FINAL

BASELINE BIODIVERSITY SURVEY REPORT FOR SYCAMORE CANYON/GOODAN RANCH PRESERVE ADDITIONAL PROPERTIES

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Acronyms and Abbreviations

°F	degrees Fahrenheit
Cal-IPC	California Invasive Plant Council
CDFW	California Department of Fish and Wildlife
County	County of San Diego
DPR	County of San Diego Department of Parks and Recreation
GPS	global positioning system
mph	miles per hour
MSCP	Multiple Species Conservation Program
SSC	California Species of Special Concern
SR-	State Route
Sycamore/Goodan Preserve	Sycamore Canyon/Goodan Ranch Preserve
USFWS	U.S. Fish and Wildlife Service
VCM	*Vegetation Classification Manual for Western San Diego County*

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Summary

The County of San Diego Department of Parks and Recreation acquired the approximately 214-acre expansion of Sycamore Canyon/Goodan Ranch Preserve (Sycamore/Goodan Preserve) between 2003 and 2018, corresponding to five properties (Reems/Thomson, Uridel, Navarro, Moore/Moffett, and Berkeley Hering, collectively referred to as "the Properties"). The Properties are within the planning boundaries of the South County Multiple Species Conservation Program (MSCP) preserve system and within the Metro-Lakeside-Jamul Segment.

ICF conducted a baseline biological inventory study in 2018 at the Properties that included the following: (1) vegetation surveys with habitat community, rare plant, and invasive nonnative plant species mapping components; (2) butterfly surveys and habitat assessments; (3) herpetofauna surveys, including box traps and nocturnal pedestrian surveys; (4) ornithological surveys, including diurnal and nocturnal surveys; and (5) mammal surveys, including small mammal trapping, camera stations for medium to large mammals, and active and passive bat surveys.

This report summarizes all survey methodologies and data collected during the 2019 survey period. It also provides recommendations for management of MSCP covered plant and animal species.

The habitat types/vegetation communities and land cover types observed within the Properties were Non-Native Grassland, Wildflower Field, Coastal Scrub, Diegan Coastal Sage Scrub, Coastal Sage-Chaparral Transition, Granitic Southern Mixed Chaparral, Chamise Chaparral, Southern Riparian Forest, Open Coast Live Oak Woodland, Eucalyptus Woodland, Disturbed habitat, and Developed lands.

The current survey effort documented these 12 vegetation/land cover types and detected 228 plant species and 95 wildlife species within the Properties. Of these species, five plant species are considered special-status, and one of these is covered by the MSCP: San Diego goldenstar. Fifteen special-status wildlife species were detected during the surveys, three of which are covered by the MSCP: Southern California rufous-crowned sparrow, coastal California gnatcatcher, and southern mule deer.

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Chapter 1
Introduction

1.1 Purpose of the Report

Baseline biological resource surveys were conducted within the approximately 214-acre expansion of Sycamore Canyon/Goodan Ranch Preserve (Sycamore/Goodan Preserve) (Figure 1-1, Figure 1-2), corresponding to five properties (Reems/Thomson, Uridel, Navarro, Moore/Moffett, and Berkeley Hering, collectively referred to as "the Properties") acquired by the County of San Diego Department of Parks and Recreation (DPR) between 2003 and 2018. The purpose of these surveys was to identify and map existing biological resources within the Properties. This information will be used to update the existing Resource Management Plan for the Preserve. Management directives will provide the management framework for monitoring and managing the Properties resources.

1.2 Multiple Species Conservation Program Context

The Properties are within the planning boundaries of the South County Multiple Species Conservation Program (MSCP) preserve system and within the Metro-Lakeside-Jamul Segment (Figure 1-3) and will add to the network of preserved land in the area (Figure 1-4). The MSCP is a cooperative habitat program that encompasses 582,000 acres and establishes a 172,000-acre preserve system in southwestern San Diego County. The MSCP covers 85 plant and animal species and 23 vegetation communities. Agencies participating in the MSCP include the County of San Diego (County), other local jurisdictions, the U.S. Fish and Wildlife Service (USFWS), and the California Department of Fish and Wildlife (CDFW).

Local jurisdictions and special districts implement their respective portions of the MSCP through Subarea plans (County 1997), which describe specific implementing mechanisms for the MSCP. The combination of the subregional MSCP Plan and Subarea plans serve as a Multiple Species Habitat Conservation Program pursuant to Section 10(a)(1)(B) of the Federal Endangered Species Act, the Natural Community Conservation Planning Program pursuant to the California Natural Community Conservation Planning Act of 1991, and the California Endangered Species Act. All properties associated with Sycamore Canyon Preserve are fully owned and operated by DPR. Goodan Ranch Preserve is owned jointly by DPR, CDFW, City of Poway, and City of Santee. Through a Joint Powers Agreement (November 1995), DPR is identified as responsible for management of the property in cooperation with all parties (DPR 2013).

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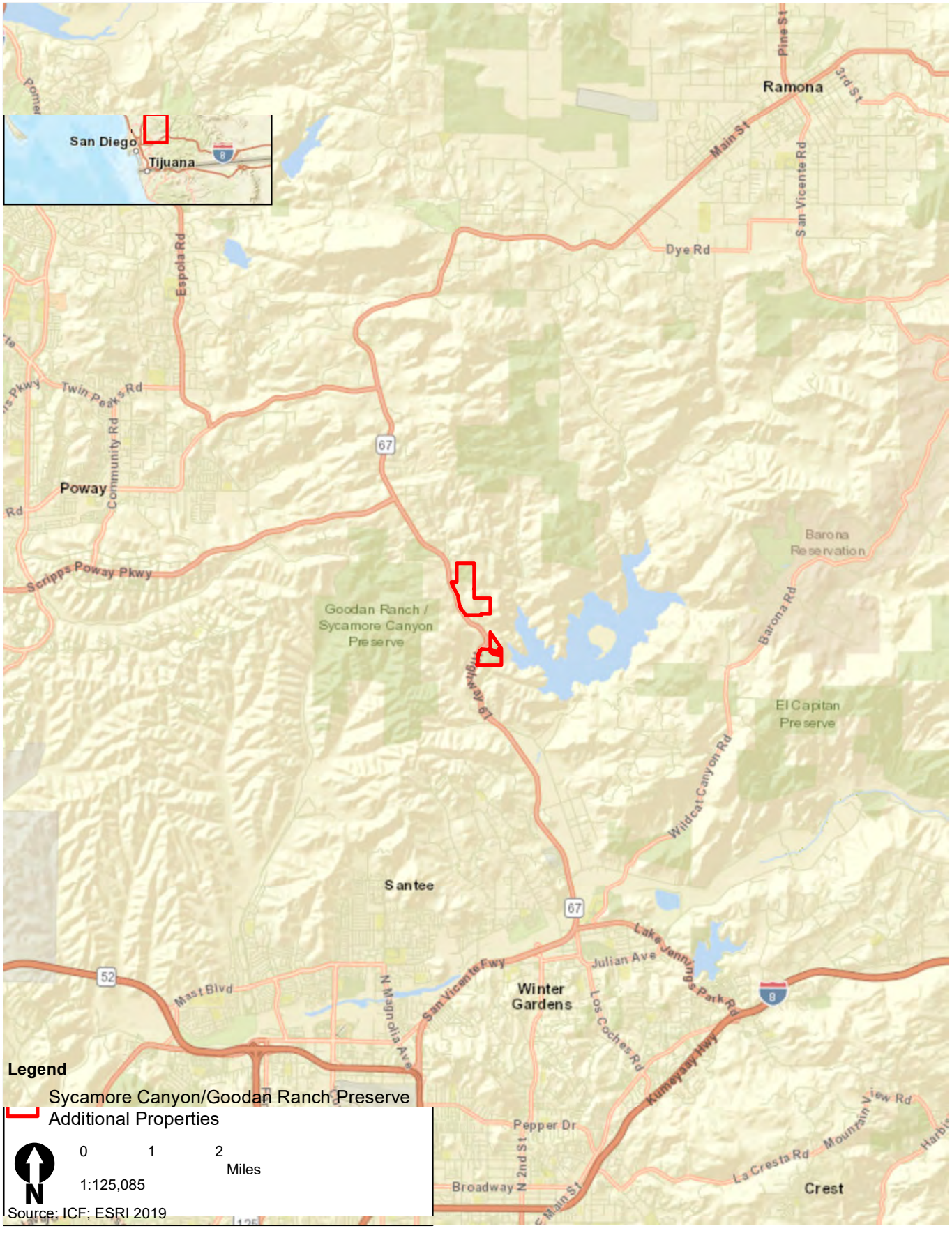


Figure 1-1
Regional Location
Sycamore Canyon/Goodan Ranch Preserve Additional Properties

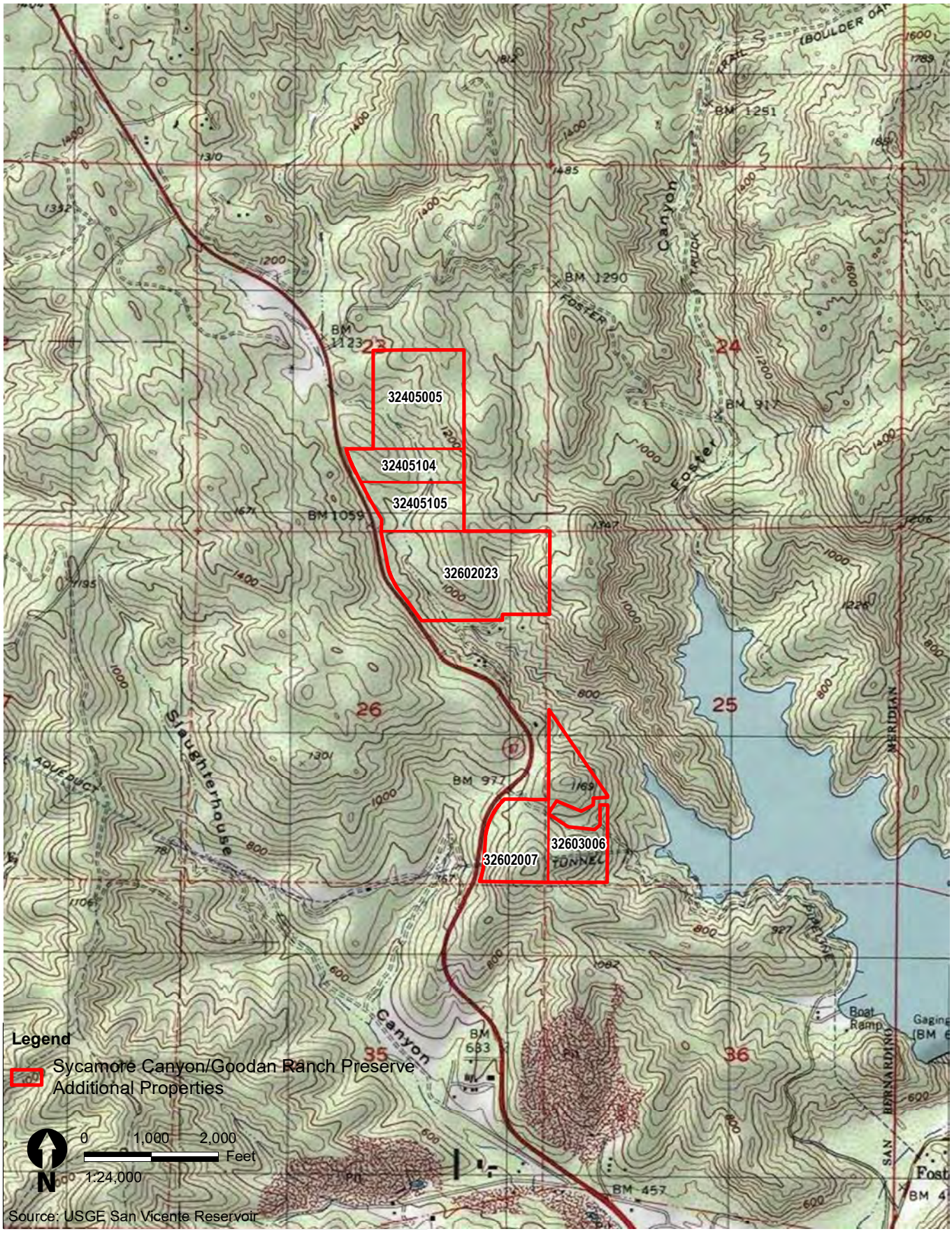
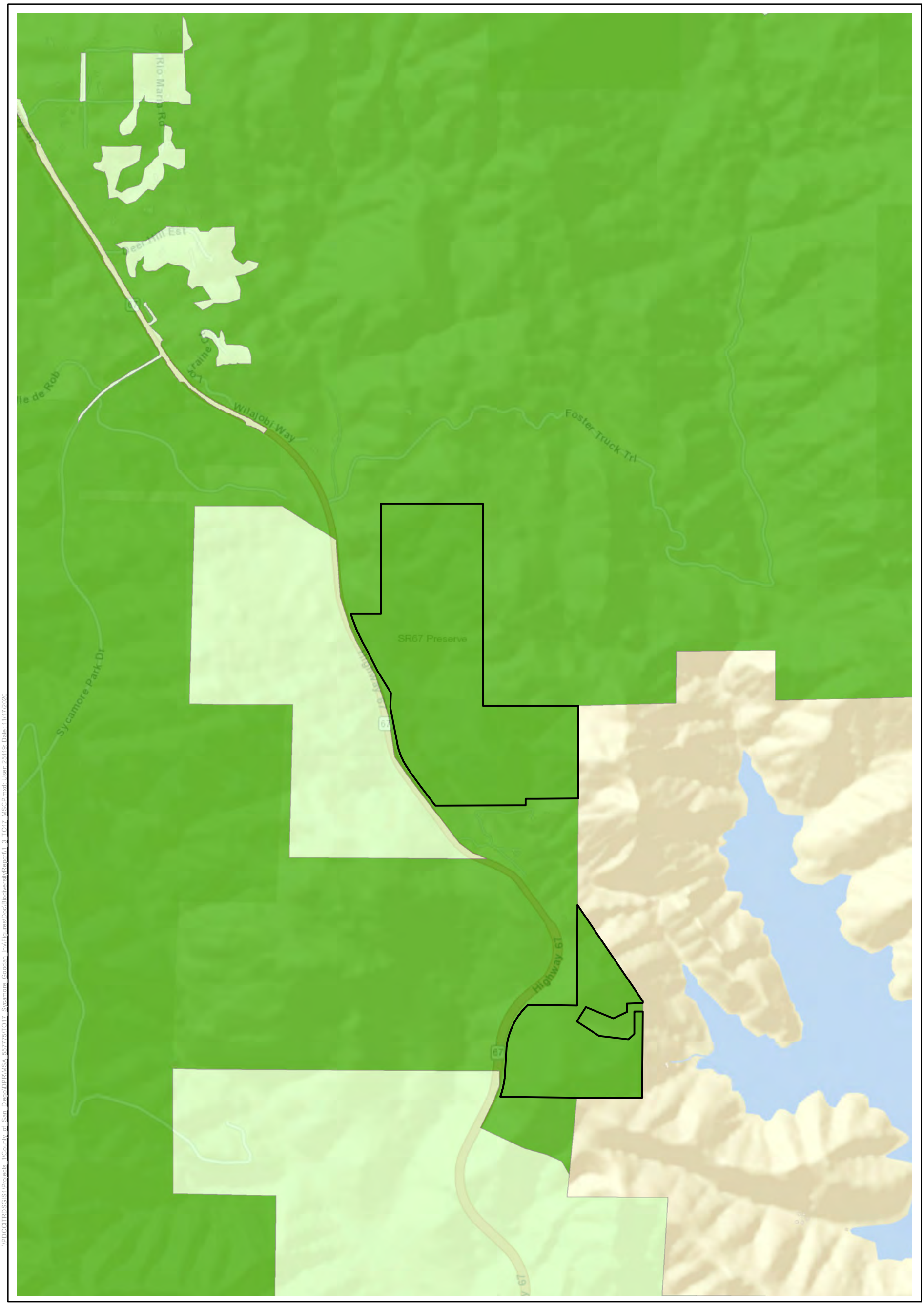


Figure 1-2
Project Vicinity Map
Sycamore Canyon/Goodan Ranch Preserve Additional Properties



Sycamore Canyon/Goodan Ranch Preserve Additional Properties

County MSCP Designations

Pre-Approved Mitigation Area

Unincorporated Land in Metro-Lakeside-Jamul Segment

Source: ICF; SANDAG; ESRI (2019)

0 750 1,500 Feet

N

Figure 1-3
MSCP Designation
Sycamore Canyon/Goodan Ranch Preserve Additional Properties

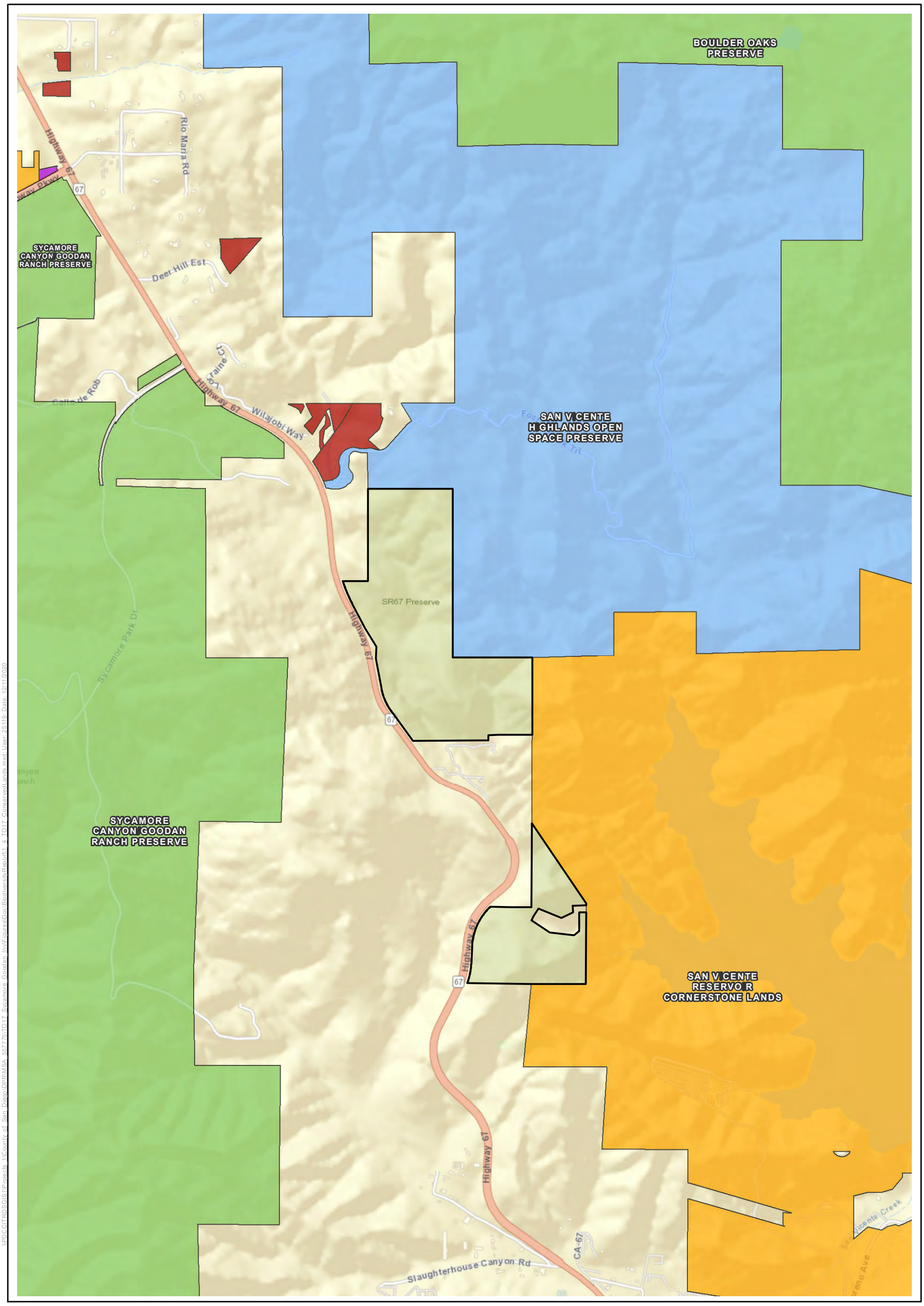


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Figure 1-4
Conserved Lands
Sycamore Canyon/Goodan Ranch Preserve Additional Properties

Chapter 2
Study Area Description

2.1 Project Location

The Properties are located directly east of Sycamore/Goodan Preserve, east of State Route (SR-) 67 in the Lakeside Community Planning Area. The Assessor's Parcel Numbers for the additional five parcels are as follows: 324-050-05, 324-051-04 and -05, 326-020-23, 326-030-06, and 326-020-07.

2.2 Geographical Setting

The Properties are in the Peninsular Range province, a group of mountain ranges extending from 930 miles from Southern California to the southern tip of Baja California Peninsula. This range runs east to west and is south of the Transverse Ranges. In San Diego, it includes Palomar Mountain. This region includes the coastal plain mesas, foothills, interior mountains, and valleys of San Diego County. The Properties are approximately 0.5 mile east from the Sycamore/Goodan Preserve in the coastal foothills of the Peninsular Ranges and are composed of hilly terrain characterized by foothill uplands with narrow ridgelines separated by numerous steep canyons, ravines, and drainages. The five additional parcels are divided in two non-contiguous properties, both situated east of SR-67. The Northern Parcel (APNs 32405005, 32405104, 32405105, 32602023) is northwest of the San Vicente Reservoir and west of Forster Canyon. The Southern Parcel (APNs 32602007, 32603006) is northeast of Slaughterhouse Canyon and west of the San Vicente Reservoir (Figure 1-2).

2.3 Geology and Soils

The Peninsular Ranges geomorphic province consists of granitic rocks derived from the Southern California Batholith intruded into the older metamorphic rocks. Two soil series are represented within the Properties added to the Preserve: Friant series and Olivenhain soils (Figure 2-1). The Northern Parcel consist of Friant soil series, and Olivenhain soils are found within the Southern Parcelroperties, in addition to the Friant soil. Descriptions from the San Diego County Soil Survey (USDA 1973) are presented below.

The **Friant** soil series consists of shallow and very shallow, well-drained, fine, sandy loams that formed from weathered material consisting of fine-grained metasedimentary rock. These soils are found in mountainous uplands with elevations from 500 to 3,500 feet and slopes of 9 to 70 percent. The mean annual precipitation is between 14 and 20 inches, and the mean annual air temperature is between 59 degrees Fahrenheit (°F) and 62°F. The soil profile is dark-brown and brown at the surface, slightly acid, fine, sandy loam about 12 inches thick. **FxE** (Friant rocky fine sandy loam, 9 to 30 percent slopes) is found in 26.16 acres of the Northern Parcel, while **FxG** (Friant rocky fine sandy loam, 30 to 70 percent slopes) is found in 130.08 acres of the Northern Parcel and in 22.34 acres of the Southern Parcel.

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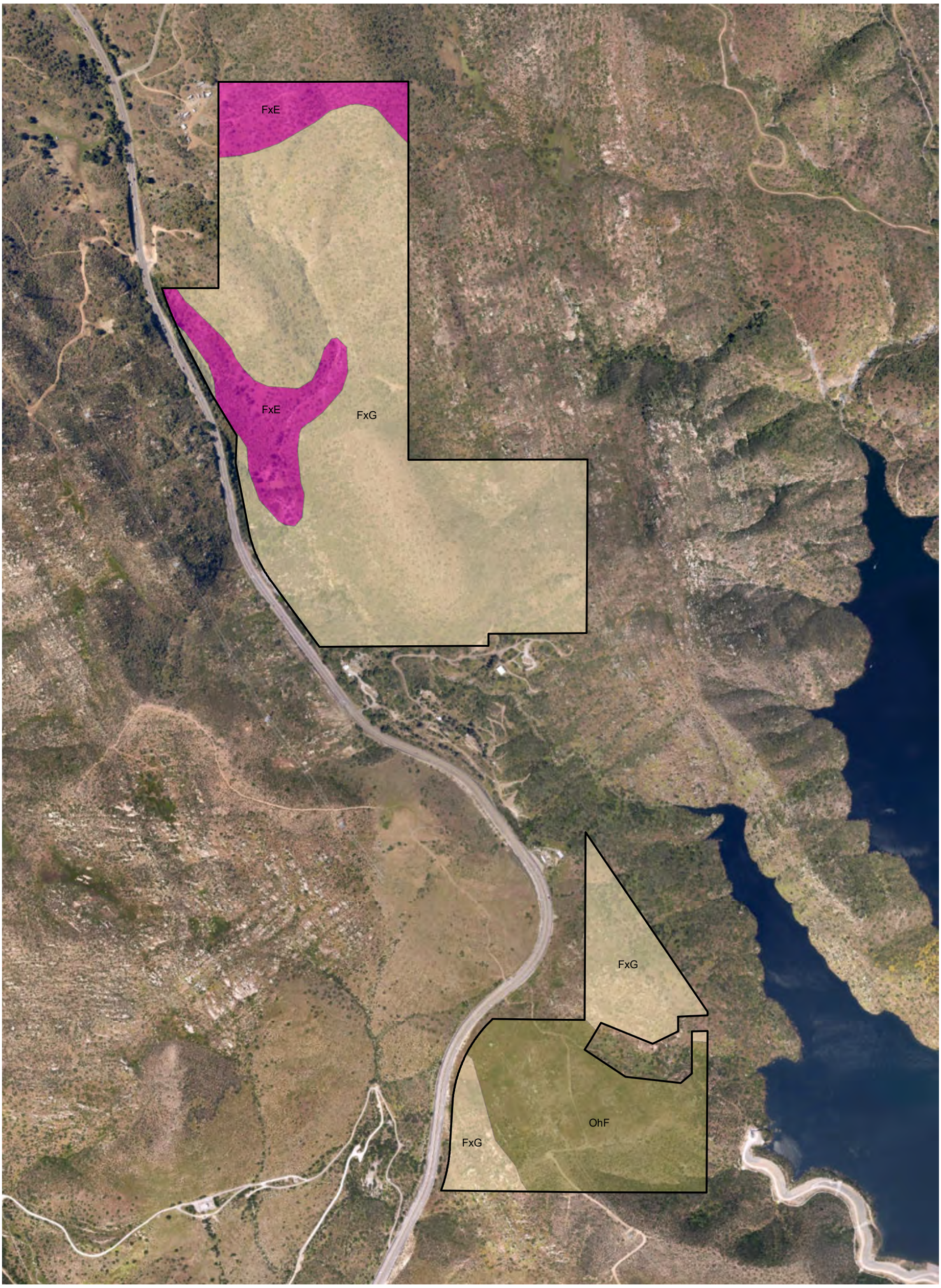


Sycamore Canyon/Goodan Ranch Preserve Additional Properties

Soils

- FxE - Friant rocky fine sandy loam
- FxG - Friant rocky fine sandy loam
- OhF - Olivenhain cobbly loam

Source: ICF; SANDAG; ESRI (2019)

0 350 700 Feet

N

Figure 2-1
Soils Map
Sycamore Canyon/Goodan Ranch Preserve Additional Properties

Los Penasquitos Creek
PENASQUITOS WATERSHED
Highway 67
Rob Mitchell Rd
Deer Hill Est
Calle de Rob
Wildlobi Way
Foster Truck Trl
Foster Truck Trl
Foster Canyon
Sycamore Park Dr
Sycamore Canyon
Highway 67
SAN DIEGO WATERSHED
CARLSBAD WATERSHED
SAN DIEGUITO WATERSHED
PENASQUITOS WATERSHED
SAN DIEGO WATERSHED
SWEETWATER WATERSHED
TIJUANA WATERSHED
OTAY WATERSHED
Slaughterhouse Canyon
Slaughter House Canyon Rd
Vigilante Rd
Highway 67
San Vicente Creek

Legend

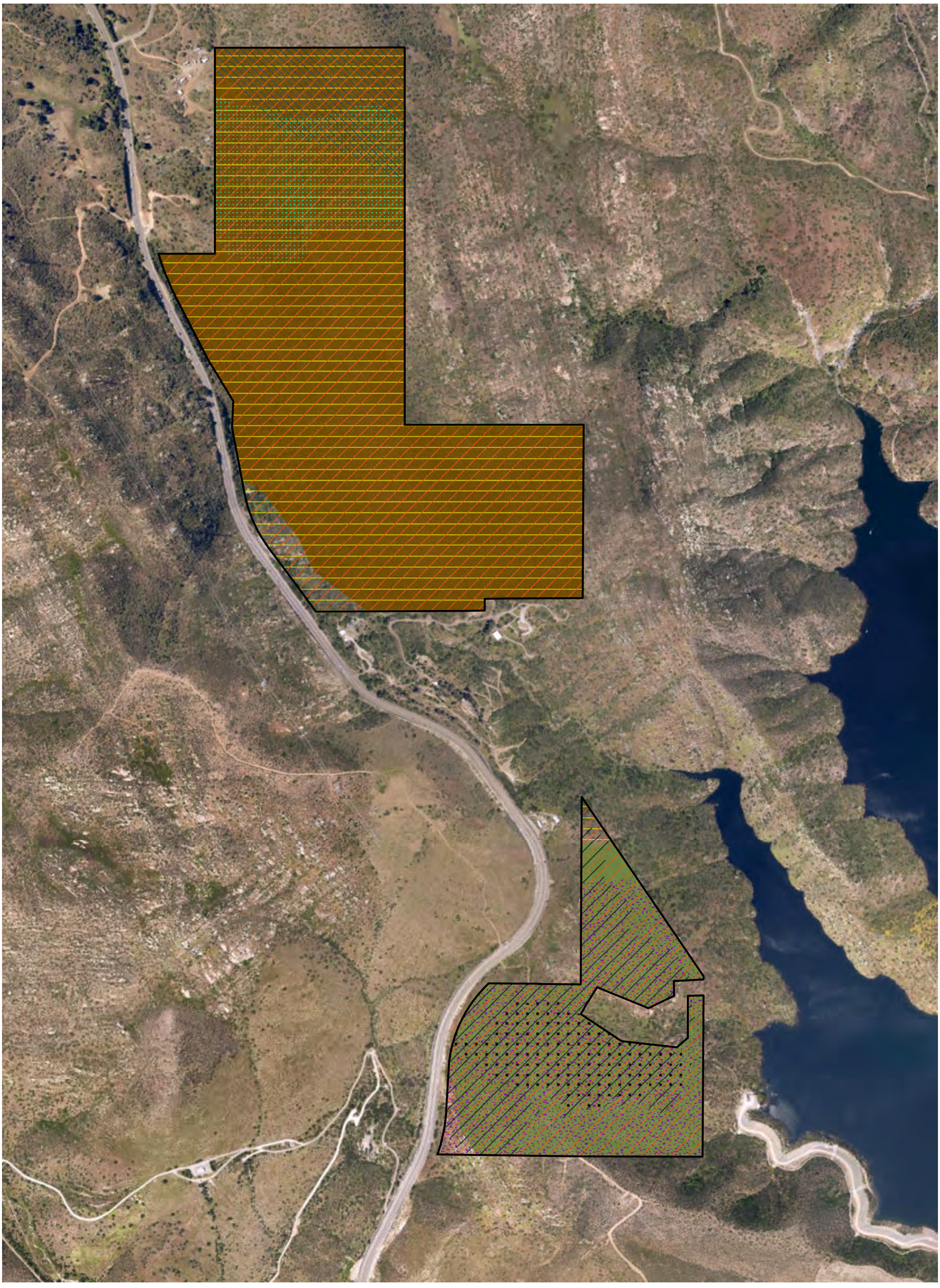
- Sycamore Canyon/Goodan Ranch Preserve Additional Properties
- Stream/River
- Watersheds

Source: ICF; SANDAG; ESRI (2019)

0 1,000 2,000 Feet

N

Figure 2-2
Watersheds
Sycamore Canyon/Goodan Ranch Preserve Additional Properties



Sycamore Canyon/Goodan Ranch Preserve Additional Properties

Burn History

- 2016 (Lakeside Fire, 17.6 acres)
- 2010 (Slaughterhouse Fire, 41.1 acres)
- 2006 (67 Fire, 30.2 acres)
- 2003 (Cedar Fire 215.2 acres)
- 1997 (Slaughterhouse Fire, 56.2 acres)
- 1985 (Sycamore Fire, 177.6 acres)
- 1984 (Bowles Fire, 19.5 acres)
- 1981 (Slaughter Fire, 56.7 acres)
- 1938 (Name unknown, 151.3 acres)

Source: ICF; SANDAG; ESRI (2019)

0 500 1,000 Feet

N

Figure 2-3
Fire History
Sycamore Canyon/Goodan Ranch Preserve Additional Properties

Olivenhain soils are well-drained, moderately deep to deep, cobbly loam that have a very cobbly clay subsoil. These soils are on dissected marine terraces at elevations of 100 to 600 feet. Typically, Olivenhain soils are brown and reddish brown, medium acid, very cobbly loam at the surface, and have reddish brown and red, medium and strongly acid, very cobbly clay subsoil, grading to pinkish white cobbly loam substratum. **OhF** (Olivenhain cobbly loam, 30 to 50 percent slopes) are found in 36.71 acres within the Southern Parcel (Figure 2-1).

2.4 Climate

A semi-permanent, high-pressure cell over the Pacific Ocean dominates San Diego County's climate. This cell drives onshore circulation, maintaining clear skies for much of the year. Summers in the Properties are typically warm and dry, while winters are mild with occasional rain (USDA 1973). In the coastal slope of San Diego County, annual precipitation averages 10.7 inches and falls mostly in the winter and spring (RSS Weather 2019). A predominant feature of the local climate is the seabreeze/land-breeze cycle. During the daytime, particularly in the summer, onshore winds move inland with speeds of approximately 7 to 10 miles per hour (mph). Easterly land breezes of approximately 2 to 4 mph often occur at night. The surrounding rugged terrain, which induces turbulence in the airflow, modifies the influence of this cycle. In the Properties, this cycle is periodically affected by land airflows that dominate weather patterns. The most widely recognized of these are the Santa Ana winds, during which strong, hot, dry easterly winds prevail for 2 to 3 days, and bring risk of catastrophic wind-driven fires.

