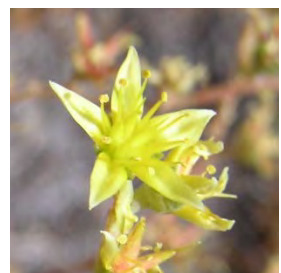


City of San Diego 2015 MSCP Rare Plant Monitoring Report

City of San Diego
Park and Recreation Department
Open Space Division

August 2015



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Appendix A - City of San Diego MSCP Rare Plant Monitoring: 2015 Field Monitoring Dates and Staff

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I. Introduction

The Biological Monitoring Plan for the Multiple Species Conservation Program (Ogden Environmental, Inc. 1996), Status Summary of MSCP Biological Monitoring Protocols (Conservation Biology Institute 2001), San Diego MSCP Rare Plant Monitoring Review and Revision (USGS, 2007) and the Assessment of Eleven Years of Rare Plant Monitoring Data from the San Diego Multiple Species Conservation Program (2010) are important components of the City of San Diego's MSCP under its 1997 Implementing Agreement (R28455) with the U.S. Fish and Wildlife Service and the California Department of Fish and Wildlife. The monitoring program includes plant, animal, and habitat monitoring requirements for each MSCP-participating jurisdiction; the City of San Diego began rare plant monitoring in 1999. In 2015, the City performed rare plant monitoring using the Management Strategic Plan (MSP) 2015 Monitoring Protocol (SDMMP 2015):

Acanthomintha ilicifolia – Black Mountain, Dennery Ranch East, Los Penasquitos Canyon, Mission Trails Regional Park, Otay Lakes, Sabre Springs

Acmispon prostratus – Mission Bay

Ambrosia pumila – Mission Trails Regional Park (Kumeyaay Lake)

Bloomeria clevelandii – East Elliott, Lopez Ridge, Marron Valley, Mission Trails Regional Park, Otay Lakes

Brodiaea filifolia – Black Mountain

Brodiaea orcuttii – Carroll Canyon, Lopez Ridge, Mission Trails Regional Park (Oak Creek), Nobel Drive

Chloropyron maritimum ssp. *maritimum* – Dog Beach

Cylindropuntia californica var. *californica* – Balboa Golf, Otay Mesa, Spring Canyon

Deinandra conjugens – Dennery Ranch, Dennery Ranch East, Proctor Valley

Dicranostegia orcuttiana – Otay River Valley

Dudleya brevifolia – Carmel Mountain, Crest Canyon

Dudleya variegata – Black Mountain East, East Elliott, Goat Mesa/Spring Canyon, Marron Valley, Mercy Road, Mission Trails Regional Park, Rancho Mission Canyon, Otay Lakes, Santa Luz

Eryngium aristulatum var. *parishii* – Goat Mesa/Spring Canyon, Otay Lakes

Erysimum ammophilum – Crest Canyon, North City West Open Space

Monardella stoneana – Marron Valley, Otay Lakes

Monardella viminea – Flanders Canyon, Lopez Canyon, Sycamore Canyon

Navarretia fossalis – Carroll Canyon, Goat Mesa/Spring Canyon, Nobel Drive, Otay Lakes, Robinhood Ridge

Pogogyne abramsii – Carroll Canyon, Lopez Ridge

Pogogyne nudiuscula – Robinhood Ridge

Rosa minutifolia – Dennery Ranch

References:

San Diego Management and Monitoring Program (SDMMP). 2015. Management Strategic Plan (MSP) 2015 Monitoring Protocol for Rare Plant Occurrences on Conserved Lands in Western San Diego County. Prepared March 11, 2014; revised March 5, 2015.

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City of San Diego MSCP Rare Plant Monitoring: 2015 Summary Results

