CMP Resource-Specific Monitoring 2017 Annual Report

Prepared for:

Department of Parks and Recreation
County of San Diego
5500 Overland Avenue, Suite 410
San Diego, CA 92123
Contact: Ms. Jennifer Price

Prepared by:

ICF
525 B Street, Suite 1700
San Diego, California 92101

January 2018

ICF International. 2018. CMP Resource-Specific Monitoring 2017 Annual Report. January. Prepared for: County of San Diego Department of Parks and Recreation.

Contents

Tables

Acronyms and Abbreviations

ASMDs	area specific management objectives
CDFW	California Department of Fish and Wildlife
CESA	California Endangered Species Act
CMP	Comprehensive Monitoring Plan
County	County of San Diego
DPR	Department of Parks and Recreation
ESA	Endangered Species Act
FRMP	Framework Resources Management Plan
GPS	Global Positioning System
HCP	Habitat Conservation Plan
MSCP	Multiple Species Conservation Plan
MSP	Management Strategic Plan
NCCP	Natural Community Conservation Planning
USFWS	U.S. Fish and Wildlife Service

Chapter 1
Introduction

1.1 Purpose of the Project

As a participant in the San Diego Multiple Species Conservation Plan (MSCP), the County of San Diego (County) is obligated to conduct biological monitoring of habitats and species covered by the MSCP to ensure that the MSCP biological conservation goals and conditions for species coverage are being met. The County has prepared a Comprehensive Monitoring Plan (CMP) (ESA & ICF 2015) to provide detailed specifications for implementation of adaptive management and monitoring within County-owned and managed conserved lands (open space parks and preserves) overseen by the County of San Diego Department of Parks and Recreation. The CMP is an adaptive implementation plan that includes focused goals and objectives for target resources and detailed monitoring protocols and is intended to achieve the area specific management objectives (ASMDs) for species per the adopted South County MSCP Framework Management Plan (FMP).

To comply with the CMP's resource-specific goals and objectives, resource specific monitoring was conducted in four CMP Preserves identified in the CMP for 2017 monitoring efforts (Boulder Oaks, Lusardi Creek, Sycamore Canyon/Goodan Ranch and Ramona Grasslands Preserves). ICF performed resource specific monitoring for San Miguel savory, variegated dudleya, willowy monardella and tricolored blackbird.

The main goal for resource-specific monitoring is to collect high quality, accurate data, to detect population trends, changes in habitat quality, and wildlife corridor functionality to guide adaptive management for the preserves and to ensure that the conservation goals of the MSCP are being met.

1.2 Multiple Species Conservation Program Context

The San Diego MSCP is a comprehensive habitat conservation planning program and one of several subregional habitat planning efforts in San Diego County that contribute to the preservation of regional biodiversity through coordination with other habitat conservation planning efforts throughout southern California. Agencies participating in the MSCP include the County, other local jurisdictions, the U.S. Fish and Wildlife Service (USFWS), and the California Department of Fish and Wildlife (CDFW). Local jurisdictions and special districts implement their respective portions of the subregional MSCP Plan through Subarea Plans, which describe specific implementing mechanisms for the MSCP.

The combination of the subregional MSCP Plan and Subarea Plans serve as a Multiple Species Habitat Conservation Plan (HCP) pursuant to Section 10(a)(1)(B) of the Federal Endangered Species Act (ESA), the Natural Community Conservation Planning (NCCP) Program pursuant to the California NCCP Act of 1991 (amended in 2001), and the California Endangered Species Act (CESA). The South County MSCP Subarea Plan was adopted in October 1997 and covers 23 vegetation communities and 85 plant and animal species. The County is preparing the North County Plan for the northwestern unincorporated areas of the County.

Species-specific management and monitoring requirements for the South County MSCP are summarized in Table 3-5 of the MSCP Plan. In addition, the assurances and obligations to implement the South County MSCP Subarea Plan have been established in the Implementing Agreement, which was signed by the County, USFWS, and CDFW.

Chapter 2
Study Area Description

2.1 Project Location

Currently, the CMP includes the following 10 open space parks and preserves: Boulder Oaks Preserve, Del Dios Highlands Preserve, El Capitan Preserve, El Monte Regional Park, Lakeside Linkage Preserve, Lusardi Creek Preserve, Oakoasis Preserve, Ramona Grasslands Preserve, Stelzer Regional Park, and Sycamore Canyon/Goodan Ranch Preserve. During this reporting period, ICF performed resource-specific monitoring in the following four preserves identified in the CMP: Boulder Oaks, Lusardi Creek, Sycamore Canyon/Goodan Ranch, and Ramona Grasslands Preserves (Appendix A: Figures 1 and 2).

All of the preserves, with the exception of Ramona Grasslands and a portion of Del Dios Highlands, are within the South County MSCP and will be monitored and managed in accordance with the Implementing Agreement (County of San Diego 1998). Ramona Grasslands Preserve and the northern half of Del Dios Highlands Preserve are located within the draft North County Plan area and are included in the CMP due to the number of sensitive onsite resources, and existing conservation easements and deed restrictions that require their conservation and management. Several of the preserves in the CMP (Boulder Oaks, El Capitan, El Monte Regional Park, Oakoasis, and Stelzer Regional Park) are clustered together, and have similar topography, vegetation communities, and covered species. Additional preserves will be added to the CMP in the future. Monitoring prioritization, goals, objectives, and monitoring protocols will be re-evaluated, and the CMP will be revised every 8 years. Additional preserves that are not yet included in the CMP will be incorporated at that time.

Baseline biodiversity inventories have been completed for each of the CMP Preserves—Boulder Oaks (ICF 2013), Del Dios Highlands (TAIC 2008; Dudek 2011), El Capitan (ICF 2008a), Lakeside Linkage (ICF 2008c), Lusardi Creek (ICF 2008d), Oakoasis (ICF 2008e), Ramona Grasslands (ICF 2010), Sycamore Canyon/Goodan Ranch (ICF 2008g), and El Monte (ICF 2008b) and Stelzer Regional Parks (ICF 2008f).

Chapter 3
Methods

Resource-specific monitoring followed the methods and key considerations as outlined in the CMP (ESA and ICF 2015) by Preserve. Specific monitoring methods are described below.

3.1 Rare Plant Monitoring

As outlined in the CMP, seven rare plant species—San Diego thornmint (*Acanthomintha ilicifolia*), Encinitas baccharis (*Baccharis vanessae*), Lakeside ceanothus (*Ceanothus cyaneus*), San Miguel savory (*Clinopodium chandleri*), variegated dudleya (*Dudleya variegata*), willowy monardella (*Monardella viminea*), and spreading navarretia (*Navarretia fossalis*)—were prioritized for resource-specific monitoring. Species prioritization focused only on species for which population-level species-specific monitoring was considered critical for effective management.

Resource-specific monitoring was conducted in 2017 for three of the rare plant species: San Miguel savory, variegated dudleya, and willowy monardella. Resource-specific monitoring followed the Management Strategic Plan (MSP) 2017 Rare Plant Monitoring Protocol prepared by SDMMP. Establishment and monitoring of permanent monitoring plots is listed in Table 1 below.