2.5 Hydrology

The Properties are situated within the San Diego River Watershed (Hydrologic Unit Code 8 18070304; Figure 2-2). The San Diego River watershed begins near Santa Ysabel in the mountains of east San Diego County and funnels rainwater west to the El Capitan Reservoir, and through Lakeside, Santee, and Mission Valley. The river eventually drains into the Pacific Ocean in Ocean Beach. The San Diego River watershed encompasses approximately 440 square miles and its major tributaries—Los Coches Creek, Chocolate Creek, San Vicente Creek, Boulder Creek, and Conejos Creek (San Diego Regional Water Quality Control Board 2014)—connect portions of the cities of San Diego, El Cajon, La Mesa, Poway, and Santee. Designated beneficial uses for the San Diego River and its tributaries include municipal and domestic supply; agricultural supply; industrial service supply; industrial process supply; contact and non-contact water recreation; warm freshwater habitat; cold freshwater habitat; wildlife habitat; and rare, threatened, or endangered species habitat (DPR 2013). Approximately 58 percent of the San Diego River Watershed is undeveloped, primarily in the upper reaches; the highly urbanized area is found in the lower reaches. The undeveloped lands host a wide variety of habitats and endangered species like the arroyo toad (*Anaxyrus californicus*) (USFWS 2014) and the least Bell's vireo (*Vireo bellii pusillus*) (USFWS 2006). An unnamed creek runs through the center of the Northern Parcel and contains riparian forest in the southern extent of its reach. The Southern Parcel does not contain any aquatic resources.

2.6 Fire History

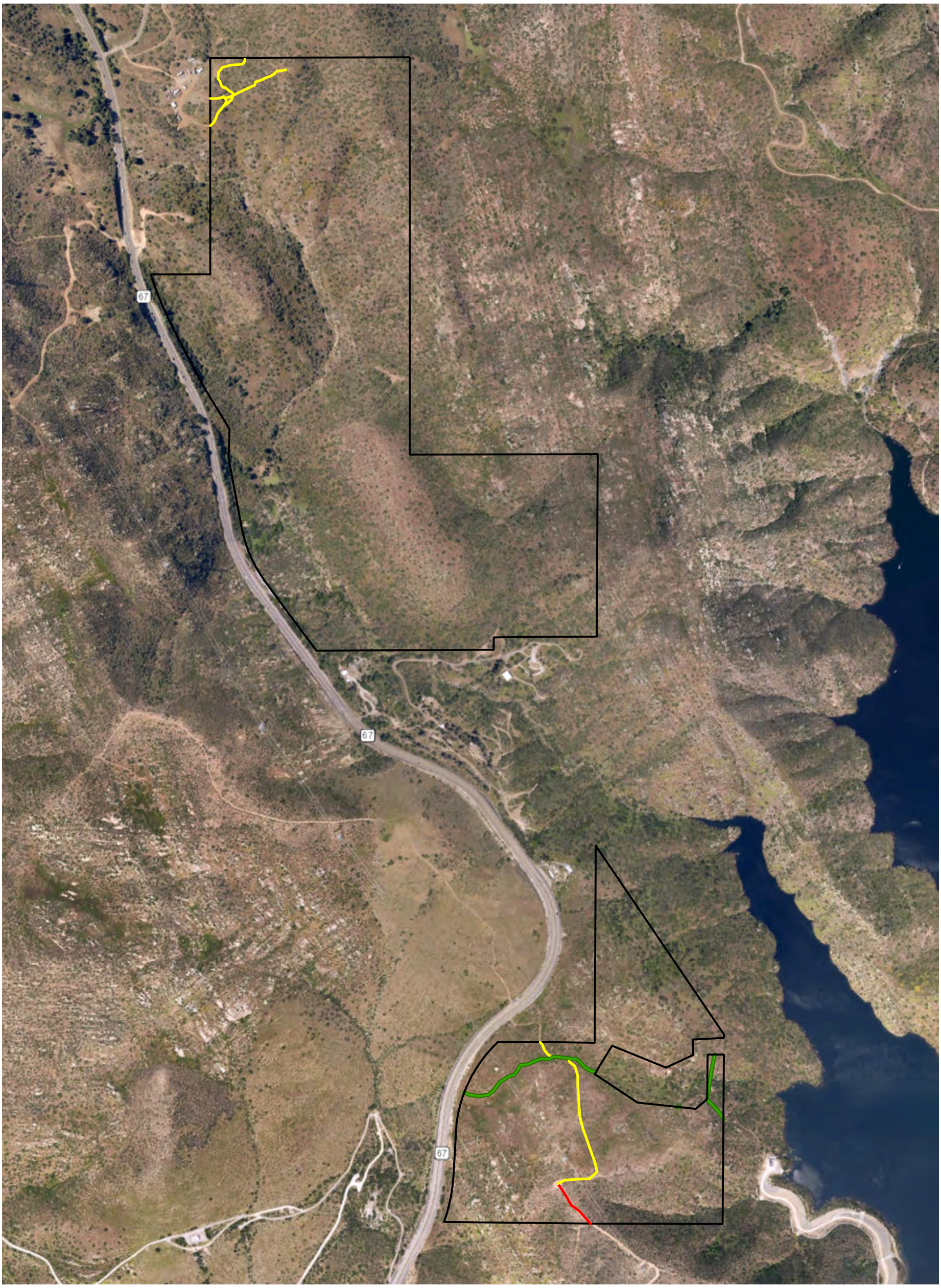
The Properties are dominated by coastal scrub and chaparral vegetation, which is naturally maintained by infrequent fires. If the natural fire cycle is suppressed, the scrub habitats can become senescent, declining in both health and diversity. If the fire frequency is increased, vegetation could shift toward disturbed grassland habitats or disturbed shrub communities. The fire cycles within the area are affected by actions within and adjacent to the Preserve. Anthropogenic fires have altered the fire cycles throughout San Diego County. In accordance with San Diego Geographic Information Source (SanGIS 2018) there are several historical records of fire within the Properties (Figure 2-3) as shown in Table 2-2. In 2003, the devastation of the Cedar Fire burned two of the five new Properties and the existing Preserve, where it destroyed most of the structures. The Properties are in the jurisdiction of the California Department of Forestry and Fire Protection.

Table 2-2. Burn History within Properties

Burn History	Acres
Northern Parcel	
1938 – Name Unknown	151.3
1984 – Bowles	19.5
1985 – Sycamore	156.2
2003 – Cedar	156.2
2006 – 67	30.2
Southern Parcel	
1981 – Slaughter	56.7
1985 – Sycamore	21.4
1997 – Slaughterhouse	56.2
2003 – Cedar	59.0
2010 – Slaughterhouse	41.1
2016 – Lakeside	17.6

2.7 Trails

The Properties are currently closed to the public. Approximately 0.3 mile of the proposed Trans County Regional Trail is located within the Southern Parcel (Figure 2-4). There are several unofficial trails located within the Properties. On the Northern Parcel several trails are located in the northwest corner and in the Southern Parcel one runs in a north-south direction through the center of the site. The Southern Parcel contains a small section of a San Diego Gas and Electric access road in the southern end.



Sycamore Canyon/Goodan Ranch Preserve Additional Properties

Trails

- SDG&E Access Road
- Unofficial Trail
- Proposed Trans County Regional Trail

Source: ICF; SANDAG; ESRI (2019)

0 500 1,000 Feet

N

Figure 2-4
Trails
Sycamore Canyon/Goodan Ranch Preserve Additional Properties

Chapter 3
Methods

3.1 Vegetation Communities/Habitat

Vegetation mapping within the Properties was conducted on April 8 and April 12, 2019, with a follow-up on June 4, 2019, by walking meandering transects and from selected vantage points that allowed an expansive view of the Properties. Vegetation communities were mapped within the Properties and a 100-foot buffer pursuant to County of San Diego guidelines. Vegetation communities were classified based on dominant and characteristic plant species, in accordance with the Holland classification system (1986), as modified by Oberbauer et al. (2008). Additionally, vegetation communities were cross-walked to the San Diego Association of Governments' *Vegetation Classification Manual for Western San Diego County* (VCM) (AECOM 2011).

Concurrently with vegetation mapping, the biologists conducted a habitat assessment to determine the potential for special-status species to occur on site and assessed the need for any additional protocol wildlife surveys to be conducted.

3.2 Plants

3.2.1 Special-Status Plant Species

Comprehensive sensitive/rare plant surveys were conducted in April 16 and 18, 2019, and May 13 and 16, 2019 (Table 3-1). Special-status species are those that are (1) listed by federal and/or state agencies, proposed for listing as threatened or endangered, or candidate species; (2) considered rare by the California Native Plant Society; (3) listed on the County of San Diego Sensitive Species Plant List; or (4) on the South County MSCP Covered Species list. A detailed habitat assessment was conducted during the comprehensive surveys to determine areas with high potential for rare plants to occur.

Sensitive/rare plant surveys were conducted in accordance with *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities* (CDFW 2018). Prior to field surveys, existing resources were assessed for rare plant information, including the California Natural Diversity Database, information available from the County MSCP Plan, USFWS, California Native Plant Society, San Diego Natural History Museum databases, and staff knowledge. Surveys were floristic in nature; therefore, plant species observed were identified and recorded to inventory plant species. For each rare plant species observed, relative abundance and general distribution were recorded.

All plants observed within the study area were identified to the species level (including subspecies or variety, as applicable) using *The Jepson Manual: Vascular Plants of California, Second Edition* (Baldwin et al. 2012) and recorded in a species compendium. Plant common names followed the *Checklist of the Vascular Plants of San Diego County, Fifth Edition* (Rebman and Simpson 2014) if the common names were not provided in Baldwin et al. (2012).

Two complete survey passes were completed to meet the requirements specified in the *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities* (CDFW 2018) and to thoroughly document the distribution and abundance of all potentially occurring plant species. Special-status plant species were mapped using a global positioning system (GPS) unit with sub-meter positional accuracy as polygon features. In some instances, such as when a single individual was observed, point data were collected. The number of special-status plants with occurrences of fewer than 100 individual plants were directly counted. For occurrences that exceeded 100 individuals, estimates of population size were completed using cluster sampling.

Table 3-1. Rare Plant Surveys Dates

Date	Surveyor(s)[1]	Survey Type
04/16/19	BB, RM	Rare Plant Survey #1 and Invasive Species Mapping
04/18/19	BB, RM, MM	Rare Plant Survey #1 and Invasive Species Mapping
05/13/19	BB, MM	Rare Plant Survey #2 and Invasive Species Mapping
05/16/19	BB, RM	Rare Plant Survey #2 and Invasive Species Mapping

[1] BB = Brenda Bennett, RM = Ryan Meszaros, MM = Margie Mulligan

3.2.2 Invasive Plant Species Mapping

Invasive plant species mapping was conducted concurrently with vegetation mapping and rare plant surveys. Focus was given to the 29 species identified as priorities for near-term management and monitoring by the San Diego Management and Monitoring Program Working Group in its *Management Priorities for Invasive Non-native Plants* (Conservation Biology Institute 2012) and those rated by the California Invasive Plant Council (Cal-IPC) (Cal-IPC 2016), listed on the Federal Introduced, Invasive, and Noxious Plant List (USDA Natural Resources Conservation Service 2014), or occurring on the California Noxious Weeds List (California Department of Food and Agriculture 2016). When observed, these species were mapped using GPS as polygons or as points for a single or small occurrence. Landscape-level invasive species such as brome grasses or wild oat grasslands were mapped as vegetation communities if larger than 1 acre. If these species occupied less than 1 acre but greater than approximately 100 square feet, they were mapped as standalone invasive plant polygons.

3.3 Wildlife

The following sections detail the methods for various wildlife surveys conducted at the Properties including surveys for invertebrates, herpetofauna, birds, small mammals, medium to large mammals, and bats.

3.3.1 Invertebrates (Butterflies)

Butterfly surveys were conducted using the Checklist Method (Royer et al. 1998) and consisted of slowly walking meandering transects during the warmest and sunniest periods of the day (late morning to mid-afternoon) when butterfly activity is at its peak (Table 3-2). Areas with potential butterfly nectar sources and host plants were a focus of the surveys. Binoculars were used to aid in butterfly identification. Habitat assessments for sensitive butterfly species were also conducted.

Table 3-2. Butterfly Survey Dates, Time, Personnel, and Weather Conditions

		Start				End			
Date	Surveyor(s)[1]	Time	Temp. (°F)	Cloud Cover (%)	Wind Speed (mph)	Time	Temp. (°F)	Cloud Cover (%)	Wind Speed (mph)
04/19/19	JD, MD	0915	72	10	1–3	1615	78	1	0–1
06/01/19	JD, MD	0915	72	10	1–3	1615	78	1	0–1

[1] JD = John Dicus, MD = Melanie Dicus

Four additional general butterfly surveys will be conducted at the Properties in 2021. Two during peak QCB flight season (late March or early April) and two during peak Hermes copper butterfly flight season (late May or early June). Populations of dot-seed plantain and spiny red berry will also be mapped during the 2021 butterfly surveys. The results from the additional surveys will be summarized in a letter report that will be attached to the Final Baseline Biodiversity Report.

3.3.2 Herpetofauna

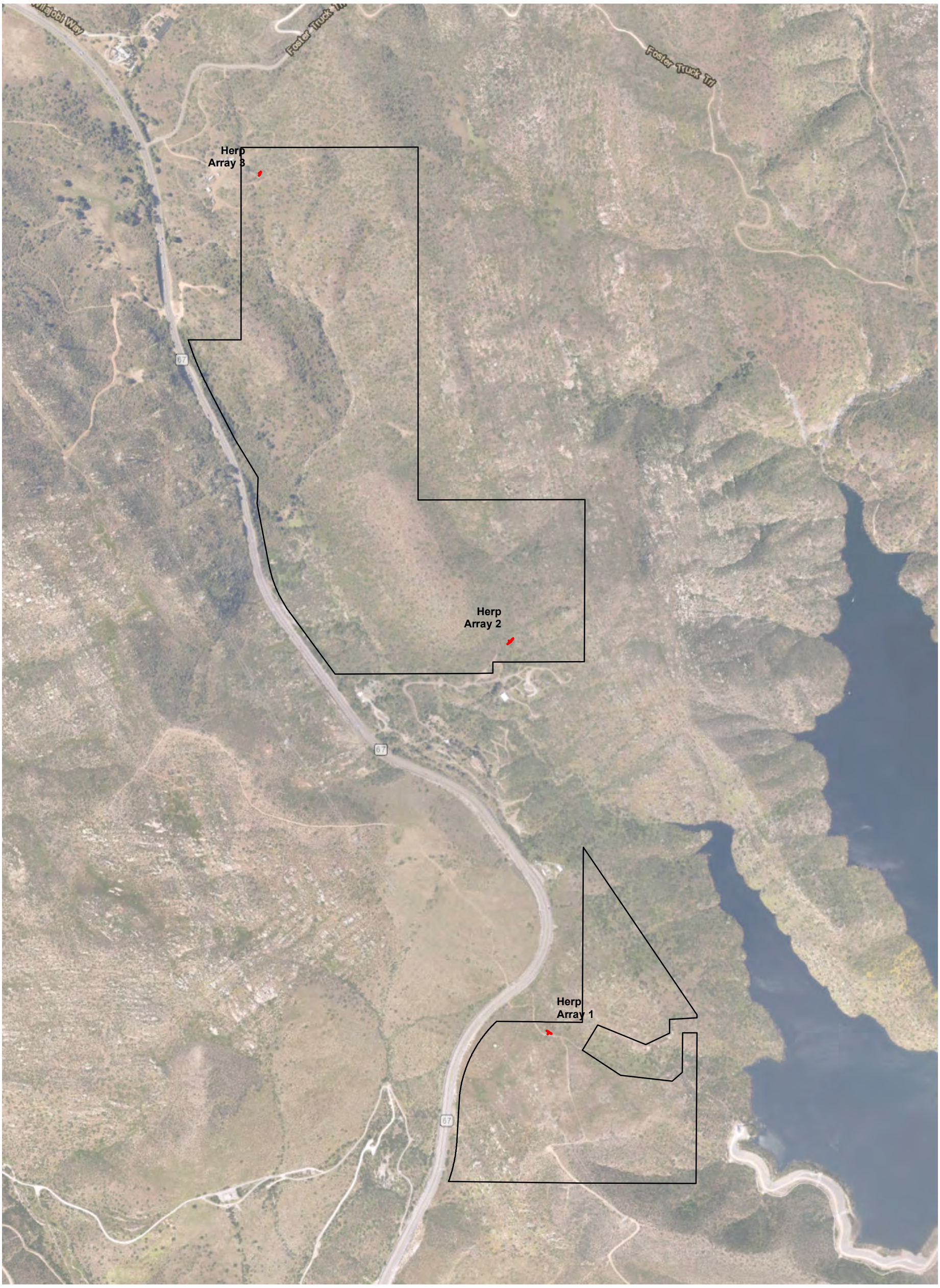
Surveys for herpetofauna (amphibians and reptiles) were conducted within the Properties from July 8 to July 12, 2019, with follow-up surveys from October 7 to October 9, 2019. The selection of array locations was based on sampling the various vegetation communities, soils, topography, access, and avoidance of known sensitive resources (including cultural resources) (Figure 3-1).

Three herpetofauna arrays were placed throughout the Properties. Array 1 was placed in the Southern Parcel in Chamise Chaparral vegetation community, Array 2 was placed in the southern end of the Northern Parcel in Coastal Scrub vegetation community, and Array 3 was placed in the northern end of the Northern Parcelin an interface for Coastal Scrub and Wildflower Field vegetation communities. The locations were chosen to sample the range of vegetation communities within the Properties while allowing for access for fence installation and removal (Figure 3-1).

Each array included approximately 75 to 100 feet of silt drift fence arranged in a T shape. The silt fence was installed by D&D Wildlife Habitat Restoration. Funnel box traps were placed at each end of the fence line, for a total of three traps at each array. No pitfall traps were used. Each trap was covered with a lid to shade the interior, and a piece of 2-inch plastic pipe with synthetic cotton batting was placed in each trap to shelter incidentally trapped small mammals. Herpetofauna array traps were placed on July 8, 2019 and sampled through July 12, 2019. The traps were placed and opened on Monday morning, sampled Monday afternoon through Friday afternoon, and removed on Friday afternoon. A follow-up survey was conducted in October. The traps were placed on October 7, 2019 and sampled through October 9, 2019.

Array traps were checked twice a day: once in the morning and once in the afternoon to ensure that animals were not in the traps for an extended period of time, thereby reducing the potential for mortality. All animals were identified to species, photographed, and released at the point of capture. Biologists did not handle animals. Because the trapping effort's purpose was to generate an inventory of species present within the Properties and not to assess population sizes or dynamics, individuals were not marked, weighed, or otherwise measured. Table 3-3 presents the dates traps were checked, time of sampling, personnel, and weather conditions.

All areas immediately surrounding the arrays were actively searched for herpetofauna during monitoring of each array. Searches included noting herpetofauna while walking to and from herpetofauna arrays, looking under shrubs, and on adjacent boulders. Furthermore, herpetofauna were noted during other wildlife surveys at the Properties. All herpetofauna observed during active searches and other wildlife surveys were identified to species and recorded.



Sycamore Canyon/Goodan Ranch Preserve
Additional Properties

Herp Array

Source: ICF; SANDAG; ESRI (2019)

0 375 750
Feet

N

Figure 3-1
Herpetofauna Array Locations
Sycamore Canyon/Goodan Ranch Preserve Additional Properties

Table 3-3. Herpetofauna Trapping Dates, Time, Personnel, and Weather Conditions

Date	Time	Surveyor(s)[1]	Conditions
7/8/2019	1645–1720	WK	76–77°F, wind 0–2 mph, clear
7/9/2019	0945–1005	WK	68–72°F, wind 0–2 mph, clear
7/9/2019	1710–1745	WK	83–84°F, wind 0–2 mph, clear
7/10/2019	0905–0945	WK	67–70°F, wind 0–5 mph, clear
7/10/2019	1700–1740	WK	86–87°F, wind 2–5 mph, clear
7/11/2019	0935–1010	WK	73–76°F, wind 0–2 mph, clear
7/11/2019	1655–1730	WK	91–92°F, wind 0–5 mph, clear
7/12/2019	0955–1010	WK	80–83°F, calm, clear
7/12/2019	1500–1610	WK	94–95°F, calm, clear
10/7/2019	1625–1700	WK	84–87°F, calm clear
10/8/2019	0915–0950	WK	75–76°F, calm clear
10/8/2019	1635–1720	WK	81–87°F, calm clear
10/9/2019	0840–0910	WK	64–65°F, calm clear
10/9/2019	1605–1700	WK, RL	75–76°F, calm clear

[1] WK = Will Kohn, RL = Ryan Layden

3.3.3 Birds

3.3.3.1 Diurnal Point Counts

Diurnal bird surveys were conducted through the use of three point count stations sampled once per month during May, June, September, and November 2019 (Table 3-4; Figure 3-2). Stations were placed systematically to maximize exposure within the Properties and minimize coverage of outside areas. Each point count station was monitored for 10 minutes and all bird species observed or detected were documented. The stations were all placed within Coastal Scrub but were near other vegetation communities including Diegan Coastal Sage Scrub, Southern Riparian Forest, and Coastal Sage-Chaparral Transition. Adverse weather was avoided for all surveys (e.g., dense fog, mornings with heavy or extended rain, winds more than 10 mph). Prior to the first counts, all stations were mapped in the field, located using a GPS, marked for later identification, and photographed. The view from each point was photographed in the four cardinal compass directions.

Incidental encounters of diurnal birds observed during plant surveys, small mammal trapping, reptile trap checks, and camera checks were also recorded and included in the species list.

3.3.3.2 Nocturnal Point Counts

One nocturnal point count survey was conducted at the three point count locations on June 25, 2019. The same methods used for diurnal point counts were utilized for the nocturnal point counts. Headlamps and moderately powerful flashlights were used to aid identifications. Electronic playback of owl calls was intermittently used in an attempt to elicit responses from birds.

Incidental encounters of nocturnal birds observed during active bat surveys or small mammal trapping were also recorded and included in the species list.

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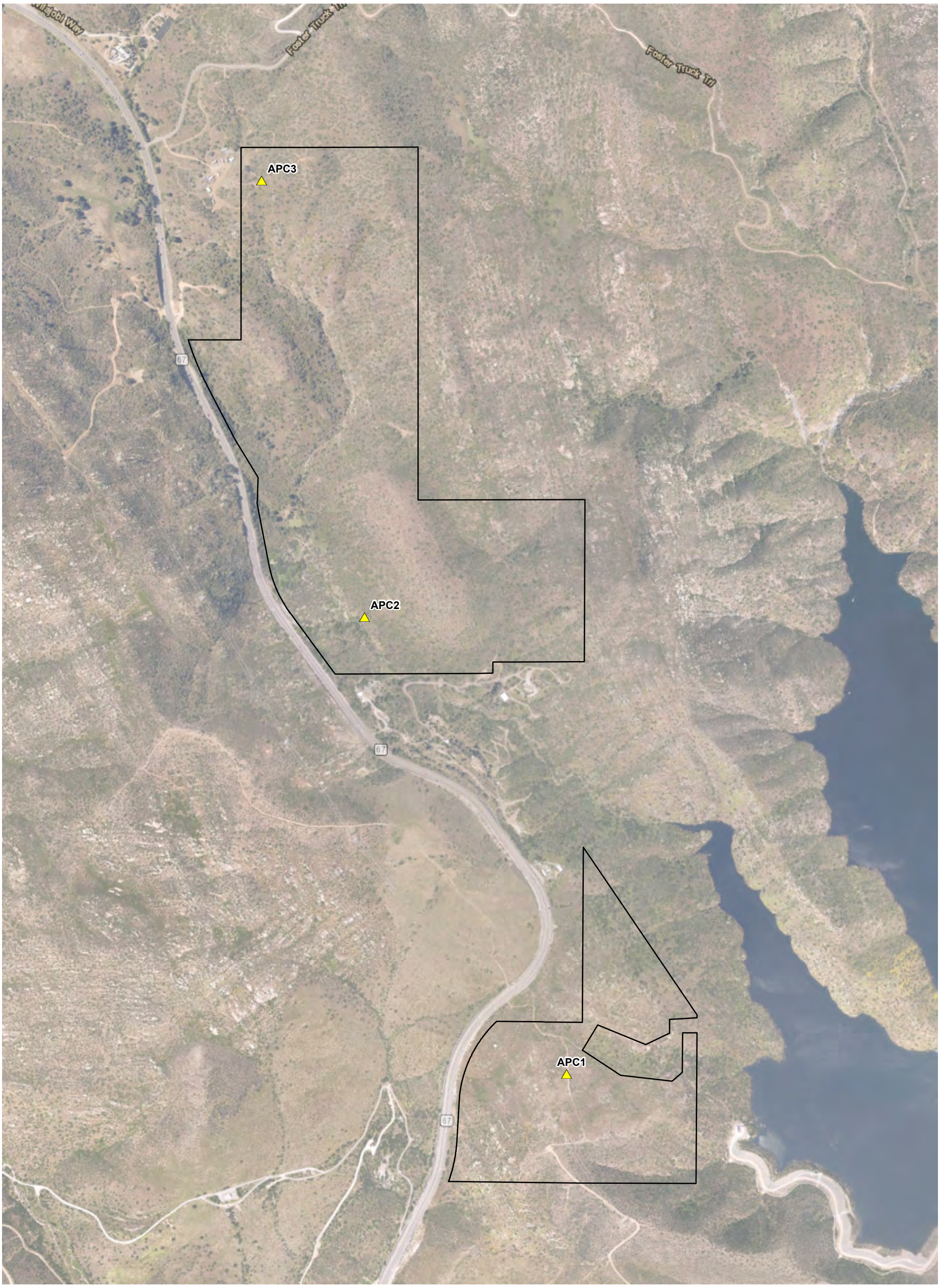

Sycamore Canyon/Goodan Ranch Preserve Additional Properties

Avian Point Count

Source: ICF; SANDAG; ESRI (2019)

0 375 750 Feet

N

Figure 3-2
Avian Point Count Stations
Sycamore Canyon/Goodan Ranch Preserve Additional Properties

Table 3-4. Avian Point Count Dates and Conditions

Survey Date	Survey Type/Number	Time	Surveyor(s)[1]	Weather Conditions
5/3/2019	Diurnal Point Count #1	0626–0750	RL, ML	53°F; 100% Cloud Cover; wind 0–3 mph
6/21/2019	Diurnal Point County #2	0707–0843	RL, PR	61–62°F; 100% Cloud Cover; wind 0–3 mph
6/25/2019	Nocturnal Point Count #1	2012–2130	RL, PR	68°F; 40% Cloud Cover; wind 3–5 mph
9/19/2019	Diurnal Point Count #3	0725–0850	RL	58–62°F; 50–5% Cloud Cover; wind 0–6 mph
11/27/2019	Diurnal Point Count #4	0720–0832	RL	47–49°F; 70–30% Cloud Cover; wind 0–10 mph

[1] RL = Ryan Layden, ML = Marty Lewis, PR = Phil Richards

3.3.4 Mammals

3.3.4.1 Small Mammals

Small mammal trapping was conducted on four nights to sample the diversity of small mammals occurring on the Properties. For the purposes of this effort, "small mammals" include species in the shrew, squirrel, pocket gopher, heteromyid, mouse, rat, and vole families.

Small mammal trapping on the Properties consisted of seven trap lines totaling 120 traps. Each trap line was set for four nights for a total of 480 trap nights. All seven trap lines were initially set and baited during the afternoon of August 26, 2019. Traps were systematically checked in the early morning between 0700 and 0930 on August 27 through August 30, 2019 (Table 3-5). Trap lines were distributed throughout most of the Properties and ranged from 10 to 25 traps per trap line (Figure 3-3, Table 3-6).

Trap line locations were selected based on three criteria: (1) sampling of different vegetative communities, (2) geographic distribution across the Properties, and (3) sampling of unique features (e.g., drainage features, rock outcrops, slopes, ridges). Sequentially numbered 12-inch Sherman live traps were set at dusk, approximately 5 to 10 meters (16 to 33 feet) apart. Traps were set and placed where potential small mammal captures were judged to be most probable. Where mammal sign was not apparent, traps were placed near the base of shrubs. The location of each trap was recorded using a recreational-grade GPS receiver (Garmin brand, Wide Area Augmentation System enabled). Mixed birdseed was used as bait, and a few seeds were trailed out from the mouth of the trap, usually toward a game trail, burrow, or open area. All traps were checked and closed at dawn.

When animals were captured, each animal was transferred from the trap into a cloth bag. The animals were then removed from the bag by their napes and briefly handled to identify to species. The sex and reproductive condition of each animal were recorded (i.e., testes scrotal, not scrotal, vagina perforate, not perforate). Any mites, ticks, or other parasites were noted. Digital photos were taken of some specimens. Once the data were recorded onto data sheets, each animal was released where captured. The data collection process took a few minutes for each capture. The released animals were observed until they moved to the safety of a burrow or clump of vegetation.

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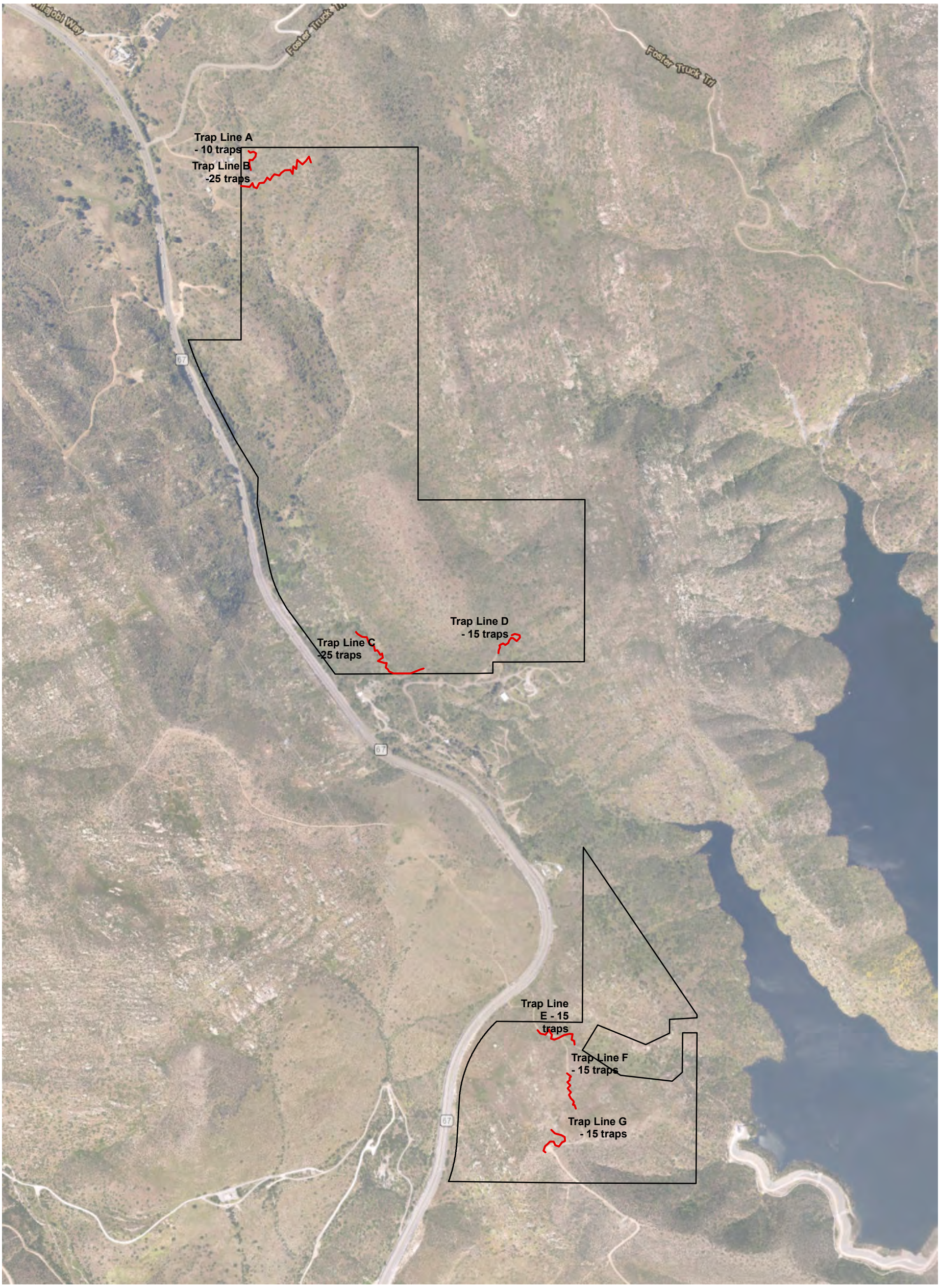

Sycamore Canyon/Goodan Ranch Preserve Additional Properties

Small Mammal Trap Lines

Source: ICF; SANDAG; ESRI (2019)

0 375 750 Feet

N

Figure 3-3
Small Mammal Trap Line Locations
Sycamore Canyon/Goodan Ranch Preserve Additional Properties

Table 3-5. Small Mammal Trapping Dates, Time, Personnel, and Weather Conditions

Date	Time	Surveyor(s)[1]	Conditions
08/27/2019	0650–0905	PR, ML	66–70°F, wind 1–2 mph, cloudy to clear
08/28/2019	0635–0835	PR, ML	63–68°F, wind 1–3 mph, cloudy to partly cloudy
08/29/2019	0630–0830	PR, ML	63–70°F, wind 1–3 mph, clear
08/30/2019	0635–0910	PR, ML	66–76°F, wind 1–2 mph, clear

[1] PR = Phil Richards, ML = Marty Lewis

Table 3-6. Small Mammal Trap Line Description

Trap Line	Trap Nights	Number of Traps	Physical Description	Vegetative Community
A	4	10	Generally west-facing slope along ecotone between Coastal Scrub and dense Non-Native Grassland.	Non-Native Grassland; Coastal Scrub
B	4	25	Generally west-facing ridge along overgrown dirt road.	Coastal Scrub; Wildflower ield
C	4	25	In the bottom of a relatively small canyon. Small drainage feature with a mix of boulders, cobbles, and gravel was completely dry at the time of the survey. Mixed vegetation communities present.	Coastal Scrub; Southern Riparian Forest; Open Coast Live Oak Woodland; Coastal Sage-Chaparral Transition
D	4	15	In the bottom of a small canyon composed of dense shrubs.	Coastal Scrub
E	4	15	In the saddle between two hills. Rarely used overgrown dirt road present. Density of shrub cover is moderate.	Coastal Sage-Chaparral Transition
	4	15	Generally relatively steep north-facing slope. Rarely used overgrown dirt road present. Density of shrub cover is moderate.	Coastal Scrub; Disturbed
	4	15	On the top of relatively tall hill with dense chamise shrub cover.	Chamise Chaparral; Disturbed

3.3.4.2 Medium to Large Mammals

For the purposes of this project, medium and large mammals include all mammals in the didelphid, lagomorph, procyonid, mustelid, felid, canid, and cervid families.