Species	Site Name	Population			Native		Non-Native		Management Recommendations	Field Data Sht (pg.#)	Photo (pg. #)
		Area (m ²) ¹	# Individuals in current maximum extent	Percent cover in sampling area	Number of Species ²	Percent Cover ²	Number of Species	Percent Cover ³			
<i>Acanthomintha ilicifolia</i> (San Diego Thorn-mint)	Black Mountain	21.1	10	1%	11	87%	11	41%	Continue treating with herbicide per CBI protocol, include additional weed control (i.e. weed whipping) as needed	8	11
	Dennerly Ranch East	25.3	150	1%	9	25%	11	68%	Continue to maintain fencing around population to limit and control access; continue treating with herbicide per CBI protocol, include additional weed control (i.e. weed whipping) as needed	13	16
	Los Penasquitos Canyon Obs. 1	8.3	53	<1%	16	53%	4	26%	Analyze Feb 2015 management results and continue treatment program as necessary	18	21
	Los Penasquitos Canyon Obs. 2	0.0	0	0%	10	28%	6	42%	Analyze Feb 2015 management results and continue treatment program as necessary	23	26
	Los Penasquitos Canyon Obs. 3	7.0	4	<1%	13	36%	3	19%	Analyze Feb 2015 management results and continue treatment program as necessary	28	31
	Mission Trails Regional Park	23.6	510	0%	18	50%	6	78%	Analyze Feb 2015 management results and continue treatment program as necessary.	33	36
	Otay Lakes	0.0	0	0%	17	103%	11	39%	Treat non-native forbs (e.g. <i>Erodium</i>) as necessary; continue to control access via fencing and locked gate	38	41
	Sabre Springs East #1 Subpopulation	7.3	7	1%	13	60%	12	54%	Analyze Feb 2015 management results and continue treatment program as necessary	43	46
	Sabre Springs West #2 Subpopulation	3.2	7	1%	10	63%	11	76%	Analyze Feb 2015 management results and continue treatment program as necessary	48	51
	Sabre Springs South #3 Subpopulation	5.5	6	0%	11	35%	9	35%	Analyze Feb 2015 management results and continue treatment program as necessary	53	56
<i>Acmispon prostratus</i> (Nuttall's Lotus)	No Man's Land (Mission Bay Site #1)	2	2	0%	4	11%	5	50%	Treat <i>Brassica tournefortii</i> using proven methods once available	60	63
	Hospitality Point (Mission Bay Site #2)	2939.0	2,026	5%	3	11%	4	19%	Continue to pull/remove non-native species. Consider application of herbicide to treat crab grass in areas where ACPR occurs	65	68
	Rip Rap (Mission Bay Site #3)	262.3	647	0%	4	21%	10	58%	None	70	73
	Mariner's Point (Mission Bay Site #4)	†	†	†	†	†	†	†	Continue to restrict access with fencing and signs	75	78
	Dune Triangle (Mission Bay Site #5)	0.0	0	0%	4	43%	4	11%	Treat <i>Brassica tournefortii</i> using proven methods once available	79	82
	South Shores (Mission Bay Site #6)	6855.5	431	1%	5	5%	8	43%	Continue San Diego Audubon's management of the site; continue management of iceplant but consider starting management focusing on <i>Brassica tournefortii</i> moving forward	84	87
		Note: Presence/absence only surveys conducted at Mariner's Point									
<i>Ambrosia pumila</i> (San Diego Ambrosia)	Mission Trails Regional Park Kumeyaay Lake	7930.3	28,456	0%	15	32%	5	11%	Continue the herbicide treatment as needed (e.g. spot-spraying for <i>Erodium</i> and <i>Brassica</i> , and control of non-native grasses)	90	93
<i>Bloomeria clevelandii</i> (San Diego Goldenstar)	East Elliott Obs. 1	25054.0	1100	3%	13	36%	6	54%	Continue to monitor and make sure old illegal trail does not start getting more use	96	99
	East Elliott Obs. 2	8.1	7	0%	15	74%	4	14%	None	101	104
	East Elliott Obs. 3	1900.7	59	1%	11	43%	5	11%	None	106	109
	East Elliott Obs. 4	7806.2	133	1%	18	75%	5	10%	None	111	114
	East Elliott Obs. 5	21509.7	550	2%	14	54%	4	6%	None	116	119
	Lopez Ridge	1164.0	560	1%	23	90%	6	34%	Continue to control access using fence and locked gate	121	124
	Marron Valley Obs. 1	82578*	290000*	5%	18	51%	9	38%	Continue to control access with locked gates	126	129
	Marron Valley Obs. 2	82578*	290000*	20%	22	80%	11	69%	Continue to control access with locked gates	131	134
	Marron Valley Obs. 3	82578*	290000*	7%	22	55%	15	46%	Continue to control access with locked gates	136	139
	Marron Valley Obs. 4	82578*	290000*	10%	9	42%	8	59%	Continue to control access with locked gates	141	144
	Mission Trails Regional Park	0.0	0	0%	12	43%	7	95%	Continue to maintain post-burn and treat non-native grasses	146	149
	Otay Lakes East Obs. 1	308891*	75000*	1%	18	106%	3	18%	Treat non-native forbs (<i>Erodium</i> spp.) as necessary; continue to control access via fencing and locked gate	151	154
	Otay Lakes West Obs. 2	308891*	75000*	2%	14	121%	5	25%	Treat non-native forbs (<i>Erodium</i> spp.) as necessary; continue to control access via fencing and locked gate	156	159

City of San Diego MSCP Rare Plant Monitoring: 2015 Summary Results

Species	Site Name	Population			Native		Non-Native		Management Recommendations	Field Data Sht (pg.#)	Photo (pg. #)
		Area (m ²) ¹	# individuals in current maximum extent	Percent cover in sampling area	Number of Species ²	Percent Cover ²	Number of Species	Percent Cover ³			
<i>Brodiaea filifolia</i> (Thread-leaved Brodiaea)	Black Mountain	31.4	10	1%	7	29%	7	111%	Treat <i>Brachypodium distachyon</i> using CBI protocol	162	169
<i>Brodiaea orcuttii</i> (Orcutt's Brodiaea)	Carroll Canyon	504.0	1273	1%	17	67%	3	9%	None	168	171
	Lopez Ridge	1295.5	1771	1%	23	90%	6	34%	Continue to control access using fence and locked gate	173	176
	Oak Creek (MTRP)	20.5	19	†	26	†	17	†	None	178	181
	Nobel Drive	0	0	0%	12	35%	8	23%	Continue current management by Caltrans	183	186
<i>Chloropyron maritimum</i> ssp. <i>maritimum</i> (Salt-marsh Bird's Beak)	Dog Beach	1977.0	17793	20%	8	80%	2	16%	Repair broken fence near population; treat <i>Limonium</i> spp. with best management practices when available	190	193
<i>Cylindropuntia californica</i> (Snake Cholla)	Balboa Park Golf	81.6	2	1%	20	89%	0	0%	None	196	199
	Otay Mesa	1205.28	32	0%	10	30%	7	34%	Continue to control access at entrance with locked gate	201	204
	Spring Canyon	2030.0	57	0%	11	46%	10	26%	Continue to maintain access control- signs, fences, and gates	206	209
<i>Deinandra conjugens</i> (Otay Tarplant)	Dennery Ranch	70.8	5	<1%	12	43%	8	35%	Continue to maintain fences/gates	212	215
	Dennery Ranch East	42393.0	35000	15%	10	33%	10	45%	Treat non-native forbs and grasses; close unauthorized trail	217	220
	Proctor Valley	1732.2	380	2%	8	23%	9	83%	Treat <i>Brachypodium distachyon</i> using CBI methods if funding is available	222	225
<i>Dicranostegia orcuttiana</i> (Orcutt's Bird's Beak)	Otay River Valley	621.0	8038	5%	19	54%	2	2%	Fix peeler log fence that has been broken	228	231
<i>Dudleya brevifolia</i> (Short-Leaved Dudleya)	Carmel Mountain Obs. 1	213.8	3118	1%	12	24%	6	17%	Add cable to complete fence installation to keep people on trail	234	237
	Carmel Mountain Obs. 2	237.9	1053	1%	18	42%	2	3%	Continue to maintain access control with fencing, and native plantings to rehabilitate trail	239	242
	Carmel Mountain Obs. 3	1203.7	18860	1%	19	30%	2	7%	Continue to maintain access control with fencing and other trail closure techniques	244	247
	Crest Canyon North	134.4	4480	2%	17	61%	4	15%	Continue to manage access and monitor for trampling by adjacent homeowner	249	252
	Crest Canyon South	9.9	42	1%	19	47%	1	<1%	Continue to maintain access control with fencing	254	257
<i>Dudleya variegata</i> (Variegated Dudleya)	Black Mountain East	0.0	0	0%	14	79%	6	58%	Treat for <i>Brachypodium distachyo</i> ; spot treat for <i>Cynara cardunculus</i>	260	263
	East Elliott - Creek	0.0	0	0%	14	77%	9	50%	Illegal trail will be closed as part of the on-going NRMP/Master Plan Update process	265	268
	East Elliott - Hilltop	46.2	44	1%	20	76%	5	10%	Maintain trail closure and increased enforcement	270	273
	East Elliott - Slope	0.0	0	0%	6	60%	6	48%	None	275	278
	Goat Mesa (Spring Canyon)	90.0	68	1%	18	52%	5	9%	Continue to maintain access control with fencing and locked gates	280	283
	Marron Valley	496.3	2801	2%	12	31%	9	73%	Control non-native grasses and forbs around areas of high density; protect soil crust when possible; continue to maintain access control via signs and gate	285	288
	Mercy Road	129.5	53	2%	17	86%	6	27%	None	290	293
	Mission Trails #1	2.8	7	1%	11	38%	7	25%	None	295	298
	Mission Trails #2	232.0	343	1%	13	35%	6	40%	None	300	303
	Mission Trails #3	44.7	100	2%	13	36%	8	46%	None	305	308