Table 1. MSP Rare Plant Monitoring

Plot Establishment Date	2017 Monitoring Date	Species	# Monitoring Plots	Preserve	Name of Biologists
April 16, 2016	June 8, 2017	San Miguel savory	2	Boulder Oaks	Lance Woolley, Nicole Salas
April 27, 2016	June 8, 2017	Variegated dudleya	1	Lusardi Creek	Lance Woolley, Nicole Salas
June 23, 2017	June 23, 2017	Variegated dudleya	1	Sycamore Canyon/Goodan Ranch	Lance Woolley
July 7, 2015	June 30, 2017	Willowy monardella	1	Sycamore Canyon/Goodan Ranch	Carol Crafts, Victoria Marshall, Phoenix Von Hendy, Lance Woolley

The most current MSP Rare Plant Monitoring Protocol was used to monitor sensitive plant occurrence status within previously established permanent monitoring plots. Two permanent monitoring plots were established for San Miguel savory within Boulder Oaks Preserve by ICF in 2016, one permanent monitoring plot was established for variegated dudleya within Lusardi Creek Preserve by ICF in 2016, and one permanent monitoring plot was established for willowy monardella within Sycamore Canyon/Goodan Ranch Preserve by ICF in 2015.

In 2017, one permanent monitoring plot was established for variegated dudleya within Sycamore Canyon/Goodan Ranch Preserve by ICF. Establishment and monitoring of sensitive plant occurrence status within the permanent monitoring plots followed the MSP Rare Plant Monitoring Protocol which includes the following steps:

- The perimeter of the current extent of the occurrence was mapped when feasible. When mapping the current extent of the occurrence was not feasible polygons delineating the extent of the occurrence from previously conducted biological baseline surveys were used as the current extent and surveyed for accuracy. Once the current extent of the occurrence was established the number of plants within the current mapped extent and area of the current mapped extent were recorded.
- Monitoring plots consisted of a 10-meter radius circle and were established within the current extent of the occurrence for each species. The center point of the monitoring plot was mapped with a sub-meter GPS unit and permanently marked with rebar. A permanent aluminum marker stenciled with the monitoring plot's number was installed on top of the rebar. The plot number consisted of a two or three letter code for the Preserve name, an abbreviation of the species name, and the numerical order the plot was established within the Preserve. For example, BOCLCH01 indicates that this plot is in Boulder Oaks Preserve and was the first plot established for *Clinopodium chandleri (*Clch*)* within the Preserve.
- Once a monitoring plot was established monitoring activities were conducted and included recording number of plants per plot, phenological stages of plants, evidence of herbivory, disease, and stunted growth. Associated species within the monitoring plot were recorded and a habitat assessment was conducted.
- A photo point was established at the edge of the monitoring plot, mapped with a sub-meter GPS unit, and permanently marked with rebar. A permanent aluminum marker stenciled with the code PP (Photo Point) was installed on top of the rebar. The photo point was placed to allow for the best vantage point of the entire monitoring plot. A picture was taken from the photo point facing towards the center point of the plot. The cardinal direction, elevation, and camera angle were recorded for each photo;
- A threats assessment was conducted within the current/maximum extent of the occurrence and an adjacent 10-meter buffer.

Additional data not specified in the SDMMP but included in the CMP was also collected for willowy monardella as follows:

Willowy Monardella

- Willowy monardella – the height, width, and length in meters of each willowy monardella patch was recorded within the monitoring plot. These two measurements were multiplied together and divided by the value 0.785 meters to give an estimated number of plants (Rebman and Dossey 2006). The estimated number of plants was rounded to the nearest whole number and then classified as a seedling, juvenile, mature or adult.
    - Seedling: lacks multiple stems and is less than 4 inches tall.
    - Juvenile: lacks multiple stems and is more than 4inches tall.
    - Mature: more than 4 inches tall and has less than 20 stems.
    - Adult: is more than 4 inches tall and has more than 20 stems.

3.2 Tricolored Blackbird

3.2.1 Habitat Mapping

Surveys for suitable tricolored blackbird (*Agelaius tricolor*) nesting habitat was conducted in Ramona Grasslands Preserve (Preserve). The habitat assessment and mapping focused on Santa Maria Creek and the on-site stock pond within the Preserve. Wildlife biologists Will Kohn and Celeste Medina-Ontiveros conducted habitat assessments on June 15 and 16, 2017. Biologists mapped areas of potentially suitable tricolored blackbird habitat within the Preserve.

Suitable nesting habitat was mapped in the field using an aerial figure of the Preserve. Areas identified as suitable nesting habitat were then incorporated into a GIS shapefile. Biologists identified and mapped areas along Santa Maria Creek and the stock pond that could be restored or enhanced for suitable tricolored blackbird habitat through passive or active means (Figure 6).

3.2.2 Tricolored Blackbird Monitoring

Wildlife biologists Will Kohn and Celeste Medina-Ontiveros conducted focused surveys of potentially suitable habitat within the Preserve on June 15 and 16, 2017. Biologists documented observations of tricolored blackbirds by collecting GPS coordinates. These observations included estimations of the number of individuals and documentation of any signs of nesting. Biologists collected information on location and number of individuals and any incidental sightings of tricolored blackbird outside of breeding habitat (e.g. foraging flocks in grasslands).

Chapter 4
Results and Discussion

4.1 Rare Plant Monitoring

Monitoring was conducted on five rare plant monitoring plots in 2017. Of these, one was established within a CMP Preserve in 2017 (Appendix A: Figures 3-5). The two monitoring plots for San Miguel savory that were established in Boulder Oaks Preserve in 2016 were monitored in 2017. The one monitoring plot for variegated dudleya that was established in Lusardi Creek Preserve in 2016 was monitored in 2017. One monitoring plot for variegated dudleya was established in 2017 within the Sycamore Canyon/Goodan Ranch Preserve. The one willowy monardella monitoring plot established within the Sycamore Canyon/Goodan Ranch Preserve in 2015 was monitored in 2017. Descriptions of the monitoring plots are provided below and summarized in Table 2. Photos are provided in Appendix B.

Table 2. MSP Rare Plant Monitoring Summary Results

Species	Preserve	Plot #	Center Point Coordinates	Population		Native		Nonnative		Management Recommendations
				# Individuals	% Cover	# Species	% Cover	# Species	% Cover	
San Miguel Savory (*Clinopodium chandleri)*	Boulder Oaks	BOCLCH01	E 505067 N 3646951	25	1	14	55	2	1	
		BOCLCH02	E 505422 N 3647075	46	2	13	49	5	1	Treat any perennial veldt grass (*Ehrharta calycina)* in vicinity
Variegated dudleya (*Dudleya variegata)*	Lusardi Creek	LCDUVA01	E 484873 N 3652555	79	2	12	30	5	25	Conduct weed management on purple false brome (*Brachypodium distachyon)*
	Sycamore Canyon/ Goodan Ranch	SYGODUVA01	E 502936 N 3643516	40	0.2	18	28	3	46	Conduct weed management on purple false brome (*Brachypodium distachyon)*
Willowy monardella (*Monardella viminea)*	Sycamore Canyon/ Goodan Ranch	SYC201501	E 502411 N 3642217	45	10	16	31	9	20	Hand-weeding of grasses around willowy monardella and maintenance in management area.

4.1.1 San Miguel Savory

Two San Miguel savory plots were monitored at Boulder Oaks Preserve in 2017. The total known population of San Miguel savory within Boulder Oaks Preserve is approximately 145 individuals; of these seventy-one individuals were monitored in two plots. An additional five seedlings were also counted (Figure 3).