Camera Tracking Survey

Remote camera stations were used to help document the presence of medium and large mammals within the Properties. These stations allowed for the detection of species that are rarely encountered because of their nocturnal or crepuscular activity patterns. Within the Properties, three camera tracking stations were set up at locations that represented various vegetation communities on the Properties and were judged to have high potential for the movement of medium and large mammals (e.g., along game trails, existing trails, existing roads, drainages) (Figure 3-4; Table 3-7 .

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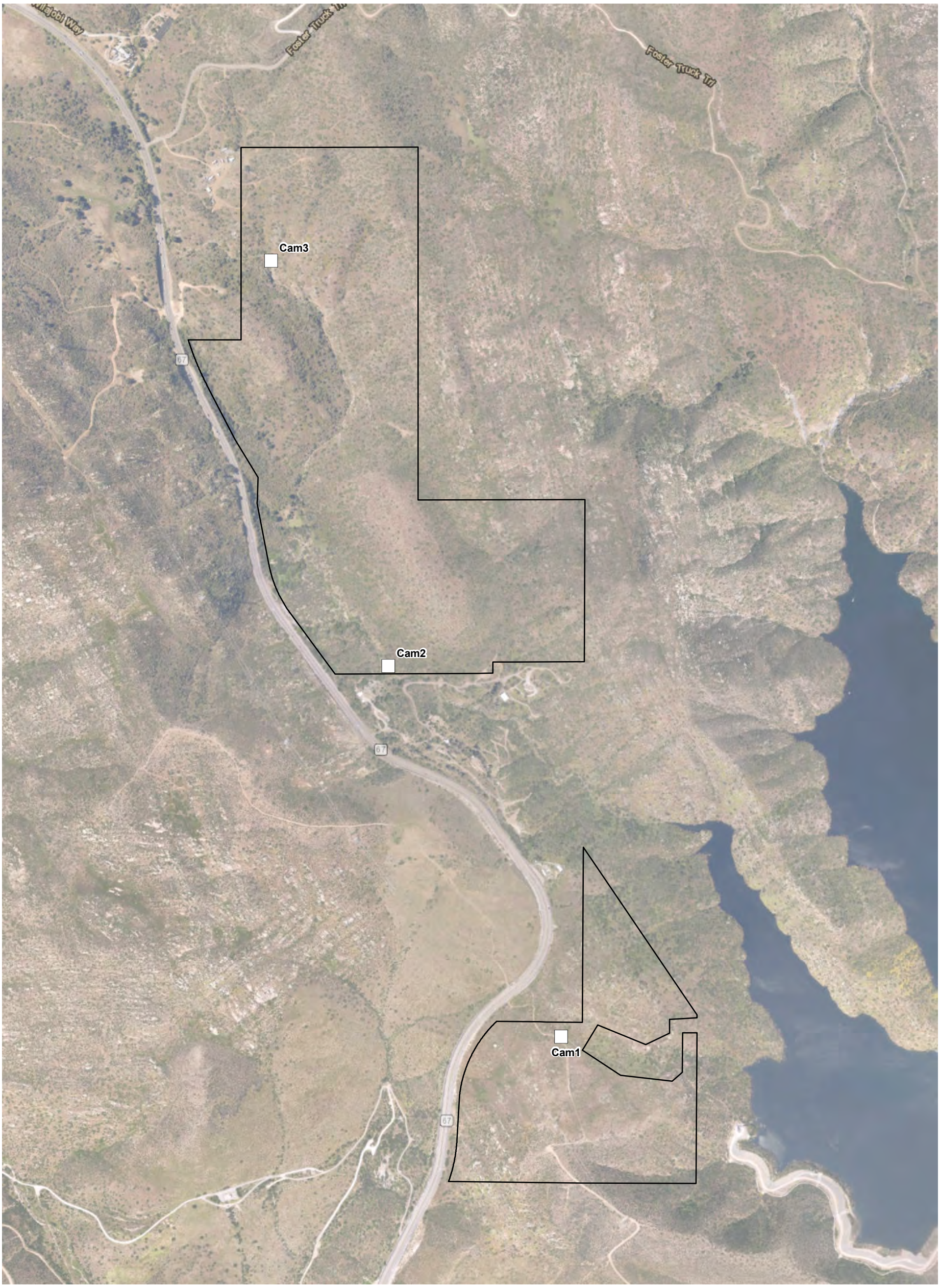


Sycamore Canyon/Goodan Ranch Preserve
Additional Properties

Wildlife Camera

Source: ICF; SANDAG; ESRI (2019)

0 375 750 Feet

N

Figure 3-4
Wildlife Camera Tracking Locations
Sycamore Canyon/Goodan Ranch Preserve Additional Properties

Each camera station consisted of one Bigfoot 3G infrared digital game camera. The cameras were programmed to record a series of three images every time the motion sensor was triggered. Each image included an information tag that recorded the date, time, temperature, camera ID, and moon phase. Cameras were installed on May 1, 2019. The cameras were checked every couple of months and the camera memory downloaded and batteries replaced if necessary. Cameras were removed on December 3, 2019. Images from the camera memory were downloaded and reviewed. All animals were identified to the species level.

Table 3-7. Camera Sampling Location Description

Camera Station Number	Physical Description	Vegetation Community[1]
1	On a saddle in the Southern Parcel	Coastal Sage-Chaparral Transition
2	On a terrace in drainage	Southern Riparian Forest
3	On a terrace in drainage	Non-Native Grassland/Coastal Scrub

[1] Holland 1986; San Diego Association of Governments 2011

3.3.4.3 Bats

A combination of passive and active acoustic surveys were conducted in an effort to detect as many bat species as possible on the Properties. The Properties were evaluated for potential roost sites, but no appropriate geological formations such as rocky outcroppings or caves were present. Several larger oak and sycamore trees could provide suitable roosting habitat for vegetation-roosting species, and a couple of abandoned buildings could provide roosting habitat for colonial-roosting bat species.

Passive Surveys

Five "Passive Express" Anabat bat detectors were deployed at suitable and representative habitat locations within the Properties (Figure 3-5, Table 3-8). The detectors were placed to maximize detections of the entire community of bat species expected in the area. They were run in the late spring/early summer (June 4 to 6, 2019) in an attempt to document both resident and migratory bats in the Properties within a single sampling period. The detectors ran for three consecutive nights. The detectors automatically turned on 30 minutes before sunset and turned off 30 minutes after sunrise. During each nightly monitoring period, bat calls were automatically recorded to the camera's memory. The calls were then downloaded and analyzed in the laboratory after the field surveys. The calls were identified to the species level in as many cases as possible, by making comparisons to known bat calls.

Active Surveys

Active Anabat surveys were carried out using a Titley Electronics Anabat "walkabout" bat detector allowing for real time bat call observation and identification (Table 3-9). The bat calls were also recorded and manually identified in the laboratory after the field surveys were conducted. Visual techniques including use of the unaided eyes and a handheld spotlight were also used during the active surveys. The unaided ears were used to listen for audible bat echolocation calls such as those produced by the western mastiff bat (*Eumops perotis*). All of the active surveys were conducted for 2 hours beginning at approximately sunset. One active survey was conducted on July 29, 2019, by starting at a point at the western end of the Southern Parcel and hiking to the eastern end and back

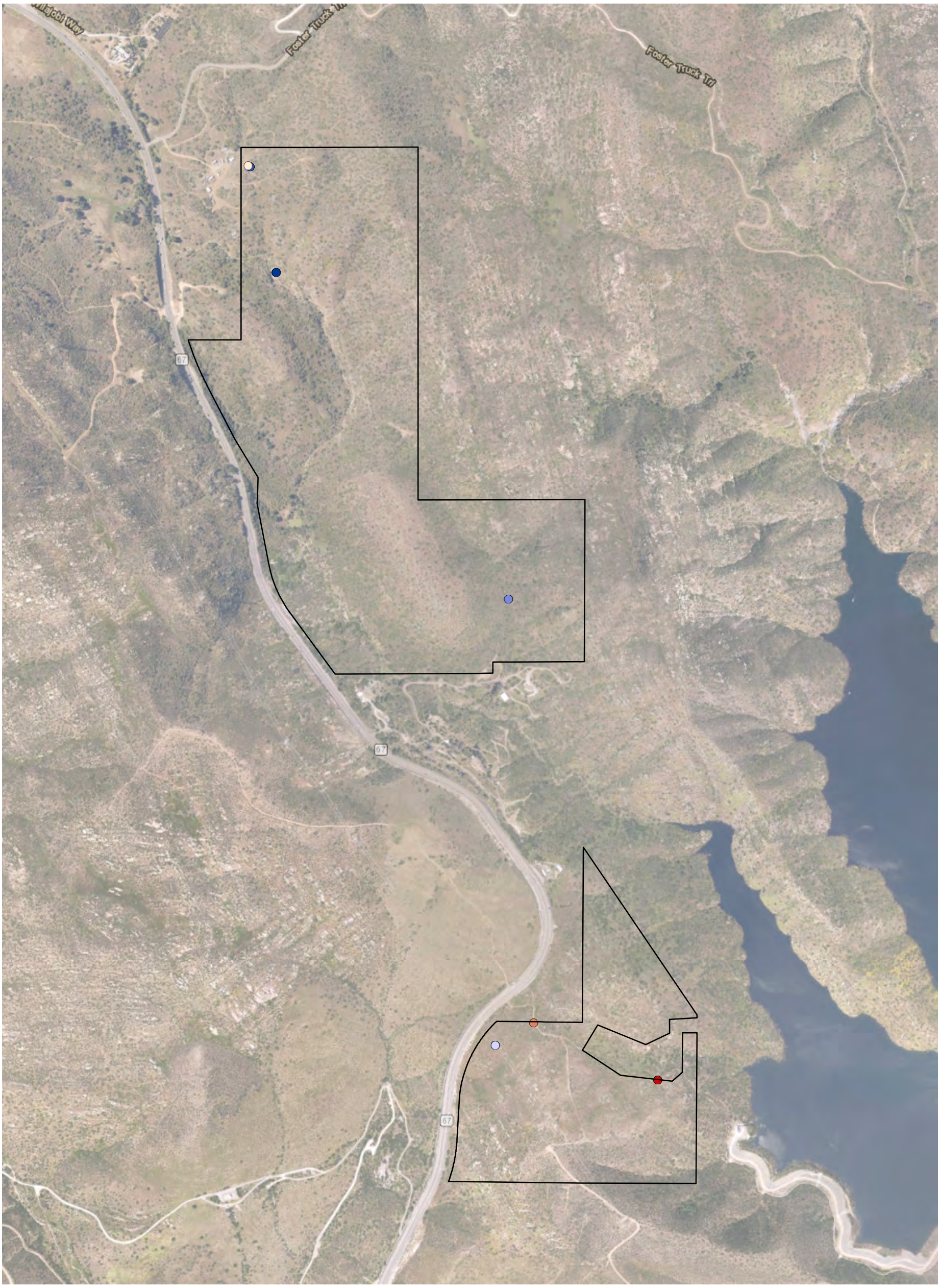
twice during the period of 2 hours. The second active survey was conducted on July 30, 2019, at a fixed point at the northern end of the Northern Parcel. A small, circular transect (50-meter diameter) that encompassed a small hill located here was hiked in a clockwise direction repeatedly over the 2-hour period, ending up at the start point.

Table 3-8. Passive Bat Survey Locations and Dates

Passive Anabat Station	Survey Dates	No. of Calls
Southern Parcel East	June 4–6, 2019	37
Southern Parcel West	June 4–6, 2019	185
Middle Parcel South	June 4–6, 2019	63
Northern Parcel North	June 4–6, 2019	231
Northern Parcel South	June 4–6, 2019	154

Table 3-9. Active Bat Survey Locations and Dates

Active Anabat Station	Survey Dates	No. of Calls
Southern Parcel Area Transect Survey (start)	July 29, 2019	14
Southern Parcel Area Transect Survey (end)		
Northern Parcel Area Survey	July 30, 2019	65



Sycamore Canyon/Goodan Ranch Preserve Additional Properties

Bat Survey Stations

- Active Survey - North Parcel
- Active Survey - South Parcel
- Passive Survey - South Parcel East
- Passive Survey - South Parcel West
- Passive Survey - Middle Parcel South
- Passive Survey - North Parcel South
- Passive Survey - North Parcel North

Source: ICF; SANDAG; ESRI (2019)

0 375 750 Feet

N

Figure 3-5
Passive Anabat Locations
Sycamore Canyon/Goodan Ranch Preserve Additional Properties

Chapter 4
Results and Discussion

4.1 Vegetation Communities/Habitat

The Properties support 12 vegetation communities/land cover types (Table 4-1). Vegetation communities were described and assigned numerical codes according to the *Terrestrial Natural Communities of California* (Holland 1986), as modified by Oberbauer et al. (2008). The habitat types/vegetation communities and land cover types observed within the Properties were Non-Native Grassland, Wildflower Field, Coastal Scrub, Diegan Coastal Sage Scrub, Coastal Sage-Chaparral Transition, Granitic Southern Mixed Chaparral, Chamise Chaparral, Southern Riparian Forest, Open Coast Live Oak Woodland, Eucalyptus Woodland, Disturbed habitat, and Developed lands (Figure 4-1). Coastal Scrub was by far the most common vegetation community on the Properties, comprising approximately 69 percent of the Properties; the next most common vegetation community was Diegan Coastal Sage Scrub, comprising approximately 13 percent of the Properties.

Additionally, vegetation communities were cross-walked to the VCM (San Diego Association of Governments 2011) and those descriptions are included with the Oberbauer descriptions below and shown in Figure 4-2.

5.8.2 *Bromus diandrus* Semi-Natural Stand Type; 42200 Non-Native Grassland

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

5.2.1 Mediterranean California Naturalized Annual and Perennial Grassland Semi Natural Stands 42200 Non-Native Grassland

This description is based on the group level, which is the hierarchical level above the alliance level. The group level is a useful classification where distinction cannot be made to the alliance or association level. This classification is applied in cases where nonnative grasses and forbs are dominant over native species. Onsite habitat was observed to be dominated by ripgut grass, blessed milk thistle (*Silybum marianum*), and short-pod mustard (*Hirschfeldia incana*). This habitat is located in the northwest corner of the Northern Parcel.

5.13.1 *Deinandra fasciculata* Association; 42300 Wildflower Field

Fascicled tarweed (*Deinandra fasciculata*) is the dominant species in this herbaceous layer association, which typically occurs within shrub-dominated vegetation types. This association is readily replaced by nonnative grasses and broadleaf herbs. This habitat is located in the northern portion of the Northern Parcel.

4.35 *Malosma laurina* Alliance; 32000 Coastal Scrub

As its name indicates, laurel sumac is the dominant species of the *Malosma laurina* alliance. Subdominant shrubs include California sagebrush, California encelia (*Encelia californica*), and California buckwheat. The herbaceous layer of this community is generally sparse. This alliance is a fire-resilient habitat, with laurel sumac capable of re-sprouting from its deep root-crown multiple times following fires. This habitat is located along the western boundary of the Northern Parcel.

4.35.1 *Malosma laurina-Acmispon glaber* Association; 32000 Coastal Scrub

Laurel sumac and deerweed are co-dominant species in this open shrub canopy habitat, with subdominant shrub species like California buckwheat and California sagebrush also commonly observed. A diverse herb cover occurs mostly in openings and includes many nonnative grasses and forbs. This habitat covers the majority of the Northern Parcel and the center portion of the Southern Parcel.

4.7.1 Artemisia californica-Eriogonum fasciculatum-Malosma laurina Association; 32500 Diegan Coastal Sage Scrub

California sagebrush, California buckwheat, and laurel sumac are co-dominant in this open shrub canopy habitat. Subdominant shrubs include white sage (*Salvia apiana*) and deerweed. A diverse herb cover is usually open and includes many nonnative grasses and forbs. This habitat is located in small patches near the southwestern boundary of the Northern Parcel and is composed of large patches on the north and west boundary of the Southern Parcel.

4.1.2 Adenostoma fasciculatum-(Eriogonum fasciculatum, Artemisia californica, Salvia mellifera) Association; 37G00 Coastal Sage-Chaparral Transition

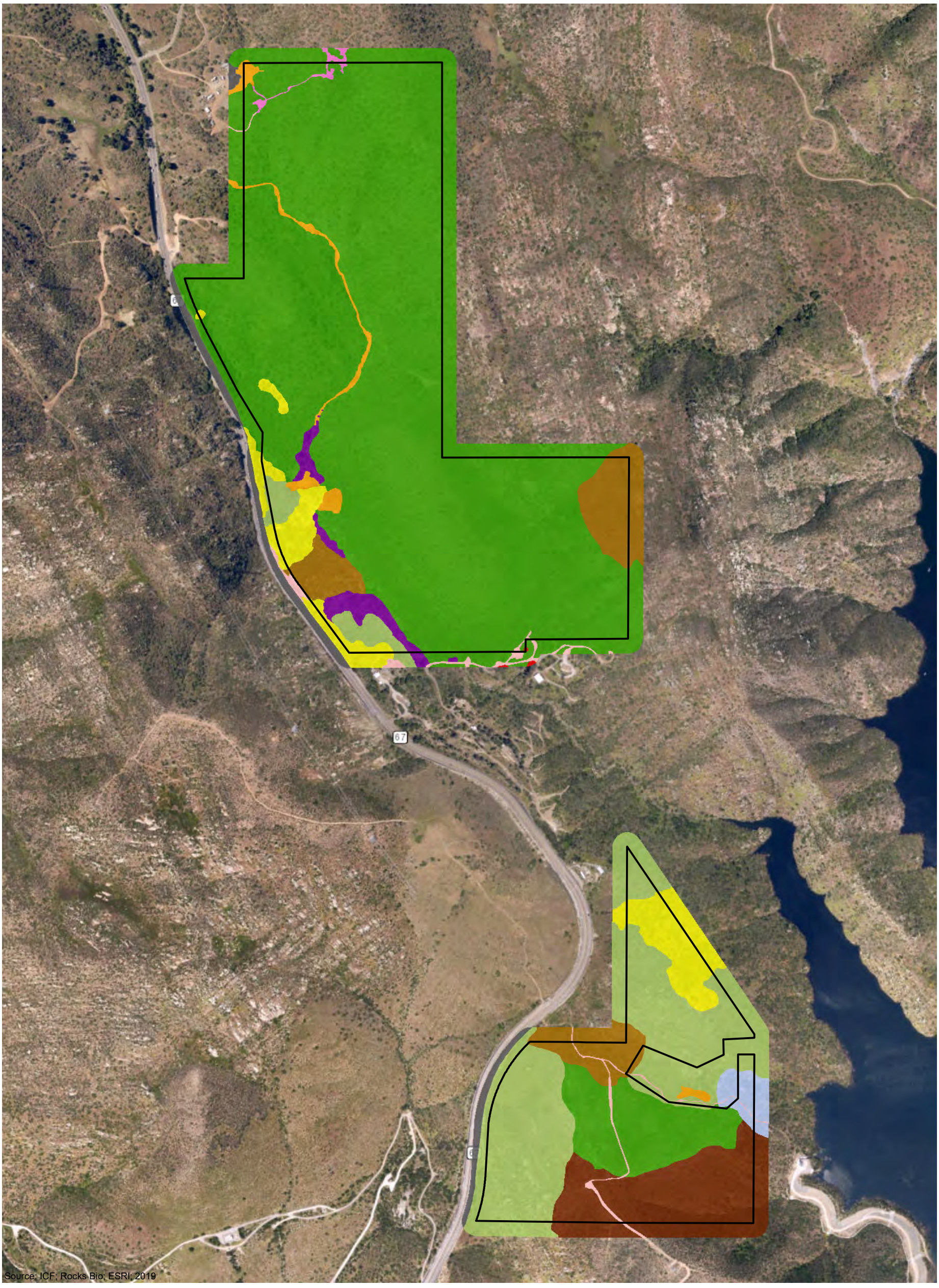
Chamise is the dominant species within this open shrub canopy habitat. Subdominant shrubs include California sagebrush (*Artemisia californica*), California buckwheat (*Eriogonum fasciculatum*), and Mission manzanita (*Xylococcus bicolor*). A diverse herb cover typically occurs within this association and includes many native and nonnative grasses. This association is a mix of Chaparral and Coastal Sage Scrub communities. This habitat is located on the southwest and southeast portions of the Northern Parcel and towards the center of the Southern Parcel.

4.1.4 *Adenostoma fasciculatum-Ceanothus tomentosus* Association; 37121 Granitic Southern Mixed Chaparral

Ramona lilac (*Ceanothus tomentosus*) and chamise are dominant in this association and form a mostly continuous cover, with laurel sumac co-dominant. The herbaceous layer of this habitat is typically very sparse and occurs in shrub openings. This habitat is located on the eastern boundary of the Southern Parcel.

4.1.5 *Adenostoma fasciculatum-Acmispon glaber* Association; 37200 Chamise Chaparral

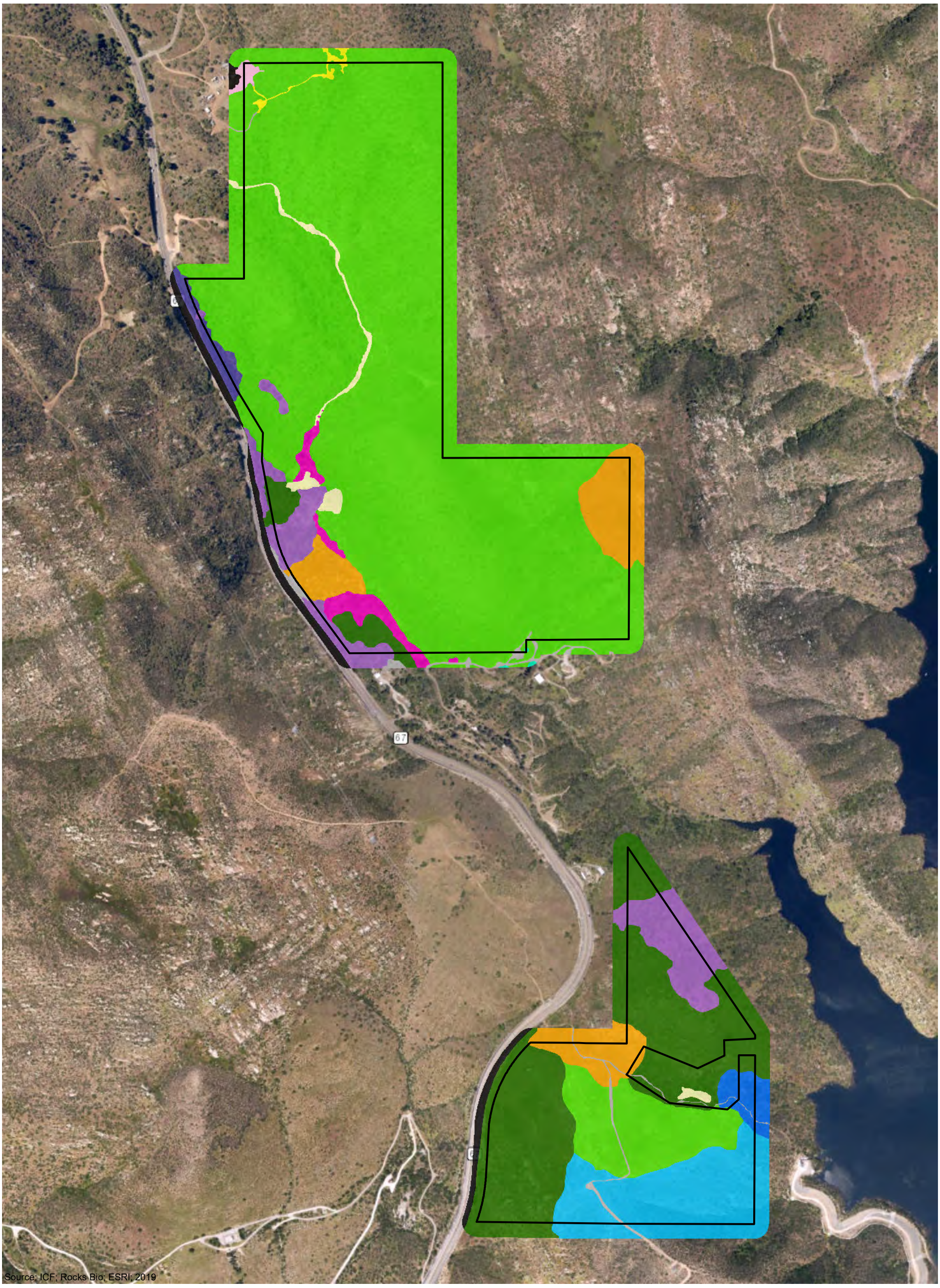
Chamise (*Adenostoma fasciculatum*) and deerweed (*Acmispon glaber*) are co-dominant species in the *Adenostoma fasciculatum-Acmispon glaber* association. Other shrub species may occur at low densities as seedlings or stump sprouts within this open shrub canopy habitat, and other subshrub and herbaceous species may also occur within the habitat understory. This association is a transitional community often associated with fire or other disturbance; it typically converts to other chaparral associations over time. This habitat is located along the southern boundary of the Southern Parcel.



Sycamore Canyon/Goodan Ranch Preserve Additional Properties
Non-Native Grassland (42200)
Wildflower Field (42300)
Coastal Scrub (32000)
Diegan Coastal Sage Scrub (32500)
Coastal Sage-Chaparral Transition (37G00)
Granitic Southern Mixed Chaparral (37121)
Chamise Chaparral (37200)
Southern Riparian Forest (61300)
Open Coast Live Oak Woodland (71161)
Eucalyptus Woodland (79100)
Disturbed (11300)
Developed (12000)

0 375 750 Feet

Figure 4-1
Holland Vegetation Mapping
Sycamore Canyon/Goodan Ranch Preserve Additional Properties



Sycamore Canyon/Goodan Ranch Preserve Additional Properties

5.8.2 *Bromus diandrus* Semi-Natural Stand Type

5.2.1 Mediterranean California Naturalized Annual and Perennial Grassland Semi Natural Stands

5.13.1 *Deinandra fasciculata* Association

4.35 *Malosma laurina* Alliance

4.35.1 *Malosma laurina-Acmispon glaber* Association

4.7.1 *Artemisia californica-Eriogonum fasciculatum-Malosma laurina* Association

4.1.2 *Adenostoma fasciculatum-(Eriogonum fasciculatum, Artemisia californica, Salvia mellifera)* Association

4.1.4 *Adenostoma fasciculatum-Ceanothus tomentosus* Association

4.1.5 *Adenostoma fasciculatum-Acmispon glaber* Association

3.4.3 *Platanus racemosa-Quercus agrifolia* Association

3.6.4 *Quercus agrifolia/Toxicodendron diversilobum*/Grass Association

3.2 Eucalyptus *(globulus, camaldulensis)* Semi-Natural Stands

Disturbed

Developed

ICF

PARKS AND RECREATION

N

0 375 750

Feet

Figure 4-2
VCM Vegetation Mapping
Sycamore Canyon/Goodan Ranch Preserve Additional Properties

3.4.3 *Platanus racemosa-Quercus agrifolia* Association; 61300 Southern Riparian Forest

Sycamore (*Platanus racemosa*) and coast live oak are co-dominant species of this open tree canopy association. Associated subdominant riparian shrubs of this habitat include poison oak and California rose (*Rosa californica*). The herbaceous diversity is high and includes many ruderal species. This habitat is located along the stream corridor of San Vicente Creek in the southern portion of the Northern Parcel.

3.6.4 *Quercus agrifolia/Toxicodendron diversilobum*/Grass Association; 71161 Open Coast Live Oak Woodland

Coast live oak *Quercus agrifolia*) is the dominant species of the open tree canopy in this habitat, while poison oak *Toxicodendron diversilobum*) and laurel sumac are subdominant species in the shrub canopy layer. The herbaceous understory is well developed and can include a variety of native and ruderal species. This habitat is located along the southwest boundary of the Northern Parcel and in the northern end of the Northern Parcel.

3.2 Eucalyptus (*globulus, camaldulensis*) Semi-Natural Stands; 79100 Eucalyptus Woodland

Eucalyptus is a nonnative species that has become naturalized in many parts of Southern California. River red gum *Eucalyptus camaldulensis*) is the dominant species in the tree canopy of this habitat within the study area. River red gum is an introduced species to California from Australia and forms self-perpetuating stands. This habitat is located in only a very small patch in the Northern Parcel.

11300 Disturbed

Disturbed habitat is typically classified as land on which the native vegetation has been significantly altered by agriculture, construction, or other land-clearing activities, and species composition and site conditions are not characteristic of the disturbed phase of a plant association (e.g., disturbed chaparral). The habitat is typically dominated by nonnative annual species and perennial broadleaf species. Disturbed areas within the Preserve occur along dirt roads, established paths, and open areas adjacent to roadways and homes. This habitat consists of the dirt roads and trails within both parcels.

12000 Developed

Developed areas within the Properties support no native vegetation and are composed of human-made structures, such as paved roadways. This habitat is located just outside the parcel boundary at the northwest portion of the Northern Parcel.

Table 4-1. VCM and Oberbauer Modified Holland Code Habitat Mapping Results

Holland/Oberbauer	VCM		Properties (acreage)	100-foot Buffer (acreage)
	Alliance/Association Level	Common Name		
Herbaceous				
42200 Non-Native Grassland	5.8.2 Bromus diandrus Semi-Natural Stand Type	Ripgut brome Semi-Natural Stand Type	1.906	0.065
	5.2.1 Mediterranean California Naturalized Annual and Perennial Grassland Semi-Natural Stands	N/A	0.280	4.148

Holland/Oberbauer	VCM		Properties (acreage)	100-foot Buffer (acreage)
	Alliance/Association Level	Common Name		
42300 Wildflower ield	5.13.1 Deinandra fasciculata Association	Tarweed Association	0.360	0.251
Scrub				
32000 Coastal Scrub	4.35 Malosma laurina Alliance	Laurel sumac Alliance	0.772	4.630
	4.35.1 Malosma laurina-Acmispon glaber Association	Laurel sumac-Deerweed Association	147.913	3.799
32500 Diegan Coastal Sage Scrub	4.7.1 Artemisia californica-Eriogonum fasciculatum-Malosma laurina Association	California sagebrush – California buckwheat – Laurel sumac Association	27.142	1.629
37G00 Coastal Sage-Chaparral Transition	4.1.2 Adenostoma fasciculatum- Eriogonum fasciculatum, Artemisia californica, Salvia mellifera Association	Chamise – (California buckwheat, California sagebrush, black sage) Association	10.312	13.220
37121 Granitic Southern Mixed Chaparral	4.1.4 Adenostoma fasciculatum-Ceanothus tomentosus Association	Chamise –Ramona lilac Association	0.933	1.180
37200 Chamise Chaparral	4.1.5 Adenostoma fasciculatum-Acmispon glaber Association	Chamise – Deerweed Association	13.161	20.137
Woodland				
61300 Southern Riparian Forest	3.4.3 Platanus racemosa-Quercus agrifolia Association	California sycamore – Coast live oak Association	3.064	0.366
71161 Open Coast Live Oak Woodland	3.6.4 Quercus agrifolia/Toxicodendron diversilobum/Grass Association	Coast live oak/Poison oak/Grass Association	8.733	0.238
79100 Eucalyptus Woodland	3.2 Eucalyptus (globulus, camaldulensis) Semi-Natural Stands	Eucalyptus Semi-Natural Stands	0.007	0.214
Other				
11300 Disturbed	Disturbed*	Disturbed*	0.697	1.346
12000 Developed	Developed*	Developed*	0.000	4.412
Total			**215.281**	**55.634**

* Denotes alliances or associations not defined by the VCM but deemed most accurate for the vegetation surveyed.

4.2 Plants

4.2.1 Special-Status Plant Species Observed

A full list of all plant species observed can be found in Appendix A. No federally listed, state-listed, or narrow endemic plant species were observed during the habitat mapping and sensitive/rare plant surveys. Five California Rare Plant Rank and San Diego County–listed rare plants were observed on the Properties: San Diego sagewort (*Artemisia palmeri*), San Diego goldenstar (*Bloomeria clevelandii*), golden-rayed pentachaeta (*Pentachaeta aurea* ssp. *aurea*), ashy spike-moss (*Selaginella cinerascens*), and rush-like bristleweed (*Xanthisma junceum*) (Figure 4-3). One MSCP covered species, San Diego goldenstar, was observed on the Properties.

San Diego Sagewort (*Artemisia palmeri*) – CRPR 4.2; County List D

San Diego sagewort is a perennial deciduous shrub in the Asteraceae family that blooms between May and September. It occurs in Southern California and northern Baja California in chaparral, coastal scrub, and riparian habitats. San Diego sagewort was mapped at 21 locations, totaling 128 individual plants and covering 0.04 acre.

San Diego Goldenstar (*Bloomeria clevelandii*) – CRPR 1B.1; County List A; MSCP Covered Species

San Diego goldenstar is a perennial bulbiferous herb in the Themidaceae family that blooms between April and May. It occurs in California and Baja California in chaparral, coastal scrub, grasslands, and vernal pools. San Diego goldenstar was mapped at 10 locations, totaling approximately 28,345 individual plants and covering 0.94 acre.

Golden-Rayed Pentachaeta (*Pentachaeta aurea* ssp. *aurea*) – CRPR 4.2; County List D

Golden-rayed pentachaeta is an annual herb in the Asteraceae family that blooms between March and July. It occurs in California and Baja California in chaparral, coastal scrub, cismontane woodland, and grassland. Golden-rayed pentachaeta was mapped at 16 locations, totaling approximately 2,382 individual plants and covering 0.27 acre.

