.	Suitable chaparral habitat and sandy loam within Hagey Study Area. Outside elevation range.	Low potential to occur. Suitable habitat and soils on site. Outside elevation range. Recorded in the vicinity.[2] Would likely have been detected during surveys if present.
Iva hayesiana	San Diego marsh-elder	None/None/List B/2.2	Marshes and swamps, playas/perennial herb/ April–October/10–500 meters	Recorded within surrounding Poway and La Mesa quadrangles.	No suitable habitat or playas on site. Within elevation range.	Low potential to occur. No suitable habitat or soils on site. Within elevation range. Recorded in the vicinity.[2]
Juglans californica	California black walnut	None/None/List D/4.2	Chaparral, cismontane woodland, coastal scrub/; alluvial/deciduous tree/ March–August/50–900 meters	Not recorded in the vicinity.[2]	Suitable chaparral habitat but no alluvial soils on site. Within elevation range.	Low potential to occur. Suitable habitat but no suitable soils on site. Within elevation range. Not recorded in the vicinity.[2] Would likely have been detected during surveys if present.
Juncus acutus var. *leopoldii*	Southwestern spiny rush	None/None/List D/4.2	Coastal dunes (mesic), meadows and seeps (alkaline seeps), coastal saltwater marsh/rhizomatous herb/ May–June/3–900 meters	Not recorded in the vicinity.[2]	No suitable habitat or alkaline/mesic soils. Within elevation range.	Low potential to occur. No suitable habitat or soils. Within elevation range. Not recorded in the vicinity.[2]

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Juncus cooperi	Cooper's rush	None/None/List D/4.3	Meadows and seeps, mesic, alkaline or saline/perennial herb/April–May/ -260–1,770 meters	Not recorded in the vicinity.[2]	No suitable habitat or alkaline/mesic soils. Within elevation range.	Low potential to occur. No suitable habitat or soils. Within elevation range. Not recorded in the vicinity.[2]
Lasthenia glabrata ssp. *coulteri*	Coulter's goldfields	None/None/List A/1B.1	Saltwater marsh and swamps, playas, vernal pools/annual herb/February–June/ 1–1,220 meters	Not recorded in the vicinity.[2]	No suitable habitat or vernal pools. Within elevation range.	Low potential to occur. No suitable habitat. Within elevation range. Not recorded in the vicinity.[2]
Lathyrus splendens	Pride of California	None/None/List D/4.3	Chaparral/perennial herb/March–June/ 200–1,525 meters	Not recorded in the vicinity.[2]	Suitable habitat on site; preferred soils not identified for this species. Within elevation range.	Moderate potential to occur. Suitable habitat on site. Within elevation range. Not recorded in the vicinity.[2]
Lepechinia cardiophylla	Heart-leaved pitcher sage	None/None/List A, MSCP /1B.2	Closed-cone coniferous forest, chaparral, cismontane woodland/shrub/April–July/520–1,370 meters	Recorded within San Vicente Reservoir quadrangle.	Suitable habitat on site; preferred soils not identified for this species. Outside elevation range.	Low potential to occur. Suitable habitat on site. Outside elevation range. Recorded in the vicinity.[2] Would likely have been detected during surveys if present.
Lepechinia ganderi	Gander's pitcher sage	None/None/List A, MSCP /1B.3	Closed-cone coniferous forest, chaparral, coastal scrub, valley and foothill grassland; gabbroic or metavolcanic/shrub/ June–July/305–1,005 meters	Not recorded in the vicinity.[2]	Suitable habitat but no suitable soils on site. Within elevation range.	Low potential to occur. Suitable habitat but no suitable soils on site. Within elevation range. Not recorded in the vicinity.[2] Would likely have been detected during surveys if present.
Lepidium flavum var. *felipense*	Borrego Valley pepper-grass	None/None/List A/1B.2	Pinyon and juniper woodland, Sonoran desert scrub; sandy/annual herb/ March–May/455–840 meters	Not recorded in the vicinity.[2]	No suitable habitat but sandy soils within Hagey Study Area. Below elevation range.	Not expected to occur. Suitable soils but no suitable habitat. Below elevation range. Not recorded in the vicinity.[2]

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Lepidium virginicum var. *robinsonii*	Robinson pepper-grass	None/None/List A/1B.2	Chaparral, coastal scrub/annual herb/January–July/1–885 meters	Recorded within San Vicente Reservoir quadrangle, as well as surrounding Poway, Alpine, Ramona, and La Mesa quadrangles.	Suitable chaparral habitat on site; preferred soils not identified for this species. Within elevation range.	High potential to occur. Suitable habitat on site. Within elevation range. Recorded in the vicinity.[2]
Leptosiphon (=Linanthus) floribundus ssp. *hallii*	Santa Rosa Mountain leptosiphon (linanthus)	None/None/List A/1B.3	Pinyon and juniper woodland, Sonoran desert scrub/perennial herb/May–July/1,000–2,000 meters	Not recorded in the vicinity.[2]	No suitable habitat on site; preferred soils not identified for this species. Below elevation range.	Not expected to occur. No suitable habitat. Below elevation range. Not recorded in the vicinity.[2]
Leptosyne [=Coreopsis] maritima	Sea dahlia	None/None/List B/2.2	Coastal bluff scrub, coastal scrub/perennial herb/March–May/5–150 meters	Not recorded in the vicinity.[2]	No suitable coastal habitat on site; preferred soils not identified for this species. Outside elevation range.	Not expected to occur. No suitable habitat. Outside elevation range. Not recorded in the vicinity.[2]
Lessingia glandulifera var. *tomentosa*	Warner Springs lessingia	None/None/List A/1B.3	Chaparral; sandy/annual herb/August–October/ 870–1,220 meters	Not recorded in the vicinity.[2]	Suitable chaparral habitat and sandy loam within Hagey Study Area. Below elevation range.	Low potential to occur. Suitable habitat and soils on site. Below elevation range. Not recorded in the vicinity.[2]
Lewisia brachycalyx	Southwestern bitterroot	None/None/List B/2.2	Lower montane coniferous forest, meadows and seeps; mesic/perennial herb/February–June/ 1,370–2,300 meters	Not recorded in the vicinity.[2]	No suitable habitat; preferred soils not identified for this species. Below elevation range.	Not expected to occur. No suitable habitat. Below elevation range. Not recorded in the vicinity.[2]

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Lilium humboldtii ssp. *ocellatum*	Ocellated Humboldt lily	None/None/List D/4.2	Chaparral, cismontane woodland, coastal scrub, lower montane coniferous forest, riparian woodland; openings/bulbiferous herb/March–July/ 30–1,800 meters	Not recorded in the vicinity.[2]	Suitable chaparral habitat; preferred soils not identified for this species. Within elevation range.	Low potential to occur. Suitable habitat on site. Within elevation range. Not recorded in the vicinity.[2]
Lilium parryi	Lemon Lily	None/None/List A/1B.2	Lower montane coniferous forest, meadows and seeps, riparian forest, upper montane coniferous forest; mesic/bulbiferous herb/July–August/ 1,220–2,745 meters	Not recorded in the vicinity.[2]	No suitable habitat or mesic soils. Below elevation range.	Not expected to occur. No suitable habitat or soils. Below elevation range. Not recorded in the vicinity.[2]
Limnanthes gracilis ssp. *parishii*	Cuyamaca meadowfoam	None/SE/List A/1B.2	Lower montane coniferous forest, meadows and seeps, vernal pools; vernally mesic/annual herb/April–June/600–2000 meters	Not recorded in the vicinity.[2]	No suitable habitat or mesic soils. Below elevation range.	Not expected to occur. No suitable habitat or soils. Below elevation range. Not recorded in the vicinity.[2]
Linanthus bellus	Desert beauty	None/None/List B/2.3	Chaparral; sandy/annual herb/April–May/ 1,000–1,400 meters	Not recorded in the vicinity.[2]	Suitable chaparral habitat and sandy loam within Hagey Study Area. Below elevation range.	Low potential to occur. Suitable habitat and soils. Below elevation range. Not recorded in the vicinity.[2]
Linanthus orcuttii	Orcutt's linanthus	None/None/List A/1B.3	Chaparral, lower montane coniferous forest, pinyon and juniper woodland; openings/annual herb/ May–June/915–2145 meters	Not recorded in the vicinity.[2]	Suitable chaparral habitat and openings. Preferred soils not identified for this species. Below elevation range.	Low potential to occur. Suitable habitat present. Below elevation range. Not recorded in the vicinity.[2]

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Lotus nuttallianus	Nuttall's lotus	None/None/List A, MSCP/1B.1	Coastal dunes, coastal scrub; sandy/annual herb/ March–June/0–10 meters	Not recorded in the vicinity.[2]	Moderately suitable coastal scrub habitat; sandy loam within Hagey Study Area. Outside elevation range.	Not expected to occur. Suitable habitat and soils, but well outside elevation range. Not recorded in the vicinity.[2]
Lupinus excubitus var. *medius*	Mountain Springs bush lupine	None/None/List A/1B.3	Pinyon and juniper woodland, Sonoran desert scrub/shrub/March–May/ 425–1,370 meters	Not recorded in the vicinity.[2]	No suitable habitat; preferred soils not identified for this species. Slightly below elevation range.	Low potential to occur. No suitable habitat. Slightly below elevation range. Not recorded in the vicinity.[2] Would likely have been detected during surveys if present.
Lycium californicum	California box-thorn	None/None/List D/4.2	Coastal bluff scrub, coastal scrub/shrub/(Dec) March–August/5–150 meters	Not recorded in the vicinity.[2]	Moderately suitable coastal scrub habitat; preferred soils not identified for this species. Outside elevation range.	Low potential to occur. Moderately suitable habitat. Outside elevation range. Not recorded in the vicinity.[2] Would likely have been detected during surveys if present.
Lycium parishii	Parish's desert-thorn	None/None/List B/2.3	Coastal scrub, Sonoran desert scrub/shrub/March–April/ 305–1000 meters	Not recorded in the vicinity.[2]	Moderately suitable coastal scrub habitat; preferred soils not identified for this species. Within elevation range.	Low potential to occur. Suitable habitat on site. Within elevation range. Not recorded in the vicinity.[2] Would likely have been detected during surveys if present.
*Lyrocarpa coulteri [*var.*palmeri]*	Palmer's lyrepod	None/None/List D/4.3	Sonoran desert scrub; gravelly or rocky/perennial herb/December–April/ 120–795 meters	Not recorded in the vicinity.[2]	No suitable habitat; rocky loam soils within Sycamore South Study Area. Within elevation range.	Low potential to occur. Suitable soils but no suitable habitat. Within elevation range. Not recorded in the vicinity.[2]
Malacothamnus aboriginum	Indian Valley bush mallow	None/None/List A/1B.2	Chaparral, cismontane woodland; rocky, granitic, often in burned areas/deciduous shrub/April–October/ 150–1,700 meters	Not recorded in the vicinity.[2]	Suitable chaparral habitat and rocky loam within Sycamore South Study Area. Within elevation range.	Moderate potential to occur. Suitable habitat and soils. Within elevation range. Not recorded in the vicinity.[2]

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Malperia tenuis	Brown turbans	None/None/List B/2.3	Sonoran desert scrub; sandy, gravelly/annual herb/March–April/15–335 meters	Not recorded in the vicinity.[2]	No suitable habitat; sandy loam soils within Hagey Study Area. Within elevation range.	Low potential to occur. Suitable soils but no suitable habitat. Within elevation range. Not recorded in the vicinity.[2]
Matelea parvifolia	Climbing spearleaf	None/None/List B/2.3	Mojavean desert scrub, Sonoran desert scrub; rocky/perennial herb/ March–May/440–1,095 meters	Not recorded in the vicinity.[2]	No suitable habitat; rocky loam soils within Sycamore South Study Area. Slightly below elevation range.	Low potential to occur. Suitable soils but no suitable habitat. Slightly below elevation range. Not recorded in the vicinity.[2]
Mentzelia hirsutissima	Hairy stickleaf	None/None/List B/2.3	Sonoran desert scrub; rocky/annual herb/ March–May/0–700 meters	Not recorded in the vicinity.[2]	No suitable habitat; rocky loam soils within Sycamore South Study Area. Within elevation range.	Low potential to occur. Suitable soils but no suitable habitat. Within elevation range. Not recorded in the vicinity.[2]
Microseris douglasii var. *platycarpha*	Small-flowered microseris	None/None/List D/4.2	Cismontane woodland, coastal scrub, valley and foothill grassland, clays/annual herb/March–May/15–1,070 meters	Not recorded in the vicinity.[2]	Suitable chaparral habitat but no clay soils. Within elevation range.	Low potential to occur. Suitable habitat but no suitable soils. Within elevation range. Not recorded in the vicinity.[2]
Mimulus auranticus var. *aridus*	Desert monkey flower	None/None/List D/4.3	Chaparral, rocky; Sonoran desert scrub/evergreen shrub/April–July/ 750–1,200 meters	Not recorded in the vicinity.[2]	Suitable chaparral habitat and rocky loam within Sycamore South Study Area. Below elevation range.	Low potential to occur. Suitable habitat and soils. Below elevation range. Not recorded in the vicinity.[2] Would likely have been detected during surveys if present.

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Mimulus clevelandii	Cleveland's monkeyflower	None/None/List D/4.2	Chaparral, cismontane woodland, lower montane coniferous forest; gabbroic, often in disturbed areas, openings, rocky/ rhizomatous herb/ April–July/450–2,000 meters	Not recorded in the vicinity.[2]	Suitable chaparral habitat and rocky loam within Sycamore South Study Area. Slightly below elevation range.	Moderate potential to occur. Suitable habitat and soils. Slightly below elevation range. Not recorded in the vicinity.[2]
Mimulus palmeri [=diffusus]	Palomar monkeyflower	None/None/List D/4.3	Chaparral, lower montane coniferous forest; sandy or gravelly/annual herb/ April–June/1,220–1,830 meters	Not recorded in the vicinity.[2]	Suitable chaparral habitat and sandy loam within Hagey Study Area. Below elevation range.	Not expected to occur. Suitable habitat and soils, but well below elevation range. Not recorded in the vicinity.[2]
Mimulus latidens	Vernal pool monkeyflower	None/None/List A/considered but rejected	Valley grassland, foothill woodland, wetland-riparian/annual herb/April-June/0–2,500 meters	Not recorded in the vicinity.[2]	No suitable habitat; preferred soils not identified for this species. Within elevation range.	Low potential to occur. No suitable habitat on site. Within elevation range. Not recorded in the vicinity.[2]
Mirabilis tenuiloba	Slender-lobed four o'clock	None/None/List D/4.3	Sonoran desert scrub/perennial herb/March–May/ 300–1,095 meters	Not recorded in the vicinity.[2]	No suitable habitat; preferred soils not identified for this species. Within elevation range.	Low potential to occur. No suitable habitat on site. Within elevation range. Not recorded in the vicinity.[2]
Monardella hypoleuca ssp. *lanata*	Felt-leaved monardella	None/None/List A, MSCP /1B.2	Chaparral, cismontane woodland/rhizomatous herb/June–August/ 300–1,575 meters	Recorded within San Vicente Reservoir quadrangle, as well as surrounding El Cajon Mountain, El Cajon and Alpine quadrangles.	Suitable chaparral habitat on site; preferred soils not identified for this species. Within elevation range.	Moderate potential to occur. Suitable habitat on site. Within elevation range. Recorded in the vicinity.[2]