Monitoring Plot Number BOCLCH01

Monitoring plot BOCLCH01 was established in the western portion of the San Miguel savory population. Center point coordinates of the plot are E 505067, N 3646951. Within the plot, 25 San Miguel savory plants were detected, and all 25 were fruiting. Total vegetative cover in the plot was 57 percent, with 56 percent native cover and 1 percent nonnative cover. Ramona-lilac (*Ceanothus tomentosus*) accounted for the most cover of all plants. Additional sensitive plant species occurring within the plot include southern mountain misery (*Chamaebatia australis*).

Monitoring Plot Number BOCLCH02

Monitoring plot BOCLCH02 was established in the eastern portion of the San Miguel savory population. Center point coordinates of the plot are E 505422, N 3647075. Within the plot, 46 San Miguel savory plants were detected— 46 fruiting. Total vegetative cover in the plot was 52 percent, with 51 percent native cover and 1 percent nonnative cover. Chamise (*Adenostoma fasciculatum*) accounted for the most cover of all plants. Additional sensitive plant species occurring within the plot include southern mountain misery. San Miguel savory was occurring within the understory of southern mountain misery which was in the understory of chamise.

Overall, the population of San Miguel savory within Bolder Oaks Preserve appears stable and to be doing well. Weed cover was extremely low in the monitoring plots. No immediate threats were detected. No management actions at the monitoring plots are recommended.

Adaptive Management Recommendations

Perennial veldt grass (*Ehrharta calycina*) is an exotic bunchgrass prevalent in sections of Boulder Oaks Preserve. Although not currently negatively affecting the San Miguel savory population, the potential invasion of perennial veldt grass into the San Miguel savory population should be monitored. If perennial veldt grass encroaches into San Miguel savory populations, perennial veldt grass should be treated with direct application of herbicide. Mowing, grazing, and weed-whipping are ineffective control strategies for perennial veldt grass.

San Miguel savory has been observed growing in the understory of dense chaparral on the steep, inaccessible terrain of the Boulder Oaks Preserve. This small subshrub is difficult to detect even when in bloom because of the density of the chaparral. This species may be more abundant on the Preserve than is currently documented. Additional focused rare plant surveys conducted in appropriate habitat during the blooming period would help to determine the current extent of this species on Boulder Oaks Preserve. The blooming period has been recorded as being March to July; reference populations should be checked and blooming confirmed before surveys are conducted.

4.1.2 Variegated Dudleya

Two variegated dudleya plots were monitored in 2017, one at Lusardi Creek Preserve and one at Sycamore Canyon/Goodan Ranch Preserve.

Monitoring Plot Number LCDUVA01

The known population of variegated dudleya within Lusardi Creek Preserve was observed to be approximately 199 individuals in 2017. Monitoring plot LCDUVA01 was established in the central portion of the variegated dudleya population (Figure 4). Center point coordinates of the plot are E 484873, N 365255. Within the plot, 79 variegated dudleya plants were detected—79 fruiting. Total vegetative cover in the plot was 57 percent, with 30 percent native cover and 25 percent nonnative cover. An invasive plant, purple false brome accounted for the most cover of all plants. Additional sensitive plant species occurring within the plot include coast barrel cactus (*Ferocactus viridescens*) and mesa spike-moss (*Selaginella cinerascens*). Monitoring and control of purple false brome is recommended. Purple false brome has heavily invaded the population of variegated dudleya within Lusardi Creek Preserve and poses an immediate threat to the entire population.

Monitoring Plot Number SYGODUVA01

The known population of variegated dudleya within Sycamore Canyon/Goodan Ranch Preserve was approximately 60 individuals. Monitoring plot SYGODUVA01 was established in the eastern portion of the variegated dudleya population (Figure 5a). Center point coordinates of the plot are E 502936, N 3643516. Within the plot, 40 variegated dudleya plants were detected—40 fruiting. Total vegetative cover in the plot was 61 percent, with 41 percent native cover and 46 percent nonnative cover. An invasive plant, purple false brome accounted for the most cover of all plants. Additional sensitive plant species occurring within the monitoring plot include San Diego thornmint (*Acanthomintha ilicifolia*).

Monitoring and control of purple false brome is recommended. Purple false brome has heavily invaded the population of variegated dudleya in Sycamore Canyon/Goodan Ranch Preserve and poses an immediate threat to the entire population.

Adaptive Management Recommendations

Control of purple false brome is recommended around the variegated dudleya populations on both Sycamore Canyon/Goodan Ranch and Lusardi Creek Preserves. Purple false brome has heavily invaded the populations of variegated dudleya on Lusardi Creek and Sycamore Canyon/Goodan Ranch Preserves and poses an immediate threat to the entire populations. Tocalote (*Centaurea melitensis*) is also prevalent in the clay soils around the variegated dudleya and should be removed. Grass thatch should also be removed in the variegated dudleya populations on Sycamore Canyon/Goodan Ranch and Lusardi Creek Preserves to allow for emergence of native wildflowers. Weed management should follow the recommendations in the CMP (ESA and ICF 2015). This includes delineating a management area around a polygon (group) of variegated dudleya. The management area should include a buffer of 10 meters around plants or clumps. Annual invasive species removal should be conducted within the defined management area to maintain no more than 20 percent cover of invasive non-native plants. Invasive non-native plants next to variegated dudleya plants should be pulled by hand. The remaining area can be controlled with herbicide or mechanical methods.

Willowy Monardella

The known population of willowy monardella within Sycamore Canyon/Goodan Ranch Preserve was approximately 284 individuals in 2017. One monitoring plot was established in the central portion of the population and monitored in 2017 (Figures 5b and 5c).

Monitoring Plot Number SYC201501

Monitoring plot SYC201501 was established in the central portion of the willowy monardella population. Center point coordinates of the plot are E 502411, N 3642217. Within the plot, 45 willowy monardella plants were detected— 3 vegetative and 42 flowering. Total vegetative cover in the plot was 61 percent, with 41 percent native cover and 20 percent nonnative cover. Willowy monardella accounted for second most cover of all plants.

One willowy monardella plant was located in the southwest portion of Sycamore Canyon/Goodan Ranch Preserve, coordinates are E 501046, N 3642547 (Figure 5c). No monitoring plot was established in this area, since it is a lone individual. The population was known to consist of at least a dozen plants in the mid 2000's (Dale Ritenour pers. comm).

Overall, the southeastern population of willowy monardella appears to be doing well, with minor weed management required.

Adaptive Management Recommendations

Following recommendations in the CMP, invasive non-native plants should be hand-weeded in the immediate vicinity of willowy monardella plants, with the goal of keeping weeds below 10 percent cover. In the willowy monardella management area, invasive non-native plants should be managed by mechanical or herbicide means to reduce invasive non-native plant cover to keep invasive non-native plants in the vicinity below 20 percent cover. Consider the reestablishment of the southwestern population (Figure 5c). Seed could be collected from mature shrubs in the main population on Sycamore Canyon/Goodan Ranch Preserve, or from upstream populations on adjacent City of San Diego Multi-habitat Preserve Area (MHPA), grown at a nursery, and then

replanted at the southwestern location. This species is also available as container plantings in the horticultural trade, though it is recommended to use locally-sourced seed to avoid introducing any potential exotic variability from nursery stock. Wire cages are recommended around newly planted shrubs to reduce herbivory by rabbits; rabbit herbivory was observed to be a significant factor of transplants at a nearby establishment project on City of San Diego MHPA lands.