City of San Diego MSCP Rare Plant Monitoring: 2015 Summary Results

Species	Site Name	Population			Native		Non-Native		Management Recommendations	Field Data Sht (pg.#)	Photo (pg. #)
		Area (m ²) ¹	# Individuals in current maximum extent	Percent cover in sampling area	Number of Species ²	Percent Cover ²	Number of Species	Percent Cover ³			
	Navajo/Mission Gorge	322.8	1007	1%	11	53%	6	56%	Treat non-natives occurring along the edge of the maximum extent (e.g. fennel); use fusilade to treat non-native grasses within current mapped extent	310	313
	Otay Lakes	0.0	0	0%	12	63%	4	11%	Maintain access control with locked gate and fencing/signs	315	318
	Santa Luz	0.0	0	0%	7	48%	9	78%	None	320	323, 324
<i>Eryngium aristulatum</i> var. <i>parishii</i> (San Diego Button Celery)	Goat Mesa #1 (Spring Canyon)	84.6	488	2%	5	20%	4	18%	Continue to maintain access control with fencing and locked gates	328	331
	Goat Mesa #2 (Spring Canyon)	496.4	760	2%	7	36%	7	46%	Continue to maintain access control with fencing and locked gates	333	336
	Otay Lakes	9075.87	5055	5%	8	51%	7	17%	Maintain access control with locked gate and fencing and signs	338	341
<i>Erysimum ammodendrum</i> (Coast Wallflower)	Crest Canyon	204.54	42	2%	29	74%	2	4%	1. Continue to treat <i>Ehrharta calycina</i> with herbicide; last treatment was successful. 2. Brush in foot paths where they connect to main approved trails at canyon bottom	344	347
	North City West Open Space #3 (Gully)	218	222.2	10%	17	123%	1	1%	Be careful in return visits to avoid cutting trail. Consider doing this point only in high rainfall or alternate years to minimize damage to habitat	352	354
<i>Monardella stoneana</i> ⁴ (Jennifer's Monardella)	Marron Valley	53.0	4	1%	22	51%	11	31%	None	356	359
	Otay Lakes	0.0	0	0%	12	45%	14	46%	None	361	364
<i>Monardella viminea</i> (Willow Monardella)	Flanders Canyon	361.5	86	5%	7	70%	6	9%	None	369	371
	Lopez Canyon West Terrace #1	0.0	0	0%	13	36%	12	65%	Treat non-native grasses and forbs; consider implementing strategies to address urban runoff following pending hydrology study	373	376
	Lopez Canyon East of Bridge #2	131.4	9	2%	19	53%	11	36%	Treat non-native grasses and forbs; consider implementing strategies to address urban runoff following pending hydrology study	378	381
	Lopez Canyon East of Bridge #3	9.9	4	2%	17	62%	15	32%	Treat non-native grasses and forbs; consider implementing strategies to address urban runoff following pending hydrology study	383	386
	Sycamore Canyon	170.8	90	10%	18	45%	14	34%	None	388	391
<i>Navaretia fossalis</i> (Spreading Navaretia)	Carroll Canyon	0.0	0	0%	14	63%	3	3%	None	394	397
	Goat Mesa (Spring Canyon)	0.0	0	0%	5	20%	4	18%	Continue to control access with fencing and locked gates	399	402
	Nobel Drive	8.7	8	1%	12	35%	8	23%	Continue current management by Caltrans	404	407
	Otay Lakes	0.0	0	0%	21	72%	10	38%	Continue to maintain access control with fencing, locked gate and signs	409	412
	Robinhood Ridge	0.0	0	0%	10	71%	12	35%	Fix gate and replace lock; post and remove encampment	414	417
<i>Pogogyne abramsii</i> (San Diego Mesa Mint)	Carroll Canyon	165.9	1966	12%	16	61%	3	5%	None	420	423
	Lopez Ridge	395.0	4500	5%	23	90%	6	34%	Continue to control access using fence and locked gate	425	428
<i>Pogogyne nudiuscula</i> (Otay Mesa Mint)	Robinhood Ridge	61.13	44	4%	10	71%	12	35%	Fix gate and replace lock; post and remove encampment.	432	435
<i>Rosa minutifolia</i> (Small-leaved Rose)	Dennerly Ranch	134.5	9	3%	12	43%	8	35%	Continue to maintain fences/gates	438	441

1) Current Mapped Extent

2) Number and percent cover of native species includes species of interest.