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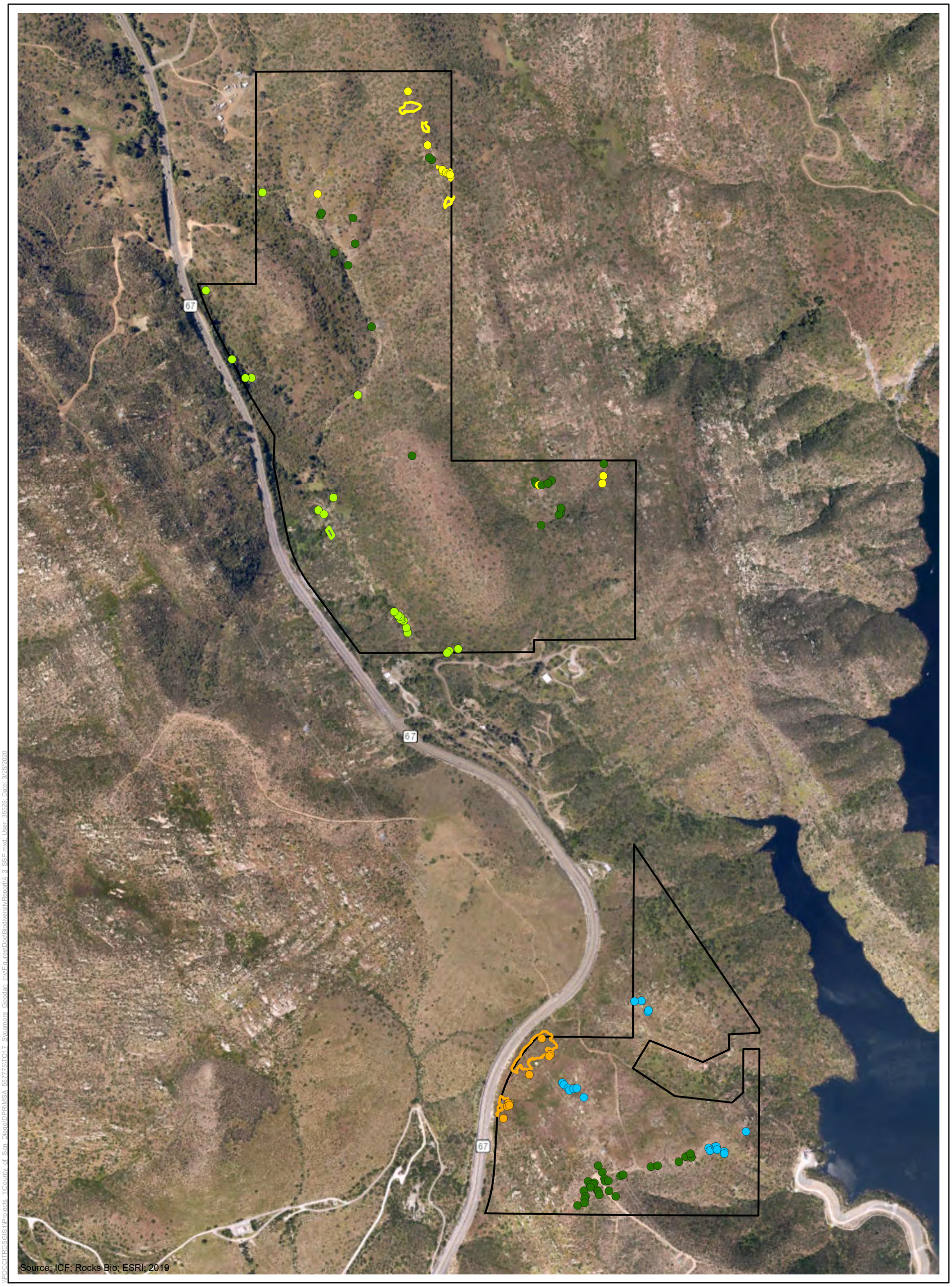

Sycamore Canyon/Goodan Ranch Preserve Additional Properties

Special-Status Plants

- Golden-Rayed Pentachaeta
- Ashy Spike-Moss
- San Diego Sagewort
- Rush-like bristleweed
- San Diego Goldenstar

- Golden-Rayed Pentachaeta
- San Diego Sagewort
- Rush-like bristleweed
- San Diego Goldenstar

0 375 750 Feet

N

Figure 4-3
Special-Status Plants Species Observed
Sycamore Canyon/Goodan Ranch Preserve Additional Properties

Ashy Spike-Moss (*Selaginella cinerascens*) – CRPR 4.1; County List D

Ashy spike-moss is perennial rhizomatous herb in the Selaginellaceae family. It occurs in California and Baja California in chaparral and coastal scrub. Ashy spike-moss was mapped at 49 locations, totaling approximately 2,865 individual plants.

Rush-Like Bristleweed (*Xanthisma junceum*) – CRPR 4.3; County List D

Rush-like bristleweed is a perennial herb in the Asteraceae family that blooms between May and January. It occurs in California, Arizona, Sonora, and Baja California in chaparral and coastal scrub. Rush-like bristleweed was mapped at 20 locations, totaling 61 individual plants.

4.2.2 Special-Status Plant Species with High Potential to Occur

No special-status plants from the database search have high potential to occur within the Properties. A full list of special-status plants and their potential to occur at the Properties can be found in Appendix B.

4.2.3 Invasive Nonnative Plant Species

Five priority invasive, nonnative plants, as rated for near-term management and monitoring by the San Diego Management and Monitoring Program Working Group in its *Management Priorities for Invasive Non-native Plants*, were mapped on the Properties. Species included crown daisy (*Glebionis coronaria*), giant reed (*Arundo donax*), blessed milk thistle (*Silybum marianum*), perennial veldt grass (*Ehrharta calycina*), and purple false brome (*Brachypodium distachyon*). Only purple false brome was found in the Southern Parcel; the Northern Parcel had all five species (Figure 4-4). Additionally, saltcedar (*Tamarix ramosissima*)—a nonnative plant species with a Cal-IPC "high priority" rating—was mapped in one location within the Northern Parcel.

Crown Daisy (*Glebionis coronaria*) – Cal-IPC Rating: Limited, SDMMP: Management Level 5

Crown daisy is a flowering annual (family Asteraceae) found along the central and south coast of California. Crown daisy commonly invades riparian areas, coastal dunes, prairies, and scrub. It is a common ornamental plant that escapes garden settings and easily invades disturbed areas. The seeds of crown daisies sprout very quickly after rain, even in relatively dry areas. Seedlings may grow to be up to 5 feet tall and may form dense stands that crowd out native vegetation. Dead plant mass can remain in place for many years, preventing native plants from recolonizing. Crown daisy was mapped at 11 locations within the Northern Parcel, totaling approximately 0.004 acre.

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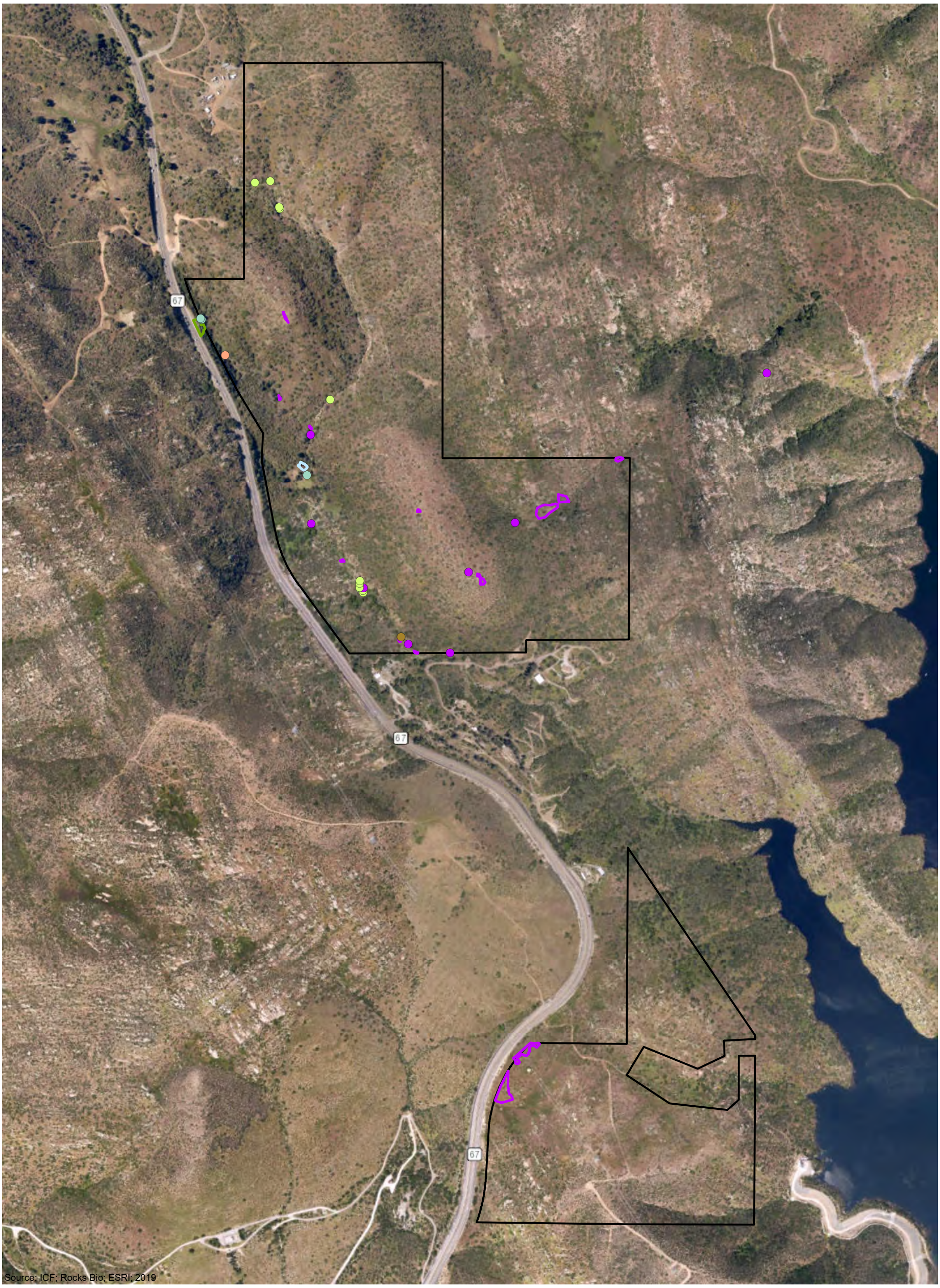

Sycamore Canyon/Goodan Ranch Preserve Additional Properties

Invasive Non-native Plants

- Crown Daisy
- Blessed Milk Thistle
- Perennial Veldt Grass
- Purple False Brome
- Saltcedar

- Crown Daisy
- Giant Reed Grass
- Blessed Milk Thistle
- Purple False Brome

0 375 750 Feet

N

Figure 4-4
Invasive Plant Species Mapping
Sycamore Canyon/Goodan Ranch Preserve Additional Properties

Giant Reed (*Arundo donax*) – Cal-IPC Rating: High, SDMMP: Management Level 3

Giant reed is a tall perennial grass (family Poaceae) that typically forms dense stands on disturbed sites, sand dunes, riparian areas, and wetlands. It has invaded central California River valleys in San Luis Obispo and Monterey counties, the San Francisco Bay Area, and the Sacramento and San Joaquin River valleys and is also increasing in the North Coast region. *Arundo donax* is threatening California's riparian ecosystems by outcompeting native species, such as willows, for water. One giant reed population was within the Northern Parcel near SR-67, totaling approximately 0.101 acre.

Blessed Milk Thistle (*Silybum marianum*) – Cal-IPC Rating: Limited, SDMMP: Management Level 4

Blessed milk thistle is a winter annual or biennial with prickly leaves (family Asteraceae). It is widely spread throughout California in overgrazed pastures and along fence lines and other disturbed areas. Blessed milk thistle produces tall, dense stands that outcompete native species. Blessed milk thistle was mapped at four locations within the Northern Parcel, totaling approximately 0.044 acre.

Perennial Veldt Grass (*Ehrharta calycina*) – Cal-IPC Rating: High, SDMMP: Management Level 3

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

Purple False Brome (*Brachypodium distachyon*) – Cal-IPC Rating: Moderate, SDMMP: Management Level 4

Purple false brome is a winter annual grass (family Poaceae) that is locally abundant in certain areas of California, especially those with rocky soils. Purple false brown was mapped at 22 locations, scattered around the Northern Parcel and near SR-67 in the Southern Parcel, totaling approximately 0.75 acre.

Saltcedar (*Tamarix ramosissima*) – Cal-IPC Rating: High

Saltcedar (tamarisk) is a shrub or a tree (family Tamaricaceae) that can be found along streams and lake shores throughout California. Saltcedar is associated with dramatic changes in geomorphology, groundwater availability, soil chemistry, fire frequency, plant community composition, and native wildlife diversity (Cal-IPC 2019). Saltcedar was mapped in one location within the Northern Parcel.

4.3 Wildlife

4.3.1 Invertebrates (Butterflies)

Two butterfly inventory surveys were performed at the site. A total of 23 butterfly species were detected during the first survey and 25 during the second survey. Total butterfly and skipper species diversity recorded on the Properties during the two surveys was 33 species (Table 4-2). The first survey occurred during the end of the Quino checkerspot butterfly (*Euphydryas editha quino*) season. Quino checkerspot butterfly was not observed on the Properties; however, its primary ovipositional larval host plant, dot-seed plantain (*Plantago erecta*), was seen during vegetation mapping and was abundant throughout most of the Properties. No other larval host plants for rare or sensitive butterflies or skippers were noted. Larval host plants of an additional 23 to 27 undetected but commonly occurring species of butterflies and skippers were found on the Properties; therefore, additional common species are likely to occur on the Properties.

Table 4-2. List of Butterfly Species Observed on the Properties

Common Name	Scientific Name	Status
Hesperiidae (Skippers)		
Funereal Duskywing	*Erynnis funeralis*	None
Mournful Duskywing	*Erynnis tristis tristis*	None
Rural Skipper	*Ochlodes agricola agricola*	None
Umber Skipper	*Poanes melane melane*	None
Lycaenidae (Hairstreaks, Coppers, Blues)		
Western Great Purple Hairstreak	*Atlides halesus corcorani*	None
Western Elfin	*Callophrys augustinus iroides*	None
Perplexing Green Hairstreak	*Callophrys perplexa perplexa*	None
Echo Blue	*Celistrina echo echo*	None
Reakirt's Blue	*Echinargus isola*	None
San Bernardino Blue	*Euphilotes bernardino bernardino*	None
Southern Silvery Blue	*Glaucopsyche lygdamus australis*	None
Edward's Blue	*Hemiargus ceraunus gyas*	None
Marine Blue	*Leptotes marina*	None
Acmon Blue	*Plebejus acmon*	None
Lupine Blue	*Plebejus lupini monticola*	None
Purplish Hedgerow Hairstreak	*Satyrium saepium chlorophora*	None
Common Gray Hairstreak	*Strymon melinus pudica*	None
Nymphalidae (brush-footed butterflies)		
Gabb's Checkerspot	*Chlosyne gabbii gabbii*	None
Gray Buckeye	*Junonia coenia grisea*	None
Powell's Admiral	*Limenitis lorquini powelli*	None
Mourning Cloak	*Nymphalis antiopa antiopa*	None
West Coast Lady	*Vanessa annabella*	None
American Red Admiral	*Vanessa atalanta rubria*	None

Common Name	Scientific Name	Status
Painted Lady	*Vanessa cardui*	None
American Lady	*Vanessa virginiensis*	None
Papilionidae (Swallowtails)		
Pale Swallowtail	*Papilio eurymedon*	None
Pieridae (Whites and Sulphurs)		
Gabb's Checkerspot	*Chlosyne gabbii gabbii*	None
Gray Buckeye	*Junonia coenia grisea*	None
Powell's Admiral	*Limenitis lorquini powelli*	None
Mourning Cloak	*Nymphalis antiopa antiopa*	None
West Coast Lady	*Vanessa annabella*	None
American Red Admiral	*Vanessa atalanta rubria*	None
Riodinidae (Metalmarks)		
Behr's Metalmark	*Apodemia virgulti virgulti*	None

4.3.2 Herpetofauna

4.3.2.1 Amphibians

During the 2019 surveys at the Properties, two amphibian species, California tree frog (*Pseudacris cadaverina*) and Baja California tree frog (*Pseudacris hypochondriaca*), were observed or heard (Table 4-3). These species were heard by bat biologists during active bat surveys.

Table 4-3. Amphibian Species Observed in 2019

Common Name	Scientific Name	Status	Survey Type
California Tree Frog	*Pseudacris cadaverina*	None	Observed in creek downslope from Array 3
Baja California Tree Frog	*Pseudacris hypochondriaca*	None	Observed in creek downslope from Array 3

No suitable arroyo toad habitat was observed within the Properties and no individuals were incidentally observed during any of the 2019 biological resource surveys.

4.3.2.2 Reptiles

During the 2019 surveys at the Properties, five reptile species were captured or incidentally observed during reptile surveys (Table 4-4), including three lizard species (San Diegan tiger whiptail [*Aspidoscelis tigris stejnegeri*], western fence lizard [*Sceloporus occidentalis*], and side-blotched lizard [*Uta stansburiana*]) and two snake species (striped racer [*Masticophis lateralis*] and southern Pacific rattlesnake [*Crotalus oreganus helleri*]). One additional snake species, two-striped garter snake (*Thamnophis hammondii*), was incidentally observed by bat biologists during setup of passive bat stations. Two of these reptile species are special-status: Coastal western whiptail and two-striped garter snake. These species' occurrence on the Properties is discussed in more detail in Section 4.3.5, *Special-Status Wildlife Observed*.

Table 4-4. Reptile Species Observed or Captured in 2019

Common Name	Scientific Name	Status	Survey Type	Trap No. Where Captured	Total
San Diegan Tiger Whiptail	*Aspidoscelis tigris stejnegeri*	SSC, CSD Group 2	Array 1 Array 3 O	1B 3B	2 captures; also observed along access road to Array 3
Southern Pacific Rattlesnake	*Crotalus oreganus helleri*	None	Array 1 O	1A	1 capture; 1 observed on access road to Array 3 and 2 observed during bat surveys
Western Fence Lizard	*Sceloporus occidentalis*	None	Array 3 O	3B	1 capture; several observed on access roads and near traps
Two-Striped Garter Snake	*Thamnophis hammondii*	SSC, CSD Group 1	O		No captures: 1 observed within creek downslope from Array 3 during bat surveys
Side-Blotched Lizard	*Uta stansburiana*	None	Array 2 O	2C	1 capture; numerous observed on access roads and around traps

Special Status: SSC = Species of Special Concern in California; CSD = County of San Diego Sensitive Animal
Survey Type: ARY = Sampling Array; IO = Incidental Observations

4.3.3 Birds

In total, 33 bird species were detected during surveys in 2019. Of these, 29 were detected during the point counts and 4 during other wildlife surveys. These include year-round residents, breeding species that migrate to the Neotropics, and some winter residents.

The Properties support a mixture of avifaunal species that are typically associated with habitat types located within the Properties. These include birds of woodlands such as Nuttall's woodpecker *Picoides nuttallii*), hooded oriole (*Icterus cucullatus*), cedar waxwing (*Bombycilla cedrorum*), and house wren (*Troglodytes aedon*), as well chaparral species that include California quail (*Callipepla californica*), Anna's hummingbird (*Calypte* anna), ash-throated flycatcher (*Myiarchus cinerascens* , Cassin's kingbird (*Tyrannus vociferans*), Bewick's wren (*Thryomanes bewickii*), wrentit (*Chamaea fasciata*), spotted towhee (*Pipilo maculates*), California towhee (*Melozone crissalis*), song sparrow *Melospiza melodia*), black-headed grosbeak *Pheucticus melanocephalus*), house finch (*Haemorhous mexicanus* , lesser goldfinch *Carduelis psaltria*), and others.

Two raptors, red-tailed hawk *Buteo jamaicensis*) and barn owl *Tyto alba*), were detected during the 2019 surveys. The Properties provide ample foraging habitat but lack substantial nesting/breeding habitat. Suitable nesting raptor habitat exists near Station 2 located in the Northern Parcel and consists of Southern Riparian Forest and Coast Live Oak Woodland, but the majority of the Properties are vegetated with low-growth coastal scrub and chaparral. Red-tail hawks were also observed perched on transmission towers near Station 1 in the Southern Parcel.

One federally listed as threatened bird species, coastal California gnatcatcher (*Polioptila californica californica*), was incidentally detected near Station 1 during small mammal trapping. No other federally or state-listed avian species were detected during the 2019 surveys. Two San Diego County Group 1 species were detected during diurnal point count surveys, Cooper's hawk (*Accipiter cooperii*) and Southern California rufous-crowned sparrow (*Aimophila ruficeps* ssp. *canescens* , and one San Diego County Group 1 species, Turkey vulture (*Cathartes aura*), was incidentally detected during herpetofauna surveys. Two San Diego County Group 2 species were also detected, yellow warbler (*Setophaga petechia*) and barn owl. Further discussion of the use of the Properties by special-status avian species is found in Section 4.3.6, *Special-Status Wildlife with High Potential to Occur*.

No nonnative or invasive bird species were detected during the 2019 surveys.

4.3.3.1 Nocturnal Birds

The nocturnal point counts resulted in two additional bird species, common poorwill *Phalaenoptilus nuttallii*) and cliff swallow *Petrochelidon pyrrhonota*). Cliff swallow was detected immediately after sunset at Station 1 and is not considered a nocturnal species. Common poorwill was observed at all three avian point count stations. No other owls or other nocturnal bird species were detected during the surveys.

Table 4-5. Avian Species Detected

Common Name	Scientific Name	Status	Detected During Diurnal Point Counts	Detected During Nocturnal Point Counts
Cooper's Hawk	*Accipiter cooperii*	CDFW WL; CSD Group 1	X	
Southern California Rufous-Crowned Sparrow	*Aimophila ruficeps* ssp. *canescens*	CDFW WL; CSD Group 1; MSCP	X	X
Western Scrub- ay	*Aphelocoma californica*	None	X	
Cedar Waxwing	*Bombycilla cedrorum*	None	X	
Great Horned Owl	*Bubo virginianus*	None		*
Red-Tailed awk	*Buteo jamaicensis*	None	X	
California Quail	*Callipepla californica*	None	X	X
Anna's Hummingbird	*Calypte anna*	None	X	
Costa's Hummingbird	*Calypte costae*	None	X	
Lesser Goldfinch	*Carduelis psaltria*	None	X	

Common Name	Scientific Name	Status	Detected During Diurnal Point Counts	Detected During Nocturnal Point Counts
House inch	*Haemorhous mexicanus*	None	X	

Legend
* Detected during nocturnal bat surveys
** Detected during small mammal trapping
Status: FT = Federally Listed as Threatened; SSC = Species of Special Concern in California; CDFW WL = CD W Watch List; CSD Group 1 = County of San Diego Group 1; CSD Group 2 = County of San Diego Group 2; MSCP= Multiple Species Conservation Program Covered Species

Table 4-6 provides the monthly count for species detected at each station during the 2019 point counts. Station 2 shows the highest diversity of species. Station 2 is within coastal scrub but is adjacent to riparian corridor that consists of riparian and woodland habitat. Stations 1 and 3 are also within coastal scrub, but they do not have a wide variety of diversity in vegetation types in the nearby vicinity.

May and June show the highest species diversity, as this is during the breeding season when both diversity and detectability is high.

Table 4-6. Avian Species Detected During Point Counts

Month	Point Count Stations			Total # of Species
	1	2	3	
May	8	13	11	21
June	14	17	14	22
September	9	7	7	12
November	6	7	6	11
Total # of Species	**18**	**22**	**18**	**29**

4.3.4 Mammals

4.3.4.1 Small Mammals

Seven species of small mammal were recorded at the Properties during small mammal trapping (Table 4-7). The trapping results indicate that the Properties have a relatively moderate abundance and moderate species diversity of small mammals. With 480 trap nights, 84 animals comprising seven different species were captured. Of the 84 animals captured, 26 were recaptured at least once during the trapping effort.

Three California species of special concern and County of San Diego Group 2 sensitive species were captured: Bryant's woodrat (*Neotoma bryanti*), formerly known as San Diego desert woodrat (*Neotoma lepida intermedia*), Dulzura pocket mouse (*Chaetodipus californicus femoralis*), and northwestern San Diego pocket mouse (*Chaetodipus fallax fallax*).

Table 4-7. Small Mammal Capture Summary

Common Name	*Scientific Name	Status	Trap Line ID							
			A	B	C	D	E	F	G	Total
Dulzura Kangaroo Rat	*Dipodomys simulans*	None		2(1)			3(2)	1	1	**7(3)**
Dulzura Pocket Mouse	*Chaetodipus californicus femoralis*	SSC, CSD Group 2	6(2)	14(6)	4(1)	3(2)	2	7(4)		**36(15)**

* = Subspecies determined by known geographic distribution.
SSC = Species of Special Concern in California
CSD = County of San Diego

4.3.4.2 Medium and Large Mammals

Each camera station was set from May 1 to December 3, 2019. The evaluation of all images captured at the two camera stations resulted in the identification of seven medium to large mammal species using the Properties: desert cottontail (*Sylvilagus audubonii*), San Diego black-tailed jackrabbit *Lepus californicus bennettii*), California ground squirrel (*Otospermophilus beecheyi*), coyote (*Canis latrans*), gray fox (*Urocyon cinereoargenteus*), bobcat *Lynx rufus*), and southern mule deer *Odocoileus hemionus fuliginata* (Table 4-8). San Diego black-tailed jackrabbit and southern mule deer are special-status species. Further discussion of the use of the Properties by special-status medium and large mammal species is found in Section 4.3.5.

Table 4-8. Medium and Large Mammals Detected

Common Name	Scientific Name	Status	Camera Stations
Desert Cottontail	*Sylvilagus audubonii*	None	1 and 3
San Diego Black-Tailed ackrabbit	*Lepus californicus bennettii*	SSC, CSD Group 2	1

Special Status: SSC = Species of Special Concern in California; CSD = County of San Diego Sensitive Animal; MSCP = Multiple Species Conservation Program Covered Species

4.3.4.3 Bats

Nine bat species, including three California species of special concern and five County of San Diego sensitive species, were detected on the Properties using acoustic survey techniques (Table 4-9 .

Passive Acoustic Surveys

Of the 22 bat species known from San Diego County, 8 were detected using the passive Anabat detectors (Table 4-9). These included 2 California Species of Special Concern (SSC): the Townsend's big-eared bat *Corynorhinus townsendii*) and pocketed free-tailed bat (*Nyctinomops femorosaccus* . The migratory hoary bat (*Lasiurus cinereus*) was also recorded with passive Anabat detectors.

The pocketed free-tailed bat was the most active species, accounting for almost 40 percent of the recorded bat activity. The Mexican free-tailed bat (*Tadarida brasiliensis*) and Yuma myotis (*Myotis yumanensis*) were also recorded at high levels relative to the other species at near 27 percent and 20 percent of total activity, respectively. Other bat species recorded included the canyon bat *Parastrellus hesperus*) and small-footed myotis (*Myotis ciliolabrum* .

The most active Anabat station was at the northern end of the Northern Parcel, with 231 of 670 total bat calls recorded (Table 4-9). The western end of the Southern Parcel and southern end of the Northern Parcel stations also recorded relatively high numbers of bat calls at 185 and 154 calls, respectively.

Active Acoustic Surveys

The active surveys resulted in detections of three of the nine total number of bat species found during all surveys, including the SSC migratory western yellow bat (*Lasiurus xanthinus*), a species that was not detected with passive Anabat detectors. The canyon bat was detected with the greatest frequency, accounting for 70 of the 79 total bat calls recorded during active surveys. There were eight Yuma myotis calls and a single western yellow bat call.

The active survey at the northern end of the Northern Parcel resulted in high levels of observed and recorded bats during the 2-hour period (65 calls). The observed bats (mostly the canyon bat) spent a great deal of time foraging directly over the small basin adjacent to the north slope and around the single oak tree located here. There were also numerous lesser nighthawks observed foraging here along with the bats. While there was no open water source present, the amount of bat and nighthawk foraging activity observed here was reminiscent of that seen at such a water source, as if there was some sort of insect emergence occurring.

Table 4-9. Bat Species Detected at the Properties

Common Name	Scientific Name	Status	Passive Survey Recording	Relative Activity (%)	Active Survey[1]
Pocketed ree-tailed Bat	*Nyctinomops femorosaccus*	SSC; CSD Group 2	262	39.1	--
Mexican Free-tailed Bat	*Tadarida brasiliensis*	None	179	26.7	--
		Total	**1,149**		**112**

[1] = Number of bat passes recorded during the 2-hour active survey periods combined.
SSC = Species of Special Concern in California; CSD = County of San Diego Sensitive Animal

The Properties support a fair diversity of bats including species strongly associated with exposed geological features such as granitic boulders that are in abundance on the parcels. These species include the SSC obligate cave-roosting Townsend's big-eared bat and rock crevice dwelling pocketed free-tailed bat. While the parcels consist mostly of scrubby and brushy habitats in addition to the abundance of rocks, there is a small creek on the Northern Parcel and the presence of a few oak trees on a few of the parcels that likely improve foraging habitat quality for bats.

The acquisition of these parcels helps maintain habitat connectivity between large tracts of undeveloped lands to the east and conserved lands to the west in the form of Sycamore Canyon/Gooden Ranch Preserve and Marine Corps Air Station Miramar. Connected habitats undoubtedly benefit bats and other wildlife in a landscape that is overall experiencing development and fragmentation slowly but surely over time. Management recommendations include maintenance of the small basin and single oak tree on the Northern Parcel and perhaps the planting/restoration of more oak trees here. The parcels lack any large open water sources suitable for bats other than small pools formed along the creek in the Northern Parcel, but the presence of San Vicente Reservoir nearby to the east does provide this resource.

4.3.5 Special-Status Wildlife Observed

A list of all wildlife species observed can be found in Appendix C. Fifteen special-status wildlife species were detected during the 2019 surveys. See Figure 4-5 for locations of special-status species detected. Figure 4-6 includes a depiction of USFWS-designated Critical Habitat in the vicinity of the Properties.

4.3.5.1 Herpetofauna

Two special-status reptile species were detected in 2019: San Diegan tiger whiptail and two-striped garter snake (Figure 4-5). Below is a description of each of these species.

San Diegan Tiger Whiptail (*Aspidoscelis tigris stejnegeri*) – SSC; San Diego County Group 2

San Diegan tiger whiptail is a medium-sized, slender lizard found in arid and semi-arid desert regions to open woodlands where vegetation is sparse, making running easy (Stebbins 2003). Its range includes coastal Southern California and western Baja California. The decline of San Diegan tiger whiptails is most likely due to the loss of habitat to agriculture and urban development. The San Diegan tiger whiptail was caught in herpetofauna Arrays 1 and 3 during surveys conducted in 2019. This species is presumed to occur throughout the scrub and chaparral habitats within the Properties.

Two-Striped Garter Snake (*Thamnophis hammondii*) – SSC; San Diego County Group 1

Two-striped garter snake occurs west of the deserts and Central Valley, from Salinas in Monterey County to Baja California, at elevations from sea level up to about 2,438 meters (8,000 feet) in the San Jacinto Mountains (Jennings and Hayes 1994). It is often in water and rarely found far from it, although it is also known to inhabit intermittent streams with rocky beds bordered by willow thickets or other dense vegetation (Jennings and Hayes 1994). They will also inhabit large riverbeds, such as those of the Santa Ana and Santa Clara Rivers, if riparian vegetation is available. They even occur in artificial impoundments if both aquatic vegetation and suitable prey items (small amphibians and fish) are present (Jennings and Hayes 1994). Declines are attributable directly to the loss of riparian habitats. This species was not observed during herpetofauna surveys but was observed in the drainage by bat biologists during bat surveys.