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Monardella macrantha ssp. *hallii*	Hall's monardella	None/None/List A/1B.3	Broadleafed upland forest, chaparral, cismontane woodland, lower montane coniferous forest, valley and foothill grassland/rhizomatous herb/June–October/ 730–2,195 meters	Not recorded in the vicinity.[2]	Suitable chaparral habitat on site; preferred soils not identified for this species. Below elevation range.	Low potential to occur. Suitable habitat on site. Below elevation range. Not recorded in the vicinity.[2]
Monardella nana ssp. *leptosiphon*	San Felipa monardella	None/None/List A/1B.2	Chaparral, lower montane coniferous forest/rhizomatous herb/June–July/ 1,200–1,855 meters	Not recorded in the vicinity.[2]	Suitable chaparral habitat on site; preferred soils not identified for this species. Below elevation range.	Low potential to occur. Suitable habitat on site. Below elevation range. Not recorded in the vicinity.[2]
Monardella stoneae	Jennifer's monardella	None/None/List A/1B.2	Closed-cone coniferous forest, chaparral, coastal scrub, riparian scrub; usually rocky intermittent streambeds/perennial herb/June-September/ 10–790 meters	Not recorded in the vicinity.[2]	Suitable habitat; preferred soils not identified for this species. Rocky, ephemeral washes present in Sycamore South Study Area. Within elevation range.	Moderate potential to occur. Suitable habitat on site. Within elevation range. Not recorded in the vicinity.[2]
Monardella viminea	Willowy monardella	FE/SE/List A, MSCP /1B.1	Chaparral, coastal scrub, riparian forest, riparian scrub, riparian woodland; alluvial ephemeral washes/perennial herb/June–August/ 50–225 meters	Recorded within San Vicente Reservoir quadrangle, as well as surrounding Poway and La Mesa quadrangles.	Suitable chaparral habitat on site. Rocky, ephemeral washes present in Sycamore South Study Area. Slightly outside elevation range.	Moderate potential to occur. Suitable habitat and soils on site. Slightly outside elevation range. Recorded in the vicinity.[2]

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Mucronea californica	California spineflower	None/None/List D/4.2	Chaparral, cismontane woodland, coastal dunes, coastal scrub, valley and foothill grassland; sandy/annual herb/March–July/0–1,400 meters	Not recorded in the vicinity.[2]	Suitable chaparral habitat and sandy loam within Hagey Study Area. Within elevation range.	Moderate potential to occur. Suitable habitat and soils on site. Within elevation range. Not recorded in the vicinity.[2]
Myosurus minimus ssp. *apus*	Little mousetail	None/None/List C/3.1	Valley and foothill grassland, vernal pools (alkaline)/annual herb/March–June/ 20–640 meters	Recorded within surrounding La Mesa and San Pasqual quadrangles.	No suitable grassland, vernal pools, or alkaline soils on site. Within elevation range.	Low potential to occur. No suitable habitat or soils on site. Within elevation range. Recorded in the vicinity.[2]
Nama stenocarpum	Mud nama	None/None/List B/2.2	Marsh and swamps, lake margins and riverbanks/annual-perennial herb/January–July/5–500 meters	Not recorded in the vicinity.[2]	No suitable wetland or riparian habitat on site. Within elevation range.	Low potential to occur. No suitable habitat on site. Within elevation range. Not recorded in the vicinity.[2]
Nasturtium [=Rorippa] gambellii	Gambel's watercress	FE/ST/List A/1B.1	Marshes and swamps, freshwater or brackish/rhizomatous herb/April–October/5–330 meters	Not recorded in the vicinity.[2]	No suitable wetland habitat on site; preferred soils not identified for this species. Within elevation range.	Low potential to occur. No suitable habitat on site. Within elevation range. Not recorded in the vicinity.[2]
Navarretia fossalis	Spreading navarretia	FT/None/List A, MSCP/1B.1	Chenopod scrub, shallow freshwater marsh and swamps, playas, vernal pools/annual herb/April–June/30–655 meters	Recorded within surrounding San Pasqual quadrangle.	No suitable wetland habitat on site; preferred soils not identified for this species. Within elevation range.	Low potential to occur. No suitable habitat on site. Within elevation range. Recorded in the vicinity.[2]
Navarretia peninsularis	Peninsular navarretia	None/None/List A/1B.2	Chaparral (openings). lower montane coniferous forest, meadows and seeps, pinyon and juniper woodland; mesic/annual herb/June–August/1,500–2,300 meters	Not recorded in the vicinity.[2]	Suitable chaparral habitat but no mesic soils. Below elevation range.	Low potential to occur. Suitable habitat but no suitable soils. Below elevation range. Not recorded in the vicinity.[2]

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Navarretia prostrata	Prostrate navarretia	None/None/List A/1B.1	Coastal scrub, meadows and seeps, valley and foothill grassland (alkaline), vernal pools; mesic/annual herb/ April–July/15–1,210 meters	Not recorded in the vicinity.[2]	Suitable coastal scrub habitat but no mesic soils. Within elevation range.	Low potential to occur. Suitable habitat but no suitable soils. Within elevation range. Not recorded in the vicinity.[2]
Nemacaulis denudata var. *denudata*	Coast woolly-heads	None/None/List A/1B.2	Coastal dunes /annual herb/April–September/ 0–100 meters	Not recorded in the vicinity.[2]	No coastal dune habitats. Outside elevation range.	Low potential to occur. No suitable habitat. Outside elevation range. Not recorded in the vicinity.[2]
Nemacaulis denudata var. *gracilis*	Slender woolly-heads	None/None/List B/2.2	Coastal dunes, desert dunes, Sonoran desert scrub/annual herb/April–May/-50–400 meters	Not recorded in the vicinity.[2]	No coastal dune habitats. Within elevation range.	Low potential to occur. No suitable habitat. Within elevation range. Not recorded in the vicinity.[2]
Nolina cismontana	Chaparral beargrass	None/None/List A/1B.2	Chaparral, coastal scrub/; sandstone or gabbro/evergreen shrub/May–July/ 140–1,275 meters	Not recorded in the vicinity.[2]	Suitable chaparral habitat on site but no sandstone or gabbro soils. Within elevation range.	Low potential to occur. Suitable habitat but no suitable soils. Within elevation range. Not recorded in the vicinity.[2] Would likely have been detected during surveys if present.
Nolina interrata	Dehesa nolina	None/SE/List A, MSCP /1B.1	Chaparral, gabbroic or serpentinite soils/perennial herb/June–July/ 185–855 meters	Recorded within surrounding Alpine quadrangle.	Suitable chaparral habitat but no serpentinite soils. Within elevation range.	Low potential to occur. Suitable habitat but no suitable soils on site. Within elevation range. Recorded in the vicinity.[2]
Ophioglossum californicum	California adder's-tongue	None/None/List D/4.2	Chaparral, valley and foothill grassland, vernal pools (margins); mesic/rhizomatous herb/January–June/ 60–525 meters	Not recorded in the vicinity.[2]	Suitable chaparral habitat but no mesic soils. Within elevation range.	Low potential to occur. Suitable habitat but no suitable soils on site. Within elevation range. Not recorded in the vicinity.[2]

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Orcuttia californica	California Orcutt grass	FE/SE/List A, MSCP/1B.1	Vernal pools/annual herb/ April–August/15–660 meters	Recorded within surrounding La Mesa quadrangle.	No vernal pools on site. Within elevation range.	Low potential to occur. No vernal pools on site. Within elevation range. Recorded in the vicinity.[2]
Ornithostaphylos oppositifolia	Palo blanco	None/SE/List B/2.1	Chaparral/evergreen shrub/January–April/ 55–800 meters	Not recorded in the vicinity.[2]	Suitable chaparral habitat on site; preferred soils not identified for this species. Within elevation range.	Low potential to occur. Suitable habitat on site. Within elevation range. Not recorded in the vicinity.[2] Would likely have been detected during surveys if present.
Orobanche parishii ssp. *brachyloba*	Short-lobed broomrape	None/None/List D/4.2	Coastal bluff scrub, coastal dunes, coastal scrub; sandy/perennial herb parasitic/April–October/3–305 meters	Not recorded in the vicinity.[2]	Suitable coastal scrub habitat on site. Sandy loam soils within Hagey Study Area. Within elevation range.	Moderate potential to occur. Suitable habitat and soils on site. Within elevation range. Not recorded in the vicinity.[2]
Packera [=Senecio] ganderi	Gander's ragwort	None/SR/List A, MSCP/1B.2	Chaparral (burned areas and gabbroic outcrops)/perennial herb/April–June/ 400–1,200 meters	Recorded within San Vicente Reservoir quadrangle, as well as surrounding El Cajon Mountain and Alpine quadrangles.	Moderately suitable chaparral habitat on site; although burned areas have mostly recovered. Slightly within elevation range.	Moderate potential to occur. Suitable habitat on site. Slightly within elevation range. Recorded in the vicinity.[2]
Pectocarya peninsularis	Baja California bur-comb	None/None/List D/Not listed	Sonoran desert; washes, roadsides, clearings/annual herb/February-April/30–300 meters	Not recorded in the vicinity.[2]	No suitable desert habitat on site; preferred soils not identified for this species. Within elevation range.	Low potential to occur. No suitable habitat on site. Within elevation range. Not recorded in the vicinity.[2]

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Penstemon clevelandii var. *connatus*	San Jacinto beardtongue	None/None/List D/4.3	Chaparral, pinyon and juniper woodland, Sonoran desert scrub; rocky/perennial herb/March–May/ 400–1,500 meters	Not recorded in the vicinity.[2]	Suitable chaparral habitat and rocky loam within Sycamore South Study Area. Slightly within elevation range.	Low potential to occur. Suitable habitat and soils on site. Slightly within elevation range. Not recorded in the vicinity.[2]
Penstemon thurberi	Thurber's beardtongue	None/None/List D/4.2	Chaparral, Joshua tree "woodland," pinyon and juniper woodland, Sonoran desert scrub/perennial herb/ May–July/500–1,220 meters	Not recorded in the vicinity.[2]	Suitable chaparral habitat on site; preferred soils not identified for this species. Below elevation range.	Low potential to occur. Suitable habitat on site. Below elevation range. Not recorded in the vicinity.[2]
Pentachaeta aurea ssp. *aurea*	Golden-rayed pentachaeta	None/None/List D/4.2	Chaparral, cismontane woodland, coastal scrub, lower montane coniferous forest, riparian woodland, valley and foothill grassland /annual herb/March–July/ 80–1,850 meters	Not recorded in the vicinity.[2]	Suitable chaparral habitat on site; preferred soils not identified for this species. Within elevation range.	Moderate potential to occur. Suitable habitat on site. Within elevation range. Not recorded in the vicinity.[2]
Perideridia gairdneri ssp. *gairdneri*	Gairdener's yampah	None/None/List D/4.2	Broadleafed upland forest, chaparral, coastal prairie, valley and foothill grassland, vernal pools; vernally mesic /perennial herb /June–October / 0–610 meters	Not recorded in the vicinity.[2]	No suitable habitat or mesic soils. Within elevation range.	Low potential to occur. No suitable habitat or soils on site. Within elevation range. Not recorded in the vicinity.[2]
Phacelia stellaris	Brand's phacelia	FC/None/List A/1B.1	Coastal dunes, coastal scrub/annual herb/ March–June/1–400 meters	Not recorded in the vicinity.[2]	Suitable coastal scrub habitat on site but this species is generally found in more coastal regions. Within elevation range.	Low potential to occur. Moderately suitable habitat. Within elevation range. Not recorded in the vicinity.[2]

Scientific Name	Common Name	Status[1] Federal/State/County List/CRPR	Primary Habitat Associations/Life Form/Blooming Period/Elevation Range	Known Occurrences (CNDDB/CNPS)	Suitable Habitat/Soils/Elevation	Status On Site or Potential to Occur
Pilostyles thurberi	Thurber's pilostyles	None/None/List D/4.3	Sonoran desert scrub/perennial herb parasitic/January/ 0–365 meters	Not recorded in the vicinity.[2]	No suitable habitat on site; preferred soils not identified for this species. Within elevation range.	Not expected to occur. No suitable habitat. Within elevation range. Not recorded in the vicinity.[2]
Pinus torreyana ssp. *torreyana*	Torrey pine	None/None/List A, MSCP /1B.2	Closed-cone coniferous forest, chaparral; sandstone/evergreen tree/NA/75–160 meters	Not recorded in the vicinity.[2]	No suitable habitat or soils. Outside elevation range.	Not expected to occur. No suitable habitat or soils. Outside elevation range. Not recorded in the vicinity.[2] Would likely have been detected during surveys if present.
Piperia cooperi	Cooper's rein orchid	None/None/List D/ 4.2	Chaparral, cismontane woodland, valley and foothill grassland/ perennial herb/ March–June/15–1,585 meters	Not recorded in the vicinity.[2]	Suitable chaparral habitat; no preferred soils identified for this species. Within elevation range.	Moderate potential to occur. Suitable habitat on site. Within elevation range. Not recorded in the vicinity.[2]
Piperia leptopetala	Narrow-petaled rein orchid	None/None/List D/4.3	Cismontane woodland, lower montane coniferous forest, upper montane coniferous forest/perennial herb/May–July/380–2,225 meters	Not recorded in the vicinity.[2]	No suitable habitat or soils on site. Within elevation range.	Not expected to occur. No suitable habitat or soils on site. Within elevation range. Not recorded in the vicinity.[2]
Poa atropurpurea	San Bernardino bluegrass	FE/None/List A/1B.2	Meadows and seeps; mesic/rhizomatous herb/May–July/1,360–2,455 meters	Not recorded in the vicinity.[2]	No suitable habitat or soils on site. Below elevation range.	Not expected to occur. No suitable habitat or soils on site. Below elevation range. Not recorded in the vicinity.[2]
Pogogyne abramsii	San Diego mesa mint	FE/SE/List A, MSCP/1B.1	Vernal pools/annual herb/ March–July/90–200 meters	Recorded within surrounding La Mesa quadrangle.	No vernal pools on site. Outside elevation range.	Not expected to occur. No suitable habitat on site. Outside elevation range. Recorded in the vicinity.[2]

Scientific Name	Common Name	Status[1] Federal/State/County List/CRPR	Primary Habitat Associations/Life Form/Blooming Period/Elevation Range	Known Occurrences (CNDDB/CNPS)	Suitable Habitat/Soils/Elevation	Status On Site or Potential to Occur
Pogogyne nudiuscula	Otay Mesa mint	FE/SE/List A, MSCP/1B.1	Vernal pools/annual herb/ May–July/90–250 meters	Recorded within surrounding La Mesa quadrangle.	No vernal pools on site. Outside elevation range.	Not expected to occur. No suitable habitat on site. Outside elevation range. Recorded in the vicinity.[2]
Polygala cornuta var. *fishiae*	Fish's milkwort	None/None/List D/4.3	Chaparral, cismontane woodland, riparian woodland/deciduous shrub/May–August/ 100–1,000 meters	Not recorded in the vicinity.[2]	Suitable chaparral habitat on site. Within elevation range.	Low potential to occur. Suitable habitat. Not recorded in the vicinity.[2] Would likely have been detected during surveys if present.
Proboscidea althaeifolia	Desert unicorn-plant	None/None/List D/4.3	Sonoran desert scrub; sandy/perennial herb/ May–August/150–1,000 meters	Not recorded in the vicinity.[2]	No suitable habitat but sandy loam within Hagey Study Area. Within elevation range.	Low potential to occur. Suitable soils but no suitable habitat on site. Within elevation range. Not recorded in the vicinity.[2]
Quercus cedrosensis	Cedros Island oak	None/None/List B/2.2	Closed-cone coniferous forest, chaparral, coastal scrub/evergreen tree/ April–May/255–960 meters	Not recorded in the vicinity.[2]	Suitable chaparral habitat; preferred soils not identified for this species. Within elevation range.	Low potential to occur. Suitable habitat on site. Within elevation range. Not recorded in the vicinity.[2] Would likely have been detected during surveys if present.
Quercus dumosa	Nuttall's scrub oak	None/None/List A/1B.1	Closed-cone coniferous forest, chaparral, coastal scrub, sandy and clay loam soils/shrub/February–April /15–400 meters	Recorded within San surrounding El Cajon, Poway and Alpine quadrangles.	Suitable habitat and soils on site. Within elevation range.	Moderate potential to occur; however typically occurs closer to the coast. Suitable habitat and soils on site. Within elevation range. Recorded in the vicinity.[2] Would likely have been detected during surveys if present.