3) Elvin, M.A. and Sanders, S.C. (2003) A New Species of Monardella (Lamiaceae) from Baja California, Mexico, and Southern California, United States. Novon. 13:4. 425-432

* Photopoint locations within the same large continuous polygon mapped as current mapped extent

† No data collected

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Acanthomintha ilicifolia
San Diego Thorn-Mint



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MSP - Rare Plant Occurrence Monitoring Form 2015										Page 1	
Scientific Name:		Acanthomintha ilicifolia				Common Name:		San Diego thornmint			
Existing MSP Occurrence?		yes		MSP Occurr. ID:		ACIL_6BLMO032					
CNDDB Elem. Occur. #:		n/a		Translocated?		no					
Preserve:		Black Mountain Open Space Park				Mgmt Unit		MU6			
Land Owner:		City of San Diego			Land Mangr:		City of San Diego Park and Recreation Department				
Occurrence Name:		Black Mountain				Sample Point #:		1			
Surveyors:		Kim Roeland, Betsy Miller, Daniel Schwartz				Affiliation		City of San Diego			
Date:		3/17/2015		Time Start:		10:30		Time Finish:		12:05	
I. OCCURRENCE STATUS - Assess # plants in both species-specific sampling area (typically 10-m radius circle) & in current mapped extent . See p. 4 for definitions of categories describing phenology & evidence of herbivory, disease & stunted growth within the sampling area. Record any notes on p. 3.											
# Plants/Current Mapped Extent:		10		exact count or estimate?		exact		uncert.		very low	
Area of Current Mapped Extent:		21.09		units		square meters		exact (GPS) or estim?		exact (GPS ma	
Species Found in Maximum Extent?		yes		if not found, known or suspected reason:							
# Plants/Sampling Area		2		exact count or estimate?		exact		uncert.		very low	
Sample Area Radius (m)		10									
Phenology In Sampling Area (1-6):		Vegetative		1 (0%)		Flowering		1 (0%)		Fruiting	
		Dead		1 (0%)		Flowering & Fruiting		6 (≥75%)			
Evidence in Sampling Area (1-6):		Herbivory		1 (0%)		Disease		1 (0%)		Stunted Growth	
										6 (≥75%)	
Is Sampling Area within Current Mapped Extent?		yes									
Collection (if not collected previously)?		no									
If yes:		Collector				Collection #					
		Museum/Herbarium									
II. SAMPLING AREA LOCATION & SITE PHOTOMONITORING											
GPS Accuracy: +/-		<1		accur. units:		meters		Datum:		NAD83	
coord. system		State Plane (ft)									
Coord'n's at Center of Plot:		E:				N:					
Camera type:		Pentax Optio W90									
Locat. 1 Coord.--E, N		6284663.39		1946643.29		Direction facing		N,NE,E,SE		Height	
		Camera angle		Level		Photo #		829-833		File location	
Locat. 2 Coord.--E,N						Direction facing				Height	
		Camera angle				Photo #				File location	
III. ASSOCIATED SPECIES If need more room, record additional data and any notes on page 3.											
species/substrate		% Cover		Collection #, or NC if collected		not collected		species/substrate		% Cover	
Acanthomintha ilicifolia		1						Brassica nigra		12	
Peritoma arborea		1						Lupinus cocinnus		1	
Deinandra fasciculata		4						Cynara cardunculus		1	
Daucus pusillus		3						Bloomeria crocea		1	
Calochortus splendens		1						Logfia gallica		1	
Dichelostemma capitatum		7						Sonchus oleraceus		1	
Allium haematociton		30						Avena sp.		1	
Convolvulus simulans		20						Erodium botrys		1	
Harpagonella palmeri		18									
Euphorbia peplus		1									
Erodium cicutarium		1									
Brachypodium distachyon		20						bare ground		50	
Anagallis arvensis		1						rock		3	
Phalaris minor		1						litter		0	
COVER: Total % Cover:		128		%Herb:		127		%Shrub:		1	
								%Tree:		0	

IV. HABITAT ASSESSMENT IN SAMPLING AREA - Assess habitat covariates within **species-specific sampling area** (typically 10-m radius circle). Vegetation alliance/association can be assigned using San Diego vegetation key (AECOM 2012) in the office or field, using "Associated Species" data from page 1. See page 4 for definitions of habitat assessment categories.

SANDAG 2012 Vegetation Alliance/Association:	Deinandra fasciculata provisional alliance, Deinandra fasciculata association			
Cover classes (1-6)	Cryptogamic Crust Cover:	1 (0%)	Thatch Cover	1 (0%)
	Thatch Depth Average (cm)	0	Thatch Depth max (cm)	0
Dead Standing Biomass	yes			
If yes, cover/species class	Peritoma arborea/2		Average height (cm)	20
Mammal Species Activity (categ. 1-4)				
Feral pig activity	1 = No feral pig activity (rooting, wallowing, vegetation destruction, tracks, scat, pig) detected.			
ground squirr. activity	1 = No ground squirrel burrows detected.			
gopher activity	1 = No pocket gopher mounds detected.			
Sampling area representative of mapped occurrence?	yes	(If no, note differences on page 3)		

VI. THREATS ASSESSMENT IN MAXIMUM EXTENT - Assess threats within the **occurrence's maximum extent** (cumulative extent over years of monitoring) **plus 10-m surrounding buffer**. See page 4 for definitions of threat assessment categories. Record notes on page 3. See Argentine Ant Protocol (USGS 2015) for setting up bait, etc.

Surrounding Land Use/Activity	open space						
Argentine ant abundance at bait station (1-4)	1 = No ants detected at bait station or in vicinity.						
Time start	10:41 AM	Temp start	78	Time end	11:57 AM	Temp end	78
Ant sample collected?	no	Ant sample #	N/A	Ant Station Photo #	2834		

DISTURBANCES (Rank each as 1-6):

Non-native forbs	4 = Disturbance	feral pig activity	1 = No sign of disturbance	altered hydrology	1 = No sign of disturbance
Non-native grasses	4 = Disturbance	trampling	1 = No sign of disturbance	erosion	1 = No sign of disturbance
Non-native woody pl.	1 = No sign of disturbance	vandalism	1 = No sign of disturbance	urban runoff	1 = No sign of disturbance
competitive native pl.	1 = No sign of disturbance	current grazing	1 = No sign of disturbance	slope movement	1 = No sign of disturbance
dumping/trash	1 = No sign of disturbance	historic grazing	7 = Disturbance	soil compaction	1 = No sign of disturbance
encampments	1 = No sign of disturbance	historic agriculture	1 = No sign of disturbance		
fuel modification zone/fire break	1 = No sign of disturbance				
road construction/maintenance	1 = No sign of disturbance	if present, describe:			
illegal vegetation clearing	1 = No sign of disturbance	if present, describe:			
brush management/restoration	6 = Disturbance occurs 50% to < 75% of area	Restoration: herbicide of BRDI and mechanical treatment			
ORV activity	1 = No sign of disturbance	if present, describe:			
Evidence of recent fire	7 = Disturbance occurs ≥75% of area with				
If sign of recent fire, year burned?	2014				
Trails	1 = No sign of disturbance within maximum extent	If trails are present, are they authorized?			
Type of trail use	hiking	biking	equestrian	dog	
service vehicles		other			
illegal trail use?	1 = No sign of disturbance	describe:			
Other disturbance?	1 = No sign of disturbance	describe:			