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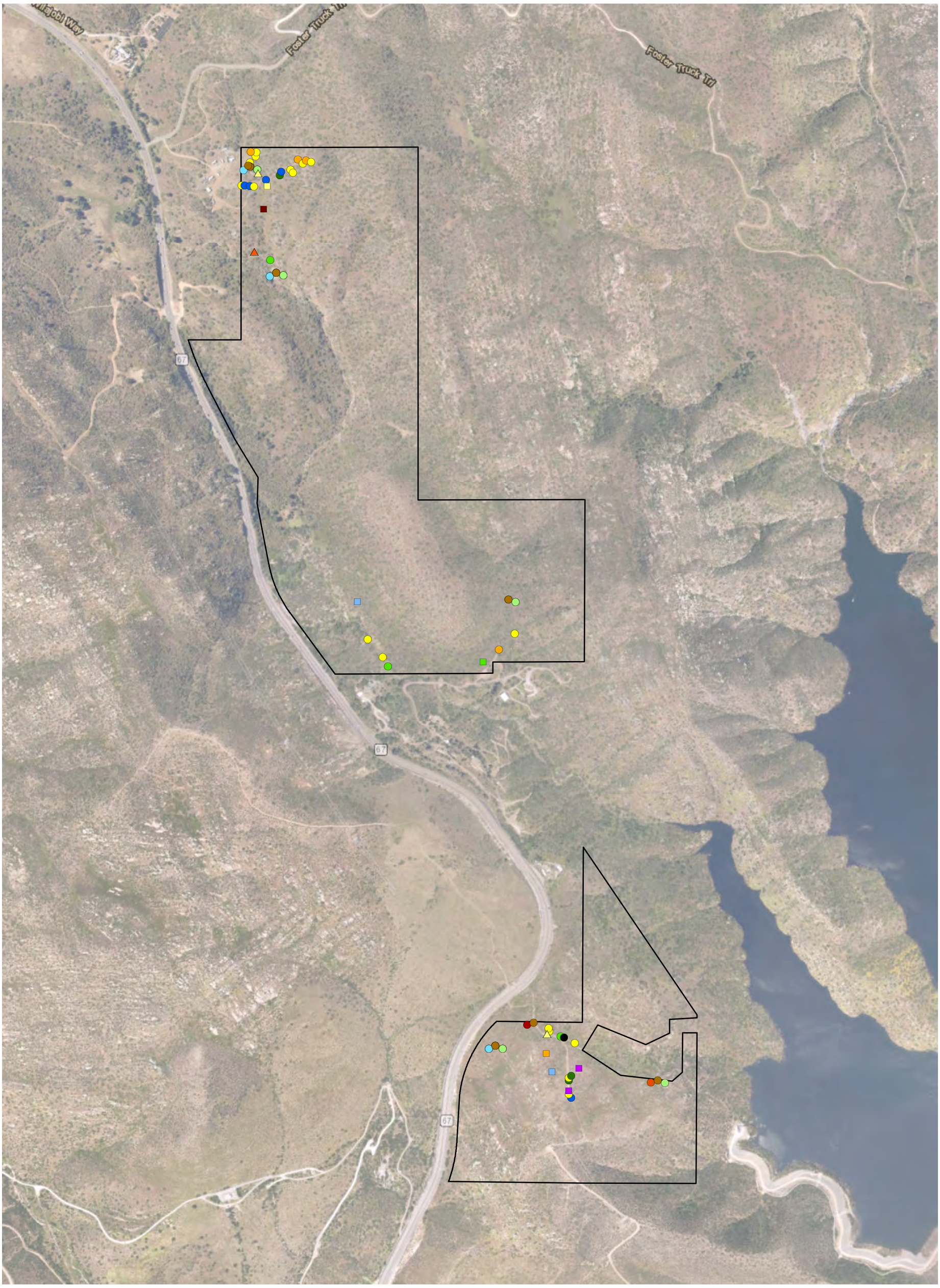


Sycamore Canyon/Goodan Ranch Preserve Additional Properties

Reptiles
- San Diegan tiger whiptail
- Two-striped gartersnake

Birds
- Barn Owl
- California gnatcatcher
- Cooper's hawk
- Southern California rufous-crowned sparrow
- Turkey Vulture
- Yellow warbler

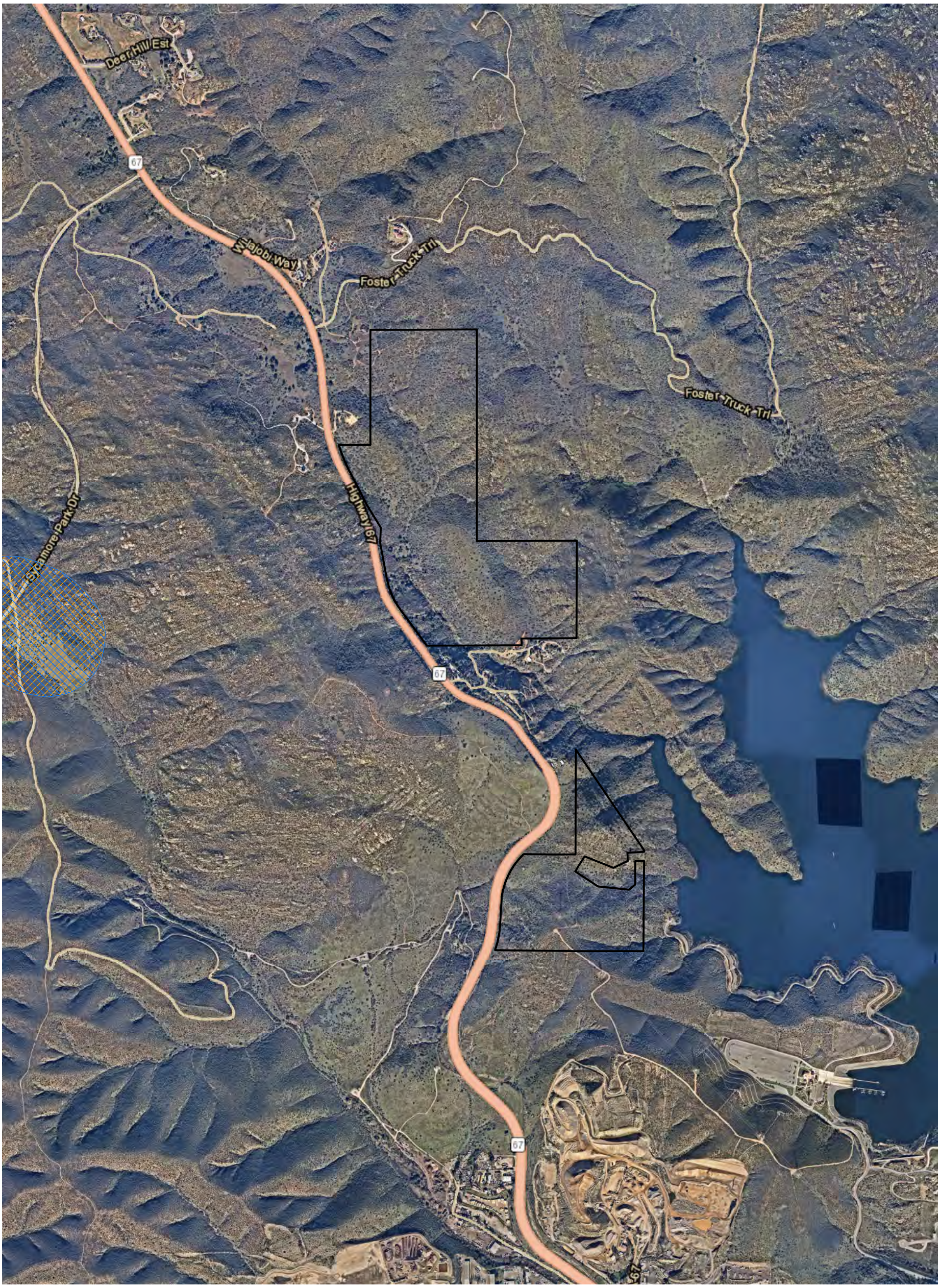
Sensitive Mammals
- San Diego black tailed jackrabbit
- Mule deer
- Bryant's Woodrat
- Dulzura Pocket Mouse
- Dulzura Pocket Mouse and Bryant's Woodrat
- Northwestern San Diego Pocket Mouse
- Pocketed free-tailed bat
- Townsend's big-eared bat
- Western small-footed myotis
- Western yellow bat
- Yuma myotis

Source: ICF; SANDAG; ESRI (2019)

0 375 750 Feet

N

Figure 4-5
Special-Status Wildlife Species Observed
Sycamore Canyon/Goodan Ranch Preserve Additional Properties



Preserve Boundary

USFWS Critical Habitat

Cushenbury oxytheca

San Diego thornmint

Source: ICF; SANDAG; ESRI (2019)

0 500 1,000 Feet

N

Figure 4-6
Critical Habitat
Sycamore Canyon/Goodan Ranch Preserve Additional Properties

4.3.5.2 Birds

Six special-status bird species were detected in 2019: turkey vulture, Cooper's hawk, Southern California rufous-crowned sparrow, coastal California gnatcatcher, yellow warbler, and barn owl (Figure 4-5). A description of these species is provided below.

Turkey Vulture (*Cathartes aura*) – San Diego County Group 1

Turkey vultures are often seen foraging over woodlands and nearby open country (Unitt 2004). They prefer dry, open country and ranch lands and often occur along roadsides where carrion is common. They nest in crevices among granite boulders (Unitt 2004). Turkey vultures' range has been retracting from the coast because of human disturbance, the loss of foraging habitat, and pesticide contamination (Unitt 2004). This species is still common in the undeveloped areas of east San Diego County. Though this species was not observed during avian surveys, approximately 30 turkey vultures were observed flying from south to north over the Properties during the herpetofauna surveys. No roosts are known from the Properties, and no nesting habitat is present in the Properties.

Cooper's Hawk (*Accipiter cooperii*) – CDFW Watch List; San Diego County Group 1; MSCP Covered Species

Cooper's hawk is a resident of riparian deciduous habitats and oak woodlands, but in recent times it has become adapted to urban park environments (Unitt 2004). Cooper's hawk hunts its primary source of food, passerines, in broken woodlands and forest margins; it is also known to take fish and mammals. The Cooper's hawk population declined because of hunting and the loss of habitat; however, this species is making a comeback through its adaptation to the urban environment (Unitt 2004). Cooper's hawk was detected during the diurnal point counts of 2019 adjacent to Station 1. Cooper's hawk will nest in mature trees and have potential to nest throughout the riparian and woodland areas within the Properties, particularly near Station 2.

Southern California Rufous-Crowned Sparrow (*Aimophila ruficeps canescens*) – CDFW Watch List; San Diego County Group 1; MSCP Covered Species

The Southern California rufous-crowned sparrow is a resident species that is closely associated with coastal sage scrub, steep rocky hillsides, burned chaparral, and openings in mature chaparral (Unitt 2004). Preferring open habitat with approximately 50 percent shrub cover, this species seeks cover in shrubs, rocks, grass, and forb patches (Unitt 2004). The Southern California subspecies is restricted to semi-arid coastal sage scrub and sparse chaparral from Santa Barbara south to the northwestern corner of Baja California. Southern California rufous-crowned sparrows are declining because of the loss of appropriate habitat and their sensitivity to habitat fragmentation (Unitt 2004). This species was observed near Stations 1 and 2 in 2019.

Coastal California Gnatcatcher (*Polioptila californica californica*) – Federally Threatened; SSC; San Diego County Group 1; MSCP Covered Species

Coastal California gnatcatcher is a small, insectivorous, resident species whose occurrence is strongly associated with the sage scrub habitats found from Southern California to northern Baja California, Mexico. Although coastal California gnatcatchers have a close association with sage scrub, this species has also been documented using Coastal Sage-Chaparral Scrub, Chamise Chaparral, and other habitat types (Campbell et al. 1998, Bontrager 1991). USFWS listed this species as threatened

in 1993. Critical Habitat was designated for this species in 2000 and revised in 2007 (USFWS 2000, 2007). This species was detected during the 2019 small mammal trapping surveys near Station 1, the center of the Southern Parcel, and may nest throughout the scrub habitats within the Properties.

Yellow Warbler (*Setophaga petechia*) – SSC; San Diego County Group 2

Yellow warbler is associated with mature riparian woodland that includes cottonwood, willows, alders, and ash trees. Yellow warblers are a common breeding summer resident throughout San Diego County. Yellow warblers are small, yellow songbirds with medium-length tails and rounded heads with a thin, straight bill. Males have vertical reddish streaks on their breast. Yellow warbler was observed foraging in the coastal scrub adjacent to Station 3.

Barn Owl (*Tyto alba*) – San Diego County Group 2

Barn owl is an uncommon permanent resident throughout much of San Diego County, frequently nesting in the skirts of palm trees and on buildings. It is widespread throughout the coastal slope, in riparian and oak woodlands, as well as suburban areas. Nesting occurs most frequently in April through June, but eggs may be lain as early as late December (Unitt 2004). This species was observed in 2019 during the bat surveys and may nest throughout the oak and nonnative woodlands within the Properties.

4.3.5.3 Mammals

Nine special-status mammal species were detected in 2019: Bryant's woodrat, Dulzura pocket mouse, northwestern San Diego pocket mouse, pocketed free-tailed bat, small-footed myotis, southern mule deer, Townsend's big-eared bat, western yellow bat, and Yuma myotis (Figure 4-5). Below is a description of each of these species.

Bryant's Woodrat (*Neotoma bryanti*) – SSC; San Diego County Group 2

Bryant's (San Diego desert) woodrat occurs throughout lower elevations of San Diego County from sea level to approximately 1,500 meters (4,920 feet). This species occurs in a variety of natural habitats, including coastal sage scrub and chaparral, and prefers areas with rocky outcrops and plentiful succulents. It usually makes a stick house under one of these food plants, or it may den among rocks. Materials used to build middens include cacti, sticks, bones, and a variety of debris. Middens provide insulation against excessive heat as well as protection from predators. This species is herbivorous on a variety of plants, although fleshy plants such as yucca species and prickly pear cactus (*Opuntia* sp.) are an important source of water. This species breeds in winter or spring, depending largely on when the rainy season begins and ends (Tremor et al. 2017). Bryant's woodrats were captured on two of the seven trap lines throughout the Properties during surveys conducted in 2019. They were captured in Non-Native Grassland in the Northern Parcel and Coastal Scrub habitat in the Southern Parcel.

Dulzura Pocket Mouse (*Chaetodipus californicus femoralis*) – SSC; San Diego County Group 2

The Dulzura pocket mouse occurs only in Southern California and Baja California. Dulzura pocket mouse is primarily granivorous, preferring the seed of grasses. This species is nocturnal and is active year-round, although it can enter torpor in cold weather and during periods of drought. Breeding can occur between January and September, peaking between May and July (Tremor et al.

2017). Dulzura pocket mice were captured at six of the seven trap lines throughout the Properties during surveys conducted in 2019. They were captured in Non-Native Grassland, Coastal Scrub, Southern Riparian Forest, Coastal Sage-Chaparral Transition, and Developed habitats.

Northwestern San Diego Pocket Mouse (*Chaetodipus fallax fallax*) – SSC; San Diego County Group 2

Northwestern San Diego pocket mouse occurs along the coastal slope of San Diego County and northern Baja California. It occurs in a variety of habitats, but prefers rocky areas near shrubs, and is primarily granivorous with leaves and stems supplementing its diet. This species is nocturnal and is active throughout the year. This species can become torpid during periods of cold, wet weather or during draught conditions (Tremor et al. 2017). Northwestern San Diego pocket mice were captured on three of the seven trap lines throughout the Properties during surveys conducted in 2019. They were captured in Non-Native Grassland and Coastal Scrub habitats.

Pocketed Free-Tailed Bat (*Nyctinomops femorosaccus*) – SSC; San Diego County Group 2

Pocketed free-tailed bats are typically found in desert and arid grasslands with rocky outcrops, canyons, or cliffs (BCI 2018). The pocketed free-tailed bat was detected near all bat survey locations in 2019 during passive and active surveys of the Properties.

San Diego Black-Tailed Jackrabbit (*Lepus californicus bennettii*) – SSC; San Diego County Group 2

Black-tailed jackrabbits are habitat generalists. They prefer open areas with sparse vegetation with scattered cacti and shrubs, as black-tailed jackrabbits require shrubs for hiding, nesting, and thermal cover (Best 1996). They are common in deserts, grasslands, and agricultural areas. Black-tailed jackrabbits prefer grasses and forbs but will eat any kind of vegetation (Jameson and Peeters 2004).

A San Diego black-tailed jackrabbit was photographed at camera Station 1. Suitable habitats occurring within the Properties include Chamise Chaparral, Granitic Southern Mixed Chaparral, Coastal Sage-Chaparral Transition, Diegan Coastal Sage, Coastal Scrub, Non-Native Grassland, and Disturbed.

Small-Footed Myotis (*Myotis ciliolabrum*) – San Diego County Group 2

Small-footed myotis rears its young in cliff-face crevices, erosion cavities, and beneath rocks (BCI 2018). They may hibernate in caves and mines. All of the vegetation communities occurring within the Properties provide suitable foraging habitat, and small-footed myotis were detected in 2019 during passive surveys on both Northern and Southern Parcels, Small-footed myotis were not detected during active surveys.

Southern Mule Deer (*Odocoileus hemionus fuliginata*) – San Diego County Group 2; MSCP Covered Species

Southern mule deer are common across the western United States in a variety of habitats, from forest edges to mountains and foothills. Southern mule deer prefer edge habitats, rarely travel or forage far from water, and are most active around dawn and dusk (Tremor et al. 2017). Southern

mule deer were observed at remote camera Stations 1, 2, and 3. Southern mule deer can utilize all of the habitats occurring within the Properties.

Townsend's Big-Eared Bat (*Corynorhinus townsendii*) – SSC; San Diego County Group 2

Townsend's big-eared bats are found throughout western North America, from British Columbia, Canada, south to Oaxaca, Mexico. They are most frequently found in arid desert scrub and pine forest areas. In spring and summer, the females will gather in maternity colonies in mines, caves, or buildings, while males roost individually. In the winter, these bats hibernate in caves and abandoned mines (BCI 2018). One call of a Townsend's big-eared bat was detected near the eastern border of the Southern Parcel in 2019 during passive surveys on the Properties. Townsend's big-eared bats were not detected during active surveys.

Western Yellow Bat (*Lasiurus xanthinus*) – SSC

Western yellow bat is known from throughout central and northern Mexico into southern Arizona, and Southern California (BCI 2018). The species roosts in dead palm fronds and other trees and is typically associated with deserts and canyons (Tremor et al. 2017). Riparian trees provide roosting habitat for tree-roosting species such as the western yellow bat. One call of a western yellow bat was detected near the northern border of the Southern Parcel in 2019 during active surveys in on the Properties. No calls were detected during passive surveys.

Yuma Myotis (*Myotis yumanensis*) – San Diego County Group 2

The Yuma myotis is found throughout much of the western United States and into Canada (BCI 2018). The species is always found near lakes, creeks, and ponds because the species forages over water. Typically, individuals skim low over the water and snatch up flying insects, but they can forage in other mesic areas. The species roosts by day, usually in buildings or bridges, but has been documented using mines or caves (BCI 2018). Yuma myotis was detected near all bat survey locations in 2019 during passive and active surveys of the Properties.

4.3.6 Special-Status Wildlife with High Potential to Occur

Nineteen special-status wildlife species were determined to have a high potential to occur (Appendix D): seven reptile species, five bird species, and seven mammal species. Their descriptions are provided below.

4.3.6.1 Herpetofauna

Seven special-status reptile species not observed during 2019 surveys were determined to have high potential to occur on the Properties: Belding's orange-throated whiptail (*Aspidoscelis hyperythra beldingi*); coast horned lizard (*Phrynosoma blainvillii*), coast patch-nosed snake (*Salvadora hexalepis virgultea*), coastal rosy boa (*Lichanura orcutti*), Coronado skink (*Plestiodon skiltonianus interparietalis*), red diamond rattlesnake (*Crotalus ruber*), and San Diego ringneck snake (*Diadophis punctatus similis*).

Belding's Orange-Throated Whiptail (*Aspidoscelis hyperythra beldingi*) – SSC; San Diego County Group 2; MSCP Covered Species

Belding's orange-throated whiptail is a medium-sized lizard that ranges from Southern California (specifically Corona del Mar in Orange County and Colton in San Bernardino County) southward to the tip of Baja California, Mexico (Jennings and Hayes 1994). Historically, most populations of the orange-throated whiptail were found on floodplains or terraces along streams in brushy areas with loose soil and rocks (Jennings and Hayes 1994). The habitat types they are known to use include Chaparral, Non-Native Grassland, Coastal Sage Scrub, Juniper Woodland, and Oak Woodland. California buckwheat and black sage are important indicators of appropriate habitat for Belding's orange-throated whiptail (Jennings and Hayes 1994). Orange-throated whiptails appear to be dietary specialists, with most (greater than 85 percent) of their prey being termites (Jennings and Hayes 1994). Although this species was not observed during the 2019 surveys, suitable habitats occurring within the Properties include Chamise Chaparral, Granitic Southern Mixed Chaparral, Coastal Sage-Chaparral Transition, and Coastal Scrub. Therefore, this species has high potential to occur in all the natural habitats occurring within the Properties.

Coast Horned Lizard (*Phrynosoma blainvillii*) – SSC; San Diego County Group 2; MSCP Covered Species

The coast (Blainville's/San Diego) horned lizard is a stout lizard that was historically found from Kern, Los Angeles, Santa Barbara, and Ventura Counties southward to Baja California, Mexico. Horned lizards inhabit a variety of vegetation communities, including Coastal Sage, Annual Grassland, Chaparral, Oak Woodland, Riparian Woodland, and Coniferous Forest (Stebbins 2003). Loose, fine soils with a high sand content and an abundance of prey as well as open areas with limited overstory typify suitable habitat for this species (Jennings and Hayes 1994). The coast horned lizard's insectivorous diet consists mostly of native harvester ants (*Pogonomyrmex* sp.), which make up more than 90 percent of its prey; however, it is an opportunistic feeder that will take other insects, including termites, beetles, flies, wasps, and grasshoppers (Stebbins 2003, Jennings and Hayes 1994). Although this species was not observed during the 2019 surveys, all of the natural habitats occurring within the Properties are suitable. Therefore, this species has high potential to occur in all the natural habitats occurring within the Properties.

Coast Patch-Nosed Snake (*Salvadora hexalepis virgultea*) – SSC; San Diego County Group 2

The coast patch-nosed snake is a medium-sized, slender snake that is a habitat generalist. It makes use of whatever vegetative cover is available and thrives in most environments. It is also a generalist in its diet, opportunistically feeding on anything it can overpower, including small mammals, lizards, and the eggs of lizards and snakes. The species ranges from Creston in San Luis Obispo County southward into Baja California (Stebbins 2003). This species' decline is most likely due to the conversion of habitat to development, agriculture, or nonnative plant species. Although this species was not observed during the 2019 surveys, suitable habitats occurring within the Properties include Chamise Chaparral, Granitic Southern Mixed Chaparral, Coastal Sage-Chaparral Transition, and Coastal Scrub. Therefore, this species has high potential to occur within the Properties.

Coastal Rosy Boa (*Lichanura orcutti*) (formerly *Charina trivirgata rosefusca*) – San Diego County Group 2

Coastal rosy boas are heavy-bodied snakes that inhabit arid scrublands, semi-arid and rocky shrublands, rocky deserts, canyons, and other rocky areas (Stebbins 2003). This species eats rodents, small birds, lizards, small snakes, and amphibians and kills its prey by constriction. Coastal rosy boas occur in southwestern California, from the coastal slopes of the San Gabriel and San Bernardino Mountains to the Peninsular Ranges and the desert in San Diego County (Stebbins 2003). This species is often associated with the margins of riparian areas and rocky areas. Although this species was not observed during the 2019 surveys, suitable habitats occurring within the Properties include Non-Native Grassland, Southern Riparian Forest, and Open Live Oak Woodland, especially in rocky areas. Therefore, this species has high potential to occur within the Properties.

Coronado Skink (*Plestiodon skiltonianus interparietalis*) – SSC; San Diego County Group 2

The Coronado skink is a medium-sized, secretive lizard that is typically found in the moister areas of coastal sage, chaparral, oak woodlands, pinyon-juniper, riparian woodlands, and pine forests (Jennings and Hayes 1994). Its prey includes small invertebrates in leaf litter or dense vegetation at the edges of rocks and logs. The Coronado skink is found along the coastal plain and Peninsular Ranges west of the deserts, from approximately San Gorgonio Pass in Riverside County south to San Quentin, Mexico (Jennings and Hayes 1994). Although this species was not observed during the 2019 surveys, suitable habitats occurring within the Properties include Non-Native Grassland, Southern Riparian Forest, and Open Live Oak Woodland. Therefore, this species has high potential to occur within the Properties.

Red Diamond Rattlesnake (*Crotalus ruber*) – SSC; San Diego County Group 2

The red diamond rattlesnake is a heavy-bodied rattlesnake with a tan, link, brick red, or reddish dorsal color with a tail that is marked with broad, evenly spaced, distinct, black rings. Its range extends from near Morongo Valley (San Bernardino County) south along the coast and desert sides of the Peninsular Range to Loreto, Baja California, Mexico. It is found in a variety of habitats, although generally it is associated with habitats containing thick brush with large rocks or boulders. Typical habitats include chamise and red-shank as well as coastal sage scrub and desert slope scrub. Its elevation range extends from sea level to around 5,000 feet above mean sea level. Mating occurs in the early spring, and the species bears live young between late July and September (Jennings and Hayes 1994). Although this species was not observed during the 2019 surveys, suitable habitats occurring within the Properties include Chamise Chaparral, Granitic Southern Mixed Chaparral, Coastal Sage-Chaparral Transition, and Coastal Scrub. Therefore, this species has high potential to occur in all the natural habitats occurring within the Properties.

San Diego Ringneck Snake (*Diadophis punctatus similis*) – San Diego County Group 2

The San Diego ringneck snake is a small, thin snake that prefers moist habitats, including wet meadows, rocky hillsides, gardens, farmland, grassland, chaparral, mixed coniferous forests, and woodlands (Stebbins 2003). It is secretive in its behavior, usually found under the cover of rocks, wood, bark, boards, and other surface debris. Ringneck snakes eat small salamanders, tadpoles, small frogs, small snakes, lizards, worms, slugs, and insects. This species' range includes San Diego

County along the coast and into the Peninsular Range, southwestern San Bernardino County, and barely south into northern Baja California (Stebbins 2003). Threats to this species include habitat degradation and fragmentation from urban development. Although this species was not observed during the 2019 surveys, suitable habitats occurring within the Properties include Non-native Grassland, Southern Riparian Forest, and Open Live Oak Woodland. Therefore, this species has high potential to occur in riparian habitat occurring within the Properties.

4.3.6.2 Birds

Four special-status bird species not observed during surveys were determined to have high potential to occur on the Properties: Bell's sparrow (*Artemisiospiza belli*), red-shouldered hawk (*Buteo lineatus*), California horned lark (*Eremophila alpestris actia*), and western bluebird (*Sialia Mexicana*).

Bell's Sparrow (*Artemisiospiza belli*) – San Diego County Group 1

Bell's sparrow is a resident species that is usually found in open chaparral and coastal sage scrub, from Southern California to Baja California. This mostly ground-dwelling species prefers open chaparral and sage scrub, and is one of the first species to inhabit recently burned habitat (Unitt 2004). This species occurs along coastal lowlands, inland valleys, and the lower foothills of the local mountains, from Southern California to Baja California. The decline in this species can be attributed to fire suppression, invasion by exotic plant species, loss of habitat to agriculture and urban development, and population isolation due to habitat fragmentation (Unitt 2004). Bell's sparrow is documented as breeding in the vicinity (Unitt 2004) and has high potential to occur in the Properties.

Red-Shouldered Hawk (*Buteo lineatus*) – San Diego County Group 1

The red-shouldered hawk was once an uncommon breeder in lowland riparian woodlands but has been thriving recently in urban environments with large trees such as eucalyptus (Unitt 2004). On the West Coast, this species is found in California and northern Baja California; it is also common throughout San Diego County. Red-shouldered hawk was not observed in the Properties in 2019, but this species is widespread throughout the county and has high potential to occur on site because of the presence of suitable habitat, including Southern Riparian Forest, Open Coast Live Oak Woodland, and Eucalyptus Woodland.

California Horned Lark (*Eremophila alpestris actia*) – San Diego County Group 2

The California horned lark is a resident of a variety of open habitats, usually where trees and large shrubs are absent (Zeiner et al. 1990). This subspecies breeds primarily in open fields and grasslands. It is found along the coastal slope of San Diego County, east to Jacumba (Unitt 2004). Continuing threats to this species include habitat destruction and fragmentation. This species has been documented in the general vicinity (Unitt 2004) and has high potential to forage on the Properties within the Disturbed and more open areas.

Western Bluebird (*Sialia Mexicana*) – San Diego County Group 2; MSCP Covered Species

Western bluebird is a common, year-round resident of foothills and mountains within San Diego County (Unitt 2004). Traditionally a cavity nester, this species has shown signs of expanding its

range, utilizing mature trees within urban areas. Western bluebirds face a growing lack of suitable nest cavities due to logging and fire suppression activities, as well as from competition from other nonnative cavity nesting avian species. This species was not observed during 2019 surveys, but the Properties contain suitable nesting habitat and ample foraging habitat in the form of Open Coast Live Oak Woodland and Southern Riparian Forest.

4.3.6.3 Mammals

Five special-status mammal species not observed during surveys were determined to have high potential to occur on the Properties: long-eared myotis (*Myotis evotis*), mountain lion (*Puma concolor*), pallid bat (*Antrozous pallidus*), western mastiff bat (*Eumops perotis*), and western red bat (*Lasiurus blossevillii*).

Long-Eared Myotis (*Myotis evotis*) – San Diego County Group 2

Long-eared myotis is found in western North America, from British Columbia south through California to Baja Mexico (BCI 2018). This species prefers coniferous forests in higher altitudes and will roost in caves, rock crevices, under tree bark, or in buildings (BCI 2018). Although long-eared myotis were not detected in 2019 during passive and active surveys on the Properties, all of the vegetation communities occurring within the Properties provide suitable foraging habitat.

Mountain Lion (*Puma concolor*) – San Diego County Group 2; MSCP Covered Species

Mountain lions prefer extensive areas of riparian vegetation and brushy habitat, with interspersion of irregular terrain, rocky outcrops, and thickets (Tremor et al. 2017). Riparian areas provide protective habitat connections for movement between fragmented habitats. This species is widespread in North and South America and occupies a broad variety of habitats from the northern limit of the Canadian forests to Patagonia in South America. Habitat fragmentation, loss of large areas of undeveloped land, road kills, indiscriminate shootings, animal control measures, and loss of natural prey base have led to the decline of this species. Although mountain lions were not detected during 2019 surveys on the Properties, all of the vegetation communities occurring within the Properties provide suitable habitat, and primary prey (southern mule deer) were observed on the Properties.

Pallid Bat (*Antrozous pallidus*) – SSC; San Diego County Group 2

Pallid bat is known for its unique habit of feeding almost entirely from the ground. Unlike most other North American bats, this species captures little, if any, prey while in flight. After swooping down upon its prey, the pallid bat carries the insect to a convenient perch to consume its meal. Its most common prey are crickets, beetles, grasshoppers, and scorpions. Pallid bats roost in rock crevices, buildings, bridges, and tree hollows. They are found from Mexico and the southwestern United States north through Oregon, Washington, and western Canada (BCI 2018). Although pallid bats were not detected in 2019 during passive and active surveys on the Properties, all of the vegetation communities occurring within the Properties provide suitable roosting and foraging habitat.

Western Mastiff Bat (*Eumops perotis*) – SSC; San Diego County Group 2

Western mastiff bats are the largest native bats in the United States. This subspecies occurs from the western foothills of the Sierra Nevada and the Coastal Ranges (south of San Francisco Bay) southward into Mexico (BCI 2018). In Southern California, they are found throughout the coastal lowlands, up to the drier mid-elevation mountains, but avoid the Mojave and Colorado Deserts (Tremor et al. 2017). Habitats include dry woodlands, shrublands, grasslands, and occasionally even developed areas. This big bat forages in flight; most prey species are relatively small, low to the ground, and weak-flying. For roosting, western mastiff bats appear to favor rocky, rugged areas in lowlands where abundant suitable crevices are available for day roosts (BCI 2018). Roost sites may be in natural rock, tall buildings, or large trees. Although western mastiff bats were not detected in 2019 during passive and active surveys on the Properties, all of the vegetation communities occurring within the Properties provide suitable foraging habitat.

Western Red Bat (*Lasiurus blossevillii*) – SSC; San Diego County Group 2

Western red bat is a solitary bat that roosts in tree foliage. It is closely associated with cottonwoods in riparian areas below 6,500 feet (BCI 2018). These bats typically forage along forest edges and in small clearings. They appear to have declined because of a loss of lowland riparian forest. Although western red bat were not detected in 2019 during passive and active surveys on the Properties, all of the vegetation communities occurring within the Properties provide suitable foraging habitat.

4.3.7 Invasive Wildlife Species

No invasive wildlife species were detected or are expected to occur at the Properties.

4.4 Wildlife Movement

Wildlife movement corridors are areas that connect suitable wildlife habitat areas in a region that would otherwise be fragmented by rugged terrain, changes in vegetation, or human disturbance. Natural features such as canyon drainages, ridgelines, or areas with vegetative cover provide corridors for wildlife movement. Wildlife movement corridors are important because they provide access to mates, food, and water; allow the dispersal of individuals away from high population density areas; and facilitate the exchange of genetic traits between populations.

The Properties are not part of a designated primary linkage of the MSCP; however, the Properties are in Biological Core Resource Area Central Poway/San Vicente Reservoir/North Poway designated in the MSCP. The Properties are adjacent to the CDFW-owned San Vicente Highlands Property and City of San Diego conserved lands on the east side of SR-67 and Sycamore Canyon/Goodan Ranch Preserve on the east side of SR-67. The addition of these Properties provides a critical link to undeveloped open space in the area.

Mule deer were frequently recorded using the Properties in 2019. The Properties are assumed to provide movement opportunities between open space areas for medium and large mammals.

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Chapter 5
Conclusions and Management Recommendations

The Properties are in the South County MSCP and do not contain any designated USFWS Critical Habitat. The overall goal of the MSCP is to maintain and enhance biological diversity in the region and conserve viable populations of sensitive species and their habitats, preventing extirpation or extinction. The MSCP includes general biological monitoring to evaluate whether the preserve system is meeting conservation targets for covered plant and animal species and their habitats, identify threats to covered species and their habitats, and help identify management needs.

This chapter presents specific management recommendations for the habitat types and MSCP covered plant and animal species documented within the Properties. These recommendations are based on the results of the baseline biological diversity surveys as well as the management and monitoring guidelines and conservation goals provided in the County of San Diego MSCP Framework Management Plan (County 2000).

The County of San Diego MSCP Framework Management Plan includes plan-wide stewardship and management and monitoring guidelines, as well as specific conservation goals for each of the three planning segments identified in the MSCP South County Subarea Plan. The Properties are within the Metro-Lakeside-Jamul Segment of the MSCP South County Subarea Plan.

The current survey effort documented 12 vegetation/land cover types and detected 228 plant species and 95 wildlife species within the Properties. Of these species, five plants are considered special-status, and one of these is a MSCP covered species: San Diego goldenstar. Fifteen special-status wildlife species were detected during the surveys, three of which are covered by the MSCP: Southern California rufous-crowned sparrow, coastal California gnatcatcher, and southern mule deer.

5.1 Vegetation Communities/Habitat

As discussed in Section 4.1, *Vegetation Communities/Habitat,* the Properties contain 12 vegetation community or land cover types, including scrub, chaparral, and woodland communities.

In order to assess the overall biological integrity of the Properties, it is recommended that the County maintain an updated vegetation community map. The map should be used as a tool for adaptive management within the Properties. Updates should occur once every 8 to 10 years or within the first growing season following an unforeseen disturbance (e.g., fire, flood, human-made disturbance). The purpose of the ongoing mapping effort should be to document changes in the vegetation communities within the Properties that could affect quality and usage by wildlife. Vegetation monitoring for habitat value should also focus on identifying adverse changes and their effects on vegetation over time. This includes dramatic changes, such as fire, as well as slower but equally important effects, such as invasions by invasive nonnative plant species or a slow decline in existing native species. It will also document positive changes due to any restoration.

5.2 Plants

During baseline surveys in 2019, one MSCP covered plant species was detected: San Diego goldenstar. Management directives for this MSCP covered plant species are detailed below.

5.2.1 San Diego Goldenstar (*Bloomeria clevelandii*)

5.2.1.1 Site Location

Approximately 28,345 individuals were observed at 10 locations in the Southern Parcel.

5.2.1.2 Habitat

Within the Properties, Diegan Coastal Sage Scrub represents suitable habitat.

5.2.1.3 MSCP Monitoring Conditions

Table 3-5 of the MSCP indicates that management directives should include protecting this species from edge effects and the monitoring of any transplanted populations. As the populations observed occurred near SR-67, the amount, distribution, and viability of Diegan Coastal Sage Scrub on the Properties should be monitored.

Habitat-based maintenance and monitoring should include:

1. Mapping vegetation every 8 to 10 years to determine if onsite vegetation communities supporting San Diego goldenstar remain viable.

5.3 Wildlife

As stated previously, three MSCP covered wildlife species were detected during 2019 surveys at the Properties: Southern California rufous-crowned sparrow, coastal California gnatcatcher, and southern mule deer. Management directives for these MSCP covered wildlife species are detailed below.

5.3.1 Southern California Rufous-Crowned sparrow (*Aimophila ruficeps canescens*)

5.3.1.1 Site Location

Widespread in low-growth scrub and chaparral habitat on the Properties.

5.3.1.2 Vegetation Community

Within the Properties, coastal sage scrub and open chaparral within coastal lowland and foothills represent suitable habitat. The species colonizes recovering burned chaparral but avoids this habitat when chaparral matures and becomes impenetrable (Unitt 2004).