Scientific Name	Common Name	Status[1] Federal/State/County List/CRPR	Primary Habitat Associations/Life Form/Blooming Period/Elevation Range	Known Occurrences (CNDDB/CNPS)	Suitable Habitat/Soils/Elevation	Status On Site or Potential to Occur
Quercus engelmannii	Engelmann oak	None/None/List D/4.2	Chaparral, cismontane woodland, riparian woodland, valley and foothill grassland/deciduous tree/ March–June/50–1,300 meters	Not recorded in the vicinity.[2]	Suitable habitat on site. Within elevation range.	Not expected to occur. Would likely have been detected during surveys if present. Suitable habitat on site. Within elevation range. Not recorded in the vicinity.[2] Would likely have been detected during surveys if present.
Rhus trilobata var. *simplicifolia*	Single-leaf basketbush	None/None/List B/2.3	Pinyon and juniper woodland/deciduous shrub/March–April/ 1,220–1,370 meters	Not recorded in the vicinity.[2]	No suitable habitat on site; preferred soils not identified for this species. Below elevation range.	Not expected to occur. No suitable habitat. Below elevation range. Not recorded in the vicinity.[2] Would likely have been detected during surveys if present.
Ribes canthariforme	Moreno currant	None/None/List A/1B.3	Chaparral, riparian scrub/deciduous shrub/ February–April/ 340–1,200 meters	Recorded within San surrounding El Cajon Mountain and Alpine quadrangles.	Suitable chaparral habitat on site; preferred soils not identified for this species. Within elevation range.	Moderate potential to occur. Suitable habitat on site. Within elevation range. Recorded in the vicinity.[2] Would likely have been detected during surveys if present.
Ribes viburnifolium	Santa Catalina Island currant	None/None/List A/1B.2	Chaparral, cismontane woodland/evergreen shrub/February–April/ 30–305 meters	Not recorded in the vicinity.[2]	Suitable chaparral habitat; preferred soils not identified for this species. Within elevation range.	Moderate potential to occur. Suitable habitat on site. Within elevation range. Not recorded in the vicinity.[2] Would likely have been detected during surveys if present.
Romneya coulteri	Coulter's matilija poppy	None/None/List D/4.2	Chaparral, coastal scrub; often in burns/rhizomatous herb/March–July/ 20–1,200 meters	Not recorded in the vicinity.[2]	Suitable habitat on site, but habitat has generally recovered from recent burns. Within elevation range.	Moderate potential to occur. Suitable habitat on site. Within elevation range. Not recorded in the vicinity.[2]

Scientific Name	Common Name	Status[1] Federal/State/County List/CRPR	Primary Habitat Associations/Life Form/Blooming Period/Elevation Range	Known Occurrences (CNDDB/CNPS)	Suitable Habitat/Soils/Elevation	Status On Site or Potential to Occur
Rosa minutifolia	Small-leaved rose	None/SE/List B, MSCP /2.1	Chaparral, coastal scrub/deciduous shrub/ January–June/150–160 meters	Not recorded in the vicinity.[2]	Suitable habitat; preferred soils not identified for this species. Outside elevation range.	Low potential to occur. Suitable habitat on site. Outside elevation range. Not recorded in the vicinity.[2] Would likely have been detected during surveys if present.
Rubus glaucifolius var. *ganderi*	Cuyamaca raspberry	None/None/List A/1B.3	Lower montane coniferous forest; gabbroic/evergreen shrub/May–June/ 1,200–1,675 meters	Not recorded in the vicinity.[2]	No suitable habitat or gabbroic soils. Below elevation range.	Not expected to occur. No suitable habitat or soils. Below elevation range. Not recorded in the vicinity.[2] Would likely have been detected during surveys if present.
Rupertia rigida	Parish psoralea	None/None/List D/4.3	Chaparral, cismontane woodland, lower montane coniferous forest, meadows and seeps, pebble plain, valley and foothill grassland/perennial herb/June–August/ 700–2,500 meters	Not recorded in the vicinity.[2]	Suitable habitat on site; preferred soils not identified for this species. Below elevation range.	Low potential to occur. Suitable habitat on site. Below elevation range. Not recorded in the vicinity.[2]
Saltugilia [=Gilia] caruifolia	Caraway-leaved gilia	None/None/List D/4.3	Chaparral, lower montane coniferous forest; sandy, openings/annual herb/ May–August/840–2,300 meters	Not recorded in the vicinity.[2]	Suitable chaparral habitat and sandy loam soils within Hagey Study Area. Below elevation range.	Low potential to occur. Suitable habitat and soils on site. Below elevation range. Not recorded in the vicinity.[2]
Salvia eremostachya	Desert sage	None/None/List D/4.3	Sonoran desert scrub; rocky or gravelly/evergreen shrub/ March–May/700–1,400 meters	Not recorded in the vicinity.[2]	No suitable habitat but rocky loam within Sycamore South Study Area. Below elevation range.	Low potential to occur. Suitable soils but no suitable habitat. Below elevation range. Not recorded in the vicinity.[2]

Scientific Name	Common Name	Status[1] Federal/State/County List/CRPR	Primary Habitat Associations/Life Form/Blooming Period/Elevation Range	Known Occurrences (CNDDB/CNPS)	Suitable Habitat/Soils/Elevation	Status On Site or Potential to Occur
Salvia munzii	Munz's sage	None/None/List B/ 2.2	Chaparral, coastal scrub/evergreen shrub/February–April/ 120–1,065 meters	Not recorded in the vicinity.[2]	Suitable chaparral on site; preferred soils not identified for this species. Within elevation range.	Moderate potential to occur. Suitable habitat on site. Within elevation range. Not recorded in the vicinity.[2] Would likely have been detected during surveys if present.
Scutellaria bolanderi ssp. *austromontana*	Southern skullcap	None/None/List A/1B.2	Chaparral, cismontane woodland, lower montane coniferous forest; mesic/rhizomatous herb/ June–August/425–2,000 meters	Not recorded in the vicinity.[2]	Suitable chaparral but no mesic soils. Slightly within elevation range.	Low potential to occur. Suitable habitat but no suitable soils. Slightly within elevation range. Not recorded in the vicinity.[2]
Selaginella asprella	Bluish spike-moss	None/None/List D/4.3	Cismontane woodland, lower montane coniferous forest, pinyon and juniper woodland, subalpine coniferous forest, upper montane coniferous forest; granitic, rocky/rhizomatous herb/July/1,600–2,700 meters	Not recorded in the vicinity.[2]	No suitable habitat but suitable rocky loam within Sycamore South Study Area. Below elevation range.	Not expected to occur. Suitable soils but no suitable habitat. Below elevation range. Not recorded in the vicinity.[2]
Selaginella cinerascens	Ashy spike-moss	None/None/List D/4.1	Chaparral, coastal scrub/rhizomatous herb/Not listed/20–640 meters	Not recorded in the vicinity.[2]	Suitable habitat on site. Within elevation range.	Recorded on site.
Selaginella eremophila	Desert spike-moss	None/None/List B/2.2	Chaparral, Sonoran desert scrub; gravelly or rocky/rhizomatous herb/June/200–900 meters	Not recorded in the vicinity.[2]	Suitable chaparral habitat and rocky loam within Sycamore South Study Area. Within elevation range.	Moderate potential to occur. Suitable habitat and soils on site. Within elevation range. Not recorded in the vicinity.[2]

Scientific Name	Common Name	Status[1] Federal/State/County List/CRPR	Primary Habitat Associations/Life Form/Blooming Period/Elevation Range	Known Occurrences (CNDDB/CNPS)	Suitable Habitat/Soils/Elevation	Status On Site or Potential to Occur
Senecio aphanactis	Rayless ragwort	None/None/List B/2.2	Chaparral, cismontane woodland, coastal scrub; sometimes alkaline/annual herb/January–April/ 15–800 meters	Recorded within surrounding Poway quadrangle.	Suitable chaparral habitat but no alkaline soils. Within elevation range.	Moderate potential to occur. Suitable habitat but no suitable soils on site. Within elevation range. Recorded in the vicinity.[2]
Senna covesii	*Cove's cassia*	None/None/List B/2.2	Sonoran desert scrub; sandy/perennial herb/ March–June/305–1,070 meters	Not recorded in the vicinity.[2]	No suitable habitat but sandy loam within Hagey Study Area. Within elevation range.	Low potential to occur. Suitable soils but no suitable habitat. Within elevation range. Not recorded in the vicinity.[2]
Sibaropsis hammittii	Hamitt's clay cress	None/None/List A/1B.2	Chaparral (openings), valley and foothill grassland; clay/annual herb/March–April/ 720–1065 meters	Recorded within surrounding Alpine quadrangle.	Suitable chaparral habitat but no clay soils. Below elevation range.	Low potential to occur. Suitable habitat but no suitable soils on site. Below elevation range. Recorded in the vicinity.[2]
Solanum tenuilobatum	Chaparral nightshade	None/None/MSCP/None	Forest, northern oak woodland, southern oak woodland, foothill woodland, chaparral/perennial herb/February–July/ 0–2,743 meters	Not recorded in the vicinity.[2]	Suitable chaparral habitat. Within elevation range.	High potential to occur. Suitable habitat. Synonymous species, *S. xanti*, was recorded within both Study Areas.
Spermolepis echinata	Spermolepis	None/None/List B/2.3	Sonoran desert scrub; sandy or rocky/annual herb/ March–April/60–1,500 meters	Not recorded in the vicinity.[2]	No suitable habitat but suitable soils within either Study Area. Within elevation range.	Low potential to occur. Suitable soils but no suitable habitat. Within elevation range. Not recorded in the vicinity.[2]
Stemodia durantifolia	Purple stemodia	None/None/List B/2.1	Sonoran desert scrub (often mesic, sandy) /perennial herb/ January–December/ 180–300 meters	Recorded within surrounding La Mesa quadrangle.	No suitable habitat but sandy soils within Hagey Study Area. Within elevation range.	Low potential to occur. Suitable soils but no suitable habitat. Within elevation range. Recorded in the vicinity.[2]

Scientific Name	Common Name	Status[1] Federal/State/County List/CRPR	Primary Habitat Associations/Life Form/Blooming Period/Elevation Range	Known Occurrences (CNDDB/CNPS)	Suitable Habitat/Soils/Elevation	Status On Site or Potential to Occur
Stipa [=Achnatherum] diegoensis	San Diego County needlegrass	None/None/List D/4.2	Chaparral, coastal scrub; rocky, often mesic/perennial herb/February–June/10–800 meters	Not recorded in the vicinity.[2]	Suitable habitat and rocky loam within Sycamore South Study Area. Within elevation range.	Moderate potential to occur. Suitable habitat and soils. Within elevation range. Not recorded in the vicinity.[2]
Streptanthus bernardinus	Laguna Mountains jewelflower	None/None/List D/4.3	Chaparral, lower montane coniferous forest/perennial herb/May–August/ 670–2,500 meters	Not recorded in the vicinity.[2]	Suitable chaparral habitat; preferred soils not identified for this species. Below elevation range.	Low potential to occur. Suitable habitat on site. Below elevation range. Not recorded in the vicinity.[2]
Streptanthus campestris	Southern jewelflower	None/None/List A/1B.3	Chaparral, lower montane coniferous forest, pinyon and juniper woodland; rocky/perennial herb/ May–July/900–2,300 meters	Not recorded in the vicinity.[2]	Suitable chaparral habitat and rocky loam within Sycamore South Study Area. Below elevation range.	Low potential to occur. Suitable habitat and soils on site. Below elevation range. Not recorded in the vicinity.[2]
Stylocline citroleum	Oil neststraw	None/None/List A/1B.1	Chenopod scrub, coastal scrub, valley and foothill grassland; clay/annual herb/March–April/50–400 meters	Not recorded in the vicinity.[2]	Suitable habitat but no clay soil present. Within elevation range.	Low potential to occur. Suitable habitat, but no suitable soils on site. Within elevation range. Not recorded in the vicinity.[2]
Suaeda esteroa	estuary seablite	FE/None/List A/1B.1	Coastal saltmarshes and swamps/evergreen shrub/ July–October/0–15 meters	Not recorded in the vicinity.[2]	No suitable habitat on site. Outside elevation range.	Not expected to occur. No suitable habitat. Outside elevation range. Not recorded in the vicinity.[2] Would likely have been detected during surveys if present.
Suaeda taxifolia	Woolly seablite	None/None/List D/4.2	Coastal bluff scrub, coastal dunes, margins of coastal saltmarshes and swamps/evergreen shrub/January–December/ 0–50 meters	Not recorded in the vicinity.[2]	No suitable habitat on site. Outside elevation range.	Not expected to occur. No suitable habitat on site. Outside elevation range. Not recorded in the vicinity.[2] Would likely have been detected during surveys if present.

Scientific Name	Common Name	Status[1] Federal/State/County List/CRPR	Primary Habitat Associations/Life Form/Blooming Period/Elevation Range	Known Occurrences (CNDDB/CNPS)	Suitable Habitat/Soils/Elevation	Status On Site or Potential to Occur
Tetracoccus dioicus	Parry's tetracoccus	None/None/List A, MSCP/1B.2	Chaparral, coastal sage scrub/deciduous shrub/ April–May/165–1000 meters	Recorded in the vicinity.[2]	Suitable chaparral habitat on site; preferred soils not identified for this species. Within elevation range.	Moderate potential to occur. Suitable habitat on site. Within elevation range. Recorded in the vicinity.[2] Would likely have been detected during surveys if present.
Thermopsis californica var. *semota*	Velvety false lupine	None/None/List A/1B.2	Cismontane woodland, lower montane coniferous forest, meadows and seeps, valley and foothill grassland/rhizomatous herb/March–June/ 1,000–1,870 meters	Not recorded in the vicinity.[2]	No suitable habitat on site; preferred soils not identified for this species. Below elevation range.	Low potential to occur. No suitable habitat on site. Below elevation range. Not recorded in the vicinity.[2]
Triquetrella californica	Coastal triquetrella	None/None/None/1B.2	Coastal bluff scrub, Coastal scrub/moss/10–100 meters	Recorded in San Vicente Reservoir quadrangle.	Suitable habitat on site. Outside elevation range. Most other records for this species are from Northern California.	Low potential to occur. No suitable habitat on site. Outside elevation range. Recorded in the vicinity.[2]
Viguiera laciniata	San Diego County viguiera	None/None/List D/4.2	Chaparral, coastal scrub/shrub/February–June/60–750 meters	Not recorded in the vicinity.[2]	Suitable chaparral habitat; preferred soils not identified for this species. Within elevation range.	Moderate potential to occur. Suitable habitat and soils on site. Within elevation range. Not recorded in the vicinity.[2] Would likely have been detected during surveys if present.
Viguiera purissimae	La Purissima viguiera	None/None/List A/2.3	Coastal bluff scrub, chaparral/shrub/ April–September/365–425 meters	Not recorded in the vicinity.[2]	Suitable chaparral habitat; preferred soils not identified for this species. Within elevation range.	Low potential to occur. Suitable habitat and soils on site. Within elevation range. Not recorded in the vicinity.[2] Would likely have been detected during surveys if present.