4.2 Tricolored Blackbird

Ramona Grasslands Preserve was assessed for presence of tricolored blackbird and suitable nesting habitat, with a focus on Santa Maria Creek. Two large ponds are present on the Ramona Municipal Water District (RMWD) land, which is encircled by the Ramona Grasslands Preserve. A flock of 200-300 tricolored blackbirds was observed near the northern RMWD pond (Figure 6). The flock included adult males and females as well as fledglings. The birds were observed foraging within the Preserve just north of the pond and flying between the pond and the Preserve. A few tricolored blackbirds were also observed foraging along Santa Maria Creek just to the northwest of the pond.

The northern pond on the RMWD parcel was assessed by binocular and assessed to determine that it did not provide suitable nesting habitat in 2017 as there was no emergent vegetation around the edges of the pond large enough to support the number of nesting birds observed. The southern pond on the RMWD parcel did appear to have sufficient emergent wetland vegetation along the western edge of the pond. Though it could not be confirmed, the southern pond was the likely location where nesting occurred in 2017.

Marginally suitable tricolored blackbird nesting habitat occurs in riparian thickets along Santa Maria Creek from Rangeland Road northwest approximately 5,000 feet (Figure 6). Though the riparian thickets are not primary nesting habitat, there is marginal potential for tricolored blackbirds to nest within the mulefat and willows located within the creek channel if the emergent vegetation on the RMWD ponds was removed through operations and maintenance activities.

A stock pond located on the southwestern portion of the Preserve was assess to see if it could be enhanced to provide suitable tricolored blackbird nesting habitat (Figure 6). Currently, the stock pond contains small patches of bulrush (*Schoenoplectus* sp.) along the western edge of the pond. The pond is approximately 0.7 acre in surface area during maximum inundation. If this pond were entirely filled with suitable vegetation including bulrush, cattails (*Typha* spp.), blackberries (*Rubus* spp.), and stinging nettle (*Urtica dioica*) the size of the habitat would still be well below 2.0 acres, which is currently considered to be the minimum nesting habitat patch size (Dr. Robert Meese, Pers comm.). A pond of this small size would not have the interior space required by breeding females. Additionally, from a management position, the entire pond cannot be completely occupied by emergent wetland vegetation, as this pond serves as a watering location for cattle grazing on the Preserve, and provides opportunities for drinking by bats and other sensitive wildlife species. The stock pond is too small to be able to be enhanced to provide suitable nesting habitat for tricolored blackbird colonies.

Adaptive Management Recommendations

No wetland areas exist on Ramona Grasslands which are large enough to have good potential to support breeding colonies of tricolored blackbird.

Ramona Grasslands Preserve provides large tracks of un-developed grasslands which can and do serve as wintering and breeding season foraging habitat for tricolored blackbird. Tricolored blackbirds are known to use grasslands, irrigated pasture, grain crops, and alfalfa as preferred foraging locations (Shuford and Gardali eds. 2008). Shuford and Gardali (2008) report that vineyards and other row crops do not provide suitable foraging habitat. Development of this sort of agriculture around the Preserve, such as the vineyard installed south of Ramona Grasslands, will decrease the regional suitability of habitat for this species. Preservation of the Ramona Grasslands Preserve and other undeveloped grasslands and pasture help support populations of tricolored blackbirds breeding outside of the Preserve.

Chapter 5
References

County of San Diego. 1998. Implementing Agreement by and between United States Fish and Wildlife Service, California Department of Fish and Game, County of San Diego. March.

Dudek. 2011. *Baseline Biodiversity Survey for the Pascoe, Helix-Lambron and Cielo Azul Parcel Additions to the Del Dios Highlands Preserve.* Prepared for Department of Parks and Recreation, County of San Diego. May.

Environmental Science Associates and ICF International. 2015. Comprehensive Monitoring Plan. Prepared for the County of San Diego Department of Parks and Recreation

ICF International (ICF). 2008a. *Baseline Biological Resources Evaluation, El Capitan Preserve*. Prepared for Department of Parks and Recreation, County of San Diego. December.

———. 2008b. *Baseline Biological Resources Evaluation, El Monte County Park*. Prepared for Department of Parks and Recreation, County of San Diego. December.

———. 2008c. *Baseline Biological Resources Evaluation, Lakeside Linkage Preserve*. Prepared for Department of Parks and Recreation, County of San Diego. December.

———. 2008d. *Baseline Biological Resources Evaluation, Lusardi Creek Preserve*. Prepared for Department of Parks and Recreation, County of San Diego. June.

———. 2008e. *Baseline Biological Resources Evaluation, Oakoasis Open Space Preserve*. Prepared for Department of Parks and Recreation, County of San Diego. December.

———. 2008f. *Baseline Biological Resources Evaluation, Stelzer County Park*. Prepared for Department of Parks and Recreation, County of San Diego. December.

———. 2008g. *Baseline Biological Resources Evaluation, Sycamore Canyon/Goodan Ranch Preserve*. Prepared for Department of Parks and Recreation, County of San Diego. December.

———. 2010. *Baseline Biodiversity Report, Ramona Grasslands Preserve*. Prepared for Department of Parks and Recreation, County of San Diego. August.

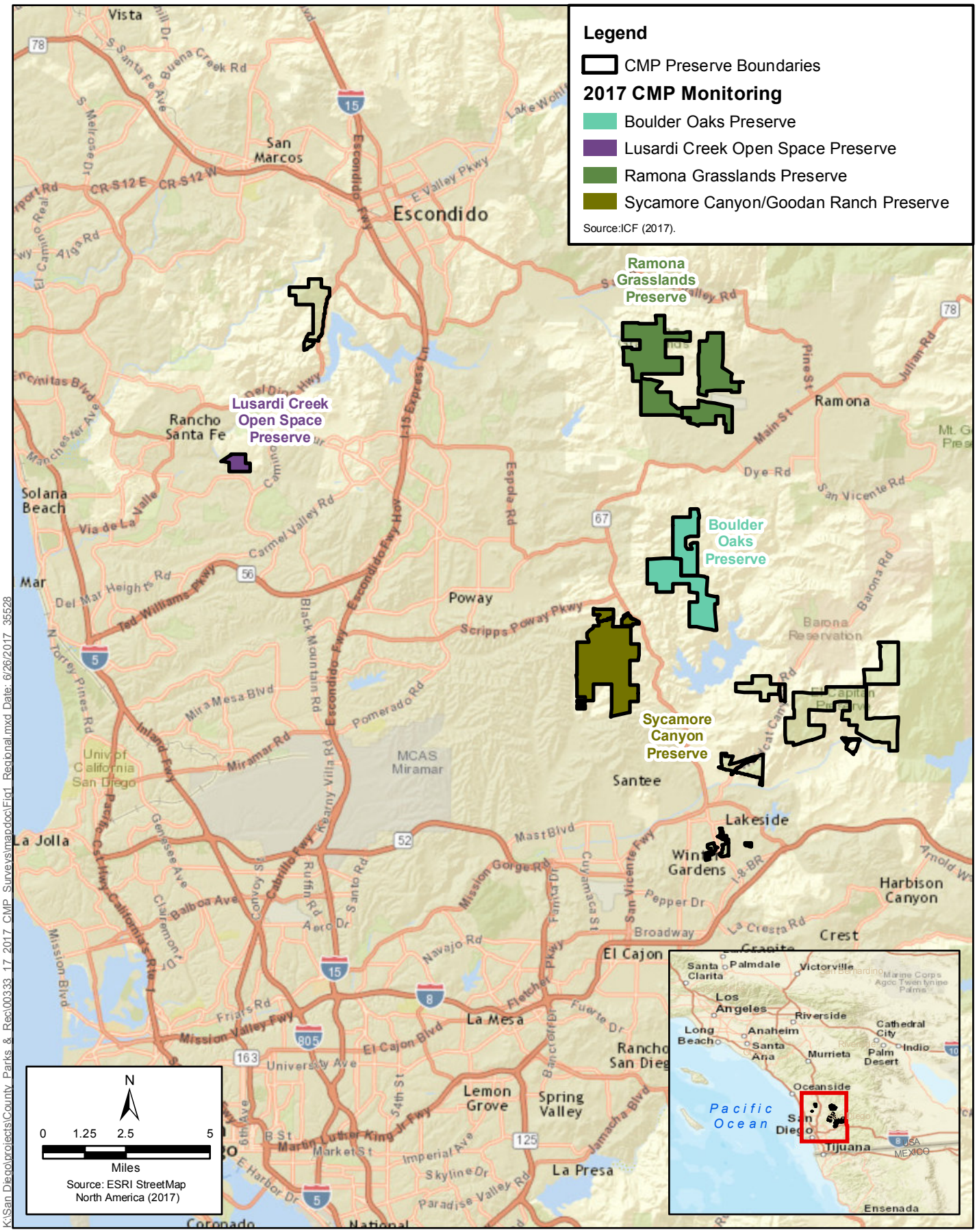
———. 2013. *Boulder Oaks Baseline Biodiversity Inventory*. Prepared for Department of Parks and Recreation, County of San Diego. September.