MSP-Management Needs and Notes 2015

(top 2 rows auto-fill from page 1)

Scientific Name: Acanthomintha ilicifolia

MSP Occur ID. ACIL_6BLMO032

Date: 3/17/2015

VI. MANAGEMENT RECOMMENDATIONS

Continue treating with herbicide per CBI protocol, include additional weed control (i.e. weed whipping) as needed

VII. MANAGEMENT ACTIONS IN LAST YEAR

- 1) dethatched via Bernardo Fire May 2014
- 2) treated with Fusilade per CBI protocols to address BRDI in Feb 2015
- 3) treated with Fusilade per CBI protocols to address BRDI in March 2015
- 4) mechanical removal (weed whipping) of Brassica nigra in March 2015

VIII. CNDDDB SPECIES DETECTED (list any plant or animal species to add to the CNDDDB)

NOTES

***Acanthomintha ilicifolia* (San Diego Thornmint) Black Mountain**



Panorama from Southwestern edge of population, facing North, Northeast, East, Southeast.
Panorama location is 6284663.39 1946643.29 NAD83 State Plane California Zone 6 (feet)
Photos merged using ArcSoft Panorama Maker 4.

Acanthomintha ilicifolia - Black Mountain



Pop. Area 2003 - 2015
Max Area: 56.496 sq. m.
Min Area: 0 sq. m.

0 10 20 Meters

Source: San GIS & City of San Diego Park & Rec
Map Created By: Annabelle Bernabe, 2015



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MSP - Rare Plant Occurrence Monitoring Form 2015										Page 1	
Scientific Name:		Acanthomintha ilicifolia				Common Name:		San Diego thornmint			
		Existing MSP Occurrence?		yes		MSP Occurr. ID:		ACIL_3DREA005			
		CNDDB Elem. Occur. #:		n/a		Translocated?		no			
Preserve:		Dennery Ranch						Mgmt Unit MU3			
Land Owner:		City of San Diego				Land Mangr:		City of San Diego Park and Recreation Department			
Occurrence Name:		Dennery Ranch East						Sample Point #:		1	
Surveyors:		Kim Roeland, Daniel Schwartz						Affiliation		City of San Diego	
Date:		3/30/2015		Time Start:		9:15		Time Finish:		10:54	
I. OCCURRENCE STATUS - Assess # plants in both species-specific sampling area (typically 10-m radius circle) & in current mapped extent . See p. 4 for definitions of categories describing phenology & evidence of herbivory, disease & stunted growth within the sampling area. Record any notes on p. 3.											
# Plants/Current Mapped Extent:		150		exact count or estimate?		Exact		uncert.		low	
		Area of Current Mapped Extent:		25.279		units		square meters		exact (GPS) or estim?	
		Species Found in Maximum Extent?		yes		if not found, known or suspected reason:					
# Plants/Sampling Area:		7				exact count or estimate?		exact		uncert.	
		Sample Area Radius (m)		10							
		Phenology In Sampling Area (1-6):		Vegetative		1 (0%)		Flowering		6 (≥75%)	
				Dead		1 (0%)		Flowering & Fruiting		1 (0%)	
		Evidence in Sampling Area (1-6):		Herbivory		1 (0%)		Disease		1 (0%)	
								Stunted Growth		6 (≥75%)	
		Is Sampling Area within Current Mapped Extent?		yes							
		Collection (if not collected previously)?		no							
If yes:		Collector				Collection #					
		Museum/Herbarium									
II. SAMPLING AREA LOCATION & SITE PHOTOMONITORING											
GPS Accuracy: +/-		<1		accur. units:		meters		Datum:		NAD83	
coord. system		State Plane (ft)									
Coord'n's at Center of Plot:		E:				N:					
Camera type:		Pentax Optio W90									
Locat. 1 Coord.--E, N		6323291.152		1793084.325		Direction facing		W,SW,S		Height	
		Camera angle		10° down		Photo #		913-917		File location	
								S:WSCP			
Locat. 2 Coord.--E,N						Direction facing				Height	
		Camera angle				Photo #				File location	
III. ASSOCIATED SPECIES If need more room, record additional data and any notes on page 3.											
species/substrate		% Cover		Collection #, or NC if collected		not collected		species/substrate		% Cover	
Simmondsia chinensis		10						Brachypodium distachyon		1	
Peritoma arborea		3						Chlorogalum parviflorum		1	
Brassica nigra		3						Deinandra conjugens		2	
Artemisia californica		2						Acanthomintha ilicifolia		1	
Centaurea melitensis		30						Glebionis coronaria		1	
Bromus madritensis		15						Dichelostemma capitatum		1	
Bromus hordeaceus		10									
Erodium cicutarium		2									
Melilotus indicus		2									
Apiastrum angustifolium		3									
Anagallis arvensis		1									
Festuca myuros		1						bare ground		5	
Parietaria hespera var. californica		2						rock		5	
Dysphania ambrosioides		2						litter		0	
COVER: Total % Cover:		93		%Herb:		78		%Shrub:		15	
								%Tree:		0	

IV. HABITAT ASSESSMENT IN SAMPLING AREA - Assess habitat covariates within **species-specific sampling area** (typically 10-m radius circle). Vegetation alliance/association can be assigned using San Diego vegetation key (AECOM 2012) in the office or field, using "Associated Species" data from page 1. See page 4 for definitions of habitat assessment categories.

SANDAG 2012 Vegetation Alliance/Association: Simmondsia chinensis Alliance, Simmondsia chinensis-Bahiopsis laciniata Association

Cover classes (1-6)	Cryptogamic Crust Cover:	1 (0%)	Thatch Cover	1 (0%)
	Thatch Depth Average (cm)		Thatch Depth max (cm)	
Dead Standing Biomass	yes			
If yes, cover/species class	Brassica/2		Average height (cm)	100

Mammal Species Activity (categ. 1-4)

Feral pig activity 1 = No feral pig activity (rooting, wallowing, vegetation destruction, tracks, scat, pig) detected.

ground squirr. activity 1 = No ground squirrel burrows detected.

gopher activity 1 = No pocket gopher mounds detected.