Scientific Name	Common Name	Status[1] Federal/State/County List/CRPR	Primary Habitat Associations/Life Form/Blooming Period/Elevation Range	Known Occurrences (CNDDB/CNPS)	Suitable Habitat/Soils/Elevation	Status On Site or Potential to Occur
Viola purpurea ssp. *aurea*	Golden violet	None/None/List B/2.2	Great Basin scrub, pinyon and juniper woodland; sandy/perennial herb/ April–June/1,000–2,040 meters	Not recorded in the vicinity.[2]	No suitable habitat but sandy loam within Hagey Study Area. Below elevation range.	Low potential to occur. Suitable soils but no suitable habitat on site. Below elevation range. Not recorded in the vicinity.[2]
Xanthisma (=Machaeranthera) junceum	Rush-like bristleweed	None/None/List D/4.3	Chaparral, coastal scrub/perennial herb/ June–January/240–1,000 meters	Not recorded in the vicinity.[2]	Suitable habitat on site. Within elevation range.	Recorded on site.
Xylorhiza orcuttii	Orcutt's woody aster	None/None/List A/1B.2	Sonoran desert scrub/perennial herb/March–April/0–365 meters	Not recorded in the vicinity.[2]	No suitable habitat on site; preferred soils not identified for this species. Within elevation range.	Low potential to occur. No suitable habitat on site. Within elevation range. Not recorded in the vicinity.[2]

[1] Status:

Federal:
- FE: Federally-listed as Endangered
- FT: Federally-listed as Threatened
- FC: Federal Candidate

State:
- SE: State-listed as Endangered
- ST: State-listed as Threatened
- SR: State-listed as Rare

CRPR (California Rare Plant Rank):
- 1A Plants Presumed Extinct in California
- 1B Plants Rare, Threatened, or Endangered in California and Elsewhere
- 2 Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere
- 3 Plants About Which We Need More Information - A Review List
- 4 Plants of Limited Distribution - A Watch List

Threat Ranks
- 0.1 Seriously threatened in California
- 0.2 Fairly threatened in California
- 0.3 Not very threatened in California

County Status
- County List A: Plants that are rare, threatened or endangered in California and elsewhere
- County List B: Plants that are rare, threatened in California but more common elsewhere
- County List C: Plants which may be quite rare, but need more information to determine their true rarity status
- County List D: Plants of limited distribution and are uncommon, but not presently rare or endangered

MSCP: Covered species under the MSCP

[2] Vicinity: The San Vicente Reservoir USGS quadrangle and surrounding quadrangles (San Pasqual, Ramona, Poway, La Mesa, Escondido, El Cajon Mountain, El Cajon, and Alpine) according to CNPS and CNDDB searches.

APPENDIX E

Sensitive Wildlife Species Detected or Potentially Occurring at Sycamore South or Hagey Study Areas

Appendix E
Sensitive Wildlife Species Detected or Potentially Occurring in Sycamore South or Hagey Study Areas

Scientific Name / Common Name	Status (Federal/State/ County) [1]	Habitat Preferences / Requirements	Verified on Site (direct/ indirect evidence)	Potential to Occur On Site	Factual Basis For Determination
Amphibians					
Frogs					
Rana draytoni California red-legged frog	FT/ CSC/ Group 1, MSCP	Lowland or foothill streams, wetlands, riparian woodlands; dense, shrubby or emergent vegetation associated with deep, still or slow-moving water from Coast Ranges south of Mendocino Co., and in portions of Sierra Nevada and Cascades ranges, sea level to 1,525m (1,2).	No	Low potential to occur.	Not recorded in the vicinity[2]. Thought to be extirpated within County. No suitable habitat within Study Areas.
Rana muscosa Southern mountain yellow-legged frog	FE /CE, CSC/ Group 1	Meadow streams, isolated pools, lake borders, rocky stream courses within ponderosa pine, montane hardwood-conifer and montane riparian habitat types in southern Sierra Nevada; and rocky streams in narrow canyons and in chaparral in southern California. Elevations 370-3,660m (1, 2).	No	Low potential to occur.	Not recorded in the vicinity[2]. Thought to be extirpated within the County. No suitable habitat within the Study Areas.
Salamanders/Newts					
Batrachoseps major aridus Desert slender salamander	FE/ SE/ Group 1	Known only from Hidden Palm Canyon and Guadalupe Canyon in Santa Rosa Mtns., Riverside Co., approximately 850m, in barren, palm oasis, desert wash, and desert scrub. Occurs under limestone sheets, rocks, and talus, usually at the base of damp, shaded, north and west-facing walls (1).	No	Low potential to occur.	Not recorded in the vicinity[2]. Outside of known range. Lack of suitable habitat.
Ensatina eschscholtzii klauberi Large-blotched salamander	None/ CSC/ Group 1	Moist shaded evergreen and deciduous forests, oak woodlands, under rocks, logs, debris, especially peeled off bark. Found in peninsular ranges of southern California and eastern San Bernardino Mtns., approx. 1,525m (1).	No	Low potential to occur.	Not recorded in the vicinity[2]. Outside of known range. No suitable habitat.

Scientific Name / Common Name	Status (Federal/State/ County) [1]	Habitat Preferences / Requirements	Verified on Site (direct/ indirect evidence)	Potential to Occur On Site	Factual Basis For Determination
Taricha torosa torosa Coast Range newt (Monterey Co. south only)	None/ CSC/ Group 2	Valley-foothill hardwood, valley-foothill hardwood-conifer, coastal scrub, mixed chaparral, annual grassland, mixed conifer; in southern California inhabits drier chaparral, oak woodland, and grasslands. Found along Coast Ranges south of Monterey Co to northern San Diego Co., Peninsular Ranges south to Boulder Creek, Sierra Nevada foothills, Shasta Reservoir, Central Valley floor, 0-1830m (1, 2).	No	Low potential to occur.	Not recorded in the vicinity[2]. Outside of known range.
Toads					
Anaxyrus [=*Bufo microscaphus*] *californicus* Arroyo toad	FE/ CSC/ Group 1, MSCP	Washes, arroyos, sandy riverbanks, riparian areas with willows, sycamores, oaks cottonwoods. Requires exposed sandy streamsides with stable terraces to burrow with scattered vegetation and calm pools with sandy/gravel bottoms for breeding. Found west of desert in coastal areas from upper Salinas River in San Luis Obispo Co. to northwestern Baja California, sea level to 900m (1).	No	Low potential to occur.	No suitable washes for this species within the study area. Recorded in the vicinity[2].
Spea [=*Scaphiopus*] *hammondi* Western spadefoot	None/ CSC/ Group 2	Sandy/gravelly soils within mixed woodlands, grasslands, coastal sage scrub, chaparral, sandy washes, foothills, mountains, and other habitats. Breed in rainpools that do not have bullfrogs, fish, or crayfish. Found throughout Great Valley and foothills south of Redding, throughout South Coast Ranges in southern California south of Transverse Mtns and west of Peninsular Mtns, 0-1365m (1).	No	Low potential to occur.	No suitable washes or pools for this species within the study area. Recorded in the vicinity[2].

Scientific Name / Common Name	Status (Federal/State/ County) [1]	Habitat Preferences / Requirements	Verified on Site (direct/ indirect evidence)	Potential to Occur On Site	Factual Basis For Determination
		Reptiles			
		Geckos			
Coleonyx switaki Barefoot gecko	None/ ST/ Group 2	Arid rocky areas at the heads of canyons with large boulders and rock outcrops, sparse vegetation. Found on arid desert slopes of eastern side of Peninsular Ranges near Borrego Springs south to Baja California. Isolated population found in Coyote Mtns. of Imperial Co. Elevations 0-700m (1, 2).	No	Low potential to occur.	Not recorded in the vicinity[2]. Outside of known range. No suitable habitat.
Coleonyx variegatus abbotti San Diego banded gecko	None/ None/ Group 1	Rocky areas in coastal sage and chaparral, and occurs most often in granite or rocky outcrops in coastal and cismontane southern California from interior Ventura Co. south, and is absent from extreme outer coast (1, 2).	No	Moderate potential to occur.	Not recorded in the vicinity[2]. Suitable habitat.
		Lizards			
Anniella pulchra pulchra Silvery legless lizard	None/ CSC/ Group 2	Loose soils (sand, loam, humus) in coastal dune, coastal sage scrub, woodlands, and riparian habitats (1).	No	Moderate potential to occur.	Suitable soils and habitat for this species within the study area, but only in some areas, such as adjacent to riparian areas. Recorded in the vicinity[2].
Aspidoscelis hyperythra beldingi Orange-throated whiptail	None/ CSC/ Group 2, MSCP	Coastal sage scrub, chamise-redshank chaparral, mixed chaparral, valley-foothill hardwood especially in areas with summer fog. Found from Santa Ana River and near Colton in San Bernardino Co., west of Peninsular ranges, south throughout Baja California, 0-610m (1, 2).	Yes	Recorded during surveys.	Has been recorded on site. Recorded in the vicinity[2].
Aspidoscelis tigris stejnegeri Coastal western whiptail	None/ None/ Group 2	Hot and dry open areas with sparse foliage, chaparral, woodland, riparian areas. Found in coastal southern California, west of Peninsular Ranges and south of Transverse Ranges, north to Ventura Co, 0-2130m (1, 2).	No	High potential to occur.	Suitable soils and habitat for this species within the study area. Recorded in the vicinity[2].

Scientific Name / Common Name	Status (Federal/State/ County) [1]	Habitat Preferences / Requirements	Verified on Site (direct/ indirect evidence)	Potential to Occur On Site	Factual Basis For Determination
Eumeces skiltonianus interparietalis Coronado Island skink	None/ CSC/ Group 2	Grassland, woodlands, pine forests, chaparral, especially open sunny areas such as clearings and edges of creeks, and rocky areas near streams with lots of vegetation; in litter, rotting logs, under flat stones. Found in coastal ranges and Sierra Nevada and foothills, 0-2530m (1, 2).	No	Low potential to occur.	Little suitable habitat within study area. Recorded in vicinity[2].
Phrynosoma blainvillei ssp. *coronatum* Coast horned lizard	None/ CSC/ Group 2, MSCP	Areas of sandy soil and low vegetation in valleys, foothills, and semiarid mountains. Annual grassland, chaparral, woodland, coniferous forest, sandy areas, frequently near ant hills. Foothills and coastal plains from Los Angeles to northern Baja California (1, 3).	Yes	Recorded during surveys.	Recorded in the vicinity[2].
Phrynosoma mcallii Flat-tailed horned lizard	None/ CSC/ Group 1	Fine sand and sparse vegetation in desert washes and desert flats. It is probably most abundant in areas of creosote bush and is found in desert scrub, wash, succulent shrub, and alkali scrub habitats. Common in areas with high density of harvester ants and fine windblown sand, rarely occurs on dunes. Found in central Riverside, eastern San Diego and Imperial Cos., 0-180m (1, 2).	No	Low potential to occur.	Not recorded in the vicinity[2]. Outside of known range.
Sauromalus ater Chuckwalla	None/ None/ Group 2	Rocky flats and hillsides, lava flows, large outcrops, creosote bush habitats. Also inhabit man-made habitats such as piles of railroad ties and rip-rap. Found in Mojave and Colorado deserts from desert slopes of mountains, north through Owens Valley and east to Colorado River, 0-1800m (1).	No	Low potential to occur.	Not recorded in the vicinity[2]. Outside of known range. No suitable habitat.
Sceloporus graciosus vanderburgianus Southern sagebrush lizard	None/ None/ Group 2	Montane chaparral, manzanita, ceanothus; open pine and Douglas fir forests in mountains; found in areas with scattered low bushes, abundant sun. Transverse and Peninsular ranges of southern California, Sierra San Pedro Martir of northern Baja California, 1371-2926m (1).	No	Low potential to occur.	Not recorded in the vicinity[2]. Outside of known range. No suitable habitat.

Scientific Name / Common Name	Status (Federal/State/ County) [1]	Habitat Preferences / Requirements	Verified on Site (direct/ indirect evidence)	Potential to Occur On Site	Factual Basis For Determination
Uma notata notata Colorado Desert fringe-toed lizard	None/ CSC/ Group 1	Fine, loose, wind-blown sand dunes, dry lakebeds, sandy beaches or riverbanks, desert washes, and sparse desert scrub in Colorado and Sonoran deserts, 0-180m (2).	No	Low potential to occur.	Not recorded in the vicinity[2]. Outside known range. No suitable habitat.
		Snakes			
Crotalus ruber ruber Northern red-diamond rattlesnake	None/ CSC/ Group 2	Chaparral, oak and pine woodland, arid desert, rocky grassland habitats in rocky areas and dense vegetation; rocky desert flats on desert slopes of mountains. Morongo Valley (1)	Yes	Recorded within Hagey Study Area.	Suitable habitat within the study area. Have been recorded by Park staff within the Sycamore Canyon Preserve. Recorded in the vicinity[2].
Diadophis punctatus similis San Diego ringneck snake	None/ None/ Group 2	Moist habitats, wet meadows; rocky hillsides; open habitats such as farmland, grassland, chaparral; and mixed coniferous forests and woodlands. San Diego Co. along coast and Peninsular range, southwestern San Bernardino Co. (1).	No	Low potential to occur.	Little suitable moist habitat within the study area. Recorded in the vicinity[2].
Lampropeltis zonata pulchra (San Diego population) San Diego mountain kingsnake	None/ CSC/ Group 2	Valley-foothill hardwood, hardwood-conifer, mixed and montane chaparral, valley-foothill riparian, coniferous forests, wet meadows in central San Diego Co. peninsular ranges- Laguna, Palomar, Volcan, and Hot Springs Mtns., Santa Ana Mtns., and in Hollywood Hills, Santa Monica Mtns., 0-1981m (1).	No	Low potential to occur.	Not recorded in the vicinity[2]. Outside of known range. Lack of suitable habitat.
Lichanura trivirgata roseofusca Coastal rosy boa	None/ None/ Group 2	Rocky chaparral hillsides and canyons, scrub flats with good cover, common in riparian areas but does not require permanent water. Found in extreme southern California within Tijuana River and Otay watersheds (1, 2).	No	High potential to occur.	Suitable habitat within the study area. Was recorded outside Hagey Study Area crossing paved residential road. Recorded in the vicinity[2].
Salvadora hexalepis virgultea Coast patch-nosed snake	None/ CSC/ Group 2	Semi-arid brushy areas and chaparral in canyons, rocky hillsides, plains from northern Carrizo Plains south through coastal zone, south and west of the deserts into coastal northern Baja California, at elevations below sea level to 2130m (1).	No	High potential to occur.	Suitable habitat for this species within study area. Recorded in vicinity[2].

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Thamnophis hammondii Two-striped garter snake	None/ CSC/ Group 1	Permanent or semi-permanent bodies of water bordered by dense vegetation in rocky areas, oak woodland, chaparral, brushland, coniferous forest. Found on Diablo Range, South Coast and Transverse ranges, and Santa Catalina Island (1, 2).	No	Low potential to occur.	No suitable water bodies within study area. Recorded in vicinity[2].
Thamnophis sirtalis ssp. South Coast garter snake	None/ CSC/ Group 2	Streams, creeks, pools, streams with rocky beds, ponds, lakes, vernal pools. Coastal plain from Ventura to San Diego Co., 0-850m (2).	No	Low potential to occur.	Not recorded in the vicinity[2]. Only known from San Luis Rey River in San Diego County.
Turtles					
Emys [=*Actinemmys*] *marmorata pallida* Western pond turtle	None/ CSC/ Group 1, MSCP	Slow-moving permanent or intermittent streams, ponds, small lakes, reservoirs with emergent basking sites; adjacent uplands used during winter. Found in coast ranges, central valley, 0-1800m (1, 2).	No	Low potential to occur.	No suitable stream or pond habitat within study area. Recorded in vicinity[2].
Birds					
Loons					
Gavia immer Common loon (nesting)	None/ CSC/ Group 2	Estuarine and subtidal marine habitats along entire coast (Sept-May). Uncommon on large, deep lakes in valleys and foothills; common migrant along coast, including offshore, in November and May (2).	No	Low potential to occur.	Not recorded in the vicinity[2]. No suitable habitat.
Oceanodroma furcata plumbea Fork-tailed storm petrel	None/ CSC/ Group 2	Visitor on open ocean along the entire coast; found in bays and harbors particularly after storms. Breeds on islets in Del Norte and Humboldt Cos (2).	No	Low potential to occur.	Not recorded in the vicinity[2]. No suitable habitat.
Oceanodroma homochroa Ashy storm petrel	None/ CSC/ Group 2	Open sea. Nests in natural cavities and sea caves, mainly talus but also larger rock. Resident of offshore waters from Cape Mendocino to northern Baja California, Mexico. Breeds on offshore islands from Southeast Farallon Island to Los Coronados (2).	No	Low potential to occur.	Not recorded in the vicinity[2]. No suitable habitat.
Oceanodroma melania Black storm petrel	None/ CSC/ Group 2	Open sea from Monterey Bay south during April to October. Nests in burrows and rock cavities on Santa Barbara Island and Sutil Island (2).	No	Low potential to occur.	Not recorded in the vicinity[2]. No suitable habitat.