Personal communication with Dr. Robert J. Meese, University of California, Davis. 2015.

Shuford, W. D., and Gardali, T., editors. 2008. California Bird Species of Special Concern: A ranked assessment of species, subspecies, and distinct populations of birds of immediate conservation concern in California. Studies of Western Birds 1. Western Field Ornithologists, Camarillo, California, and California Department of Fish and Game, Sacramento.

Technology and Associates (TAIC). 2008. *Biological Diversity Baseline Report, Del Dios Highlands Preserve*. Prepared for San Diego County. November.

Appendix A
Figures



K:\San Diego\projects\County Parks & Rec\00333 17 2017 CMP Surveys\mapdoc\Fig1 Regional.mxd Date: 6/26/2017 35528

Figure 1
Regional Location
Implementation of CMP - 2017 Annual Monitoring Report

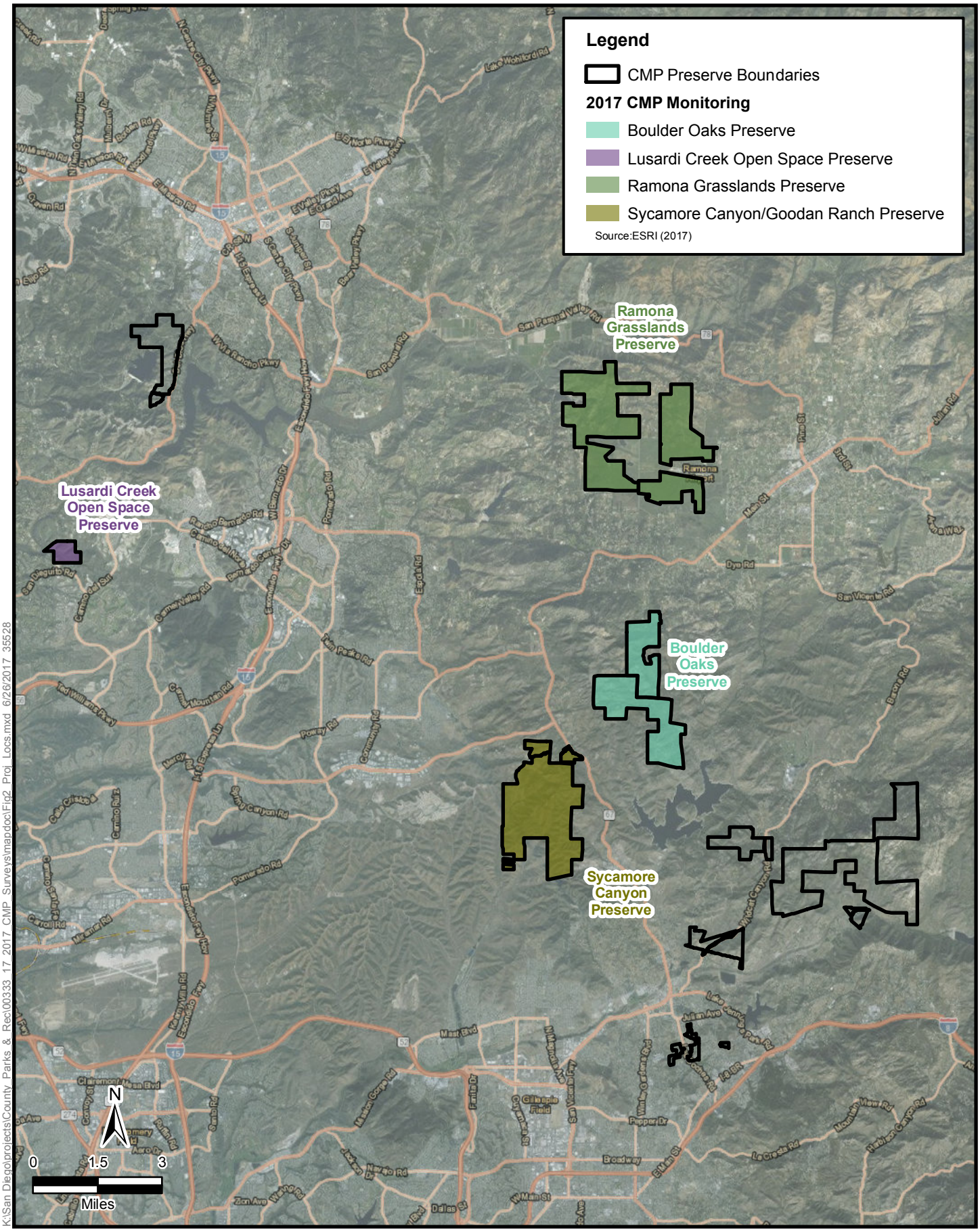
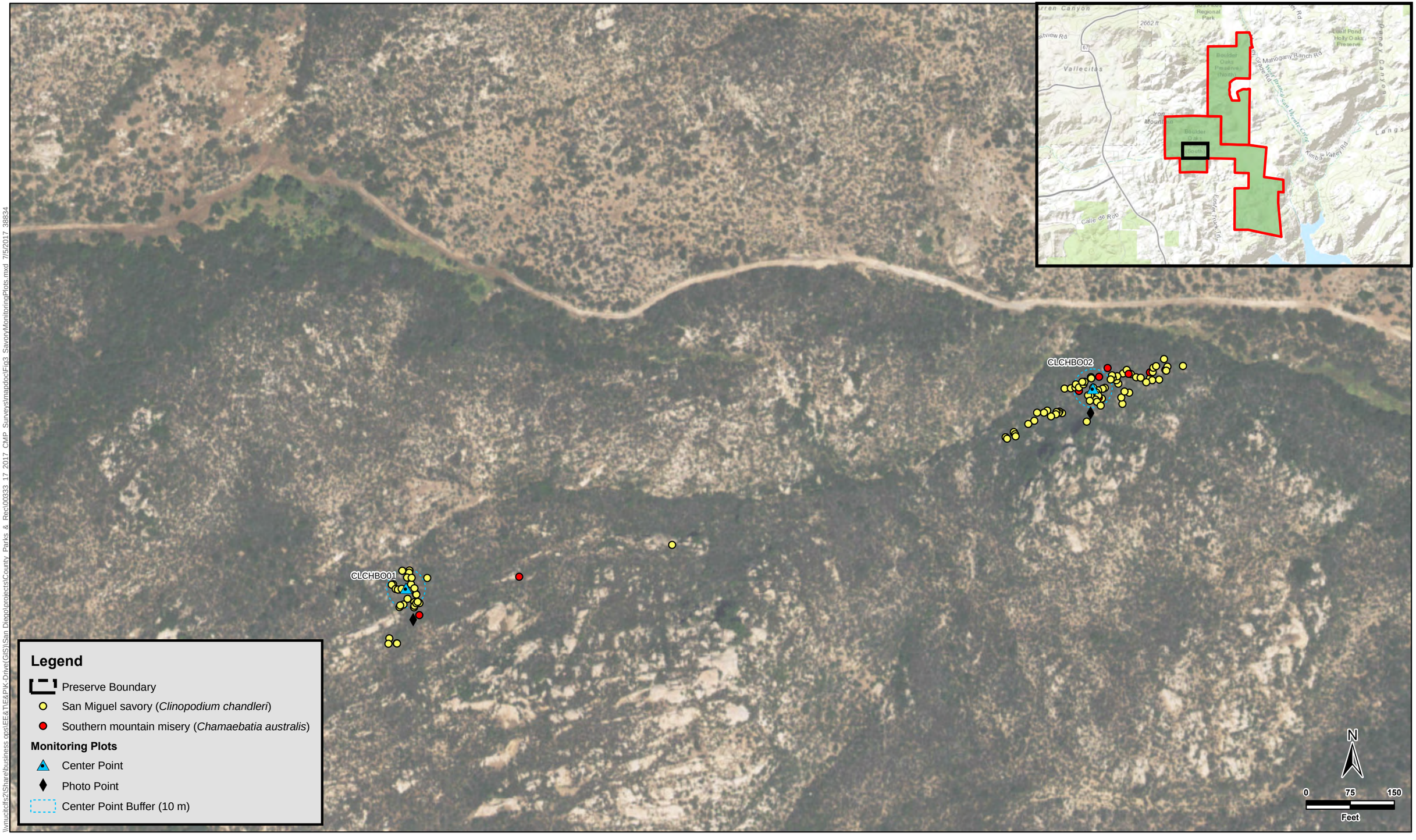
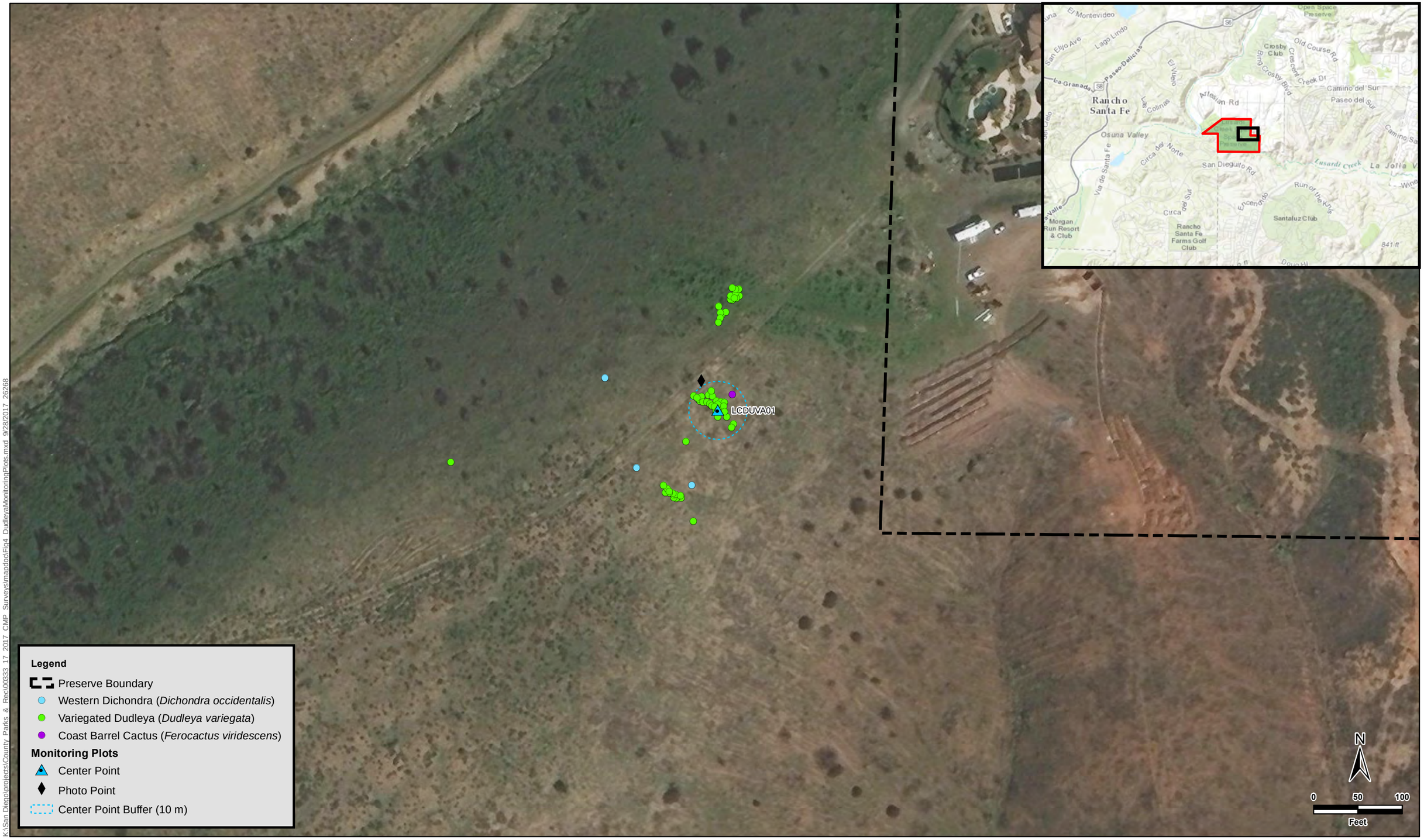


Figure 2
Project Location Map
Implementation of CMP – 2017 Annual Monitoring Report



\\vnucitdfs2\Share\business ops\EE&TE&PK-Drive\GIS\San Diego\projects\County Parks & Rec\00333 17 2017 CMP Surveys\mapdoc\Fig3_SavoryMonitoringPlots.mxd 7/5/2017 38834