5.3.1.3 MSCP Monitoring Conditions

This species has a low priority for management and monitoring, as stated in Table 3-5 of the MSCP. Habitat-based management shall be performed. The preservation of onsite coastal sage scrub, coastal scrub, and chaparral will provide adequate nesting and foraging habitat. Habitat-based management and monitoring will be conducted by monitoring the distribution and acreage of coastal sage scrub and chaparral within the Properties over time. This will be conducted by vegetation mapping every 8–10 years.

In the event of a wildfire on the Properties, monitoring of the post-fire recovery of onsite scrub and chaparral habitat will be conducted. If natural post-fire recovery of woodlands does not occur, adaptive management should be conducted, which may include active revegetation of burned areas and removal/treatment of invasive nonnative plant species.

5.3.2 Coastal California Gnatcatcher (*Polioptila californica californica*)

5.3.2.1 Site Location

Coastal California gnatcatcher was observed in the coastal sage scrub on the southern end of the Properties, near Point Count Station 1.

5.3.2.2 Vegetation Community

This species is highly associated with Diegan Coastal Sage Scrub. It may forage in other vegetation communities, particularly riparian areas, during drier summer and fall periods.

5.3.2.3 MSCP Monitoring Conditions

Preservation and enhancement of the Diegan Coastal Sage Scrub vegetation communities would provide nesting and foraging habitat for coastal California gnatcatcher. Habitat-based management would be conducted by monitoring the distribution and acreage of Diegan Coastal Sage Scrub habitat in the Properties over time.

Management and monitoring should include:

1. Revising vegetation mapping every 8 to 10 years.
2. During vegetation mapping, identifying areas with target invasive, nonnative plant species that could be enhanced and restored to coastal sage scrub to benefit coastal California gnatcatcher.
3. Managing and reducing human-caused edge effects (such as introduction of invasive, nonnative plant species and domestic pets, increase in trash/pollution, and/or habitat destruction).
4. Conducting effectiveness monitoring every 5 years using focused coastal California gnatcatcher surveys within suitable habitat following the survey protocol used for the Carlsbad Habitat Management Plan (HMP) (City of Carlsbad 2013), which, with the exception of the timing and number of visits, follows the USFWS coastal California gnatcatcher protocol (USFWS 1997).

5.3.3 Southern Mule Deer (*Odocoileus hemionus fuliginata*)

5.3.3.1 Site Location

This species is widespread throughout the Properties. It was recorded on the three remote camera locations throughout the Properties.

5.3.3.2 Vegetation Community

The potential exists for this species to use all vegetation communities within the Properties.

5.3.3.3 MSCP Monitoring Conditions

This species has low priority for management and monitoring. Table 3-5 of the MSCP indicates that habitat-based management will be conducted. The preservation of undeveloped vegetation on the Properties would provide adequate foraging habitat. Monitoring efforts should focus on status monitoring. Status monitoring should involve general assessments of habitat characteristics, such as threats or changes in habitat quality as a check on their condition. Vegetation mapping will be conducted on the Properties every 8 to 10 years to detect the loss of foraging habitat, particularly as a result of onsite development or a too-frequent wildfire regime.

Habitat-based monitoring should include:

1. Revising vegetation mapping every 8 to 10 years to determine if onsite vegetation communities supporting southern mule deer remain viable.

5.4 Invasive Nonnative Plant Species Removal and Control

Section 4.2.3 detailed invasive, nonnative plants that were observed at the Properties in 2019. These plants all have the capacity to displace or are currently displacing native vegetation and altering the functions and services of native vegetation communities.

The invasive, nonnative plant species are presented on Figure 4-4. All six invasive, nonnative species were found in the Northern Parcel; only purple false brome was found in the Southern Parcel. The invasive, nonnative plants identified for control at the Properties thus include:

- Crown daisy
- Giant reed
- Blessed milk thistle
- Perennial veldt grass
- Purple false brome
- Saltcedar

Methods of control for each species are presented below (Cal-IPC 2019).

Crown daisy can be controlled with herbicide, as foliar spray for dense populations or spot spraying for scattered individuals. Herbicide should be applied in spring while plants are rapidly growing and before setting seed.

Control of **giant reed** will involve chemical control. The most effective foliar application is after flowering but before dormancy in August to November (Bossard et al. 2000). Control may also be obtained from cutting stems of giant reed and painting the cut culms with concentrated herbicide solutions. New foliar growth is also sensitive to herbicides. Freshly emerging stems after fire or mowing may be treated with a foliar spray of appropriate herbicide.

Blessed milk thistle should be treated using herbicide and a two-treatment method is recommended, with one foliar or spot application between October and January and a second treatment in May or June.

Perennial veldt grass and **purple false brome** and should both be treated with herbicide before they set seed in the spring. In large patches, foliar spray can be used. In areas with more scattered distribution, spot spraying can be used. Both of these species are persistent and will require follow-up treatment. Mowing timed to occur before these species set seed in the spring can also be used instead of chemical treatment, but mowing or hand removal can take many years to deplete the seed bank. The level of effort for this method makes it impractical in most situations but should be considered when there is concern for nearby sensitive plant species.

Saltcedar can be controlled with the application of herbicide after plant volume is reduced by cutting. Herbicide is most effective when applied in summer or fall when plants are still growing and not water stressed, as to promote herbicide translocation to below-ground tissues. Stems should be cut horizontally at or near ground level, and a herbicide solution should be applied to cover the cut stump immediately. Follow-up treatments with foliar spray are recommended to control resprouts.

5.5 Restoration Opportunities

The Properties are generally composed of high-quality habitat that provides essential habitat for special-status species that are covered under the MSCP.

However, a variety of target invasive, nonnative plants are present at the Properties, as described in Section 4.2.3. These plants have altered native habitat at the Properties and have the potential to further alter and degrade habitat. If resources are available, active invasive, nonnative plant removal and restoration would improve the native plant cover and composition and improve habitat values for a variety of native and sensitive animal species. Any proposed restoration activity should use current accepted techniques and avoid or minimize impacts on sensitive species or native habitats. In addition, revegetation activities should use only local, native plant seed or container stock plants that have been propagated from plant material from central San Diego County.

The removal of scattered invasive, nonnative plant species would not require revegetation, as natural recruitment would be sufficient in small areas. However, in larger areas, revegetation should be considered.

5.6 Fire Management

Chaparral and coastal sage scrub plant species are adapted to fire. However, too frequent of a return interval can cause type conversion to nonnative grassland, and a too-infrequent return interval can create a fire hazard.

Fuel management should be conducted along the edges of the onsite dirt roads used for DPR staff patrolling to prevent the spread of anthropogenic fires and ignition sources into the Properties. Fuel management activities should be avoided during the bird breeding season (February 15 to August 30), in coastal sage scrub vegetation, to prevent impacts on coastal California gnatcatchers and other species protected by state and federal laws. Roots should be left intact to avoid soil erosion. Cut vegetation can be mulched in place or removed from the site.

5.7 Wildlife Linkages and Corridors

The primary function of wildlife corridors is to provide migration routes between core biological areas. In some cases, wildlife corridors may also serve as habitat for various life history requirements (e.g., foraging, reproduction, growth). Acquisition of the Properties helps maintain habitat connectivity between large tracts of undeveloped lands to the east and conserved lands to the west in the form of Sycamore Canyon/Gooden Ranch County Park. Wildlife linkages and movement corridors between connected habitats benefit wildlife. Target species for corridor use include large mammals, such as mountain lion and southern mule deer. Wildlife corridors within the Properties should be managed as described below.

Management of wildlife linkages and corridors within the Properties should focus on managing vegetation communities and controlling invasive nonnative plants. Preserving areas of native vegetation would provide adequate forage and cover for animals as they move through the Preserve. Additionally, fire management would benefit larger wildlife by keeping vegetation thin enough to allow ease of movement through the Preserve. Using wildlife cameras to track medium to large mammals will help understand how such animals are moving through the Preserve. If larger mammals disappear from an area, Preserve managers would know to investigate the potential cause.

5.8 Additional Management Recommendations

5.8.1 Signage

The Properties do not currently contain any signage stating that they are closed to the public or contain sensitive habitat and species. If trespassing or the creation of illegal trails becomes a problem such signs should be erected at key points.

5.8.2 Litter/Trash Removal

Whether closed or open to the public, the management of the Properties should include implementation of a litter and trash removal program. The purpose of this program would be to

ensure that contaminants do not negatively affect the conserved resources within the Properties. DPR staff should regularly collect any illegal dumping during patrolling.

5.8.3 Emergency and Safety Issues

Law enforcement officials should be allowed to access the Properties as necessary. If it becomes apparent that extensive enforcement activities are necessary, DPR should coordinate with the applicable agencies to inform field personnel regarding how to minimize damage to onsite sensitive resources.

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Chapter 6
References

Baldwin, B. G., D. H. Goldman, D. J. Keil, R. Patterson, and T. J. Rosatti. 2012. *The Jepson Manual: Vascular Plants of California.* Second edition. University of California Press.

Bat Conservation International (BCI). 2018. *Bat Species Profiles.* Available: http://www.batcon.org/resources/media-education/species-profiles.

Best, T. L. 1996. *Lepus californicus*. Mammalian Species. No. 530. American Society of Mammologists.

Bond, S. I. 1977. An Annotated List of the Mammals of San Diego County, California. *Transactions of the San Diego Society of Natural History* 18(14):229–248.

Bontrager, D. R. 1991. *Habitat Requirements, Home Range Requirements, and Breeding Biology of the California Gnatcatcher (*Polioptila Californica*) in South Orange County, California*. Prepared for Santa Margarita Company, Ranch Santa Margarita, CA. April.

Bossard, C. C., J. M. Randall, and J. M. Hoshovsky (eds.). 2000. *Invasive Plants of California's Wildlands*. University of California Press. Berkeley and Los Angeles, CA.

California Department of Fish and Wildlife (CDFW). 2018. *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities*. Available: https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=18959.

California Department of Food and Agriculture. 2016. *California Noxious Weed List*. Available: https://www.cdfa.ca.gov/plant/IPC/encycloweedia/weedinfo/winfo_table-sciname.html.

California Invasive Plant Council (Cal-IPC). 2016. The Cal-IPC Invasive Plant Inventory Database. Available: https://www.cal-ipc.org/plants/inventory/.

———. 2019. *Invasive Plant Management & EDRR*. Available: https://www.cal-ipc.org/solutions/management/. Accessed: December 12, 2019.

California Native Plant Society. 2001. CNPS Botanical Survey Guidelines. In D. P. Tibor (ed.), *Inventory of Rare and Endangered Vascular Plants of California.* Sixth edition. Special Publication No. 1, Sacramento, 387 pp.

Campbell, K. F., R. A. Erickson, W. E. Haas, and M. A. Patten. 1998. California Gnatcatcher Use of Habitats Other than Coastal Sage Scrub: Conservation and Management Implications. *Western Birds* 29:421–433.

City of Carlsbad. 2013. *California Gnatcatcher Monitoring Program for the City of Carlsbad.*

Conservation Biology Institute. 2012. *Management Priorities for Invasive Non-native Plants: A Strategy for Regional Implementation, San Diego County, California.* Available: https://consbio.org/products/reports/management-priorities-invasive-non-native-plants.

County of San Diego (County). 1997. *Multiple Species Conservation Program, County of San Diego Subarea Plan.*

———. 2000. *Multiple Species Conservation Program, Framework Management Plan.*

County of San Diego Department of Parks and Recreation (DPR). 2013. *Resource Management Plan for Sycamore Canyon & Goodan Ranch Preserve San Diego County*. San Diego, CA. Available: https://www.sandiegocounty.gov/content/dam/sdc/parks/RMD/RMPs%20and%20Trails/SycamoreGoodanRMP_Final.pdf. Accessed November 9, 2019.

Holland, R. F. 1986. *Preliminary Descriptions of the Terrestrial Natural Communities of California.* Unpublished report. California Department of Fish and Game, Natural Heritage Division, Sacramento, CA.

Jameson Jr., E. W., and H. J. Peeters. 2004. *Mammals of California*. Revised Edition. Berkeley: University of California Press.

Jennings, M. R., and M. P. Hayes. 1994. *Amphibian and Reptile Species of Special Concern in California.* Final report submitted to California Department of Fish and Game, Inland Fisheries Division, Rancho Cordova, CA.

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*, by R.F. Holland, Ph.D., October 1986.

Rebman, J. P., and M. G. Simpson. 2014. *Checklist of the Vascular Plants of San Diego County*. Fifth edition. San Diego Natural History Museum and San Diego State University.

Royer A. R., J. E. Austin, and W. E. Newton. 1998. Checklist and "Pollard Walk" Butterfly Survey Methods on Public Lands. *Am Midl Nat* 140:358–371

RSSWeather.com. 2019. Climate for San Diego, California. Available: http://www.rssweather.com/climate/California/San%20Diego/. Accessed November 6, 2019.

San Diego Regional Water Quality Control Board. 2014. *San Diego River Watershed Monitoring and Assessment Program*. January. SWAMP-MR-RB9-2014-0001. Available: https://www.waterboards.ca.gov/sandiego/water_issues/programs/swamp/docs/SD_River_Program_Document_Final_04_30_2014.pdf. Accessed: November 8, 2019.

SanGIS. 2018. *Fire Burn History.* GIS dataset. Information drawn from CDF-FRAP.

Stebbins, R. C. 2003. *A Field Guide to Western Reptiles and Amphibians*. Third edition. Boston, MA: Houghton Mifflin Company.

Tremor, Scott, Drew Stokes, Wayne Spencer, Jay Diffendorfer, Howard Thomas, Susan Chivers, and Philip Unitt. 2017. *San Diego County Mammal Atlas*. San Diego Natural History Museum. San Diego, California.

Unitt, P. 2004. San Diego County Bird Atlas. In *Proceedings of the San Diego Society of Natural History*, 39:i–vii, 1–639. Available: http://sdplantatlas.org/BirdAtlas/BirdPages.aspx.

U.S. Department of Agriculture (USDA). 1973. *Soil Survey, San Diego Area, California*. Washington D.C. U.S. Department of Agriculture, Soil Conservation Service (now Natural Resources Conservation Service) and Forest Service.

United States Department of Agriculture Natural Resources Conservation Service. 2014. *Federal Introduced, Invasive, and Noxious Plants List*. Available: https://plants.usda.gov/java/noxious.

United States Fish and Wildlife Service (USWFS). 1997. *Coastal California Gnatcatcher (*Polioptila californica californica*) Presence/Absence Survey Guidelines.* February 28, 1997. Available: https://www.fws.gov/ventura/docs/species/protocols/cagn/coastal-gnatcatcher_survey-guidelines.pdf.

———. 2000. Endangered and Threatened Wildlife and Plants; Final Determination of Critical Habitat for the Coastal California Gnatcatcher; Final Rule. *Federal Register* 65:63679–63743.

———. 2006. *Least Bell's Vireo (*Vireo bellii pusillus*) – 5-Year Review Summary and Evaluation*. U.S. Fish and Wildlife Service, Carlsbad Fish and Wildlife Office, Carlsbad, California. September 2006. Available: https://www.fws.gov/carlsbad/SpeciesStatusList/5YR/20060926_5YR_LBV.pdf. Accessed: December 17, 2019.

———. 2007. Revised Designation of Critical Habitat for the Coastal California Gnatcatcher (*Polioptila californica californica*); Final Rule. *Federal Register* 72:72010–72213.

———. 2014. *Arroyo Toad (*Anaxyrus californicus*) Species Report – 12-mo/Proposed Reclassification.* U.S. Fish and Wildlife Service, Ventura Fish and Wildlife Office, Ventura, California. March 24, 2014 – Final. Available: https://www.fws.gov/ventura/docs/species/at/Arroyo%20Toad%20Final%20Species%20Report.pdf. Accessed: December 17, 2019.

Zeiner, D. C., W. F. Laudenslayer Jr., K. E. Mayer, and M. White (eds.). 1990. *California's Wildlife, Volume 2: Birds*. Sacramento, California: California Department of Fish and Game.

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Appendix A

Observed Species List – Plants

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Observed Species List – Plants

Scientific Name	Common Name	Status
EUDICOTS		
Anacardiaceae - Sumac Or Cashew family		
Malosma laurina	Laurel sumac	
Toxicodendron diversilobum	Western poison oak	
Apiaceae - Carrot family		
Apiastrum angustifolium	Mock-Parsley	
Bowlesia incana	American Bowlesia	
Daucus pusillus	Rattlesnake Weed	
**Foeniculum vulgare*	Sweet Fennel	
Sanicula arguta	Sharp-Tooth Sanicle	
Tauschia arguta	Southern Tauschia	
Asteraceae - Sunflower family		
Acourtia microcephala	Sacapellote	
Ambrosia acanthicarpa	Annual Bur-Sage	
Ambrosia psilostachya	Western Ragweed	
Artemisia californica	Coastal Sagebrush	
Artemisia douglasiana	Douglas Mugwort	
Artemisia palmeri	San Diego Sagewort	CRPR 4.2, County List D
Baccharis pilularis subsp. consanguinea	Coyote Brush	
Baccharis salicifolia ssp. salicifolia	Mule-Fat	
Baccharis sarothroides	Broom Baccharis	
Brickellia californica	California Brickellbush	
**Carduus pycnocephalus ssp. pycnocephalus*	Italian Thistle	
**Centaurea melitensis*	Tocalote	
Chaenactis artemisiifolia	White Pincushion	
Chaenactis glabriuscula var. glabriuscula	Yellow Pincushion	
Cirsium occidentale var. californicum	California Thistle	
Corethrogyne filaginifolia var. filaginifolia	California Sand-Aster	
**Dittrichia graveolens*	Stinkwort	

Scientific Name	Common Name	Status
Deinandra fasciculata	Fascicled Tarweed	
Encelia farinosa	Brittlebush	
Erigeron canadensis	Horseweed	
Erigeron foliosus var. foliosus	Leafy Daisy	
Erigeron sumatrensis	Asthmaweed	
Eriophyllum confertiflorum var. confertiflorum	Long-Stem Golden-Yarrow	
**Gamochaeta pensylvanica*	Purple Cudweed	
**Glebionis coronaria*	Crown Daisy	
Gutierrezia sp.	Matchweed	
Hazardia squarrosa var. grindelioides	Southern Sawtooth Goldenbush	
**Hedypnois cretica*	Crete Hedypnois	
Helianthus gracilentus	Slender Sunflower	
**Hypochaeris glabra*	Smooth Cat's Ear	
Isocoma menziesii var. menziesii	Spreading Goldenbush	
Lasthenia gracilis	Common Goldfields	
Layia platyglossa	Tidy Tips	
Logfia filaginoides	California Cottonrose	
**Logfia gallica*	Narrow-Leaf Cottonrose	
Osmadenia tenella	Osmadenia	
Pentachaeta aurea ssp. aurea	Golden-Rayed Pentachaeta	CRPR 4.2, County List D
Porophyllum gracile	Odora	
Pseudognaphalium biolettii	Bicolor Cudweed	
Pseudognaphalium californicum	California Everlasting	
Pseudognaphalium stramineum	Cotton-Batting Plant	
Rafinesquia californica	California Chicory	
**Senecio vulgaris*	Common Groundsel	
**Silybum marianum*	Milk Thistle	
Solidago velutina ssp. californica	California Goldenrod	
**Sonchus asper ssp. asper*	Prickly Sow-Thistle	
**Sonchus oleraceus*	Common Sow-Thistle	
Stebbinsoseris heterocarpa	Grassland Stebbinsoseris	
Stylocline gnaphaloides	Everlasting Nest-Straw	
Uropappus lindleyi	Silver Puffs	

Scientific Name	Common Name	Status
Xanthisma junceum	Rush-like Bristleweed	CRPR 4.3, County List D
Boraginaceae - Borage family		
Amsinckia intermedia	Rancher's Fiddleneck	
Cryptantha intermedia var. intermedia	Nievitas Cryptantha	
Cryptantha muricata var. jonesii	Jones's Prickly Cryptantha	
Johnstonella micromeres	Minute-Flower Johnstonella	
Plagiobothrys collinus	Popcornflower	
Brassicaceae - Mustard family		
**Brassica nigra*	Black Mustard	
**Brassica tournefortii*	Sahara Mustard	
Caulanthus heterophyllus	San Diego Jewelflower	
**Hirschfeldia incana*	Short-Pod Mustard	
**Sisymbrium orientale*	Hare's-Ear Cabbage	
Thysanocarpus curvipes ssp. elegans	Elegant Fringepod	
Campanulaceae - Bellflower family		
Heterocodon rariflorum	Heterocodon	
Nemacladus ramosissimus	Nuttall's Threadplant	
Triodanis biflora	Small Venus Looking-Glass	
Caprifoliaceae - Honeysuckle family		
Lonicera subspicata var. denudata	Johnston's Honeysuckle	
Caryophyllaceae - Pink family		
**Cerastium glomeratum*	Mouse-Ear Chickweed	
Loeflingia squarrosa	California Loeflingia	
Silene antirrhina	Snapdragon Catchfly	
**Silene gallica*	Common Catchfly	
Silene laciniata ssp. laciniata	Southern Pink	
**Spergularia sp.*	Sand-Spurrey	
Cistaceae - Rock-rose family		
Crocanthemum scoparium	Peak rush-rose	
Convolvulaceae - Morning-glory family		
Calystegia macrostegia	Coast morning-glory	

Scientific Name	Common Name	Status
Crassulaceae - Stonecrop family		
Crassula connata	Pygmyweed	
Dudleya pulverulenta	Chalk Dudleya	
Cucurbitaceae - Gourd family		
Marah macrocarpa	Large fruit wild cucumber	
Ericaceae - Heath family		
Xylococcus bicolor	Mission manzanita	
Euphorbiaceae - Spurge family		
Croton setiger	Doveweed	
**Euphorbia maculata*	Spotted Spurge	
Euphorbia polycarpa	Small-Seed Sandmat	
**Ricinus communis*	Castor Bean	
Fabaceae - Legume family		
Acmispon americanus var. americanus	Spanish-Clover	
Acmispon argophyllus var. argophyllus	Silver-Leaf Lotus	
Acmispon glaber var. glaber	Coastal Deerweed	
Acmispon maritimus var. maritimus	Alkali Lotus	
Acmispon micranthus	Grab Lotus	
Acmispon strigosus	Strigose Lotus	
Lathyrus vestitus var. alefeldii	San Diego Sweet Pea	
Lupinus bicolor	Miniature Lupine	
Lupinus concinnus	Bajada Lupine	
Lupinus hirsutissimus	Stinging Lupine	
Lupinus truncatus	Collar Lupine	
**Medicago polymorpha*	California Burclover	
**Melilotus indicus*	Indian Sweetclover	
**Senna didymobotrya*	African Senna	
**Trifolium hirtum*	Rose Clover	
Trifolium willdenovii	Valley Clover	
Vicia ludoviciana ssp. ludoviciana	Deer Pea Vetch	
Fagaceae - Oak family		
Quercus agrifolia var. agrifolia	Coast Live Oak	
Quercus berberidifolia	Scrub Oak	

Scientific Name	Common Name	Status
Gentianaceae - Gentian family		
Zeltnera venusta	Canchalagua	
Geraniaceae – Geranium family		
**Erodium botrys*	Long-Beak Filaree	
**Erodium cicutarium*	Red-Stem Filaree	
Geranium carolinianum	Carolina Geranium	
Grossulariaceae – Gooseberry family		
Ribes indecorum	White-Flower Currant	
Hydrophyllaceae – Waterleaf family		
Eucrypta chrysanthemifolia var. chrysanthemifolia	Common Eucrypta	
Nemophila menziesii var. integrifolia	Small-Flower Baby Blue Eyes	
Phacelia cicutaria var. hispida	Caterpillar Phacelia	
Phacelia parryi	Parry's Phacelia	
Phacelia ramosissima var. latifolia	Branching Phacelia	
Pholistoma auritum var. auritum	Fiesta Flower	
Pholistoma racemosum	San Diego Fiesta Flower	
Lamiaceae – Mint family		
Monardella breweri ssp. lanceolata	Mustang Mint	
Salvia apiana	White Sage	
Salvia columbariae	Chia	
Salvia mellifera	Black Sage	
Lythraceae – Loosestrife family		
**Lythrum hyssopifolia*	Grass Poly	
Malvaceae – Mallow family		
Malacothamnus densiflorus	Many-Flower Bushmallow	
Sidalcea sparsifolia	Checker-Bloom	
Montiaceae – Minner's lettuce family		
Calandrinia menziesii	Red Maids	
Calyptridium monandrum	Common Calyptridium	
Claytonia perfoliata	Miner's-Lettuce	
Myrsinaceae – Myrsine family		
**Lysimachia arvensis*	Scarlet Pimpernel	

Scientific Name	Common Name	Status
Lysimachia minima	Common Chaffweed	
Nyctaginaceae – Four O'Clock family		
Mirabilis laevis var. crassifolia	Coastal Wishbone Plant	
Onagraceae – Evening Primrose family		
Camissonia strigulosa	Sandysoil Sun Cup	
Clarkia purpurea ssp. quadrivulnera	Four-Spot Clarkia	
Clarkia similis	Canyon Clarkia	
Epilobium canum ssp. latifolium	Broad-Leaf California Fuchsia	
Eulobus californicus	False-Mustard	
Orobanchaceae – Broom-Rape family		
Castilleja affinis ssp. affinis	Coast Paintbrush	
Castilleja densiflora ssp. gracilis	Parish's Owl's-Clover	
Castilleja exserta ssp. exserta	Purple Owl's-Clover	
Cordylanthus rigidus ssp. setigerus	Dark-Tip Bird's Beak	
Orobanche bulbosa	Chaparral Broom-Rape	
Oxalidaceae – Oxalis family		
Oxalis californica	California Wood-Sorrel	
Papaveraceae – Poppy family		
Eschscholzia californica	California Poppy	
Papaver californicum	Fire Poppy	
Platystemon californicus	Cream Cups	
Phrymaceae – Lopseed family		
Diplacus brevipes	Slope Semiphore	
Diplacus puniceus	Coast Monkey Flower	
Erythranthe guttata	Seep Monkey Flower	
Plantaginaceae – Plantain family		
Antirrhinum coulterianum	Coulter's Snapdragon	
Antirrhinum nuttallianum	Nuttall's Snapdragon	
Callitriche heterophylla var. bolanderi	Bolander's Water-Starwort	
Collinsia heterophylla var. heterophylla	Chinese Houses	
Keckiella antirrhinoides var. antirrhinoides	Yellow Bush Penstemon	
Nuttallanthus texanus	Large Blue Toadflax	
Plantago erecta	Dot-Seed Plantain	

Scientific Name	Common Name	Status
Platanaceae – Sycamore family		
Platanus racemosa	Western Sycamore	
Polemoniaceae – Phlox family		
Allophyllum glutinosum	Blue False-Gilia	
Gilia angelensis	Grassland Gilia	
Linanthus dianthiflorus	Farinose Ground Pink	
Navarretia atractyloides	Holly-Leaf Skunkweed	
Navarretia hamata ssp. hamata	Hooked Skunkweed	
Polygonaceae – Buckwheat family		
Eriogonum elongatum var. elongatum	Tall Buckwheat	
Eriogonum fasciculatum var. foliolosum	Inland California Buckwheat	
Lastarriaea coriacea	Lastarriaea	
Pterostegia drymarioides	Granny's Hairnet	
Rumex californicus	Toothed Willow Dock	
**Rumex crispus*	Curly Dock	
Primulaceae – Primrose family		
Primula clevelandii ssp. clevelandii	Padre's Shooting Star	
Ranunculaceae – Buttercup family		
Clematis pauciflora	Ropevine Clematis	
Delphinium parryi ssp. parryi	Parry's Larkspur	
Thalictrum fendleri var. polycarpum	Smooth-Leaf Meadow-Rue	
Resedaceae – Mignonette family		
**Reseda luteola*	Dyer's Rocket	
Rhamnaceae – Buckthorn family		
Ceanothus tomentosus	Ramona-Lilac	
Rhamnus crocea	Spiny Redberry	
Rhamnus ilicifolia	Holly-Leaf Redberry	
Rosaceae – Rose family		
Adenostoma fasciculatum	Chamise	
Heteromeles arbutifolia	Toyon, Christmas Berry	
Rosa californica	California Rose	
Rubiaceae – Madder family		
Galium angustifolium ssp. angustifolium	Narrow-Leaf Bedstraw	

Scientific Name	Common Name	Status
Galium aparine	Common Bedstraw	
**Galium parisiense*	Wall Bedstraw	
Rutaceae – Rue family		
Cneoridium dumosum	Coast Spice Bush	
Saxifragaceae – Saxifrage family		
Jepsonia parryi	Coast Jepsonia	
Lithophragma affine	Woodland Star	
Scrophulariaceae – Figwort family		
Scrophularia californica	California Bee Plant	
Solanaceae – Nightshade family		
Solanum douglasii	Douglas's Nightshade	
Solanum parishii	Parish's Nightshade	
Tamaricaceae – Tamarisk family		
**Tamarix ramosissima*	Saltcedar	
Urticaceae – Nettle family		
Hesperocnide tenella	Western Nettle	
Parietaria hespera var. hespera	Western Pellitory	
**Urtica urens*	Dwarf Nettle	
MONOCOTS		
Agavaceae - Century Plant family		
Chlorogalum parviflorum	Small-Flower Soap-Plant	
Hesperoyucca whipplei	Chaparral Candle	
Alliaceae – Onions and relatives		
Allium peninsulare var. peninsulare	Red-Flower Onion	
Cyperaceae – Sedges		
Carex triquetra	Triangular-Fruit Sedge	
Cyperus eragrostis	Tall Flatsedge	
Eleocharis macrostachya	Pale Spike-Rush	
Eleocharis sp.	Spike-Rush	
Schoenoplectus acutus var. occidentalis	Viscid Bulrush	

Scientific Name	Common Name	Status
Iridaceae		
Sisyrinchium bellum	Blue-Eyed-Grass	
Juncaceae		
Juncus bufonius var. bufonius	Toad Rush	
Juncus dubius	Mariposa Rush	
Juncus effusus ssp. austrocalifornicus	Pacific Rush	
Juncus triformis	Yosemite Dwarf Rush	
Juncus xiphioides	Iris-Leaf Rush	
Liliaceae – Lily family		
Calochortus splendens	Splendid Mariposa Lily	
Poaceae – Grass family		
Agrostis pallens	Seashore Bent Grass	
Aristida purpurea	Purple Three Awn	
**Arundo donax*	Giant Reed	
**Avena barbata*	Slender Wild Oat	
**Avena fatua*	Wild Oat	
**Brachypodium distachyon*	Purple False Brome	
**Briza minor*	Quaking Grass	
**Bromus diandrus*	Ripgut Grass	
**Bromus hordeaceus*	Soft Chess	
**Bromus rubens*	Red Brome	
**Cenchrus setaceus*	African Fountain Grass	
**Cynodon dactylon*	Bermuda Grass	
Distichlis spicata	Salt Grass	
**Ehrharta calycina*	Perennial Veldt Grass	
Festuca microstachys	Gray's Fescue	
**Festuca myuros*	Rat-Tail Fescue	
Festuca octoflora	Tufted Fescue	
**Festuca perennis*	Perennial Rye Grass	
**Gastridium phleoides*	Nit Grass	
**Lamarckia aurea*	Golden-Top	
Melica frutescens	Tall Melic	
Melica imperfecta	Coast Range Melic	

Scientific Name	Common Name	Status
**Melinis repens ssp. repens*	Natal Grass	
Muhlenbergia microsperma	Little-Seed Muhly	
Muhlenbergia rigens	Deergrass	
**Polypogon monspeliensis*	Annual Beard Grass	
Stipa lepida	Foothill Needle Grass	
Stipa pulchra	Purple Needle Grass	
Themidaceae - Brodiaea		
Bloomeria clevelandii	San Diego Goldenstar	CRPR 1B.1, MSCP Covered, County List A
Dichelostemma capitatum ssp. capitatum	Blue Dicks	
FERNS AND OTHER NON-VASCULAR PLANTS		
Polypodiaceae – Polipody family		
Polypodium californicum	California Polypody	
Pteridaceae – Brake family		
Adiantum jordanii	California Maidenhair	
Aspidotis californica	California Lace Fern	
Myriopteris newberryi	California Cotton Fern	
Pellaea andromedifolia var. andromedifolia	Coffee Fern	
Pellaea mucronata var. mucronata	Bird's Foot Cliff-Brake	
Pentagramma triangularis ssp. viscosa	Sticky Silverback Fern	
Selaginellaceae – Spike-Moss family		
Selaginella bigelovii	Bigelow's Spike-Moss	
Selaginella cinerascens	Ashy Spike-Moss	CRPR 4.1, County List D

LEGEND:

*= Non-native or invasive species

STATUS:

Federal:

FE = Endangered
FT = Threatened

State:
SE = Endangered
ST =Threatened

CRPR – California Rare Plant Rank
1A. Presumed extinct in California and elsewhere 1B.

Scientific Name	Common Name	Status

Rare or Endangered in California and elsewhere
2A. Presumed extinct in California, more common elsewhere 2B.
Rare or Endangered in California, more common elsewhere
3. Plants for which we need more information - Review list
4. Plants of limited distribution - Watch list
Threat Ranks
.1 - Seriously endangered in California
.2 – Fairly endangered in California
.3 – Not very endangered in California

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

San Diego Multiple Species Conservation Program (MSCP)
MSCP Covered = Multiple Species Conservation Program

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Appendix B

Potential Sensitive Species Table – Plants

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Appendix B. Potential Sensitive Species Table – Plants

Common Name (*Scientific Name*)	Status	Habitat Preference/Requirements	Detected within the Study Area? (Historical and/or current observations)	Potential to Occur	Rationale
PLANTS					
San Diego thorn-mint (*Acanthomintha ilicifolia*)	FT CE CRPR 1B.1 CSD List A MSCP NE	Annual herb. Clay openings in chaparral, coastal scrub, valley foothill grassland and vernal pool habitats. Elevation range: 30-3150 ft. Blooming period: April – June.	No	Moderate	Suitable soils observed on the southern portion Properties and nearest recent record is less than one mile away.
California adolphia (*Adolphia californica*)	CRPR 2B.1 CSD List B	Perennial deciduous shrub. Clay soils in chaparral, coastal scrub, and valley and foothill grassland habitats. Elevation range: 30-2430 ft. Blooming period: December – May.	No	Not expected	No suitable soils observed on the Properties. Additionally, Properties are located outside of species' known geographical range.
singlewhorl burrobush (*Ambrosia monogyra*)	CRPR 2B.2	Perennial shrub. Sandy soils in chaparral and Sonoran desert scrub. Elevation range: 33-1640 ft. Blooming period: August - November	No	Not expected	Properties are outside of species' known geographical range.
San Diego ambrosia (*Ambrosia pumila*)	FE CRPR 1B.1 CSD List A MCSP NE	Perennial rhizomatous herb. Sandy loam or clay soils that are sometimes alkaline and often in disturbed areas of chaparral, coastal scrub, valley and foothill grassland and vernal pool habitats. Elevation range: 65-1360 ft. Blooming period: April – October.	No	Not expected	Properties are outside of species' known geographical range.
Del Mar manzanita (*Arctostaphylos glandulosa* ssp. *crassifolia*)	FE CRPR 1B.1 CSD List A MSCP	Perennial evergreen shrub. Sandy and maritime chaparral habitats. Elevation range: 0-1200 ft. Blooming period: December – June.	No	Not expected	Properties are outside of species' known geographical range.
San Diego sagewort (*Atremisia palmeri*)	CRPR 4.2 CSD List D	Perennial deciduous shrub. Sandy and mesic soils in chaparral, coastal scrub, and riparian forests, scrub, and woodland habits. Elevation range: 45-3000 ft. Blooming period: sometimes February, May – September.	Yes	**Present**	Suitable habitat occurs on the Properties. Species was observed within the Properties during 2019 surveys.