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		Auks			
Cerorhinca monocerata Rhinoceros auklet (nesting colony)	None/ WL/ Group 2	Marine pelagic waters. Nests in a burrow on undisturbed, forested or unforested islands, and probably in cliff caves. Found off northern and central California, and south of northern Channel Islands. Breeds off Del Norte and Humboldt Cos., and Farallon Islands (2).	No	Low potential to occur.	Not recorded in the vicinity[2]. No suitable habitat.
Fratercula cirrhata Tufted puffin (nesting colony)	None/ CSC/ Group 2	Rocky outcroppings on islands, not necessarily near the nest, and on the ocean. Common at nesting colonies, and on nearby marine pelagic and subtidal waters. Nests on islands and, less commonly, on coastal cliffs. Found along coast from Prince Island in Del Norte Co. to Point Conception (2).	No	Low potential to occur.	Not recorded in the vicinity[2]. No suitable habitat.
Synthliboramphus [=*Endomychura*] *hypoleucus* Xantus murrelet (nesting colony)	FC / ST/ Group 2	Offshore waters. Rare visitor to southern offshore waters in late summer and fall (2).	No	Low potential to occur.	Not recorded in the vicinity[2]. No suitable habitat.
		Grebes			
Aechmophorus occidentalis Western grebe	None/ None/ Group 1	Along coast in marine subtidal and estuarine waters. Uncommon to fairly common on large lakes near coast and inland at low elevations. Breed on large, marshy lakes, normally deeper than required by eared grebe. Nest on Modoc Plateau and south locally to Inyo Co.; also Sacramento National Wildlife Refuge, Salton Sea, Colorado River, and Sweetwater Reservoir (2).	No	Low potential to occur.	Not recorded in the vicinity[2]. No suitable habitat.
		Pelicans			
Pelecanus erythrorhynchos American white pelican (nesting colony)	None/ CSC/ Group 2	Open water, coastal bays, large inland lakes. Nests at large lakes in Klamath Basin. Common migrant at Salton Sea, Colorado River and rare during winter at Salton Sea, Morro Bay, San Diego Bay (2).	No	Low potential to occur.	Not recorded in the vicinity[2]. No suitable habitat.

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Pelecanus occidentalis californicus California brown pelican (nesting colony & communal roosts)	FD/ SD, FP/ Group 2, MSCP	Open sea, large water bodies, coastal bays and harbors, estuarine, marine subtidal, and marine pelagic waters along coast and breeds on Channel Islands (2).	No	Low potential to occur.	Not recorded in the vicinity[2]. No suitable habitat.
		Cormorants			
Phalacrocorax auritus Double-crested cormorant (nesting colony)	None/ WL/ Group 2	Lakes, rivers, reservoirs, estuaries, ocean; nests in tall trees, rock ledges on cliffs, rugged slopes. Resident along coast and inland waters. Common August to May at Salton Sea and Colorado River reservoirs, also found south of San Luis Obispo Co. and Central Valley (2).	No	Low potential to occur.	Not recorded in the vicinity[2]. No suitable habitat.
		Herons, Bitterns, and Allies			
Ardea herodias Great blue heron (nesting colony)	None/None/ Group 2	Variety of habitats, but primarily shallow estuaries and fresh and saline emergent wetlands; lakes, rivers, marshes, mudflats, estuaries, saltmarsh, riparian habitats. Found throughout most of California. Few rookeries in southern California; more numerous in northern California (2).	No	No potential to colonially nest.	Not recorded in the vicinity[2]. No suitable nesting habitat. May forage onsite occasionally.
Butorides virescens Green heron	None/ None/ Group 2	Nests and roosts in valley foothill and desert riparian habitats; feeds in fresh emergent wetland, lacustrine, slow-moving riverine habitats. Resident in foothills and lowlands throughout California; common August to March in southern coastal ranges, in summer along Colorado River, and found all year at Salton Sea (2).	No	Low potential to occur.	Not recorded in the vicinity[2]. No suitable habitat.
Egretta rufescens Reddish egret	None/ None/ Group 2, MSCP	Forages in saltmarsh, mudflats, coastal lagoons; nests on natural islands or man-made dredge spoil canals, occasionally on coastal mainland. Found in southwestern and central coastal California (4).	No	Low potential to occur.	Not recorded in the vicinity[2]. No suitable habitat.

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Ixobrychius exilis Least bittern (nesting)	None/ CSC/ Group 2	Dense emergent wetland vegetation, sometimes interspersed with woody vegetation and open water. Nests in emergent wetlands. Common summer resident at Salton Sea and Colorado River. Breeds locally in Owens Valley and Mojave Desert and uncommon in emergent wetlands of cattails and tules in San Diego Co., and Sacramento and San Joaquin Valleys (2).	No	Low potential to occur.	No suitable riparian habitat within the study areas. Recorded in the vicinity2.
Ibises and Spoonbills					
Plegadis chihi White-faced ibis (nesting colony)	None/ WL/ Group 1, MSCP	Nests in marsh; winter foraging in shallow lacustrine waters, muddy ground of wet meadows, marshes, ponds, lakes, rivers, flooded fields and estuaries. Uncommon summer resident in areas of southern California (esp. Salton Sea area), rare visitor to Central Valley (2).	No	Low potential to occur. No nesting potential.	No suitable marsh or wetland habitat within study area. Recorded in the vicinity[2]. No nesting habitat.
Ducks, Geese, and Swans					
Anas strepera Gadwall	None/ None/ Group 2	Interior valleys, wetlands, ponds, and streams. Feeds and rests in freshwater lacustrine and emergent habitats, and to a lesser extent, estuarine and saline emergent habitats, and nests in nearby herbaceous and cropland habitats. Common in Central Valley and less common in Coast Range foothills of central and southern California. Locally common in Imperial Valley and along Colorado River, October to March. Breeds on northeastern plateau and east of Sierra Nevada (2).	No	Low potential to occur.	Not recorded in the vicinity[2]. No suitable habitat.

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Anser caerulescens Snow goose	None/ None/ Group 2	Fresh emergent wetlands, adjacent lacustrine waters, and nearby wet croplands, pastures, meadows, and grasslands. Occasionally found in saline (brackish) emergent wetlands and adjacent estuarine waters. Found primarily in Central Valley; less common southward in the interior but abundant in Imperial Valley and locally common along Colorado River. Found regularly only in southern California along Coast Ranges and immediate coast from mid-November to February (2).	No	Low potential to occur.	Not recorded in the vicinity[2]. No suitable habitat.
Aythya americana Redhead	None/CSC/ Group 2	Lacustrine waters, foothills and coastal lowlands, and along the coast and Colorado River. Nests in fresh emergent wetland bordering open water. Found south of Modoc Co. to Mono Co., Central Valley, Monterey Co. south to Ventura Co.; breeds in Central Valley, eastern Kern Co., coastal southern California, and Salton Sea (2).	No	Low potential to occur.	Not recorded in the vicinity[2]. No suitable habitat.
Branta canadensis Canada goose	None/ None/ Group 2, MSCP	Lakes, fresh emergent wetlands, moist grasslands, croplands, pastures, and meadows. Winter migrant throughout Central Valley, Salton Sea, northeastern California, also along Colorado River (2).	No	Low potential to occur.	Not recorded in the vicinity[2]. No suitable habitat.
Bucephala islandica Barrow's goldeneye	None/CSC/ Group 2	Estuarine (lagoons and bays) and brackish lacustrine waters. Found along central California coast, San Francisco Bay, Marin and Sonoma Cos., Colorado River (2).	No	Low potential to occur.	Not recorded in the vicinity[2]. No suitable habitat.
Dendrocygne bicolor Fulvous whistling-duck (nesting)	None/ CSC/ Group 2	Fresh emergent wetlands, shallow lacustrine and quiet riverine waters; feeds in wet croplands and pastures. Nests in dense wetlands of cattails in Imperial Valley along south end of Salton Sea (2).	No	Low potential to occur.	Not recorded in the vicinity[2]. No suitable habitat.

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New World Vultures					
Cathartes aura Turkey vulture	None/ None/ Group 1	Rangeland, agriculture, grassland; uses cliffs and large trees for roosting, nesting and resting throughout most of California during breeding season (2).	Yes	Recorded onsite.	Not recorded in the vicinity[2]. Observed to forage over site. No nesting potential.
Ospreys					
Pandion haliaetus Osprey	None/ WL/ Group 1	Large waters (lakes, reservoirs, rivers) supporting fish; usually near forest habitats (primarily ponderosa pine through mixed conifer), but widely observed along the coast. Breeds from Cascade Ranges south to Lake Tahoe and along northwest coast. Uncommon breeder along southern Colorado River. Uncommon along coast of southern California (2).	No	Low potential to occur.	Not recorded in the vicinity[2]. No suitable foraging or nesting habitat. Would only fly over site en route to surrounding reservoirs (e.g., San Vicente, Lake Poway, Lake Ramona, Santee Lakes)
Hawks, Kites, Eagles, and Allies					
Accipiter cooperii Cooper's hawk (nesting)	None/WL/ Group 1, MSCP	Dense stands of live oak, riparian deciduous, forest habitats near water. Breeds in southern Sierra Nevada foothills, New York Mtns., Owens Valley, other local areas in southern California, 0-2700m (2).	No	Low potential to nest.	Suitable foraging habitat but no suitable nesting habitat. Recorded in the vicinity[2].
Accipiter striatus Sharp-shinned hawk (nesting)	None/WL/ Group 1	Nests in coniferous forests, ponderosa pine, black oak, riparian deciduous, mixed conifer, Jeffrey pine; winters in lowland woodlands and other habitats. Common migrant and winter resident throughout California. Probably breeds south in Coast Ranges and at scattered locations in Transverse and Peninsular Ranges (2).	No	Low potential to nest.	Not recorded in the vicinity[2]. High potential to forage during winter, but does not nest on the coastal slope in southern California.
Aquila chrysaetos Golden eagle (nesting and wintering)	None/FP, WL/ Group 1, MSCP	Rolling foothills, mountain areas, sage-juniper flats, desert throughout California (2).	No	Moderate potential to occur.	Suitable foraging habitat within the study areas for this species. No nesting habitat. Recorded in the vicinity[2].

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Buteo lineatus Red-shouldered hawk	None/ None/ Group 1	Riparian and woodland habitats interspersed with swamps and wetlands found along coast, southern deserts, and in Central Valley, 0-1500m (2).	No	High potential to occur.	Recorded in canyon immediately east of Sycamore South Study Area. No suitable nesting habitat within Study Areas. Not recorded in the vicinity[2].
Buteo regalis Ferruginous hawk (wintering)	None/ WL/ Group 1, MSCP	Open, grasslands, sagebrush flats, desert scrub, low foothills surrounding valleys, fringes of pinyon-juniper habitats. Uncommon winter resident at low elevations and open grasslands of Modoc Plateau, Central Valley, Coast Ranges. Common winter resident in southwestern California (2).	No	Low potential to occur.	Not recorded in the vicinity[2]. Would only occur in migration and would not overwinter.
Buteo swainsoni Swainson's hawk	None/ ST/ Group 1, MSCP	Forages in grasslands or suitable grain or alfalfa fields or livestock pastures; breeds in stands with few trees in juniper-sage flats, riparian areas, and in oak savannah in Central Valley (2).	No	Low potential to occur.	Not recorded in the vicinity[2]. Generally unsuitable habitat.
Circus cyaneus Northern harrier (nesting)	None/ CSC/ Group 1, MSCP	Open wetlands (nesting), pasture, old fields, dry uplands, grasslands, rangelands, coastal sage scrub. Resident of northeastern plateau and coastal areas; less common resident in Central Valley. Breeds at marsh edge in shrubby vegetation in Central Valley and Sierra Nevada (0-1700m), and northeastern California (up to 800m) (2).	No	Low potential to nest.	Not recorded in the vicinity[2]. Poor nesting potential, though they likely forage over the site.
Elanus leucurus White-tailed kite (nesting)	None/ FP/ Group 1	Open grasslands, savanna-like habitats, agriculture, wetlands, oak woodlands, riparian, herbaceous and open stages of most habitats in cismontane California, near agricultural areas. Found in coastal and valley lowlands of California (2).	No	Moderate potential to occur. No nesting potential.	Recorded in canyon immediately east of Sycamore South Study Area. No suitable nesting or foraging habitat within Study Areas. High potential for this species to forage over Study Areas. Recorded in the vicinity[2].
Haliaeetus leucocephalus Bald eagle (nesting and wintering)	FD / FP/ Group 1, MSCP	Large bodies of water and flowing rivers with abundant fish, with adjacent snags or other perches; breeds in northern California and is found during winter at few locations throughout southern California (2).	No	Low potential to occur.	Not recorded in the vicinity[2]. No suitable habitat.

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		Caracaras and Falcons			
Falco columbarius Merlin (wintering)	None/ WL/ Group 2	Coastlines, open grasslands, savannahs, woodlands, lakes, wetlands, montane hardwood-conifer habitats, ponderosa pine. Found throughout western half of state below 1500m (1).	No	Low potential to occur. No nesting potential.	Not recorded in the vicinity[2]. No nesting substrate present.
Falco mexicanus Prairie falcon (nesting)	None/ WL/ Group 1	Grassland, savannas, rangeland, agriculture, desert scrub, alpine meadows; nest on cliffs or bluffs. Southeastern deserts northwest through Central Valley and along inner Coast Ranges and Sierra Nevada (2).	No	Low potential to occur. No nesting potential.	No suitable grassland or open habitats for foraging or cliffs for roosting/nesting. Recorded in vicinity[2]. No nesting substrate present.
Falco peregrinus anatum American peregrine falcon (nesting)	FD / SD, FP/ Group 1, MSCP	Nests in woodland, forest, coastal habitats along coast north of Santa Barbara and in Sierra Nevada, and other mountains of northern California. Winters in Central Valley, and is found in other riparian areas and coastal/inland wetlands (2).	No	Low potential to occur. No nesting potential.	Not recorded in the vicinity[2]. No nesting substrate present.
		New World Quail			
Oreotyx pictus eremophila Mountain quail	None/ None/ Group 2	Dense montane chaparral and brushy areas within coniferous forest, pinyon-juniper-yucca associations; uses shrubs, brush stands and trees on steep slopes for cover in most major montane habitats of the state (2).	No	Low potential to occur.	Not recorded in the vicinity[2]. Outside of normal range. Poor habitat quality.
		Rails, Gallinules, and Coots			
Laterallus jamaicensis coturniculus California black rail	None/ST, FP/ Group 2	Saline, brackish, and fresh emergent wetlands mostly in central coastal California (2).	No	Low potential to occur.	Not recorded in the vicinity2. No suitable habitat. Outside of normal range.
Rallus longirostris levipes Light-footed clapper rail	FE / SE, FP/ Group 1, MSCP	Coastal saline emergent wetlands along southern California from Santa Barbara Co. to San Diego Co. (2).	No	Low potential to occur.	Not recorded in the vicinity2. No suitable habitat.

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		Cranes			
Grus canadensis tabida Greater sandhill crane	None/ ST, FP/ Group 2	Wet meadow, shallow lacustrine, and fresh emergent wetland habitats during summer; annual and perennial grassland habitats, moist croplands, and open, emergent wetlands during winter. Breeds in Siskiyou, Modoc, Lassen Cos., and Sierra Valley. Winters in Sacramento and San Joaquin valleys. Was more common in southern California (2).	No	Low potential to occur.	Not recorded in the vicinity2. No suitable habitat.
Grus canadensis canadensis Lesser sandhill crane	None/ CSC/ Group 2	Wet meadow, shallow lacustrine, and fresh emergent wetland habitats during summer; annual and perennial grassland habitats, moist croplands, and open, emergent wetlands during winter. Winters in San Joaquin, Imperial valleys; Carrizo Plain, Brawley, and Blythe (2).	No	Low potential to occur.	Not recorded in the vicinity2. No suitable habitat.
Mycteria americana Wood stork (Non-breeding, very rare)	None/CSC/ Group 2	Shallow, relatively warm waters with fish for prey. Nests colonially. Found at south end of Salton Sea, San Diego Wild Animal Park (2).	No	Low potential to occur.	Not recorded in the vicinity2. No suitable habitat.
		Lapwings and Plovers			
Charadrius alexandrinus nivosus Western snowy plover (nesting)	FT/ CSC/ Group 1, MSCP	Sandy marine and estuarine shores. Nests on these habitats and salt pond levees. Nesting areas in Salton Sea, Mono Lake, shores of alkali lakes of northeastern California, Central Valley, and southeastern deserts (2).	No	Low potential to occur.	Not recorded in the vicinity2. No suitable habitat.
Charadrius montanus Mountain plover (wintering)	PT / CSC/ Group 2, MSCP	Nests in open, shortgrass prairies or grasslands; winters in shortgrass plains, plowed fields, open sagebrush, and sandy deserts. Winters in short grasslands and plowed fields of Central Valley below 1000m (2).	No	Low potential to occur.	Not recorded in the vicinity2. No suitable habitat.