Sampling area representative of mapped occurrence? yes (If no, note differences on page 3)

VI. THREATS ASSESSMENT IN MAXIMUM EXTENT - Assess threats within the **occurrence's maximum extent** (cumulative extent over years of monitoring) **plus 10-m surrounding buffer**. See page 4 for definitions of threat assessment categories. Record notes on page 3. See Argentine Ant Protocol (USGS 2015) for setting up bait, etc.

Surrounding Land Use/Activity at, or Adjacent to, Site	open space		
Argentine ant abundance at bait station (1-4)			
Time start		Temp start	
Time end		Temp end	
Ant sample collected?		Ant sample #	Ant Station Photo #

DISTURBANCES (Rank each as 1-6):

Non-native forbs	5 = Disturbance	feral pig activity	1 = No sign of disturbance	altered hydrology	1 = No sign of disturbance	
Non-native grasses	5 = Disturbance	trampling	1 = No sign of disturbance	erosion	1 = No sign of disturbance	
Non-native woody pl.	1 = No sign of disturbance	vandalism	1 = No sign of disturbance	urban runoff	1 = No sign of disturbance	
competitive native pl.	1 = No sign of disturbance	current grazing	1 = No sign of disturbance	slope movement	1 = No sign of disturbance	
dumping/trash	1 = No sign of disturbance	historic grazing	7 = Disturbance	soil compaction	6 = Disturbance occurs 5	
encampments	1 = No sign of disturbance	historic agriculture	1 = No sign of disturbance			
fuel modification zone/fire break	1 = No sign of disturbance					
road construction/maintenance	1 = No sign of disturbance	if present, describe:				
illegal vegetation clearing	1 = No sign of disturbance	if present, describe:				
brush management/restoration	1 = No sign of disturbance within maximum extent or in adjacent 10 m buffer.					
ORV activity	1 = No sign of disturbance	if present, describe:				
Evidence of recent fire	1 = No sign of disturbance within maximum extent or in adjacent 10 m buffer.					
If sign of recent fire, year burned?						
Trails	2 = Disturbance does not occur within maximum extent or in adjacent 10 m buffer.		If trails are present, are they authorized? yes			
Type of trail use	hiking	no	biking	no	equestrian	no
	service vehicles	yes	other	no	dog	no
illegal trail use?	1 = No sign of disturbance					
Other disturbance?	1 = No sign of disturbance					

MSP-Management Needs and Notes 2015

(top 2 rows auto-fill from page 1)

Scientific Name:

MSP Occur ID.

Date:

VI. MANAGEMENT RECOMMENDATIONS

Continue to maintain fencing around population to limit and control access; continue treating with herbicide per CBI protocol, include additional weed control (i.e. weed whipping) as needed

VII. MANAGEMENT ACTIONS IN LAST YEAR

Fencing around population limited access; Feb/Mar 2015 site sprayed per CBI protocol

VIII. CNDDDB SPECIES DETECTED (list any plant or animal species to add to the CNDDDB)

NOTES

***Acanthomintha ilicifolia* (San Diego Thornmint) Dennery Ranch East**



Panorama from Southern edge of population, facing West, Southwest, South.
Panorama location is 6323291.152 1793084.325 NAD83 State Plane California Zone 6 (feet)
Photos merged using ArcSoft Panorama Maker 4.

Acanthomintha ilicifolia - Dennery Ranch East



Pop. Area 2000 - 2015
Max Area: 2062 sq. m.
Min Area: 0 sq. m.

0 10 20
Meters

Source: San GIS & City of San Diego Park & Rec
Created by: Kim Roeland 2015



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MSP - Rare Plant Occurrence Monitoring Form 2015										Page 1				
Scientific Name:		Acanthomintha ilicifolia				Common Name:		San Diego thornmint						
Existing MSP Occurrence?				yes		MSP Occurr. ID:		ACIL_6LPCA039						
CNDDB Elem. Occur. #:				n/a		Translocated?		no						
Preserve:		Los Penasquitos Canyon Preserve					Mgmt Unit				MU6			
Land Owner:		City of San Diego				Land Mangr:		City of San Diego Park and Recreation Department						
Occurrence Name:		Los Penasquitos Canyon subpop #1					Sample Point #:		1					
Surveyors:		Kim Roeland, Betsy Miller, Annabelle Bernabe					Affiliation		City of San Diego					
Date:		3/10/2015		Time Start:		13:05		Time Finish:		13:43				
I. OCCURRENCE STATUS - Assess # plants in both species-specific sampling area (typically 10-m radius circle) & in current mapped extent . See p. 4 for definitions of categories describing phenology & evidence of herbivory, disease & stunted growth within the sampling area. Record any notes on p. 3.														
# Plants/Current Mapped Extent:		53		exact count or estimate?		exact		uncert.		low				
Area of Current Mapped Extent:				8.29		units		square meters		exact (GPS) or estim?		exact (GPS ma		
Species Found in Maximum Extent?				yes		if not found, known or suspected reason:								
# Plants/Sampling Area		53		exact count or estimate?		exact		uncert.		low				
Sample Area Radius (m)				10										
Phenology In Sampling Area (1-6):				Vegetative		5 (50% to <7		Flowering		2 (>0% to <10%)		Fruiting	1 (0%)	
				Dead		1 (0%)		Flowering & Fruiting		1 (0%)				
Evidence in Sampling Area (1-6):				Herbivory		1 (0%)		Disease		1 (0%)		Stunted Growth		1 (0%)
Is Sampling Area within Current Mapped Extent?				yes										
Collection (if not collected previously)?				no										
If yes:		Collector				Collection #								
		Museum/Herbarium												
II. SAMPLING AREA LOCATION & SITE PHOTOMONITORING														
GPS Accuracy: +/-		<1		accur. units:		meters		Datum:		NAD83				
coord. system		State Plane (ft)												
Coord'n's at Center of Plot:				E:		N:								
Camera type:		Pentax Optio W90												
Locat. 1 Coord.--E, N		6276496.26		1918576.025		Direction facing		E, SE, S, SW		Height		0.85 m		
		Camera angle		Level		Photo #		693-698		File location		S:WSCP		
Locat. 2 Coord.-- E,N						Direction facing				Height				
		Camera angle				Photo #				File location				
III. ASSOCIATED SPECIES If need more room, record additional data and any notes on page 3.														
species/substrate		% Cover		Collection #, or NC if collected		not		species/substrate		% Cover		Collect.# or NC if not collected		
Acanthomintha ilicifolia		0.5						Centaurea melitensis		3				
Adolphia californica		7						Erodium cicutarium		1				
Rhus integrifolia		2						Stipa pulchra		1				
Salvia mellifera		5						Dichelostemma capitatum		0.5				
Salvia apiana		1						Erodium botrys		2				
Ferocactus viridescens		1						Brachypodium distachyon		20				
Acmispon glaber		0.5												
Lonicera subspicata		1												
Isocoma menziesii		0.5												
Daucus pusillus		3												
Acmispon maritimus		7												
Deinandra fasciculata		20						bare ground		40				
Convolvulus simulans		2						rock		2				
Calochortus splendens		0.5						litter		5				
COVER: Total % Cover:		78.5		%Herb:		60.5		%Shrub:		18		%Tree:		0