Appendix B. Potential Sensitive Species Table – Plants

Common Name (*Scientific Name*)	**Status**	**Habitat Preference/Requirements**	**Detected within the Study Area? (Historical and/or current observations)**	**Potential to Occur**	**Rationale**
Western spleenwort (*Asplenium vespertinum*)	CRPR 4.2 CSD List D	Perennial rhizomatous herb. Rocky soils in chaparral, cismontane woodland and coastal scrub habitats. Elevation range: 590-3280 ft. Blooming period: February – June.	No	Low	Suitable soils exist within the Properties and the nearest recent record is located approximately 3 miles away. Species was not observed on the Properties 2019 surveys.
Dean's milk-vetch (*Astragalus deanei*)	CRPR 1B.1 CSD List A	Perennial herb. Open shrubby slopes, coastal sage scrub, chaparral, cismontane woodland, riparian forest, and sandy washes Elevation range: 246-2279 ft. Blooming period: February - May	No	Not expected	Properties are outside of species' known geographical range.
San Diego milk-vetch (*Astragalus oocarpus*)	CRPR 1B.2 CSD List A	Perennial herb. Openings in chaparral and cismontane woodland habitats. Elevation range: 1000-5000 ft. Blooming period: May – August.	No	Not expected	Properties are outside of species' known geographical range.
Coulter's saltbush (*Atriplex coulteri*)	CRPR 1B.2 CSD List A	Perennial herb. Alkaline or clay soils in coastal bluff scrub, coastal dunes, coastal scrub, and valley and foothill grassland habitats. Elevation range: 5-1510 ft. Blooming period: March – October.	No	Not expected	No suitable soils observed on the Properties.
South Coast saltscale (*Atriplex pacifica*)	CRPR 1B.2 CSD List A	Annual herb. Coastal bluff scrub, coastal dunes, coastal scrub, and playa habitats. Elevation range: 0-460 ft. Blooming period: March – October.	No	Not expected	Properties are outside of species' known elevation range.
Parish's brittlescale (*Atriplex parishii*)	CRPR 1B.1 CSD List A	Annual herb. Alkaline soils in chenopod scrub, playa and vernal pool habitats. Elevation range: 80-6235 ft. Blooming period: June – October.	No	Not expected	No suitable soils or habitat observed on the Properties.

Appendix B. Potential Sensitive Species Table – Plants

Common Name (*Scientific Name*)	**Status**	**Habitat Preference/Requirements**	**Detected within the Study Area? (Historical and/or current observations)**	**Potential to Occur**	**Rationale**
Encinitas baccharis (*Baccharis vanessae*)	FT CE CRPR 1B.1 CSD List A MSCP	Perennial deciduous shrub. Sandstone in maritime chaparral and cismontane woodland habitats. Elevation range: 195-2360 ft. Blooming period: August, October, and November.	No	Not expected	No suitable soils or habitat observed on the Properties.
San Diego goldenstar (*Bloomeria clevelandii*)	CRBR 1B.1 CSD List A, MSCP	Perennial bulbiferous herb. Clay soils in chaparral, coastal scrub, valley and foothill grassland and vernal pool habitats. Elevation range: 160-1525 ft. Blooming period: April – May.	Yes	**Present**	Suitable habitat occurs on the Properties. Species was observed within the Properties during 2019 surveys.
Thread-leaved brodiaea (*Brodiaea filifolia*)	FT CE CRBR 1B.1 CSD List A MSCP	Perennial bulbiferous herb. Often clay soils in openings of chaparral, cismontane woodland, coastal scrub, playa, valley and foothill grassland, and vernal pool habitats. Elevation range: 80-3675 ft. Blooming period: March – June.	No	Not expected	No suitable soils observed on the Properties.
Orcutt's brodiaea (*Brodiaea orcuttii*)	CRBR 1B.1 CSD List A MSCP	Perennial bulbiferous herb. Mesic and clay soils in closed-cone coniferous forest, chaparral, cismontane woodland, meadow and seep, valley and foothill grassland and vernal pool habitats. Elevation range: 95-5550 ft. Blooming period: May – July.	No	Not expected	No suitable soils observed on the Properties.
Brewer's calandrinia *(Calandrinia breweri*)	CRPR 4.2 CSD List D	Annual herb. Sandy or loamy soils, disturbed and/or burned sites in chaparral and coastal scrub. Elevation range: 32-4001 ft. Blooming period: March - June	No	Low	Suitable soils exist within the Properties and the nearest recent record is located approximately 3 miles away. Species was not observed on the Properties 2019 surveys.
Dunn's mariposa lily *(Calochortus dunnii*)	CR CRPR 1B.2 CSD List A MSCP	Perennial bulbiferous herb. Gabbroic or metavolcanic and rocky soils in closed-cone coniferous forest, chaparral, valley and foothill grassland habitats. Elevation range: 605-6005 ft. Blooming period: sometimes February, April – June.	No	Not expected	No suitable soils observed on the Properties.

Appendix B. Potential Sensitive Species Table – Plants

Common Name (*Scientific Name*)	**Status**	**Habitat Preference/Requirements**	**Detected within the Study Area? (Historical and/or current observations)**	**Potential to Occur**	**Rationale**
Lewis' evening-primrose (*Camissoniopsis lewisii*)	CRPR 3 CSD List C	Annual herb. Sandy or clay soils in coastal bluff scrub, cismontane woodland, coastal dunes, coastal scrub, and valley and foothill grassland habitats. Elevation range: 0-985 ft. Blooming period: March – May, sometimes June.	No	Not expected	No suitable soils observed on the Properties.
San Luis Obispo sedge (*Carex obispoensis*)	CRPR 1B.2	Perennial rhizomatous herb. Often found on serpentine or gabbro seeps, or on clay soils in closed-coned coniferous forest, chaparral, coastal prairie, coastal scrub, and valley and foothill grassland. Elevation range: 32-2689 ft. Blooming period: April - June	No	Not expected	No suitable soils observed on the Properties.
Payson's jewelflower (*Caulanthus simulans*)	CRPR 4.2 CSD List D	Annual herb. Sandy and granitic soils in chaparral and coastal scrub habitats. Elevation range: 295-7220 ft. Blooming period: sometimes February, March – May, sometimes June.	No	Not expected	Properties are outside of species' known geographical range.
Lakeside ceanothus (*Ceanothus cyaneus*)	CRPR 1B.2 CSD List A MSCP	Perennial evergreen shrub. Closed-cone coniferous forest and chaparral habitats. Elevation range: 771-2477 ft. Blooming period: April – June.	No	Low	Suitable soils exist within the Properties and the nearest recent record is located approximately 3 miles away. Surveys were conducted during this species' blooming period. Species was not observed on the Properties 2019 surveys.
Otay Mountain ceanothus (*Ceanothus otayensis*)	CRPR 1B.2	Evergreen shrub. Closed-cone coniferous forest, and dense chaparral. Elevation range: 771-2543 ft. Blooming period: April – June.	No	Not expected	Properties are outside of species' known geographical range.
Wart-stemmed ceanothus (*Ceanothus verrucosus*)	CRPR 2B.2 CSD List B MSCP	Perennial evergreen shrub. Chaparral habitats. Elevation range: 0-1245 ft. Blooming period: December – May.	No	Not expected	Properties are outside of species' known geographical range.

Appendix B. Potential Sensitive Species Table – Plants

Common Name (*Scientific Name*)	**Status**	**Habitat Preference/Requirements**	**Detected within the Study Area? (Historical and/or current observations)**	**Potential to Occur**	**Rationale**
Southern tarplant (*Centromadia parryi* ssp. *australis*)	CRBR 1B.1 CSD List A	Annual herb. Margins of marshes and swamps, vernally mesic valley and foothill grassland and vernal pool habitats. Elevation range: 0-1575 ft. Blooming period: May – November.	No	Not expected	No suitable microhabitats exist within the Properties. Additionally, Properties is outside of species' known geographical range.
Smooth tarplant (*Centromadia pungens* ssp. *laevis*)	CRBR 1B.1 CSD List A	Annual herb. Alkaline soils in chenopod scrub, meadow and seep, playa, riparian woodland, and valley and foothill grassland habitats. Elevation range: 0-2100 ft. Blooming period: April – September.	No	Not expected	No suitable soils or habitat observed on the Properties.
Southern mountain misery (*Chamaebatia australis*)	CRPR 4.2 CSD List D	Perennial evergreen shrub. Gabbroic or metavolcanic soils in chaparral habitats. Elevation range: 980-3345 ft. Blooming period: November – May.	No	Not expected	No suitable soils observed on the Properties.
Peninsular spineflower (*Chorizanthe leptotheca*)	CRPR 4.2 CSD List D	Annual herb. Alluvial fan and granitic soils in chaparral, coastal scrub, and lower montane coniferous forest habitats. Elevation range: 980-6235 ft. Blooming period: May – August.	No	Low	Suitable soils exist within the Properties and the nearest recent record is located approximately 2 miles away. Surveys were conducted during this species' blooming period. Species was not observed on the Properties 2019 surveys.
Long-spined spineflower (*Chorizanthe polygonoides var. longispina*)	CRPR 1B.2 CSD List A	Annual herb. Clay lenses, largely devoid of shrubs in chaparral, coastal scrub, meadows and seeps, valley and foothill grassland, and vernal pools. Elevation range: 98-5018 ft. Blooming period: April – July.	No	Not expected	No suitable soils observed on the Properties.
Delicate clarkia (*Clarkia delicata*)	CRPR 1B.2 CSD List A	Annual herb. Often gabbroic soils in chaparral and cismontane woodland habitats. Elevation range: 770-3280 ft. Blooming period: April – June.	No	Not expected	No suitable soils observed on the Properties.

Appendix B. Potential Sensitive Species Table – Plants

Common Name (*Scientific Name*)	**Status**	**Habitat Preference/Requirements**	**Detected within the Study Area? (Historical and/or current observations)**	**Potential to Occur**	**Rationale**
San Miguel savory (*Clinopodium chandleri*)	CRPR 1B.2 CSD List A	Perennial shrub. Rocky, gabbroic, or metavolcanic areas in chaparral, cismontane woodland, coastal scrub, riparian scrub, and valley and foothill grassland. Elevation range: 393-3526 ft. Blooming period: March – July.	No	Not expected	No suitable soils observed on the Properties.
Summer holly (*Comarostaphylis diversifolia* ssp. *diversifolia*)	CRPR 1B.2 CSD List A	Perennial evergreen shrub. Chaparral and cismontane woodland habitats. Elevation range: 95-2590 ft. Blooming period: April – June.	No	Not expected	Properties are outside of species' known geographical range.
Small-flowered morning-glory (*Convolvulus simulans*)	CRPR 4.2 CSD List D	Annual herb. Clay and serpentinite seep soils in openings of chaparral, coastal scrub, and valley and foothill grassland habitats. Elevation range: 95-2430 ft. Blooming period: March – July.	No	Not expected	No suitable soils observed on the Properties.
short-bracted bird's-beak (*Cordylanthus rigidus ssp. brevibracteatus*)	CRPR 4.3	Annual hemiparasitic herb. Openings on granitic soil in chaparral, lower montane coniferous forest, pinyon and juniper woodland, and upper montane coniferous forest habitats. Elevation range: 2000-8497 ft. Blooming period: July - August, sometimes October.	No	Not expected	Properties are outside of species' known elevation range.
San Diego sand aster (*Corethrogyne filangifolia* var. *incana*)	CRPR 1B.1 CSD List A	Perennial herb. Coastal bluff scrub, chaparral, and coastal scrub habitats. Elevation range: 5-375 ft. Blooming period: June – September.	No	Not expected	Properties are outside of species' known elevation range.
Western dichondra (*Dichondra occidentalis*)	CRPR 4.2 CSD List D	Perennial rhizomatous herb. Chaparral, cismontane woodland, coastal scrub, and valley and foothill grassland habitats. Elevation range: 160-1640 ft. Blooming period: sometimes January, March – July.	No	Not expected	Properties are outside of species' known geographical range.

Appendix B. Potential Sensitive Species Table – Plants

Common Name (*Scientific Name*)	**Status**	**Habitat Preference/Requirements**	**Detected within the Study Area? (Historical and/or current observations)**	**Potential to Occur**	**Rationale**
Cleveland's bush monkeyflower (*Diplacus clevelandii*)	CRPR 4.2 CSD List D	Perennial rhizomatous herb. Gabbroic or rocky soils, often in disturbed areas and openings of chaparral, and cismontane woodland habitats. Elevation range: 1475-6560 ft. Blooming period: April – July.	No	Not expected	Properties are outside of species' known elevation range.
Variegated dudleya (*Dudleya variegata*)	CRPR 1B.2 CSD List A MSCP NE	Perennial herb. Clay soils in chaparral, cismontane woodland, coastal scrub, valley and foothill grassland, and vernal pool habitats. Elevation range: 5-1905 ft. Blooming period: April – June.	No	Low	Suitable soils exist within the Properties and the nearest recent record is located approximately 2 miles away. Surveys were conducted during this species' blooming period. Species was not observed on the Properties 2019 surveys.
Palmer's goldenbush (*Ericameria palmeri* var. *palmeri*)	CRPR 1B.1 CSD List B MSCP	Perennial evergreen shrub. Mesic soils in chaparral and coastal scrub habitats. Elevation range: 95-1970 ft. Blooming period: sometimes July, September – November.	No	Not expected	No suitable soils observed on the Properties.
sessile-leaved yerba santa (*Eriodictyon sessilifolium*)	CRPR 2B.1	Perennial shrub. Volcanic soils in coastal scrub habitats. Blooming period: July.	No	Not expected	No suitable soils observed on the Properties.
vanishing wild buckwheat (*Eriogonum evanidum*)	CRPR 1B.1	Annual herb. Sandy or gravelly soils in chaparral, cismontane woodland, lower montane coniferous forest, and pinyon and juniper woodland habitats. Elevation range: 3608-7300 ft. Blooming period: July – October.	No	Not expected	Properties are outside of species' known elevation range.
San Diego button-celery (*Eryngium aristulatum* var. *parishii*)	FE CE CRPR 1B.1 CSD List A MSCP	Annual/perennial herb. Mesic soils in coastal scrub, valley and foothill grassland, and vernal pool habitats. Elevation range: 65-2035 ft. Blooming period: April – June.	No	Not expected	No suitable soils observed on the Properties.

Appendix B. Potential Sensitive Species Table – Plants

Common Name (*Scientific Name*)	**Status**	**Habitat Preference/Requirements**	**Detected within the Study Area? (Historical and/or current observations)**	**Potential to Occur**	**Rationale**
Palomar monkeyflower (*Erythranthe diffusa*)	CRPR 4.3	Annual herb. Sandy or gravelly soils in chaparral and lower montane coniferous forest habitats. Elevation range: 4000-6005 ft. Blooming period: April – June.	No	Not expected	Properties are outside of species' known elevation range.
Abrams' spurge (*Euphorbia abramsiana*)	CRPR 2.2	Annual herb. Sandy soils in Mojavean desert scrub and Sonoran desert scrub. Elevation range: -16 – 3002 ft. Blooming period: August – November.	No	Not expected	No suitable habitat observed on the Properties.
San Diego barrel cactus (*Ferocactus viridescens*)	CRPR 2B.1 CSD List B MSCP	Perennial stem succulent. Chaparral, coastal scrub, valley and foothill grassland and vernal pool habitats. Elevation range: 5-1475 ft. Blooming period: May – June.	No	Not expected	Properties are outside of species' known geographical range.
Campbell's liverwort (*Geothalus tuberosus*)	CRPR 1B.1	Ephemeral liverwort. Mesic soils in coastal scrub and vernal pool habitats. Elevation range: 33-1969 ft.	No	Not expected	No suitable habitat observed on the Properties.
Mission Canyon bluebup (*Githopsis diffusa ssp. filicaulis*)	CRPR 3.1	Annual herb. Mesic and disturbed areas of chaparral habitats. Elevation range: 1476-2297 ft. Blooming period: April – June.	No	Not expected	Properties are outside of species' known elevation range.
San Diego gumplant (*Grindelia hallii*)	CRPR 1B.2 CSD List A	Perennial herb. Meadows, chaparral, lower montane coniferous forest, and valley and foothill grassland. Elevation range: 606-5723 ft. Blooming period: May – October.	No	Not expected	Properties are outside of species' known geographical range.
Palmer's grapplinghook (*Harpagonella palmeri*)	CRPR 4.2 CSD List D	Annual herb. Clay soils and open grassy areas in chaparral, coastal scrub, and valley and foothill grassland habitats. Elevation range: 65-3135 ft. Blooming period: March – May.	No	Not expected	No suitable soils observed on the Properties.

Appendix B. Potential Sensitive Species Table – Plants

Common Name (*Scientific Name*)	Status	Habitat Preference/Requirements	Detected within the Study Area? (Historical and/or current observations)	Potential to Occur	Rationale
Tecate cypress (*Hesperocyparis forbesii*)	CRPR 1B.1 CSD List A MSCP	Perennial evergreen tree. Clay, gabbroic, or metavolcanic soils within closed-cone coniferous forest and chaparral. Elevation range: 262-4921 ft.	No	Not expected	No suitable soils observed on the Properties.
Graceful tarplant (*Holocarpha virgate* ssp. *elongata*)	CRPR 4.2 CSD List D	Annual herb. Chaparral, cismontane woodland, coastal scrub, and valley and foothill grassland habitats. Elevation range: 195-3610 ft. Blooming period: May – November.	No	Not expected	Properties are outside of known species geographical range.
Vernal barley (*Hordeum intercedens*)	CRPR 3.2 CSD List C	Annual herb. Coastal dunes, coastal scrub, saline flats and depressions in valley and foothill grassland, and vernal pool habitats. Elevation range: 15-3280 ft. Blooming period: March – June.	No	Not expected	No suitable habitat observed on the Properties.
Ramona horkelia (*Horkelia truncata*)	CRPR 1B.3 CSD List A	Perennial herb. Clay or gabbroic soils in chaparral and cismontane woodland habitats. Elevation range: 1310-4265 ft. Blooming period: May – June.	No	Not expected	Properties are outside of species' known elevation range.
Decumbent goldenbush (*Isocoma menziesii* var. *decumbens*)	CRPR 1B.2 CSD List A	Perennial herb. Often in disturbed areas of chaparral and sandy coastal scrub habitats. Elevation range: 30-445 ft. Blooming period: April – November.	No	Not expected	Properties are outside of species' known elevation range.
San Diego marsh-elder (*Iva hayesiana*)	CRPR 2B.2 CSD List B	Perennial herb. Marshes, swamps, and playas. Elevation range: 30-1640 ft. Blooming period: April – October.	No	Not expected	No suitable habitat observed on the Properties.
Southwestern spiny rush (*Juncus acutus* ssp. *leopoldii*)	CRPR 4.2 CSD List D	Perennial rhizomatous herb. Mesic coastal dunes, meadows and alkaline seeps, and coastal salt marshes and swamps. Elevation range: 5-2955 ft. Blooming period: sometimes March, May – June.	No	Not expected	No suitable soils or habitat observed on the Properties.
Pride-of-California (*Lathyrus splendens*)	CRPR 4.3 CSD List D	Perennial herb. Chaparral. Elevation range: 656-5002 ft. Blooming period: March – June.	No	Not expected	Properties are outside of known species geographical range.

Appendix B. Potential Sensitive Species Table – Plants

Common Name (*Scientific Name*)	**Status**	**Habitat Preference/Requirements**	**Detected within the Study Area? (Historical and/or current observations)**	**Potential to Occur**	**Rationale**
Heart-leaved pitcher sage (*Lepechinia cardiophylla*)	CRPR 1B.2 CSD List A MSCP	Perennial herb. Closed-cone coniferous forest, chaparral and cismontane woodland habitats. Elevation range: 1705-4495 ft. Blooming period: April – July.	No	Not expected	Properties are outside of species' known elevation range.
Gander's pitcher sage *(Lepechinia ganderi*)	CRPR 1B.3 CSD List A MSCP	Perennial shrub. Gabbroic or metavolcanic soils in closed-cone coniferous forest, chaparral, coastal scrub, and valley and foothill grassland. Elevation range: 1000-3296 ft. Blooming period: June – July.	No	Not expected	No suitable soils observed on the Properties.
Robinson's pepper-grass (*Lepidium virginicum var. robinsonii*)	CRPR 4.3 CSD List A	Annual herb. Chaparral and coastal scrub habitats. Elevation range: 0-2905 ft. Blooming period: January – July.	No	Moderate	Suitable soils exist within the Properties and the nearest recent record is located approximately 2 miles away. Surveys were conducted during this species' blooming period. Species was not observed on the Properties 2019 surveys.
Felt-leaved monardella (*Monardella hypoleuca* ssp. *lanata*)	CRPR 1B.2 CSD List A	Perennial rhizomatous herb. Chaparral and cismontane woodland habitats. Elevation range: 980-5165 ft. Blooming period: June – August.	No	Moderate	Suitable soils exist within the Properties and the nearest recent record is located approximately 2 miles away. Surveys were conducted during this species' blooming period. Species was not observed on the Properties 2019 surveys.
willowy monardella (*Monardella viminea*)	CRPR 1B.1 CSD List A	Perennial herb. Alluvial ephemeral washes in chaparral, coastal scrub, and riparian habitats. Elevation range: 164-738 ft. Blooming period: June – August.	No	Not expected	Properties are outside of species' known elevation range.
Little mousetail (*Myosurus minimus* ssp. *apus*)	CRPR 3.1 CSD List C	Annual herb. Valley and foothill grassland, and alkaline vernal pool habitats. Elevation range: 65-2100 ft. Blooming period: March – June.	No	Not expected	No suitable soils observed on the Properties.
Spreading navarretia (*Navarretia fossalis*)	FT CRPR 1B.1 CSD List A MSCP NE	Annual herb. Chenopod scrub, assorted shallow freshwater marshes and swamps, playa and vernal pool habitats. Elevation range: 95-2150 ft. Blooming period: April – June.	No	Not expected	No suitable habitat observed on the Properties.

Appendix B. Potential Sensitive Species Table – Plants

Common Name (*Scientific Name*)	**Status**	**Habitat Preference/Requirements**	**Detected within the Study Area? (Historical and/or current observations)**	**Potential to Occur**	**Rationale**
Prostrate vernal pool navarretia (*Navarretia prostrata*)	CRPR 1B.1	Annual herb. Mesic soils in coastal scrub, meadow and seep, alkaline valley and foothill grassland, and vernal pool habitats. Elevation range: 10-3970 ft. Blooming period: April – July.	No	Not expected	No suitable soils observed on the Properties.
Dehesa nolina (*Nolina interrata*)	CE CRPR 1B.1 CSD List A MSCP	Perennial herb. Gabbroic, metavolcanic or serpentinite soils in chaparral. Elevation range: 606-2805 ft Blooming period: June – July.	No	Not expected	No suitable soils observed on the Properties.
California adder's-tongue (*Ophioglossum californicum*)	CRPR 4.2 CSD List D	Perennial rhizomatous herb. Chaparral, cismontane woodland, coastal scrub, lower montane coniferous forest, riparian woodland and valley and foothill grassland habitats. Elevation range: 195-1720 ft. Blooming period: sometimes December, January – June.	No	Not expected	Suitable soils exist within the Properties and the nearest recent record is located approximately 2.5 miles away. Surveys were conducted during this species' blooming period. Species was not observed on the Properties 2019 surveys.
Gander's ragwort (*Packera ganderi*)	CR CRPR 1B.2 CSD List A	Perennial herb. Chaparral often in burned areas and gabbroic outcrops. Elevation range: 1312-3937 ft. Blooming period: April – June.	No	Not expected	No suitable soils or habitat observed on the Properties.
Golden-rayed pentachaeta (*Pentachaeta aurea* ssp. *aurea*)	CRPR 4.2 CSD List D	Annual herb. Chaparral, coastal dune, coastal scrub and marshes and seep habitats. Elevation range: 260-6070 ft. Blooming period: March – July.	Yes	**Present**	Suitable habitat occurs on the Properties. Species was observed within the Properties during 2019 surveys.
Woolly Chaparral Pea (*Pickeringia montana var. tomentosa*)	CRPR 4.3	Evergreen shrub. Gabbroic, granitic, or clay soils in chaparral. Elevation range: 0-5577 ft. Blooming period: May – August.	No	Not expected	Properties are outside of known species geographical range.
San Diego mesa mint (*Pogogyne abramsii*)	FE CE CRPR 1B.1 CSD List A MSCP NE	Annual herb. Vernal pool habitats. Elevation range: 295-655 ft. Blooming period: March – July.	No	Not expected	No suitable habitat observed on the Properties.

Appendix B. Potential Sensitive Species Table – Plants

Common Name (*Scientific Name*)	**Status**	**Habitat Preference/Requirements**	**Detected within the Study Area? (Historical and/or current observations)**	**Potential to Occur**	**Rationale**
Otay mesa mint (*Pogogyne nudiuscula*)	FE CE CRPR 1B.1 CSD List A	Annual herb. Vernal pool habitats. Elevation range: 295-849 ft. Blooming period: May – July.	No	Not expected	Properties are outside of species' known elevation range.
Fish's milkwort (*Polygala cornuta* var. *fishiae*)	CRPR 4.3 CSD List D	Perennial deciduous shrub. Chaparral, cismontane woodland, and riparian woodland habitats. Elevation range: 325-3280 ft. Blooming period: May – August.	No	Not expected	Properties are outside of species' known geographical range.
white rabbit-tobacco (*Pseudognaphalium leucocephalum*)	CRPR 2B.2	Perennial herb. Sandy or gravelly soils in chaparral, cismontane woodland, coastal scrub, and riparian woodland. Elevation range: 0-6888 ft. Blooming period: July – December.	No	Not expected	Properties are outside of species' known geographical range.
Cedros Island oak *(Quercus cedrosensi*)	CRPR 2B.2 CSD List B	Evergreen tree. Closed-cone coniferous forest, chaparral, coastal scrub. Elevation range: 836-3148. Blooming period: April – May.	No	Not expected	Properties are outside of species' known geographical range.
Nuttall's scrub oak (*Quercus dumosa*)	CRPR 1B.1 CSD List A	Perennial evergreen shrub. Sandy and clay loam soils in closed-cone coniferous forest, chaparral, and coastal scrub habitats. Elevation range: 45-1310 ft. Blooming period: February – April, sometimes May – August.	No	Not expected	Properties are outside of species' known geographical range.
Engelmann oak (*Quercus engelmannii*)	CRPR 4.2 CSD List D	Perennial deciduous tree. Chaparral, cismontane woodland, riparian woodland, and valley and foothill grassland habitats. Elevation range: 160-4265 ft. Blooming period: March – June.	No	Not expected	Species would have been evident during surveys.
Moreno currant (*Ribes canthariforme*)	CRPR 1B.3 CSD List A	Deciduous shrub. Chaparral and riparian scrub. Elevation range: 1115-3937 ft. Blooming period: February – April.	No	Not expected	Properties are outside of species' known geographical range.

Appendix B. Potential Sensitive Species Table – Plants

Common Name (*Scientific Name*)	**Status**	**Habitat Preference/Requirements**	**Detected within the Study Area? (Historical and/or current observations)**	**Potential to Occur**	**Rationale**
Munz' sage (*Salvia munzii*)	CRPR 2B.2 CSD List B	Perennial evergreen shrub. Chaparral and coastal scrub habitats. Elevation range: 375-3495 ft. Blooming period: February – April.	No	Not expected	Properties are outside of species' known geographical range.
Ashy spike-moss (*Selaginella cinerascens*)	CRPR 4.1 CSD List D	Perennial rhizomatous herb. Chaparral and coastal scrub habitats. Elevation range: 65-2100 ft. Blooming period: unknown.	Yes	**Present**	Suitable habitat occurs on the Properties. Species was observed within the Properties during 2019 surveys.
Chaparral ragwort (*Senecio aphanactis*)	CRPR 2B.2 CSD List B	Annual herb. Chaparral, cismontane woodland, coastal scrub, and alkaline flats. Elevation range: 49-2624 ft. Blooming period: January – April.	No	Not expected	Properties are outside of species' known geographical range.
Purple stemodia (*Stemodia durantifolia*)	CRPR 2B.1 CSD List B	Perennial herb. Often mesic and sandy soils in Sonoran desert scrub habitat. Elevation range: 590-985 ft. Blooming period: sometimes January, April, June, August, September, October, and December.	No	Not expected	No suitable habitat observed on the Properties.
San Diego County needle grass (*Stipa diegoensis*)	CRPR 4.2 CSD List D	Perennial herb. Rocky, often mesic soils within chaparral and coastal scrub. Elevation range: 32-2624 ft. Blooming period: February – June.	No	Not expected	Properties are outside of species' known geographical range.
Oil neststraw (*Stylocline citroleum*)	CRPR 1B.1	Annual herb. Clay soils in chenopod scrub, coastal scrub, and valley and foothill grassland habitats. Elevation range: 164-1312 ft. Blooming period: March – April.	No	Not expected	No suitable soils observed on the Properties.
Parry's tetracoccus (*Tetracoccus dioicus*)	CRPR 1B.2 CSD List A MSCP	Perennial deciduous shrub. Chaparral and coastal scrub habitats. Elevation range: 540-3280 ft. Blooming period: April – May.	No	Not expected	Properties are outside of species' known geographical range.

Common Name (*Scientific Name*)	Status	Habitat Preference/Requirements	Detected within the Study Area? (Historical and/or current observations)	Potential to Occur	Rationale
woven-spored lichen (*Texosporium sancti-jacobi*)	CRPR 3	Crustose, terricolous lichen. On soil, small mammal pellets, dead twigs and on *Selaginella* spp. within openings of chaparral. Elevation range: 197-2165 ft.	No	Not expected	This species has only been recorded in databases.
San Diego County viguiera (*Viguiera laciniata*)	CRPR 4.3 CSD List D	Perennial shrub. Chaparral and coastal scrub habitats. Elevation range: 195-2460 ft. Blooming period: February – June, sometimes August.	No	Not expected	Species would have been evident during surveys.
Rush-like bristleweed (*Xanthisma junceum*)	CRPR 4.3 CSD List D	Perennial herb. Chaparral and coastal scrub habitats. Elevation range: 785-3280 ft. Blooming period: May – January.	Yes	**Present**	Suitable habitat occurs on the Properties. Species was observed within the Properties during 2019 surveys.

Appendix B. Potential Sensitive Species Table – Plants

Common Name (*Scientific Name*)	Status	Habitat Preference/Requirements	Detected within the Study Area? (Historical and/or current observations)	Potential to Occur	Rationale

LEGEND:

STATUS:

Federal

FE - listed as endangered under the federal Endangered Species Act.

FT - listed as threatened under the federal Endangered Species Act.

California

CE - listed as endangered under the California Endangered Species Act.

CT - listed as threatened under the California Endangered Species Act.

CR - listed as rare under the California Endangered Species Act.

California Rare Plant Rank - Formerly known as CNPS List

1A. Presumed extirpated in California, and either rare or extinct elsewhere

1B. Rare, Threatened, or Endangered in California and elsewhere
2A. Presumed extirpated in California, more common elsewhere
2B. Rare, Threatened, or Endangered in California, more common elsewhere
3. Plants for which we more information is needed - Review list
4. Plants of limited distribution - Watch list
Threat Ranks
.1 - Seriously endangered in California
.2 – Fairly endangered in California
.3 – Not very endangered in California

San Diego County List

A – Rare, threatened or endangered in California and elsewhere
B – Rare, threatened or endangered in California but more common elsewhere
C – Maybe quite rare, but more information is needed to determine their status
D – Limited distribution and are uncommon but not presently rare or endangered

San Diego Multiple Species Conservation Program (MSCP)

MSCP - Covered Species

MSCP NE – Narrow endemic species in the MSCP

References

Special Status information from CDFW 2018. Nomenclature and invertebrate descriptions from Hogan 2005, and USFWS 1997. Nomenclature and vertebrate descriptions from AOS (Chesser *et al.* 2018) SSAR 2018, Stephenson and Calcarone 1999, Bradley *et al.* 2014, and Unitt 2004.