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Sandpipers, Phalaropes, and Allies					
Numenius americanus Long-billed curlew (nesting)	None/ WL/ Group 2, MSCP	Nests in upland shortgrass prairies and wet meadows in northeast California; winters in coastal estuaries, open grasslands and croplands along California coast, and in Central and Imperial valleys (2).	No	Low potential to occur.	Not recorded in the vicinity2. No suitable habitat.
Gulls, Terns, and Skimmers					
Chlidonias niger Black tern (nesting colony)	None/ CSC/ Group 2	Freshwater lakes, marshes, ponds, coastal lagoons. Breeds in freshwater habitats but common on bays, salt ponds, river mouths, pelagic waters during spring and fall migration. Found throughout fresh emergent wetlands of California (2).	No	Low potential to occur.	Not recorded in the vicinity2. No suitable habitat.
Leucophaeus [=*Larus*] *atricilla* Laughing gull (nesting colony)	None/ WL/ Group 2	Once a regular nester at the south end of the Salton Sea. Possibly extirpated from California (4).	No	Low potential to occur.	Not recorded in the vicinity2. No suitable habitat.
Larus californicus California gull (nesting colony)	None/ WL/ Group 2	Along the coast: sandy beaches, mudflats, rocky intertidal and pelagic areas of marine and estuarine habitats, fresh and saline emergent wetlands. Inland: lacustrine, riverine, and cropland habitats, landfill dumps, and open lawns in cities. Nests in alkali and freshwater lacustrine habitats; adults roost along shorelines, landfills, pastures, and on islands. Nest along northeastern plateau region and at Mono Lake (2).	No	Low potential to occur.	Not recorded in the vicinity[2]. No suitable habitat.
Rynchops niger Black skimmer(nesting)	None/ CSC/ Group 1	Roosting takes place on sandy beaches or gravel bars. Rarely alights on water. Visitor to coastal estuaries and river mouths. Summer resident at Salton Sea. Yearlong resident at San Diego Bay. Known infrequently from additional interior locations on Colorado River and Lakeview, Riverside Co. (2).	No	Low potential to occur.	Not recorded in the vicinity[2]. No suitable habitat.

Scientific Name / Common Name	Status (Federal/State/ County) [1]	Habitat Preferences / Requirements	Verified on Site (direct/ indirect evidence)	Potential to Occur On Site	Factual Basis For Determination
Sterna antillarum browni California least tern (nesting colony)	FE / SE, FP/ Group 1, MSCP	Breeding colonies located in marine and estuarine shores in southern California, and in San Francisco Bay in abandoned salt ponds and estuarine shores. Feeds in nearby waters. Are migratory to California (2).	No	Low potential to occur.	Not recorded in the vicinity[2]. No suitable habitat.
Thalasseus [=*Sterna*] *elegans* Elegant tern (nesting colony)	None /WL/ Group 1, MSCP	Coastal waters, estuaries, large bays and harbors, mudflats; rarely occur offshore and never found inland. Found along coastal California, most common in southern California, not found north of Marin Co. (2).	No	Low potential to occur.	Not recorded in the vicinity[2]. No suitable habitat.
Cuckoos, Roadrunners, and Anis					
Coccyzus americanus occidentalis Western yellow-billed cuckoo (nesting)	FC / SE/ Group 1	Dense, wide riparian woodlands and forest with well-developed understories. Valley foothill and desert riparian habitats scattered throughout California – Colorado River, Sacramento and Owens Valleys, South Fork of the Kern River, Santa Ana River, and Amargosa River (2).	No	Low potential to occur.	Not recorded in the vicinity[2]. No suitable habitat. Presumed extirpated from County.
Barn Owls					
Tyto alba Barn owl	None/ None/ Group 2	Open habitats including grassland, chaparral, riparian, and other wetlands throughout the state, 0-1680m (2).	Yes	Recorded during biological surveys.	Recorded on night avian bird surveys. Not recorded in the vicinity[2].
Typical Owls					
Asio flammeus Short-eared owl (nesting)	None/ CSC/ Group 2	Open areas with few trees, such as grasslands, prairies, dunes, meadows, irrigated lands, saline and fresh emergent wetlands. Breeds in coastal areas in Del Norte and Humboldt Cos., San Francisco Bay Delta, northeastern Modoc plateau, east side of Sierra from Lake Tahoe south to Inyo Co., and San Joaquin Valley. Uncommon winter migrant in southern California, and widespread during winter in Central Valley and coastline (2).	No	Low potential to occur.	Not recorded in the vicinity[2]. Habitat is generally unsuitable

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Asio otus Long-eared owl (nesting)	None/ CSC/ Group 1	Riparian, live oak thickets, other dense stands of tree. Uncommon winter visitor in southern California deserts and Central Valley; uncommon resident throughout the rest of the state (2).	No	Low potential to nest.	Not recorded in the vicinity[2]. No suitable nesting habitat.
Athene cunicularia Burrowing owl	None/ CSC/ Group 1, MSCP	Open, dry grassland and desert habitats; grass, forb and open shrub stages of pinyon-juniper and ponderosa pine habitats throughout the state, 0-1600m (2).	No	Low potential to occur.	No suitable grassland habitat for this species. Recorded in the vicinity[2]. Too few flat and open habitats present. Found within grassland habitats in the Sycamore Canyon and Goodan Ranch preserves.
Strix occidentalis occidentalis California spotted owl	None/ CSC/ Group 1	Dense, old-growth, multi-layered mixed conifer, redwood and Douglas-fir habitats in northern California; oak and oak-conifer habitats in southern California; 0-2300m (2).	No	Low potential to occur.	Not recorded in the vicinity[2]. No suitable habitat. Outside of known range.
Swifts					
Cypseloides niger Black swift (nesting)	None/ CSC/ Group 2	Nests in moist crevices or caves on sea cliffs or near waterfalls in deep canyons; forages over many habitats. Nests in Sierra Nevada, Cascade Range, San Gabriel, San Bernardino, San Jacinto Mtns., coastal bluffs and mountains from San Mateo Co. south to San Luis Obispo Co. (2).	No	Low potential to occur.	Not recorded in the vicinity[2]. No suitable habitat.
Woodpeckers and Allies					
Melanerpes lewis Lewis' woodpecker	None/ None/ Group 1	Open oak savannahs, broken deciduous and coniferous habitats. Eastern slopes of coast ranges south to San Luis Obispo Co., winters in Central Valley, Modoc Plateau, and Transverse and other ranges in southern California. Breeds eastern slopes of coast ranges, Sierra Nevada, Cascade Range (2).	No	Low potential to occur.	Not recorded in the vicinity[2]. Poor habitat quality. Outside of normal range.

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		Tyrant Flycatchers			
Contopus cooperi [*borealis*] Olive-sided flycatcher (nesting)	None / CSC/ Group 2	Summer resident in a wide variety of forest and woodland habitats. Preferred nesting habitats include mixed conifer, montane hardwood-conifer, Douglas-fir, redwood, red fir, and lodgepole pine. Found throughout California excluding deserts, Central Valley and other lowland valleys and basins, below 2800m (2).	No	Low potential to occur.	Not recorded in the vicinity[2]. No suitable habitat.
Empidonax traillii extimus Southwestern willow flycatcher	FE / SE/ Group 1, MSCP	Riparian woodlands along streams and rivers with mature, dense stands of willows or alders; may nest in thickets dominated by tamarisk. Broad, open river valleys or large mountain meadows with lush growth of shrubby willows. Found in riparian habitats in northern San Diego Co. (1).	No	Low potential to occur.	No suitable riparian woodland habitat within the study areas. Recorded in the vicinity[2].
Pyrocephalus rubinus Vermillion flycatcher	None/ CSC/ Group 1	Nesters inhabit cottonwood, willow, mesquite, and other vegetation in desert riparian habitat adjacent to irrigated fields, irrigation ditches, pastures and other open, mesic areas in isolated patches. Found along Colorado River, especially near Blythe, Riverside Co. (2).	No	Low potential to occur.	Not recorded in the vicinity[2]. Outside of normal range. Poor habitat quality.
		Larks			
Eremophila alpestris actia California horned lark	None/ WL/ Group 2	Open habitats, grassland, rangeland, shortgrass prairie, montane meadows, coastal plains, fallow grain fields south of Humboldt Co. in coast ranges, in San Joaquin Valley except extreme southern end (2, 4).	No	Low potential to occur.	No suitable grassland habitat within the study areas. Recorded in the vicinity[2].
		Swallows			
Progne subis Purple martin (nesting)	None/ CSC/ Group 1	Nests in tall sycamores, pines, oak woodlands, coniferous forest; forages over riparian, forest and woodland. Found throughout the state in wooded, low-elevation habitats. Rare and local breeder in the south in mountain ranges and along coast (2).	No	Low potential to occur. No nesting potential.	Not recorded in the vicinity[2]. No nesting habitat.

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Riparia riparia Bank swallow (nesting)	None/ ST/ Group 1	Riparian, lacustrine, and coastal areas with vertical banks, bluffs, and cliffs with fine-textured or sandy soils, into which it digs nesting holes; most breeding occurs along banks of Sacramento and Feather Rivers (2).	No	Low potential to occur. No nesting potential.	Not recorded in the vicinity[2]. No suitable habitat for breeding.
		Wrens			
Campylorhynchus brunneicapillus sandiegensis Coastal (San Diego) cactus wren	None / CSC/ Group 1, MSCP	Southern cactus scrub, maritime succulent scrub, cactus thickets in coastal sage scrub. In arid parts of westward-draining slopes of southern California (2).	No	Low potential to occur.	Some cactus within the study areas although may not be sufficient density to support populations. No nests observed. Recorded in the vicinity[2].
		Gnatcatchers and Gnatwrens			
Polioptila californica californica Coastal California gnatcatcher	FT / CSC/ Group 1, MSCP	Coastal sage scrub, coastal sage scrub-chaparral mix, coastal sage scrub-grassland ecotone, riparian in late summer. Found from eastern Orange and southwestern Riverside Cos. south through coastal foothills of San Diego Co. (2).	Yes	Recorded during biological surveys.	Recorded during biological surveys. Recorded in the vicinity[2].
		Thrushes			
Siala mexicana Western bluebird	None/None/ Group 2, MSCP	Open forests of deciduous, coniferous or mixed trees, savanna, edges of riparian woodland. Common throughout California excluding higher mountains and eastern deserts (2).	No	High potential to occur.	No breeding habitat, but is an increasingly common species within a variety of habitats during the late summer through winter periods. Recorded within Sycamore Canyon Preserve. Not recorded in the vicinity[2] on CNDDB records.
		Mockingbirds and Thrashers			
Toxostoma bendirei Bendire's thrasher	None/ SSC/ Group 2	Flat areas of desert succulent shrub and Joshua tree habitats in Mojave desert area of San Bernardino and western Kern Cos. (2).	No	Low potential to occur.	Not recorded in the vicinity[2]. Outside of range. No suitable habitat.

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Toxostoma crissale Crissal thrasher	None/CSC/ Group 1	Dense thickets of shrubs or low trees in desert riparian and desert wash habitats. Also, dense sagebrush and other shrubs in washes within juniper and pinyon-juniper habitats up to 1800m. Common in Colorado River Valley; less common in eastern Mojave Desert, Imperial, Coachella and Borrego valleys (2).	No	Low potential to occur.	Not recorded in the vicinity[2]. Outside of range. No suitable habitat.
Shrikes					
Lanius ludovicianus Loggerhead shrike (nesting)	None/ CSC/ Group 1	Open habitats with scattered shrubs, trees or other perches; highest density in open-canopied valley foothill hardwood, valley foothill hardwood-conifer, valley foothill riparian, pinyon-juniper, juniper, desert riparian, and Joshua tree habitats. Found in foothills and lowlands throughout California (2).	No	Low potential to occur.	Not recorded in the vicinity[2]. Poor nesting habitat, but good foraging habitat.
Vireos					
Vireo bellii pusillus Least Bell's vireo (nesting)	FE / SE/ Group 1, MSCP	Willows and low, dense valley foothill riparian habitat and lower portions of canyons; along western edge of deserts in desert riparian habitat, 0-600m. Found in San Benito and Monterey Cos., and coastal southern California from Santa Barbara Co. south (2).	No	Low potential to occur. No nesting potential.	No suitable riparian habitat within study area. Recorded in the vicinity[2].
Vireo vicinior Gray vireo (nesting)	None/ CSC/ Group 1	Summer resident in arid pinyon-juniper, juniper, and chamise-redshank chaparral habitats in mountains of southern California, 600-2000m (2).	No	Low potential to occur. No nesting potential.	Not recorded in the vicinity[2]. No suitable breeding habitat.
Wood-warblers					
Dendroica petechia brewsteri Yellow warbler	None/ CSC/ Group 2	Nests in lowland and foothill riparian woodlands; montane chaparral, open ponderosa pine, mixed conifer habitats up to 2500m; winters in a variety of habitats. Breeds from coast range in Del Norte Co., east to Modoc plateau, south to Santa Barbara and Ventura Cos., western slope of Sierra Nevada south to Kern Co.; also breeds in ranges in San Diego Co. (2).	No	Low potential to occur.	No suitable riparian woodland habitat within the study areas. Recorded in the vicinity[2].

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Icteria virens Yellow-breasted chat (nesting)	None/ CSC/ Group 1	Dense, relatively wide riparian woodlands and thickets of willows, vine tangles and dense brush. Coastal California, foothills of Sierra Nevada. Breeds locally on coast in southern California and very locally inland, at elevations up to 1450m in valley foothill riparian, and up to 2050m east of Sierra Nevada in desert riparian habitats (2).	No	Low potential to occur.	No suitable riparian woodland habitat within the study areas. Recorded in the vicinity[2].
Emberizids					
Aimophila ruficeps canescens Southern California rufous-crowned sparrow	None/WL/ Group 1, MSCP	Sparse mixed chaparral and coastal scrub habitats (especially coastal sage) in southern California on slopes of Transverse and Coastal ranges, north to Los Angeles County, and northwestern Baja California. Found on steep, rocky hillsides with grass and forb patches, and grassy slopes without shrubs, if rock outcrops are present (2, 4).	Yes	Recorded during surveys.	Detected onsite during surveys. Recorded in the vicinity[2].
Amphispiza belli belli Bell's sage sparrow	None/ WL/, Group 1	Low, dense stands of shrubs; chaparral dominated by chamise, coastal scrub dominated by sage. Coast Ranges from northern California to northwestern Baja California, western slope of Sierra Nevada (2, 4).	No	High potential to occur.	Suitable chaparral habitat within the study area for this species. Recorded in the vicinity[2].
Ammodramus savannarum Grasshopper sparrow	None/ SSC/ Group 1, MSCP	Dry, dense grasslands, especially with a variety of grasses and tall forbs, scattered shrubs for singing perches. Summer resident and breeder in foothills and lowlands west of Cascade-Sierra Nevada crest from Mendocino and Trinity Cos. south to San Diego Co. In southern California, occurs on hillsides and mesas in coastal areas, breeds up to 1500m (2).	No	Low potential to occur.	No suitable grassland habitat within the study areas for this species. Recorded in the vicinity[2].
Junco hyemalis caniceps Gray-headed junco (nesting)	None/ WL/ Group 2	Found in forests and woodlands from montane hardwood-conifer forests up through alpine dwarf-shrub habitats. Breeds locally in White and Grapevine Mtns., and on Clark Mtn. in southeastern California. Are more common east of Sierra Nevada during winter (2).	No	Low potential to occur. No nesting potential.	Not recorded in the vicinity[2]. Generally unsuitable habitat and location, but may occur during the winter.