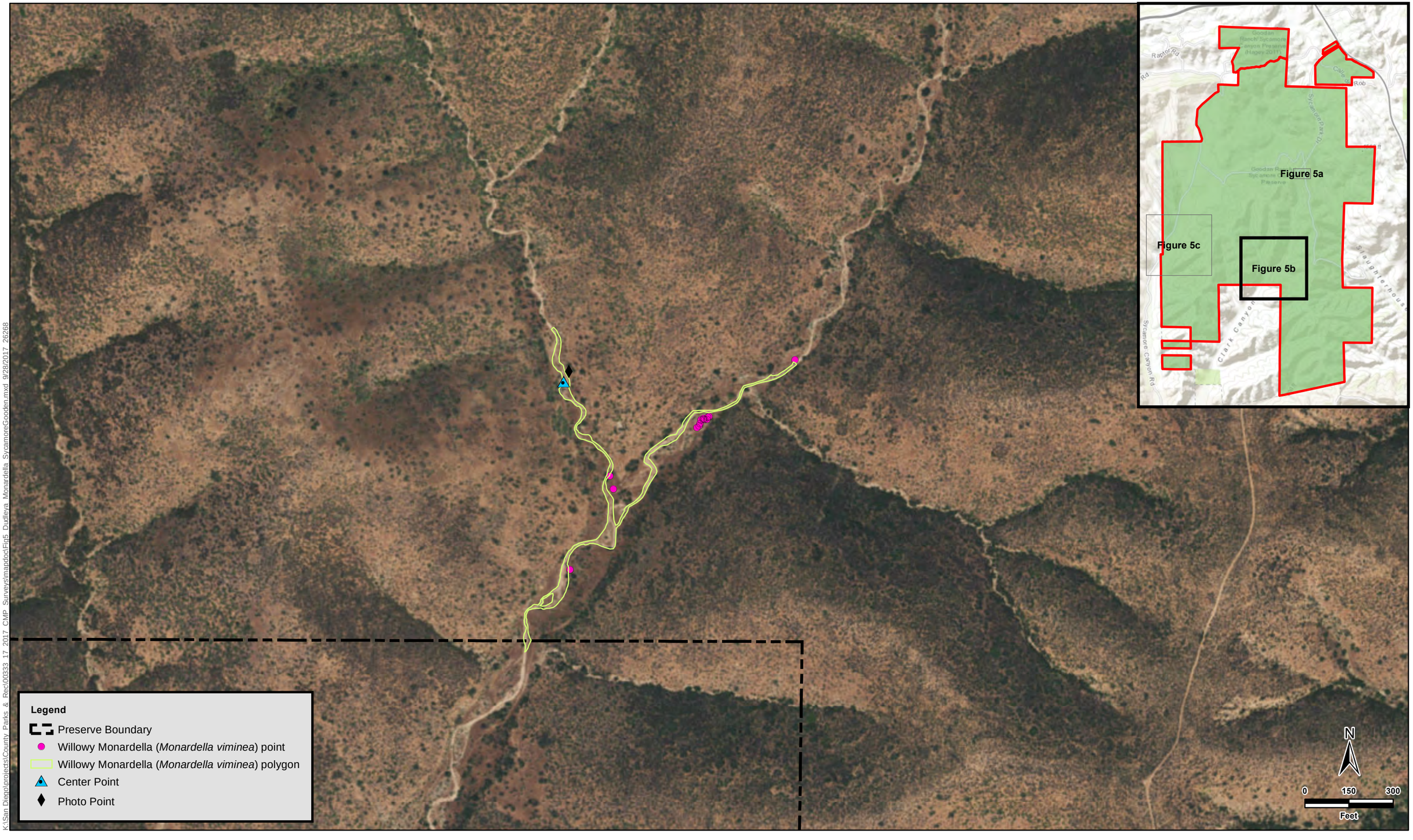
Figure 3
San Miguel Savory Monitoring Plots - Boulder Oaks Preserve
Implementation of CMP – 2017 Resource Specific Monitoring Annual Report
County of San Diego Department of Parks and Recreation



K:\San Diego\projects\County Parks & Rec\00333_17 2017 CMP Surveys\mapdoc\Fig4 DudleyaMonitoringPlots.mxd 9/28/2017 26268

Figure 4
Variegated Dudleya Monitoring Plots - Lusardi Creek Preserve
Implementation of CMP – 2017 Resource Specific Monitoring Annual Report
County of San Diego Department of Parks and Recreation

Figure 5a
Variegated Dudleya Monitoring Plots – Sycamore Canyon/Goodan Ranch Preserve
Implementation of CMP – 2017 Resource Specific Monitoring Annual Report
County of San Diego Department of Parks and Recreation



K:\San Diego\projects\County Parks & Rec\00333 17 2017 CMP Surveys\mapdoc\Fig5 Dudleya Monardella_SycamoreGooden.mxd 9/28/2017 26268

Figure 5b
Variegated Dudleya Monitoring Plots – Sycamore Canyon/Goodan Ranch Preserve
Implementation of CMP – 2017 Resource Specific Monitoring Annual Report
County of San Diego Department of Parks and Recreation

Figure 5c
Willowy Monardella Monitoring Plots – Sycamore Canyon/Goodan Ranch Preserve
Implementation of CMP – 2017 Resource Specific Monitoring Annual Report
County of San Diego Department of Parks and Recreation