IV. HABITAT ASSESSMENT IN SAMPLING AREA - Assess habitat covariates within **species-specific sampling area** (typically 10-m radius circle). Vegetation alliance/association can be assigned using San Diego vegetation key (AECOM 2012) in the office or field, using "Associated Species" data from page 1. See page 4 for definitions of habitat assessment categories.

SANDAG 2012 Vegetation Alliance/Association:	Artemisia californica - Eriogonum fasciculatum alliance, Artemisia californica - Eriogonum fasciculatum - Opuntia littoralis / Dudleya (edulis) association			
Cover classes (1-6)	Cryptogamic Crust Cover:	1 (0%)	Thatch Cover	2 (>0% to <10%)
	Thatch Depth Average (cm)	1	Thatch Depth max (cm)	5
Dead Standing Biomass	yes			
If yes, cover/species class	unknown/2		Average height (cm)	15
Mammal Species Activity (categ. 1-4)				

Feral pig activity 1 = No feral pig activity (rooting, wallowing, vegetation destruction, tracks, scat, pig) detected.

ground squirr. activity 1 = No ground squirrel burrows detected.

gopher activity 1 = No pocket gopher mounds detected.

Sampling area representative of mapped occurrence? yes (If no, note differences on page 3)

VI. THREATS ASSESSMENT IN MAXIMUM EXTENT - Assess threats within the **occurrence's maximum extent** (cumulative extent over years of monitoring) **plus 10-m surrounding buffer**. See page 4 for definitions of threat assessment categories. Record notes on page 3. See Argentine Ant Protocol (USGS 2015) for setting up bait, etc.

Surrounding Land Use/Activity at, or Adjacent to, Site open space

Argentine ant abundance at bait station (1-4)

1 = No ants detected at bait station or in vicinity.

Time start 1:10 PM

Temp start 72F

Time end 1:40 PM

Temp end 73F

Ant sample collected? no

Ant sample # N/A

Ant Station Photo # 699

DISTURBANCES (Rank each as 1-6):

Non-native forbs 3 = Disturbance

feral pig activity 1 = No sign of

altered hydrology 1 = No sign of disturbance

Non-native grasses 4 = Disturbance

trampling 1 = No sign of

erosion 1 = No sign of disturbance

Non-native woody pl. 1 = No sign of

vandalism 1 = No sign of

urban runoff 1 = No sign of disturbance

competitive native pl. 1 = No sign of

current grazing 1 = No sign of

slope movement 1 = No sign of disturbance

dumping/trash 1 = No sign of

historic grazing 7 = Disturbance

soil compaction 1 = No sign of disturbance

encampments 1 = No sign of

historic agriculture 1 = No sign of

fuel modification zone/fire break 1 = No sign of

road construction/maintenance 1 = No sign of

if present, describe:

illegal vegetation clearing 1 = No sign of

if present, describe:

brush management/restoration 7 = Disturbance occurs ≥75% of area within maximum extent.

ORV activity

1 = No sign of

if present, describe:

Evidence of recent fire 1 = No sign of disturbance within maximum

If sign of recent fire, year burned?

Trails 2 = Disturbance does not occur within maximum

If trails are present, are they authorized?

yes

Type of trail use

hiking yes

biking yes

equestrian yes

dog yes

service vehicles yes

other yes

illegal trail use?

1 = No sign of

describe:

Other disturbance?

1 = No sign of

describe:

MSP-Management Needs and Notes 2015

(top 2 rows auto-fill from page 1)

Scientific Name:

MSP Occur ID.

Date:

VI. MANAGEMENT RECOMMENDATIONS

Analyze treatment results and continue management as necessary

VII. MANAGEMENT ACTIONS IN LAST YEAR

Site treated with herbicide to address *Brachypodium distachyon* per CBI Protocols in Feb 2015

VIII. CNDDDB SPECIES DETECTED (list any plant or animal species to add to the CNDDDB)

Horned lizard

NOTES

***Acanthomintha ilicifolia* (San Diego Thornmint) Penasquitos Canyon Observation # 1**



Panorama from North of population, facing East, Southeast, South, Southwest.
Panorama location is 6276496.255 1918576.025 NAD83 State Plane California Zone 6 (feet)
Photos merged using ArcSoft Panorama Maker 4.

Acanthomintha ilicifolia - Los Penasquitos Canyon

Point 1
Area: 8.29 sq. m.

Point 2
Area: 0 sq. m.

Point 3
Area: 6.98 sq. m.

Area 2015: 15.27 sq. m.

● Photopoint

□ Acanthomintha ilicifolia

Pop. Area 2000 - 2015
Max Area: 2062 sq. m.
Min Area: 12 sq. m.