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Passerculus sandwichensis beldingi Belding's savannah sparrow	None/ SE/ Group 1, MSCP	Scattered southern coastal wetlands in southwestern California (2).	No	Low potential to occur.	Not recorded in the vicinity[2]. No suitable habitat.
Passerculus sandwichensis rostratus Large-billed savannah sparrow (wintering)	None/ CSC/ Group 2, MSCP	Grassland, saline emergent wetlands from central coastal and southern California; Santa Cruz, Morro Bay, San Miguel Island, San Clemente Island, San Diego (2, 4).	No	Low potential to occur.	Not recorded in the vicinity[2]. No suitable habitat.
Cardinals and Allies					
Piranga rubra Summer tanager(nesting)	None/ CSC/ Group 2	Nests in desert riparian woodland dominated by cottonwoods and willows; winter habitats include parks and residential areas. Found along lower Colorado River and locally in southern California deserts (2).	No	Low potential to occur. No nesting potential.	Not recorded in the vicinity[2]. Generally unsuitable habitat.
Blackbirds					
Agelaius tricolor Tricolored blackbird	None/ CSC/ Group 1, MSCP	Breeds in emergent wetland with tall, dense cattails or tules; willow, blackberry, tall herb thickets. Feeds in grassland and cropland habitats. Found throughout Central Valley and coastal areas south of Sonoma Co. (2).	No	Low potential to occur.	No suitable wetland habitat within the study areas for this species. Recorded in the vicinity[2].
Mammals					
Small Mammals					
Chaetodipus californicus femoralis Dulzura pocket mouse	None/CSC/ Group 2	Open habitat, coastal sage scrub, chaparral, oak woodland, chamise chaparral, mixed conifer habitats; disturbance specialist; 0-3000 feet (7, 8).	Yes	Recorded during biological surveys.	Captured during small mammal traps. Recorded in the vicinity[2].
Chaetodipus fallax fallax Northwestern San Diego pocket mouse	None/CSC/ Group 2	Coastal sage scrub, grassland, sage scrub-grassland ecotones, sparse mixed and chamise chaparral; rocky and gravelly areas with yucca overstory, 500-3000 feet (8).	Yes	Recorded during biological surveys.	Captured during small mammal traps. Recorded in the vicinity[2].

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Chaetodipus fallax pallidus Pallid San Diego pocket mouse	None/ CSC/ Group 2	Coastal scrub, mixed chaparral, sagebrush, desert wash, desert scrub, desert succulent shrub, pinyon-juniper, and annual grassland. Along southern margins of Mojave Desert, along northern slopes of San Bernardino Mtns., western edge of Colorado Desert south to Baja California (5).	No	Low potential to occur.	Not recorded in the vicinity[2].
Dipodomys stephensi Stephens' kangaroo rat	FE/ ST/ Group 1	Open habitat, grassland, sparse coastal sage scrub, sandy loam and loamy soils with low clay content; gentle slopes (<30%) and sparse vegetative cover. Found around San Jacinto Valley (2).	No	Low potential to occur.	No suitable open grassland habitat within the study area. Recorded in the vicinity[2].
Neotoma lepida intermedia San Diego desert woodrat	None/ CSC/ Group 2	Joshua tree, pinyon-juniper, mixed and chamise-redshank chaparral, sagebrush, and most desert habitats. Found south of San Luis Obispo Co. to San Diego Co. and San Bernardino and Riverside Cos., 0-2600m (2, 4).	Yes	Recorded during biological surveys.	Suitable chaparral habitat within study area. Recorded in the vicinity[2].
Onychomys torridus ramona Southern grasshopper mouse	None/ CSC/ Group 2	Alkali desert scrub and other desert scrub habitats, sparse coastal scrub, especially with friable soils for digging in Mojave Desert and southern Central Valley (2).	No	Low potential to occur.	Not recorded in the vicinity[2]. Poor habitat quality.
Perognathus longimembris brevinasus Los Angeles pocket mouse	None/ CSC/ Group 2	Grassland, coastal sage scrub, disturbed habitats; fine, sandy soils with sparse vegetation from San Fernando Valley to San Bernardino, and to Hemet and Aguanga (6).	No	Low potential to occur.	Not recorded in the vicinity[2]. Outside of range.
Perognathus longimembris internationalis Jacumba pocket mouse	None/ CSC/ Group 2	Desert riparian, desert scrub, desert wash, coastal scrub, and sagebrush in San Diego and Riverside Cos. (2, 5).	No	Low potential to occur.	Not recorded in the vicinity[2]. Poor habitat quality.
Perognathus longimembris pacificus Pacific pocket mouse	FE/ CSC/ Group 1	Coastal dunes, river alluvium, coastal sage scrub with firm sandy soils; along immediate coast in San Diego, Orange, and Los Angeles Cos. (4, 5).	No	Low potential to occur.	Not recorded in the vicinity[2]. Outside of range.

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Bats					
Antrozous pallidus Pallid bat	None/ CSC/ Group 2	Grasslands, shrublands, woodlands, forests; most common in open dry habitats with rocky outcrops for roosting. Found throughout low elevations of California, except for high Sierra Nevada and northwestern corner of the state south to Mendocino Co. (2).	Yes	Recorded during biological surveys.	Suitable shrubland habitat for foraging. Recorded in the vicinity[2].
Choeronycteris mexicana Mexican long-tongued bat	None/ CSC/ Group 2	Desert and montane riparian, desert succulent scrub, desert scrub, and pinyon-juniper woodland. Roosts in caves, mines, and buildings. Summer resident in San Diego Co. (2).	No	Low potential to occur.	No suitable habitat within the study area. Recorded in the vicinity[2].
Coryorhinus townsendii Townsend's big-eared bat	None/ CSC/ WBWG:H, Group 2	Mesic habitats, gleans from brush or trees or feeds along habitat edges. Found in all habitats but subalpine and alpine throughout California (2).	No	Low potential to occur.	Moderately suitable mesic habitat, but other areas within Sycamore Canyon and Goodan Ranch Preserves are more suitable. Not recorded in the vicinity[2].
Euderma maculatum Spotted bat	None/ CSC/ Group 2	Foothills, mountains, desert regions of southern California including arid deserts, grasslands, mixed conifer forests. Roosts in rock crevices, cliffs. Feeds over water and along washes (2).	No	Low potential to occur.	No suitable habitat. Not recorded in the vicinity[2]. No suitable habitat.
Eumops perotis californicus Greater western mastiff bat	None/ CSC/ Group 2	Roosts in small colonies in cracks and small holes, seeming to prefer man-made structures. All subalpine and alpine habitats; 50-10,000 feet (8).	Yes	Recorded during biological surveys.	Suitable habitat for foraging. Recorded in the vicinity[2].
Lasiurus blossevillii Western red bat	None/CSC/ Group 2	Prefers edges with trees for roosting and open areas for foraging. Roosts in woodlands and forests. Forages over grasslands, shrublands, woodlands, forests, and croplands. Found south of Shasta Co. to Mexican border, and west of the Sierra Nevada/Cascade crest. In winter, occupies coastal regions and lowlands south of San Francisco Bay (2).	Yes	Recorded during biological surveys.	Moderately suitable habitat for foraging. Recorded in the vicinity[2].

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Lasiurus xanthinus Western yellow bat	None/CSC/ None	Desert wash.	Yes	Recorded on site	Recorded in the vicinity[2].
Macrotus californicus California leaf-nosed bat	None/ CSC/ Group 2	Desert riparian, desert wash, desert scrub, desert succulent shrub, alkali desert scrub, and palm oasis. Found from Riverside, Imperial, San Diego, and San Bernardino Cos. south to Mexican border; fairly common along parts of Colorado River, elevation approximately 600m (2).	No	Low potential to occur.	No suitable desert habitats onsite. Not recorded in the vicinity[2].
Myotis ciliolabrum Western small-footed myotis	None/ None/ Group 2	Deserts, chaparral, riparian zones, western coniferous forest; most common above pinyon-juniper forest. Roost in caves, old mines, abandoned buildings (9).	Yes	Recorded during biological surveys.	Suitable chaparral habitats within Study Areas. Recorded in the vicinity[2].
Myotis evotis Long-eared myotis	None/ None/ Group 2	Roosts in buildings, crevices, under bark, and snags. Caves used as night roosts. Feeds along habitat edges, in open habitats, and over water. Occurs primarily along entire coast and in Sierra Nevada, Cascades, Great Basin, and 0-2700 m (2).	No	Low potential to occur.	No suitable habitat for roosting or foraging within study areas. Recorded in the vicinity[2].
Myotis thysanodes Fringed myotis	None/ None/ Group 2	Pinyon-juniper, valley foothill hardwood, hardwood-conifer habitats. Roosts in caves, mines, buildings, or crevices. Forges over open habitats, early successional stages, streams, lakes, and ponds. Found throughout California except Central Valley and Colorado and Mojave Deserts (2).	No	Low potential to occur.	Not recorded in the vicinity[2]. No suitable habitat for foraging.
Myotis volans Long-legged myotis	None/ None/ Group 2	Occupies woodland and forest habitats over 1200m. Feeds over open water and over open habitats such as chaparral and coastal scrub, using denser woodlands and forests for cover and reproduction. Roosts in rock crevices, buildings, under tree bark, in snags, mines, caves. Found in coastal ranges, Cascade/Sierra Nevada ranges, Great Basin, and ranges in Mojave Desert (2).	No	Low potential to occur.	Not recorded in the vicinity[2]. No suitable woodland or forest habitats.

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Myotis yumanensis Yuma myotis	None/ None/ Group 2	Closely tied to open water which is used for foraging; open forests and woodlands are optimal habitat throughout California, 0-3300m (2).	Yes	Recorded during biological surveys.	Suitable habitat for foraging in Study Areas. Recorded in the vicinity[2].
Nyctinomops femorosaccus Pocketed free-tailed bat	None/ CSC/ Group 2	Rocky desert areas with high cliffs or rock outcrops. Pinyon-juniper woodlands, desert scrub, desert succulent shrub, desert riparian, desert wash, alkali desert scrub, Joshua tree, palm oasis in Riverside, San Diego, Imperial Cos. (2).	Yes	Recorded during biological surveys.	Suitable habitat for foraging within study areas. Recorded in the vicinity[2].
Nyctinomops macrotis Big free-tailed bat	None/ CSC/ Group 2	Rugged, rocky canyons in Riverside, Los Angeles, and San Diego Cos., but scattered records across California to Oakland (2, 5).	No	Moderate potential to occur.	Suitable rocky canyon habitat within study area. Recorded in the vicinity[2].
Medium Mammals					
Bassariscus astutus Ringtail	None/ None/ Group 2	Mixed forests and shrublands near rocky areas or riparian habitats. Forages near water and is seldom found more than 1km from a water source. Is widely distributed throughout California (2).	No	Low potential to occur.	Not recorded in the vicinity[2]. Poor habitat quality.
Lepus californicus bennettii San Diego black-tailed jackrabbit	None/ CSC/ Group 2	Arid habitats with open ground; grasslands, coastal sage scrub, agriculture, disturbed areas, rangelands in southern California (2, 4).	Yes	Recorded during biological surveys.	Recorded onsite during biological surveys. Recorded in the vicinity[2].
Taxidea taxus American badger	None/ CSC/ Group 2, MSCP	Dry, open treeless areas, grasslands, coastal sage scrub, especially with friable soils throughout California (2).	No	Moderate potential to occur.	Some suitable open areas within study area, but not common. Recorded in the vicinity[2].

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		Large Mammals			
Odocoileus hemionus Mule deer	None/ None/ Group 2, MSCP	Coastal sage scrub, chaparral, riparian, woodlands, forest; often browses in open areas adjacent to cover throughout California, except deserts and intensely farmed areas (2).	Yes	Recorded during biological surveys.	Recorded onsite during camera surveys. Not recorded in the vicinity[2].
Ovis canadensis nelsoni DPS Peninsular bighorn sheep	FE/ ST, FP/ Group 1	Alpine dwarf-shrub, low sage, sagebrush, bitterbrush, pinyon-juniper, palm oasis, desert riparian, desert succulent shrub, desert scrub, subalpine conifer, perennial grassland, montane chaparral, and montane riparian from San Jacinto and Santa Rosa ranges south to Mexico (2).	No	Low potential to occur.	Not recorded in the vicinity[2]. Outside of range.
Puma [*=Felis*] *concolor* Mountain lion	None/ None/ Group 2, MSCP	Coastal sage scrub, chaparral, riparian, woodlands, forest; rests in rocky areas, and on cliffs and ledges that provide cover. Most abundant in riparian areas and brushy stages of most habitats throughout California except deserts (2).	No	High potential to occur.	Suitable habitat found onsite; sufficient corridors or linkages with other conservation areas. Not recorded in the vicinity[2].
		Invertebrates			
		Butterflies			
Apodemia mormo peninsularis Peninsular metalmark	None/ None/ Group 1	Meadows. Larval hostplant *Eriogonum wrightii* ssp. *membranaceum.* Specimen from meadows in Laguna Mtns., 5500 feet (10)	No	Low potential to occur.	Not recorded in the vicinity[2]. No suitable habitat.
Callophyrs (=Mitoura) thornei Thorne's hairstreak butterfly	None/ None/ Group 1, MSCP	Tecate cypress on chaparral-covered dry rocky slopes, Otay Mtn. (4).	No	Low potential to occur.	Not recorded in the vicinity[2]. No suitable habitat.
Danaus plexippus Monarch butterfly (wintering sites)	None/ None/ Group 2	Overwinters in eucalyptus groves from San Francisco south to northern Baja California (4).	No	Low potential to occur. No wintering sites.	Not recorded in the vicinity[2]. No suitable wintering habitat.

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Euphydryas editha quino Quino checkerspot butterfly	FE/None/Group 1	Sparsely vegetated hilltops, ridgelines, occasionally rocky outcrops; host plant *Plantago erecta* and nectar plants must be present, San Diego and Riverside Cos. (4).	No	Moderate potential to occur.	Larval host plant owls' clover (*Castilleja*) found on site. Suitable cryptogamic crusts, ridge tops, and hillsides. Open chaparral. Recorded in the vicinity[2]. Recorded on the Park and on areas to the east and south.
Euphyes vestris harbisoni Harbison's dun skipper	None/ None/ Group 1	Canyon bottoms, creeks, seeps beneath shade of oak trees in riparian habitats supporting host plant *Carex spissa* growing near *Toxicodendron diversilobum*. Found throughout western San Diego Co. to Santa Ana Mtns. Of Orange Co., with largest population in Ramona-Escondido area (11).	No	Low potential to occur.	Not recorded in the vicinity[2]. No suitable habitat.
Lycaena hermes Hermes copper butterfly	None/ None/ Group 1	Coastal sage scrub, southern mixed chaparral supporting at least 5% cover of host plant *Rhamnus crocea*. Adults visit *Eriogonum fasciculatum* and *Helianthus gracilentus*. On well-drained hillsides and canyon bottoms, coastal San Diego Co. south to Santo Tomas, Baja California (4).	No	Low potential to occur.	No host plants recorded within study areas. Recorded in the vicinity[2].
Megathymus yuccae harbisoni Coastal giant skipper	None/ None/ Group 2	Coastal dunes, open yucca flats, desert canyons, open woodland, grassland, and old fields. Record from eastern San Diego Co. near Scissors Crossing (4, 10).	No	Low potential to occur.	Not recorded in the vicinity[2]. No suitable habitat.
Panoquina errans Wandering (= saltmarsh) skipper	None/None/ Group 1, MSCP	Salt marsh from Los Angeles to Baja California, Mexico. Host plant *Distichlis spicata* in salt marshes or near beaches, mouths of rivers (4).	No	Low potential to occur.	Not recorded in the vicinity[2]. No suitable habitat.
Papilio multicaudata Two-tailed swallowtail	None/ None/ Group 1	Semi-arid canyonland, mid-level mountains, canyon bottoms; groves, parks, roadsides (4).	No	Low potential to occur.	Moderately suitable habitat. Not recorded in the vicinity[2].
Plebejus saepiolus hilda Hilda blue	None/ None/ Group 1	Grassy meadow, near small pond; oviposit on *Trifolium wormskioldii*. In San Bernardino Mtns. (10).	No	Low potential to occur.	Not recorded in the vicinity[2]. No suitable habitat.