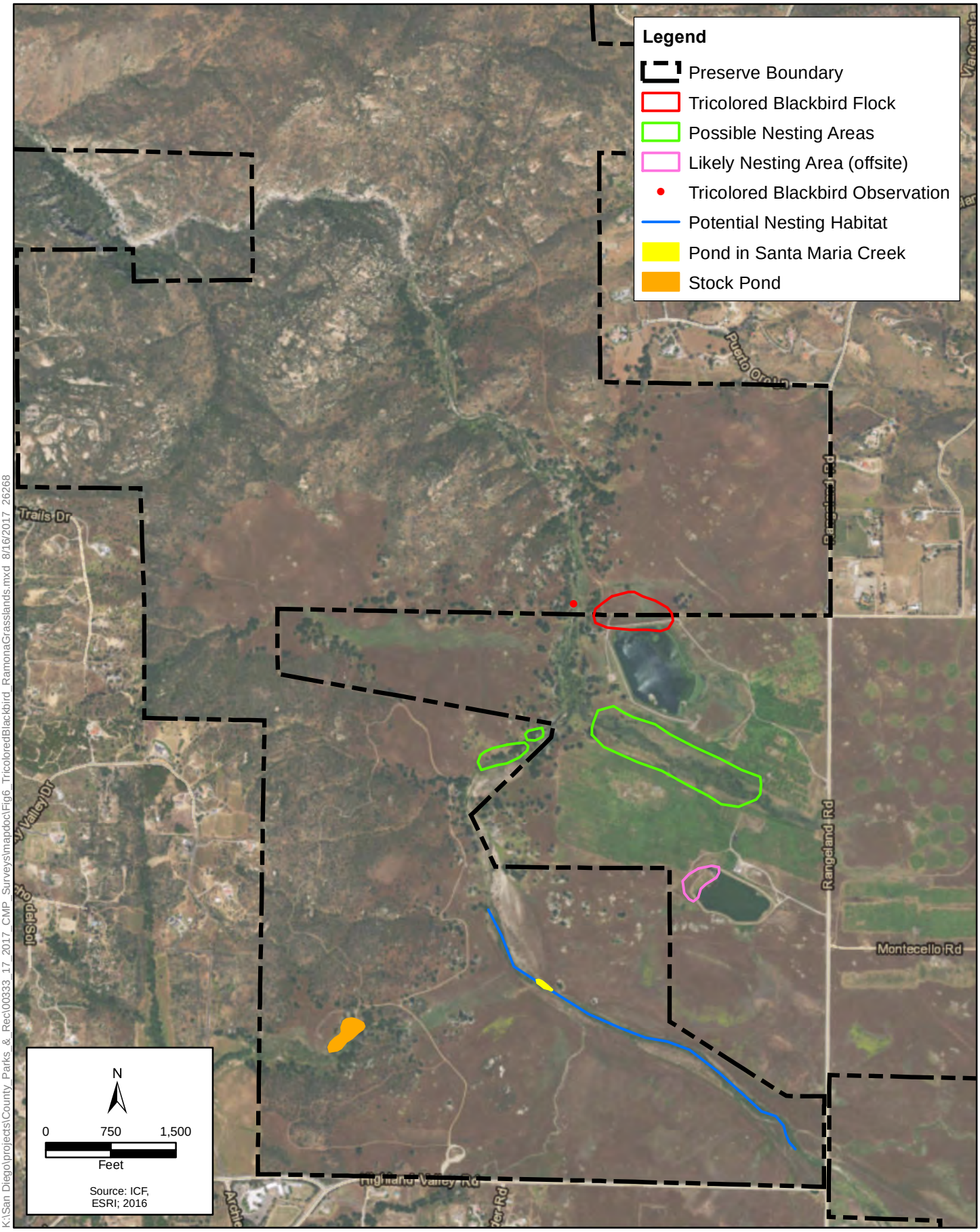


Figure 6
Tricolored Blackbird Survey – Ramona Grasslands Preserve
Implementation of CMP – 2017 Resource Specific Monitoring Annual Report

Appendix B

Photo Log

Appendix B - 2017 CMP Resource-Specific Monitoring Photo Log

Photograph: 1

Plot ID: BOCLCH01

Date: June 8, 2017

Direction: View facing north

Notes: Overview of San Miguel savory (*Clinopodium chandleri*) monitoring plot 1 at Boulder Oaks Preserve.

Photograph: 2

Plot ID: BOCLCH01

Date: June 8, 2017

Direction: View facing northwest

Notes: San Miguel savory present in understory of chaparral vegetation (not visible in photo).

Photograph: 3

Plot ID: BOCLCH01

Date: June 8, 2017

Direction: View facing northeast

Appendix B - 2017 CMP Resource-Specific Monitoring Photo Log

Photograph: 4

Plot ID: BOCLCH01

Date: June 8, 2017

Direction: N/A

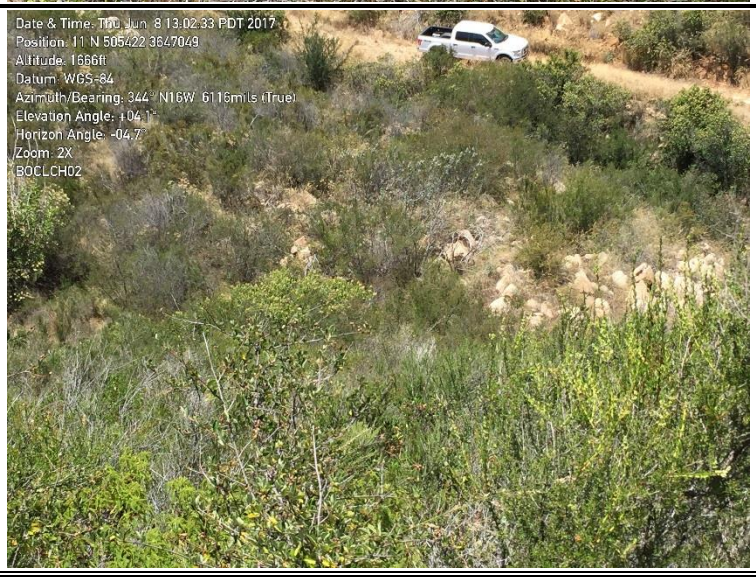
Notes: San Miguel savory subshrub in understory of chamise (*Adenostoma fasciculatum*).

Photograph: 5

Plot ID: BOCLCH02

Date: June 8, 2017

Direction: View facing northeast



Photograph: 6

Plot ID: BOCLCH02

Date: June 8, 2017

Direction: View facing northwest

Notes: Foster Truck trail in background

Appendix B - 2017 CMP Resource-Specific Monitoring Photo Log

Photograph: 7

Plot ID: BOCLCH02

Date: June 8, 2017

Direction: View facing northeast

Photograph: 8

Plot ID: BOCLCH02

Date: June 8, 2017

Direction: N/A

Notes: San Miguel savory plant

Photograph: 9

Plot ID: LCDUVA01

Date: June 8, 2017

Direction: View facing northeast

Notes. Overview of habitat occupied by variegated Dudleya (*Dudleya variegata*) at Lusardi Creek Preserve.

Appendix B - 2017 CMP Resource-Specific Monitoring Photo Log

Photograph: 10

Plot ID: LCDUVA01

Date: June 8, 2017

Direction: View facing northeast

Photograph: 11

Plot ID: LCDUVA01

Date: June 8, 2017

Direction: View facing northeast

Photograph: 12

Plot ID: LCDUVA01

Date: June 8, 2017

Direction: N/A

Notes: Variegated dudleya in fruit

Appendix B - 2017 CMP Resource-Specific Monitoring Photo Log

			**Photograph:** 13 **Plot ID:** SYGODUVA01 **Date:** June 23, 2017 **Direction:** View facing northeast Notes. Overview of variegated dudleya monitoring plot 1 at Sycamore Canyon/Goodan Ranch Preserve.
			**Photograph:** 14 **Plot ID:** SYGODUVA01 **Date:** June 23, 2017 **Direction:** View facing northeast
			**Photograph:** 15 **Plot ID:** SYGODUVA01 **Date:** June 23, 2017 **Direction:** View facing northeast

Appendix B - 2017 CMP Resource-Specific Monitoring Photo Log

		**Photograph:** 16 **Plot ID:** SYGODUVA01 **Date:** June 23, 2017 **Direction:** N/A **Notes:** Variegated dudleya in fruit
		**Photograph:** 17 **Plot ID:** SYC201501 **Date:** June 30, 2017 **Direction:** View facing southwest **Notes**: Overview of willowy monardella monitoring plot 1 at Sycamore Canyon/Goodan Ranch Preserve. Willowy monardella can be seen as light green shrubs along the cobble in the left side of the photo.
		**Photograph:** 18 **Plot ID:** SYC201501 **Date:** June 30, 2017 **Direction:** View facing northwest

Appendix B - 2017 CMP Resource-Specific Monitoring Photo Log

Photograph: 19

Plot ID: SYC201501

Date: June 30, 2017

Direction: View facing southwest

Photograph: 20

Plot ID: SYC201501

Date: June 30, 2017

Direction: N/A

Notes: Willowy monardella (mature shrub) in flower.

Photograph: 21

Plot ID: N/A

Date: June 29, 2017

Direction: N/A

Notes: The lone willowy monardella in the southwest portion of the Sycamore Canyon/Goodan Ranch Preserve. Coordinates – E 501046, N 3642547. Willowy monardella often grows associated with California buckwheat (*Eriogonum fasciculatum*).