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Appendix C

Observed Species List – Wildlife

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Observed Species List – Wildlife

Scientific Name	Common Name	Special Status
INVERTEBRATES		
Moths, Skippers and Butterflies		
Papilio eurymedon	Pale Swallowtail	
Pontia beckerii	Becker's White	
**Pieris rapae*	Cabbage White	
Pontia protodice	Checkered White	
Anthocharis sara	Pacific Orangetip	
Colias eurytheme	Orange Sulphur	
Nathalis iole	Dainty Sulphur	
Atlides halesus	Great Purple Hairstreak	
Satyrium saepium	Hedgerow Hairstreak	
Callophrys agustinus	Brown Elfin	
Strymon melinus	Gray Hairstreak	
Leptotes marina	Marine Blue	
Hemiargus ceraunus	Ceraunus Blue	
Hemiargus isola	Reakirt's Blue	
Euphilotes bernardino	Bernardino Dotted-Blue	
Glaucopsyche lygdamus	Silvery Blue	
Icaricia acmon	Acmon Blue	
Icaricia lupini	Lupine Blue	
Chlosyne gabbii	Gabb's Checkerspot	
Nymphalis antiopa	Mourning Cloak	
Vanessa atalanta	Red Admiral	
Vanessa virginiensis	American Lady	
Vanessa cardui	Painted Lady	
Vanessa annabella	West Coast Lady	
Junonia coenia	Common Buckeye	
Limenitis lorquini	Lorquin's Admiral	
Erynnis tristis	Mournful Duskywing	
Erynnis funeralis	Funereal Duskywing	
Ochlodes agricola	Rural Skipper	
Poanes melane	Umber Skipper	

Scientific Name	Common Name	Special Status
VERTEBRATES		
Amphibians		
Pseudacris cadaverina	California Treefrog	
Pseudacris regilla	Pacific Treefrog	
Reptiles		
Aspidoscelis tigris stejnegeri	San Diegan Tiger Whiptail	SSC, CSD Group 2
Sceloporus occidentalis	Western Fence Lizard	
Sceloporus orcutti	Granite Spiny Lizard	
Uta stansburiana elegans	Western Side-blotched Lizard	
Coluber lateralis lateralis	California Striped Racer	
Crotalus oreganus helleri	Southern Pacific Rattlesnake	
Thamnophis hammondii	Two-striped Gartersnake	SSC, CSD Group 1
Birds		
Callipepla californica	California Quail	
Cathartes aura	Turkey Vulture	CSD Group 1
Accipiter cooperii	Cooper's Hawk	CDFW WL, CSD Group 1, MSCP
Buteo jamaicensis	Red-tailed Hawk	
Zenaida macroura	Mourning Dove	
Tyto alba	Barn Owl	CSD Group 2
Bubo virginianus	Great Horned Owl	
Chordeiles acutipennis	Lesser Nighthawk	
Phalaenoptilus nuttallii	Common Poorwill	
Calypte anna	Anna's Hummingbird	
Calypte costae	Costa's Hummingbird	
Myiarchus cinerascens	Ash-throated Flycatcher	
Aphelocoma californica	Western Scrub-Jay	
Corvus corax	Common Raven	
Petrochelidon pyrrhonota	Cliff Swallow	
Psaltriparus minimus	Bushtit	
Troglodytes aedon	House Wren	
Thryomanes bewickii	Bewick's Wren	
Polioptila californica	California Gnatcatcher	FT, SSC, CSD Group 1, MSCP
Chamaea fasciata	Wrentit	
Toxostoma redivivum	California Thrasher	

Scientific Name	Common Name	Special Status
Bombycilla cedrorum	Cedar Waxwing	
Oreothypis celata	Orange-crowned Warbler	
Setophaga petechia	Yellow Warbler	SSC, CSD Group 2
Pipilo maculatus	Spotted Towhee	
Aimophila ruficeps canescens	Southern California Rufous-crowned Sparrow	CSD Group 1, MSCP
Melozone crissalis	California Towhee	
Melospiza melodia	Song Sparrow	
Pheucticus melanocephalus	Black-headed Grosbeak	
Passerina caerulea	Blue Grosbeak	
Passerina amoena	Lazuli Bunting	
Icterus cucullatus	Hooded Oriole	
Haemorhous mexicanus	House Finch	
Carduelis psaltria	Lesser Goldfinch	
Mammals		
Myotis ciliolabrum	Small-footed Myotis	CSD Group 2
Myotis yumanensis	Yuma Myotis	CSD Group 2
Lasiurus cinereus	Hoary Bat	
Lasiurus xanthinus	Western Yellow Bat	SSC
Parastrellus hesperus	Canyon Bat	
Eptesicus fuscus	Big Brown Bat	
Corynorhinus townsendii	Townsend's Big-eared Bat	SSC, CSD Group 2
Tadarida brasiliensis	Mexican Free-tailed Bat	
Nyctinomops femorosaccus	Pocketed Free-tailed Bat	SSC, CSD Group 2
Sylvilagus audubonii	Desert Cottontail	
Lepus californicus bennettii	San Diego Black-tailed Jackrabbit	SSC, CSD Group 2
Ostospermophilus beecheyi	California Ground Squirrel	
Chaetodipus californicus femoralis	Dulzura Pocket Mouse	SSC, CSD Group 2
Chaetodipus fallax fallax	Northwestern San Diego Pocket Mouse	SSC, CSD Group 2
Dipodomys simulans	Dulzura Kangaroo Rat	
Peromyscus californicus	California Mouse	
Peromyscus eremicus	Cactus Mouse	
Peromyscus maniculatus	Deer Mouse	
Neotoma lepida intermedia	Bryant’s Woodrat	SSC, CSD Group 2

Scientific Name	Common Name	Special Status
Canis latrans	Coyote	
Urocyon cinereoargenteus	Common Gray Fox	
Lynx rufus	Bobcat	
Odocoileus hemionus	Southern Mule Deer	CSD Group 2, MSCP

Legend

*= Non-native or invasive species

STATUS:
Federal
FT - listed as threatened under the federal Endangered Species Act.

California
SSC - species of special concern in California.
CDFW WL – California Department of Fish and Wildlife watchlist

San Diego County Group (CSD Group)
I = includes animal species that have a very high level of sensitivity, either because they are listed as threatened or endangered or because they have very specific natural history requirements that must be met.
II = includes animal species that are becoming less common but are not yet so rare that extirpation or extinction is imminent without immediate action. These species tend to be prolific within their suitable habitat types.

San Diego Multiple Species Conservation Program (MSCP)
MSCP - Covered Species

Appendix D

Potential Sensitive Species Table – Wildlife

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Appendix D. Potential Sensitive Species Table – Wildlife

Common Name (*Scientific Name*)	Status	Habitat Preference/Requirements	Detected within the Study Area? (Historical and/or current observations)	Potential to Occur	Rationale
INVERTEBRATES					
Quino Checkerspot Butterfly (*Euphydryas editha quino*)	FE CSD Group 1	Species inhabits openings on clay soils within or in the vicinity of coastal sage scrub, chaparral, and grassland habitats. Closely tied to its larval host plant, dwarf plantain *(Plantago erecta)* or owl's clover (*Castilleja exserta* ssp. *exserta).*	No	Moderate	Outside of the USFWS recommended survey area. Its primary ovipositional larval host plant dot-seed plantain (*Plantago erecta*) was abundant throughout most of the Properties.
Riverside Fairy Shrimp (*Streptocephalus woottoni*)	FE CSD Group 1 MSCP NE	Vernal pools. Species occurs from Los Angeles County to Baja California. In San Diego County, all populations are within 15 kilometers of the coast.	No	Not expected	No suitable habitat observed on the Properties.
San Diego Fairy Shrimp (*Branchinecta sandiegoensis*)	FE CSD Group 1 MSCP NE	Vernal pools. All known localities for this species are below 701m (2,300 ft) and are within 64km (40 miles) of the Pacific Ocean.	No	Not expected	No suitable habitat observed on the Properties.
AMPHIBIANS					
Arroyo Toad (*Anaxyrus californicus*)	FE SSC CSD Group 1 MSCP NE	Exposed shallow pools with a sand or gravel base are used for breeding. Breeding pools must occur in the vicinity (ca. 10-100 m) of a braided sandy channel with shorelines or central bars made of stable, sandy terraces.	No	Not expected	Suitable breeding habitat not present within the Properties.
Western Spadefoot (*Spea hammondii*)	SSC CSD Group 2	Temporary rain-pools with water temperatures between 9ºC and < 30ºC that last at least 3 weeks.	No	Moderate	Suitable habitat occurs within the drainage located on the Properties. Species was not observed on the Properties during 2019 surveys.

Appendix D. Potential Sensitive Species Table – Wildlife

Common Name (*Scientific Name*)	Status	Habitat Preference/Requirements	Detected within the Study Area? (Historical and/or current observations)	Potential to Occur	Rationale
REPTILES					
Belding's Orange-throated Whiptail (*Aspidoscelis hyperythra beldingi*)	SSC CSD Group 2 MSCP	The habitat characteristics are poorly understood, however historically it was found in floodplains or terraces along streams. Closely tied to coastal sage scrub plants and some chaparral plants.	No	High	Suitable habitat observed throughout the Properties and this species is relatively common in suitable habitat. Species was not observed on the Properties during 2019 surveys
California Glossy Snake (*Arizona elegans occidentalis*)	SSC	Prefers open areas in a variety of habitats, including light shrubby to barren desert scrub, grassland, chaparral, cismontane, and coastal sage scrub. The species is active mostly at night and remains underground during the day.	No	Moderate	Suitable habitat occurs throughout Properties, though most areas may be too thickly vegetated. Species was not observed on the Properties during 2019 surveys.
Coast (Blainville's/San Diego) Horned Lizard (*Phrynosoma blainvillii*)	SSC CSD Group 2 MSCP	Grasslands, brushlands, woodlands, and open coniferous forest with sandy or loose soil; requires abundant ant colonies for foraging.	No	High	Suitable habitat observed throughout the Properties. Species was not observed on the Properties during 2019 surveys.
Coast Patch-nosed Snake (*Salvadora hexalepis virgultea*)	SSC CSD Group 2	Inhabits semi-arid brushy areas and chaparral in canyons, rocky hillsides, and plains.	No	High	Suitable habitat observed throughout the Properties and this species is relatively common in suitable habitat. Species was not observed on the Properties during 2019 surveys.
Coastal Rosy Boa (*Lichanura trivirgata*)	CSD Group 2	Inhabits rocky areas in coastal sage scrub, chaparral, and desert environments.	No	High	Suitable habitat occurs throughout the Properties. Species was not observed on the Properties 2019 surveys.
San Diegan Tiger Whiptail (*Aspidoscelis tigris stejnegeri*)	SSC CSD Group 2	Found in open brushland in semiarid habitats.	Yes	**Present**	Suitable habitat observed throughout the Properties and this species is relatively common in suitable habitat. Species was captured on the Properties during 2019 surveys.

Appendix D. Potential Sensitive Species Table – Wildlife

Common Name (*Scientific Name*)	Status	Habitat Preference/Requirements	Detected within the Study Area? (Historical and/or current observations)	Potential to Occur	Rationale
Coronado Skink (*Plestiodon skiltonianus interparietalis*)	SSC CSD Group 2	Forest, open woodland and grassy areas. Usually found under leaf litter, logs or rocks.	No	High	Suitable habitat in riparian woodland in drainage. Species was not observed on the Properties during 2019 surveys.
Red Diamond Rattlesnake (*Crotalus ruber*)	SSC CSD Group 2	Occurs from sea level to 914m (3000ft) in chaparral, woodland, and arid desert habitats with rocky areas and dense vegetation.	No	High	Suitable habitat observed throughout the Properties and this species is relatively common in suitable habitat. Species was not observed on the Properties during 2019 surveys.
San Diego Banded Gecko (*Coleonyx variegatus abbottii*)	CSD Group 1	Found in open areas, often near rocks, and may seek shelter under them, or in crevices.	No	Moderate	Potentially suitable habitat occurs within the Properties. Species was not observed on the Properties during 2019 surveys.
San Diego Ringneck Snake (*Diadophis punctatus similis*)	CSD Group 2	Prefers moist habitats, including wet meadows, rocky hillsides, gardens, farmland, grassland, chaparral, mixed coniferous forests and woodlands.	No	High	Suitable habitat in riparian woodland in drainage. Species was not observed on the Properties during 2019 surveys.
Silvery Legless Lizard (*Anniella pulchra pulchra*)	SSC CSD Group 2	Occurs in sparsely vegetated areas of beach dunes, chaparral, pine-oak woodlands, desert scrub, sandy washes, and stream terraces with sycamores, cottonwoods, or oaks. Leaf litter under trees and bushes in sunny areas often indicate suitable habitat.	No	Moderate	Suitable habitat in riparian woodland in drainage. Species was not observed on the Properties during 2019 surveys.
Southwestern Pond Turtle *(Emys marmorata pallida*)	SSC CSD Group 1 MSCP NE	Requires slack- or slow-water aquatic habitat as well as aerial and aquatic basking sites. Also requires an upland oviposition site on an unshaded slope with clay soils, in the vicinity of the aquatic site.	No	Not expected	No suitable aquatic present within the Properties.
Two-striped Garter Snake (*Thamnophis hammondii*)	SSC CSD Group 1	Inhabits perennial and intermittent streams with rocky beds and bordered by willow thickets or other dense vegetation.	Yes	**Present**	An individual was observed in the creek on northern portion of the Properties

Appendix D. Potential Sensitive Species Table – Wildlife

Common Name (*Scientific Name*)	Status	Habitat Preference/Requirements	Detected within the Study Area? (Historical and/or current observations)	Potential to Occur	Rationale
BIRDS					
Least Bittern (*Ixobrychus exilis*)	SSC CSD Group 2	Dense freshwater marshes with tules and cattails.	No	Not expected	No suitable aquatic present within the Properties.
Green Heron (*Butorides virescens*)	CSD Group 2	Common in wetland thickets throughout much of North America. Generally a solitarily nester but are known to sometimes nest socially in loose colonies. Usually forages for fish by wading at water's edge or in very shallow water.	No	Not expected	No suitable aquatic present within the Properties.
Great Blue Heron (*Areda herodias*)	CSD Group 2	Forages in wetlands and occasionally grasslands. Communal nester on trees near water.	No	Nesting – Low Foraging – Low	Low potential to nest in eucalyptus trees on the Properties. No nests observed. May forage in the artificial pond when water is present.
White-faced Ibis (*Plegadis chihi*)	CSD Group 1 MSCP	Forages in marshes, swamps, ponds and rivers, mostly in freshwater habitats. Nests in emergent vegetation or low trees and shrubs over shallow water; sometimes on ground on small islands.	No	Not expected	Suitable nesting and foraging habitat is lacking within the Properties.
Turkey Vulture (*Cathartes aura*)	CSD Group 1	Forage over woodland and nearby open country. Nest in crevices among granite boulders.	Yes	Nesting– Not expected Foraging – High	No suitable nesting habitat present, but suitable foraging habitat is present in the study area. A group was observed flying over the Properties during 2019 surveys.
White-tailed Kite (*Elanus leucurus*)	FP (nesting) CSD Group 1	Open grasslands, agricultural areas, wetlands, and oak woodlands. Their primary source of food is the California vole. It typically forages in open undisturbed habitats and nests in the top of a dense oak, willow or other large tree.	No	Nesting – Low Foraging – Low	Low potential to nest riparian trees on the Properties. No nests observed. Suitable foraging habitat within the Properties is limited.

Appendix D. Potential Sensitive Species Table – Wildlife

Common Name (*Scientific Name*)	Status	Habitat Preference/Requirements	Detected within the Study Area? (Historical and/or current observations)	Potential to Occur	Rationale
Northern Harrier (*Circus cyaneus*)	SSC (nesting) CSD Group 1 MSCP	Grasslands and marshes. Nests are on the ground and typically concealed within a marsh or other dense vegetation.	No	Nesting – Moderate Foraging – Moderate	Suitable nesting habitat is very limited within the Properties. Suitable foraging habitat is present.
Cooper's Hawk (*Accipiter cooperii*)	CSD Group 1 MSCP, CDFW WL	Oak groves and mature stands of riparian woodland. This species has adapted well to development and is abundant in urban canyons with eucalyptus trees.	Yes	Nesting - High Foraging - **Present**	Suitable foraging and nesting habitat present in the study area. Widespread and common within suitable habitat. Species was observed on the Properties during 2019 surveys.
Red-shouldered Hawk (*Buteo lineatus*)	CSD Group 1	Lowland riparian woodland. This species has adapted well to development and is abundant in areas with eucalyptus trees.	Yes	Nesting - High Foraging - High	Suitable foraging and nesting habitat present in the study area. Widespread and common within suitable habitat. Species was observed on the Properties during 2019 surveys.
Golden Eagle (*Aquila chrysaetos*)	FPS CSD Group 1 MSCP	Nest on cliff ledges or trees on steep slopes. Forage in grasslands, sage scrub or broken chaparral.	No	Nesting - None Foraging - Moderate	No suitable nesting habitat occurs within the Properties. Suitable foraging habitat occurs within the Properties.
Peregrine Falcon (*Falco peregrinus*)	SE CSD Group 1 MSCP (S)	Will forage over a variety of habitats however only breed near water, typically with the nest placed on a cliff ledge.	No	Breeding - None Foraging Moderate	No suitable nesting habitat occurs within the Properties. Suitable foraging habitat occurs within the Properties.
Prairie Falcon (*Falco mexicanus*)	CSD Group 1	Nest on cliffs or bluffs and forage in open desert or grasslands. In San Diego County, nest at least 23 miles from the coast (Unitt 2004).	No	Nesting - None Foraging - Moderate	No suitable nesting habitat occurs within the Properties. Suitable foraging habitat occurs within the Properties.
Barn Owl (*Tyto alba*)	CSD Group 2	Nest in buildings, nest boxes, at the base of the leaves in palm trees, and in cavities in native trees.	Yes	Nesting - High Foraging - **Present**	Suitable foraging and nesting habitat present in the Properties. Widespread and common within suitable habitat. Species was observed on the Properties during 2019 surveys.

Common Name (*Scientific Name*)	Status	Habitat Preference/Requirements	Detected within the Study Area? (Historical and/or current observations)	Potential to Occur	Rationale
Western Burrowing Owl (*Athene cunicularia hypugaea*)	SSC CSD Group 1 MSCP	Prairies, grasslands, lowland scrub, agricultural lands, coastal dunes, desert floors, and some artificial, open areas. They require large open expanses of sparsely vegetated areas on gently rolling or level terrain with an abundance of active small mammal burrows. They use rodent or other burrows for roosting and nesting cover and also known to use pipes, culverts, and nest boxes where burrows are scarce.	No	Not expected	The small grasslands on the Properties do not support vegetation structure or ground squirrel colonies necessary for this species.
Long-eared Owl (*Asio otus*)	SSC CSD Group 1	Rare residents of oak woodlands and broad riparian forests. Ideal nesting habitat has a closed canopy and open lands adjacent for foraging.	No	Not expected	Suitable foraging and nesting habitat is limited on the Properties.
Southwestern Willow Flycatcher (*Empidonax trailii extimus*)	FE SE CSD Group 1 MSCP NE	Breeds in riparian woodlands along rivers, streams, or other wetlands. They usually nest within close proximity of water or very saturated soil.	No	Breeding - Low Foraging - Low	Riparian habitat occurs in drainage but area is likely too small to support this species.
Loggerhead Shrike (*Lanius ludovicianus*)	SSC CSD Group 1	Found near grassland, open sage scrub and chaparral, and desert scrub. They nest in dense vegetation adjacent to their open foraging habitats.	No	Breeding - Medium Foraging - Moderate	Suitable foraging and nesting habitat present is present on the Properties. Was not observed on the Properties during 2019 surveys
Least Bell's Vireo (*Vireo bellii pusillus*)	FE SE CSD Group 1 MSCP NE	Riparian thickets either near water or in dry portions of river bottoms; nests along margins of bushes and forages low to the ground; may also be found using mesquite and arrow weed in desert canyons.	No	Breeding - Moderate Foraging - Moderate	Riparian habitat occurs in drainage but area is relative small in size.

Common Name (*Scientific Name*)	Status	Habitat Preference/Requirements	Detected within the Study Area? (Historical and/or current observations)	Potential to Occur	Rationale
California Horned Lark (*Eremophila alpestris actia*)	CSD Group 2	Grasslands, recently disturbed habitat where seeds and insects are easy to find.	No	Breeding - High Foraging - High	Suitable nesting habitat present on the Properties in cleared areas. Was not observed on the Properties during 2019 surveys.
San Diego Cactus Wren (*Campylorhynchus brunneicapillus sandiegensis*)	SSC CSD Group 1 MSCP NE	Cactus thickets.	No	Not expected	No suitable breeding habitat (cactus thickets) occur on the Properties.
Coastal California Gnatcatcher (*Polioptila californica californica*)	FT SSC CSD Group 1 MSCP	Prefer open scrubby habitats such as coastal sage scrub and some forms of chaparral.	Yes	Breeding - High Foraging - **Present**	Suitable foraging and nesting habitat present in on the Properties.
Western Bluebird (*Sialia mexicana*)	CSD Group 2 MSCP	Foothills and mountains in meadows near groves of oaks and pines. This species is a cavity nester.	No	Breeding - Moderate Foraging - High	Suitable nesting habitat present within riparian woodland on the Properties.
Yellow Warbler (*Dendroica petechia brewsteri*)	SSC CSD Group 2	Mature riparian woodlands.	Yes	Breeding - Moderate Foraging - **Present**	Suitable nesting habitat present within riparian woodland on the Properties. Detected within coastal scrub on the Properties.
Yellow-breasted Chat (*Ictera virens*)	SSC CSD Group 1	Dense riparian woodland.	No	Breeding - Low Foraging - Low	Riparian habitat occurs in drainage but area is relative small in size.
Southern California Rufous-crowned Sparrow (*Aimophila ruficeps canescens*)	CSD Group 1 MSCP	Fairly common, widespread and generally fairly conspicuous resident of rocky grassland and patchy shrub habitats, often including areas with disturbance from fire, trash, soil compaction and non-native vegetation.	Yes	Breeding - High Foraging - **Present**	Suitable foraging and nesting habitat present on the Properties. Common within suitable habitat. Was observed on the Properties during 2019 surveys.
Bell's Sparrow (*Artemisiospiza belli*)	CSD Group 1	Year-round resident of chaparral and sage scrubs. Forages on litter-free openings on the ground, and is largely restricted to south-facing slopes, post-burn areas, and gabbro soils.	No	Breeding - High Foraging - High	Suitable foraging and nesting habitat present on the Properties. Common within suitable habitat. Was not observed on the Properties during 2019 surveys.

Common Name (*Scientific Name*)	Status	Habitat Preference/Requirements	Detected within the Study Area? (Historical and/or current observations)	Potential to Occur	Rationale
Grasshopper Sparrow (*Ammodramus savannarum*)	SSC CSD Group 1	Structurally diverse grassland usually with native grasses.	No	Breeding - Low Foraging - Low	Grasslands on the Properties are very small and not expected to support this species.
Tricolored Blackbird (*Agelaius tricolor*)	FC- SSC (nesting colony) CSD Group 1 MSCP	Breeds near fresh water, preferably in emergent wetland with large, dense stands of cattails or tules, but also in thickets of willow, blackberry, wild rose, tall herbs. Feeds in grassland and cropland habitats.	No	Not expected	Suitable marsh habitat is lacking within the Properties.
MAMMALS					
Mexican Long-tongued Bat (*Choeronycteris mexicana*)	SSC CSD Group 2	Likes desert canyons, arid mountain ranges. Roosts by day in caves, mines or buildings. Records indicate only a summer resident in San Diego County. Feeds on nectar and pollen from agaves and cactus blossoms.	No	Not expected	Appropriate vegetation is not present on the Properties.
Small-footed Myotis (*Myotis ciliolabrum*)	CSD Group 2	Not much information available but has been spotted under rock slabs and in crevices, mine tunnels, under loose tree bark, and in buildings.	Yes	**Present**	Suitable roosting habitat is present on the Properties. Detected during 2019 passive bat surveys on the Properties.
Long-eared Myotis (*Myotis evotis*)	CSD Group 2	Brush, woodland and forest habitats from sea level to 9000 ft. Lives in coniferous forests in mountain areas, roosts in small colonies in caves, buildings and under tree bark.	No	High	Suitable roosting habitat is present on the Properties. Was not detected during 2019 passive or active bat surveys Properties.
Yuma Myotis (*Myotis yumanensis*)	CSD Group 2	Always found near lakes, creeks or ponds. Roosts by day under building sidings or shingles. Nursery colonies choose caves, mines, buildings or under bridges.	Yes	**Present**	Detected during 2019 passive and active bat surveys on the Properties.

Common Name (*Scientific Name*)	Status	Habitat Preference/Requirements	Detected within the Study Area? (Historical and/or current observations)	Potential to Occur	Rationale
Townsend's Big-eared Bat (*Corynorhinus townsendii)*	SSC CSD Group 2	The species is found in a variety of habitats throughout California where appropriate roosting habitat exists. Primarily roosts in caves and cavern-like spaces; also include in abandoned buildings, mines, culverts, box-like spaces in bridges and other structures, and large hollows in trees. Very sensitive to human disturbances.	Yes	**Present**	Roosting habitat is limited on the Properties. Detected during 2019 passive bat surveys on the Properties.
Western Red Bat (*Lasiurus blossevillii*)	SSC CSD Group 2	Usually among dense foliage, in forests and wooded areas, making long migrations from the northern latitudes to warmer climes for winter, sometimes hibernates in tree hollows or woodpecker holes.	No	High	Suitable roosting habitat is present on the Properties. Was not detected during 2019 passive or active bat surveys Properties.
Western Yellow Bat (*Lasiurus xanthinus*)	SSC	Rare visitor to San Diego County. Found in wooded areas and desert scrub. Roosts in foliage, particularly in palm trees.	Yes	**Present**	Species was detected during 2019 active bat surveys on the Properties.
Pallid Bat (*Antrozous pallidus*)	SSC CSD Group 2	Throughout So. Cal. from coast to mixed conifer forest; grasslands, shrublands, woodlands, & forest; most common in open, dry habitats w/ rocky areas for roosting; yearlong resident in most of range. Roosts in rock crevices, caves, mine shafts, under bridges, in buildings and tree hollows.	No	High	Suitable roosting habitat is present within the riparian habitat located on the Properties. Was not detected during 2019 passive or active bat surveys Properties.
Pocketed Free-tailed Bat (*Nyctinomops femorosaccus*)	SSC CSD Group 2	Lives in deserts and sage scrub, roosts in rocky crevices.	Yes	**Present**	Species was detected during 2019 passive bat surveys on the Properties.

Common Name (*Scientific Name*)	Status	Habitat Preference/Requirements	Detected within the Study Area? (Historical and/or current observations)	Potential to Occur	Rationale
Big Free-tailed Bat (*Nyctinomops macrotis*)	SSC CSD Group 2	Inhabits arid, rocky areas; roosts in crevices in cliffs. Has been recorded in urban locations in San Diego County. All records are of individuals; there have been no observations of roosting colonies. Species is rare migrant in San Diego County.	No	Low	No roosting colonies are known to occur in San Diego County. Species was not detected during 2019 passive or active bat surveys Properties.
Western Mastiff Bat (*Eumops perotis californicus*)	SSC CSD Group 2	Primarily a cliff-dwelling species for breeding. Found foraging in a variety of habitats, from dry desert washes, flood plains, chaparral, oak woodland, open ponderosa pine forest, grassland, montane meadows, and agricultural areas.	No	High	Roosting habitat is present on the Properties. Species was not detected during 2019 passive and active bat surveys on the Properties.
San Diego Black-tailed Jackrabbit (*Lepus californicus bennettii*)	SSC CSD Group 2	Mostly found on the coastal side of our local mountains in open habitats, usually avoiding dense stands of chaparral or woodlands.	Yes	**Present**	One individual's image was captured on remote camera 1. Suitable habitat occurs throughout the Properties.
Dulzura Pocket Mouse (*Chaetodipus californicus femoralis*)	SSC CSD Group 1Group 2	Coastal and montane regions in grassland, sage scrub, and chaparral slopes.	Yes	**Present**	Species was captured within the Properties during 2019 surveys. Suitable habitat occurs throughout the Properties.
Northwestern San Diego Pocket Mouse (*Chaetodipus fallax fallax*)	SSC CSD Group 2	Coastal sage scrub, sage scrub/grassland ecotones, and chaparral communities.	Yes	**Present**	Species was captured within the Properties during 2019 surveys. Suitable habitat occurs throughout the Properties.
Stephens' Kangaroo Rat (*Dipodomys stephensi*)	FE ST CSD Group 1	Occurs in flat or gently rolling, often degraded, annual grassland.	No	Not expected	Species not known to occur in vicinity of Properties. Habitat within the Properties is not suitable for this species. Not observed during 2019 trapping surveys
Ramona Grasshopper Mouse (*Onychomys torridus ramona*)	SSC CSD Group 2	Grasslands and sparse coastal sage scrub habitats.	No	Not expected	Species not known to occur in vicinity of Properties. Habitat within the Properties is not suitable for this species. Not observed during 2019 trapping surveys

Common Name (*Scientific Name*)	Status	Habitat Preference/Requirements	Detected within the Study Area? (Historical and/or current observations)	Potential to Occur	Rationale
Bryant's (San Diego Desert) Woodrat (*Neotoma byrantii = N. lepida intermedia*)	SSC CSD Group 2	Variety of shrub and desert habitats primarily associated with rock outcroppings, boulders, cacti, or areas of dense undergrowth.	Yes	**Present**	Species was captured within the Properties during 2019 surveys. Suitable habitat occurs throughout the Properties.
Ringtail (*Bassariscus astutus*)	CSD Group 2	Usually not found more than 1 km (0.6 mi) from permanent water. Suitable habitat consists of a mixture of forest and shrubland in close association with rocky areas or riparian habitats. Forages on ground, among rocks, in trees; usually near water.	No	Moderate	Riparian and rocky habitats occurs in drainage but area is relative small in size.
American badger (*Taxidea taxus*)	SSC CSD Group 2 MSCP	Inhabit a diversity of habitats with principal requirements of sufficient food, friable soils, and relatively open, uncultivated ground. Grasslands, savannas, and mountain meadows near timberline are preferred.	No	Low	Marginal suitable habitat occurs on the Properties. Isolated from other grasslands. No tracks or burrows were observed during the surveys.
Mountain Lion (*Puma (=Felis) concolor*)	CSD Group 2 MSCP	Rocky areas, cliffs, and ledges that provide cover within open woodlands and chaparral, as well as riparian areas.	No	High	No images observed on trail cameras. Suitable habitat present in the Properties.
Southern Mule Deer (*Odocoileus hemionus fuliginata*)	CSD Group 2 MSCP	Oak woodlands, open scrub and young chaparral, low-elevation pine forests, riparian areas, and along the margins of meadows and grasslands.	Yes	**Present**	Images were captured on remote cameras 1, 2, and 3.

Common Name (*Scientific Name*)	Status	Habitat Preference/Requirements	Detected within the Study Area? (Historical and/or current observations)	Potential to Occur	Rationale

LEGEND:

STATUS:

Federal

FE - listed as endangered under the federal Endangered Species Act.

FT - listed as threatened under the federal Endangered Species Act.

FC- candidate species under the federal Endangered Species Act.

California

SE - listed as endangered under the California Endangered Species Act.

ST – listed as threatened under the California Endangered Species Act

FP – fully protected species in California.

SSC - species of special concern in California.

CDFW WL – California Department of Fish and Wildlife watchlist

San Diego County Group (CSD Group)

I = includes animal species that have a very high level of sensitivity, either because they are listed as threatened or endangered or because they have very specific natural history requirements that must be met.

II = includes animal species that are becoming less common but are not yet so rare that extirpation or extinction is imminent without immediate action. These species tend to be prolific within their suitable habitat types.

San Diego Multiple Species Conservation Program (MSCP)

MSCP - Covered Species

MSCP NE – Narrow endemic species in the MSCP

References

Special Status information from CDFW 2019. Nomenclature and invertebrate descriptions from Hogan 2005, and USFWS 1997. Nomenclature and vertebrate descriptions from AOS (Chesser *et al.* 2018) SSAR 2018, Stephenson and Calcarone 1999, Bradley *et al.* 2014, and Unitt 2004.

Appendix E

Photo Book

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Photo 1. Herp Array 1 facing east

Photo 2. Herp Array 2 facing northeast

Photo 3. Herp Array 3 facing east

Photo 4. Side-blotched Lizard

Photo 5. Coastal Tiger Whiptail

Photo 6. Southern Pacific Rattlesnake In Trap

Photo 7. Two-striped Garter Snake Incidental Sighting

Photo 8. Avian Point Count 1 facing north

Photo 9. Avian Point Count 2 facing south

Photo 10. Avian Point Count 3 facing west

Photo 11. Small Mammal Trap Line A facing south

Photo 11. Small Mammal Trap Line B facing east

Photo 12. Small Mammal Trap Line C facing north

Photo 13. Small Mammal Trap Line D facing east

Photo 14. Small Mammal Trap Line E facing east

Photo 15. Small Mammal Trap Line F facing north

Photo 16. Small Mammal Trap Line G facing northwest

Photo 17. Desert Cottontail

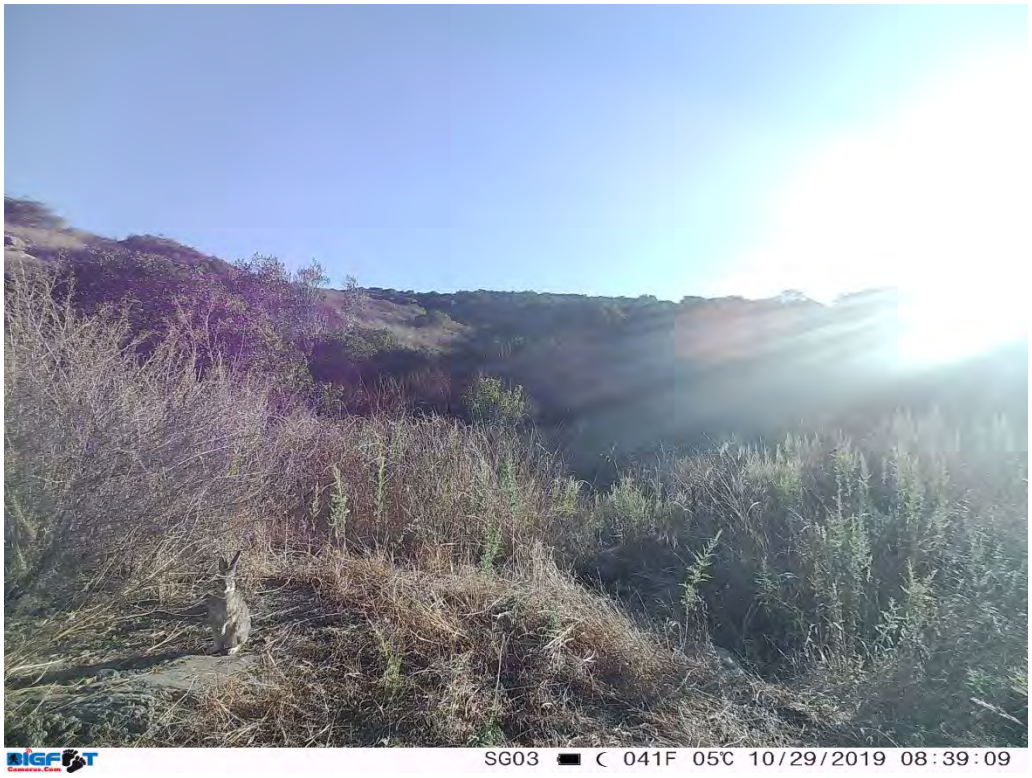

Photo 18. San Diego Black-tailed Jackrabbit

Photo 19. California Ground Squirrel

Photo 20. Coyote

Photo 21. Grey Fox

Photo 22. Bobcat

Photo 24. Southern Mule Deer