Scientific Name / Common Name	Status (Federal/State/ County) [1]	Habitat Preferences / Requirements	Verified on Site (direct/ indirect evidence)	Potential to Occur On Site	Factual Basis For Determination
Pseudocopaeodes eunus eunus Alkali skipper	None/ None/ Group 1	Desert seeps, alkali flats of Kern River, Kern Co. Hostplant grass: *Distichils spicata* var. *spicata* (4).	No	Low potential to occur.	Not recorded in the vicinity[2]. No suitable habitat.
Pyrgus ruralis lagunae Laguna Mountain skipper	FE/ None/ Group 1	Only in a few open meadows in yellow pine forest between 5,000 and 6,000 ft in the vicinity of Mt. Laguna and Palomar Mtn. Eggs laid on leaves of *Horkelia clevelandi*. Larvae feed on leaves and overwinter on the host plant (4).	No	Low potential to occur.	Not recorded in the vicinity[2]. No suitable habitat.
Other					
Ariolimax columbianus stramineus Palomar banana slug	None/ None/ Group 2	Humid coastal forests; Santa Cruz Island (13, 14).	No	Low potential to occur.	Not recorded in the vicinity[2]. No suitable habitat.
Branchinecta sandiegonensis San Diego fairy shrimp	FE/ None/ Group 1, MSCP	Small, shallow vernal pools, occasionally ditches and road ruts in coastal mesa system of southern California and Baja California (4).	No	Low potential to occur.	No suitable vernal pools for this species observed within the study area during the study period, though populations to the douth may be transferred to road-ruts by tires and waterfowl. Recorded in the vicinity[2].
Brennania belkini Belkin's dune fly	None/ None/ Group 2	Coastal sand dunes of southern California. Only CNDDB records are from Venice, Los Angeles Co. (5).	No	Low potential to occur.	Not recorded in the vicinity[2]. No suitable habitat.
Cicindela gabbii Gabb's tiger beetle	None/ None/ Group 2	Estuaries and mudflats; generally on dark-colored mud; occasional on dry saline flats of estuaries or mouth of river, Orange and San Diego Cos. (5).	No	Low potential to occur.	Not recorded in the vicinity[2]. No suitable habitat.
Cicindela hirticollis gravida Sandy beach tiger beetle	None/ None/ Group 2	Clean, dry, light-colored sand in upper zone of the beach dunes, close to non-brackish water along coastal California (5).	No	Low potential to occur.	Not recorded in the vicinity[2]. No suitable habitat.

Scientific Name / Common Name	Status (Federal/State/ County) [1]	Habitat Preferences / Requirements	Verified on Site (direct/ indirect evidence)	Potential to Occur On Site	Factual Basis For Determination
Cicindela latesignata latesignata Sand dune tiger beetle	None/ None/ Group 2	Sand and alkali flats at the mouth of river, sandy areas, beaches in coastal Southern California (5).	No	Low potential to occur.	Not recorded in the vicinity[2]. No suitable habitat.
Cicindela latesignata obliviosa Oblivious tiger beetle	None/ None/ Group 2	Inhabited the Southern California coastline, from La Jolla north to the Orange Co. line. Occupied saline mudflats and moist sandy spots in estuaries of small streams in the lower zone. Has not been observed in 20 years (4).	No	Low potential to occur.	Not recorded in the vicinity[2]. No suitable habitat.
Cicindela senilis frosti Tiger beetle	None/ None/ Group 2	Coastal salt marshes; fresh/brackish lagoons, open patches of *Salicornia*, dried salt pans, muddy alkali area. Records in Riverside, San Diego, Los Angeles, Ventura Cos. (4, 5).	No	Low potential to occur.	Not recorded in the vicinity[2]. No suitable habitat.
Cicindela trifasciata sigmoidea Mudflat tiger beetle	None/ None/ Group 2	Has been identified along the fringe of a mudflat and low marsh habitat (15).	No	Low potential to occur.	Not recorded in the vicinity[2]. No suitable habitat.
Coelus globosus Globose dune beetle	None/ None/ Group 1	Fore dunes, sand hummocks, back dunes along immediate coast. Larvae, adults spend time under vegetation or debris from Santa Cruz south to Ventura Cos. Possibly extirpated in San Diego and other coastal counties (4).	No	Low potential to occur.	Not recorded in the vicinity[2]. No suitable habitat.
Helminthoglypta coelata Mesa shoulderband snail	None/ None/ Group 2	Coastal San Diego County (5).	No	Low potential to occur.	Not recorded in the vicinity[2]. No suitable habitat.
Linderiella occidentalis California lindellaria	None/ None/ Group 1	Seasonal pools in unplowed grasslands with old alluvial soils underlain by hardpan or in sandstone depressions. Water in the pools has very low alkalinity, conductivity and TDS. Central Valley, Santa Rosa Plateau (4).	No	Low potential to occur.	Not recorded in the vicinity[2]. No suitable habitat.
Phobetus robinsoni Robinson's rain beetle	None/ None/ Group 2	Chaparral, coastal sage scrub (12).	No	Low potential to occur.	Suitable chaparral habitat onsite. Not much is known about this species' range and life history. Not recorded in the vicinity[2].

Scientific Name / Common Name	Status (Federal/State/ County) [1]	Habitat Preferences / Requirements	Verified on Site (direct/ indirect evidence)	Potential to Occur On Site	Factual Basis For Determination
Streptocephalus woottoni Riverside fairy shrimp	FE/ None/ Group 1, MSCP	Deep, long-lived vernal pools, vernal pool-like seasonal ponds, stock ponds; warm water pools that have low to moderate dissolved solids; in patches of grassland or agriculture interspersed in coastal sage scrub vegetation in southern California(4).	No	Low potential to occur.	Not recorded in the vicinity[2]. No suitable habitat. No vernal pools.
Trigonoscuta blaisdelli Blaisdell trigonoscuta weevil	None/ None/ Group 2	*Trigonoscuta* sp.: Coastal, desert, or inland sand dunes; *Atriplex* and *Astragalus oxyphysus* are host plants for the genus (12).	No	Low potential to occur.	Not recorded in the vicinity[2]. No suitable habitat.
Tryonia imitator Mimic tryonia, California brackishwater snail	None/ None/ Group 2	Coastal lagoons, herbaceous wetlands, brackish salt marshes; distributed among semicontinuous estuarine habitats along coast (4).	No	Low potential to occur.	Not recorded in the vicinity[2]. No suitable habitat.
Fish					
Cyprinodon macularius Desert pupfish	FE/SE/ Group 2	Desert springs, outflow marshes, river-edge marshes, backwaters, saline pools, streams, water less than 1m depth. Tolerates low oxygen levels, high temperatures, high salinity; can live in salinities from fresh water to 68 ppt., can withstand temperatures from 9-45 C and DO levels down to 0.1 ppm. Found from San Felipe Creek, San Sebastian Marsh, Salt Creek, Salton Sea (4).	No	Low potential to occur.	Not recorded in the vicinity[2]. No suitable habitat.
Eucyclogobius newberryi Tidewater goby	FE/ CSC/ Group 1	Coastal lagoons, upper ends of lagoons created by small coastal streams, fresh to brackish water in lower sections of coastal streams; occurs in water 25-100cm deep and prefers mud substrates and areas of high dissolved oxygen. Found with sparse distribution along coast of California south of Del Norte Co. to San Diego Co. (4).	No	Low potential to occur.	Not recorded in the vicinity[2]. No suitable habitat.
Gasterosteus aculeatus williamsoni Unarmored three-spine stickleback	FE/ SE, FP/ Group 2	Clear, cool, slow-flowing streams with sand or mud substrate, weedy pools, backwaters, among emergent vegetation at stream edge, in abundant aquatic vegetation in Santa Clara River drainage (4).	No	Low potential to occur.	Not recorded in the vicinity[2]. No suitable habitat.

Scientific Name / Common Name	Status (Federal/State/ County) [1]	Habitat Preferences / Requirements	Verified on Site (direct/ indirect evidence)	Potential to Occur On Site	Factual Basis For Determination
Gila orcutti Arroyo chub	None/ CSC/ Group 1	Permanent, small to moderate sized, moderate to high gradient streams with flow; headwaters, creeks, small to medium rivers, intermittent streams. Prefer slow moving sections with sand or mud substrate. Found in southern California watersheds (4).	No	Low potential to occur.	Not recorded in the vicinity[2]. No suitable habitat.
Oncorhynchus mykiss Rainbow trout — Steelhead form (Southern California)	FE/ CSC/ Group 1	*Oncorhynchus mykiss* ssp. *irideus*: Santa Maria River south to southern extent of range (San Mateo Creek in San Diego Co.); Southern steelhead likely have greater physiological tolerances to warmer water and more variable conditions. Ocean, rivers, creeks, large inland lakes, juveniles spend time in ocean before returning to natal stream to spawn; prefer summer temperatures 10-15C. Migration requires deep (3m) pools with cover along river course (4).	No	Low potential to occur.	Not recorded in the vicinity[2]. No suitable habitat.

[1] Status:

Federal Designations:

FC	Candidate for federal listing as threatened or endangered
FD	Federally-delisted; monitored for five years
FE	Federally-listed Endangered
FT	Federally-listed as Threatened

State Designations:

CSC	California Special Concern Species
FP	California Department of Fish and Game Fully Protected Species
WL	California Department of Fish and Game Watch List Species
SE	State-listed as Endangered
ST	State-listed as Threatened

County Designations:

Group 1	Animals of high sensitivity (listed or specific natural history requirements)
Group 2	Animals declining, but not in immediate threat of extinction or extirpation
MSCP	Covered species under MSCP

[2] Vicinity: Based on CNDDB 9 Quadrangle search of the surrounding quadrangles, including Poway, Rancho Santa Fe, Escondido, San Vicente Reservoir, El Cajon, San Pasqual, Del Mar, La Jolla, and La Mesa.

References for Appendix E

Academy of Natural Sciences. 1896. *Proceedings of the Academy of Natural Sciences of Philadelphia* 48.

Bogan, M.A., E.W. Valdez, and K.W. Navo. 2005. "*Myotis ciliolabrum:* Western Small-footed Myotis." Western Bat Working Group. Accessed December 1, 2011. http://www.wbwg.org/speciesinfo/species_accounts/species_accounts.html.

Butterflies of America Foundation. 2011. Butterflies of America. Accessed December 1, 2011. http://butterfliesofamerica.com/.

Brehme, C.S., D.R. Clark, C.J. Rochester, and R.N. Fisher. 2011. "Wildfires Alter Rodent Community Structure across Four Vegetation Types in Southern California, USA." *Fire Ecology* 7(2):81–98. Accessed August 22, 2011. doi: 10.4996/fireecology.0702081.

CaliforniaHerps. 2011. "California Herps: A Guide to the Amphibians and Reptiles of California." Accessed November 22, 2011. http://www.californiaherps.com/.

CSU (California State University Stanislaus). 2006. Endangered Species Recovery Program. Accessed September 2012. http://esrp.csustan.edu.

CDFG (California Department of Fish and Game). 2008. "Complete List of Amphibian, Reptile, Bird and Mammal Species in California." September 2008. Accessed December 19, 2011. http://www.dfg.ca.gov/biogeodata/cwhr/pdfs/species_list.pdf.

CDFG. 2011. California Natural Diversity Database (CNDDB). State and Federally Listed Endangered and Threatened Animals of California. Biannual publication, mimeo. January 2011.

City of Carlsbad. 2004. Habitat Management Plan for Natural Communities in the City of Carlsbad. Prepared by The Rick Alexander Company, Jean K. Carr Consulting, Onaka Planning and Economics, Ogden Environmental Services, and Dudek and Associates for the City of Carlsbad and U.S. Fish and Wildlife Service/California Department of Fish and Game. Carlsbad, California. December 1999; Final Approval November 2004.

IDTools. 2011. "*Lymnaeidae* Fact Sheet." Terrestrial Mollusc Tool. Accessed December 1, 2011. http://idtools.org/id/mollusc/factsheet.php?name=lymnaeidae.

NatureServe. 2012. *NatureServe Explorer*: An Online Encyclopedia of Life. Version 7.1. February 2, 2009. Data last updated February 2012. Accessed November 2011. http://www.natureserve.org/explorer/index.htm.

SDNHM (San Diego Natural History Museum). n.d. *Field Guide.* Accessed September 2012. http://www.sdnhm.org/science/field-guide/.

Xerces Society. 2012. "Sweat bees: *Halictus harmonius."* The Xerces Society for Invertebrate Conservation. Accessed September 2012. http://www.xerces.org/halictus-harmonius/.

APPENDIX F

Site Photographs



Photo 1: Site Photo - Hagey Study Area



Photo 2: Site Photo - Sycamore South Study Area



Photo 3: Small Mammal Trap



Photo 4: Cactus Mouse (*Peromyscus eremicus*)



Photo 5: California Mouse (*Peromyscus californicus*)



Photo 6: California Pocket Mouse (*Chaetodipus californicus femoralis*)



Photo 7: Dulzura Kangaroo Rat (*Dipodomys simulans*)



Photo 8: North American Deer Mouse (*Peromyscus maniculatus*)



Photo 9: San Diego Desert Woodrat (*Neotoma lepida intermedia*)



Photo 10: San Diego Pocket Mouse (*Chaetodipus fallax fallax*)



Photo 11: Sycamore South Study Area Wildlife Camera



Photo 12: Greater Roadrunner (*Geococcyx californianus*) - Sycamore South Study Area



Photo 13: Radio-collared Bobcat (*Lynx rufus*) - Sycamore South Study Area



Photo 14: Mule Deer (*Odocoileus hemionus*)- Sycamore South Study Area



Photo 15: Black-tailed Jackrabbit (*Lepus californicus bennettii*)- Sycamore South Study Area



Photo 16: Helicopter- Sycamore South Study Area



Photo 17: Hagey Study Area Wildlife Camera



Photo 18: Coyote (*Canis latrans*)- Hagey Study Area



Photo 19: Species Diversity within Herpetological Array



Photo 20: Coast Horned Lizard (*Phrynosoma blainvillii*) - Hagey Study Area



Photo 21: Southern Pacific Rattlesnake (*Crotalus atrox*)



Photo 22: Western Fence Lizard (*Plestidon skiltonianus*) - Sycamore South Study Area



Photo 23: Bat Survey Location- Hagey Study Area

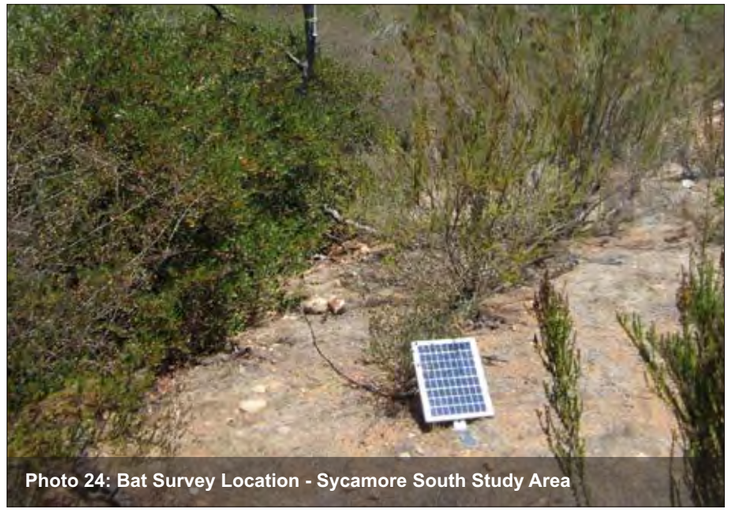


Photo 24: Bat Survey Location - Sycamore South Study Area



Photo 25: Behr's Metalmark (*Apodemia mormo virgulti*)



Photo 26: Skipper (*Family Hesperiidae*)