0 10 20
Meters

Source: San GIS & City of San Diego Park & Rec
Created by: Annabelle Bernabe 2015



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MSP - Rare Plant Occurrence Monitoring Form 2015										Page 1
Scientific Name:		Acanthomintha ilicifolia			Common Name:		San Diego thornmint			
Existing MSP Occurrence?		yes			MSP Occurr. ID:		ACIL_6LPCA039			
CNDDB Elem. Occur. #:		n/a			Translocated?		no			
Preserve:		Los Penasquitos Canyon Preserve					Mgmt Unit			
Land Owner:		City of San Diego			Land Mangr:		City of San Diego Park and Recreation Department			
Occurrence Name:		Los Penasquitos Canyon subpop #2					Sample Point #:		2	
Surveyors:		Betsy Miller, Kim Roeland, Annabelle Bernabe					Affiliation		City of San Diego	
Date:		3/10/2015		Time Start:		13:50		Time Finish: 14:19		
I. OCCURRENCE STATUS - Assess # plants in both species-specific sampling area (typically 10-m radius circle) & in current mapped extent . See p. 4 for definitions of categories describing phenology & evidence of herbivory, disease & stunted growth within the sampling area. Record any notes on p. 3.										
# Plants/Current Mapped Extent:		0		exact count or estimate?		exact		uncert. very low		
Area of Current Mapped Extent:		0		units		square meters		exact (GPS) or estim? exact (GPS ma		
Species Found in Maximum Extent?		no		if not found, known or suspected reason:		unknown				
# Plants/Sampling Area:		0		exact count or estimate?		exact		uncert. very low		
Sample Area Radius (m)		10								
Phenology In Sampling Area (1-6):		Vegetative 1 (0%)		Flowering 1 (0%)		Fruiting 1 (0%)				
		Dead 1 (0%)		Flowering & Fruiting 1 (0%)						
Evidence in Sampling Area (1-6):		Herbivory 1 (0%)		Disease 1 (0%)		Stunted Growth 1 (0%)				
Is Sampling Area within Current Mapped Extent?		no								
Collection (if not collected previously)?		no								
If yes:		Collector		Collection #						
		Museum/Herbarium								
II. SAMPLING AREA LOCATION & SITE PHOTOMONITORING										
GPS Accuracy: +/-		<1		accur. units:		meters		Datum: NAD83		
coord. system		State Plane (ft)								
Coord'n's at Center of Plot:		E:		N:						
Camera type:		Pentax Optio W90								
Locat. 1 Coord.--E, N		6276540.33		1918463.76		Direction facing		SE, S, SW		
		Camera angle		5° down		Photo #		700-705		
						File location		S:\MSCP		
Locat. 2 Coord.--E,N						Direction facing		Height		
		Camera angle				Photo #		File location		
III. ASSOCIATED SPECIES If need more room, record additional data and any notes on page 3.										
species/substrate		% Cover		Collection #, or NC if collected		species/substrate		% Cover		
Adolphia californica		3				Plantago elongata		1		
Harpagonella palmeri		1				Stipa pulchra		1		
Dichelostemma capitatum		1								
Convolvulus simulans		3								
Deinandra fasciculata		15								
Microseris douglasii ssp. platycarpa		1								
Sonchus asper		1								
Euphorbia peplus		1								
Erodium cicutarium		1								
Brachypodium distachyon		35								
Festuca myuros		1								
Centaurea melitensis		3				bare ground		20		
Logfia filaginoides		1				rock		3		
Daucus pusillus		1				litter		7		
COVER: Total % Cover:		70		%Herb:		67		%Shrub: 3		
								%Tree:		

IV. HABITAT ASSESSMENT IN SAMPLING AREA - Assess habitat covariates within **species-specific sampling area** (typically 10-m radius circle). Vegetation alliance/association can be assigned using San Diego vegetation key (AECOM 2012) in the office or field, using "Associated Species" data from page 1. See page 4 for definitions of habitat assessment categories.

SANDAG 2012 Vegetation Alliance/Association:	Deinandra fasciculata provisional alliance, Deinandra fasciculata association			
Cover classes (1-6)	Cryptogamic Crust Cover:	1 (0%)	Thatch Cover	3 (10% to <25%)
	Thatch Depth Average (cm)	5	Thatch Depth max (cm)	10
Dead Standing Biomass	yes			
If yes, cover/species class	unknown/2		Average height (cm)	15
Mammal Species Activity (categ. 1-4)				
Feral pig activity	1 = No feral pig activity (rooting, wallowing, vegetation destruction, tracks, scat, pig) detected.			
ground squirr. activity	1 = No ground squirrel burrows detected.			
gopher activity	1 = No pocket gopher mounds detected.			
Sampling area representative of mapped occurrence?	yes	(If no, note differences on page 3)		

VI. THREATS ASSESSMENT IN MAXIMUM EXTENT - Assess threats within the **occurrence's maximum extent** (cumulative extent over years of monitoring) **plus 10-m surrounding buffer**. See page 4 for definitions of threat assessment categories. Record notes on page 3. See Argentine Ant Protocol (USGS 2015) for setting up bait, etc.

Surrounding Land Use/Activity at, or Adjacent to, Site	open space			
Argentine ant abundance at bait station (1-4)				
Time start		Temp start		Time end
				Temp end
Ant sample collected?		Ant sample #		Ant Station Photo #

DISTURBANCES (Rank each as 1-6):

Non-native forbs	3 = Disturbance	feral pig activity	1 = No sign of disturbance	altered hydrology	1 = No sign of disturbance	
Non-native grasses	4 = Disturbance	trampling	1 = No sign of disturbance	erosion	1 = No sign of disturbance	
Non-native woody pl.	1 = No sign of disturbance	vandalism	1 = No sign of disturbance	urban runoff	1 = No sign of disturbance	
competitive native pl.	1 = No sign of disturbance	current grazing	1 = No sign of disturbance	slope movement	1 = No sign of disturbance	
dumping/trash	1 = No sign of disturbance	historic grazing	7 = Disturbance	soil compaction	1 = No sign of disturbance	
encampments	1 = No sign of disturbance	historic agriculture	1 = No sign of disturbance			
fuel modification zone/fire break	1 = No sign of disturbance					
road construction/maintenance	1 = No sign of disturbance	if present, describe:				
illegal vegetation clearing	1 = No sign of disturbance	if present, describe:				
brush management/restoration	7 = Disturbance occurs ≥75% of area within maximum extent.					
ORV activity	1 = No sign of disturbance	if present, describe:				
Evidence of recent fire	1 = No sign of disturbance within maximum extent.					
If sign of recent fire, year burned?						
Trails	2 = Disturbance does not occur within maximum extent.		If trails are present, are they authorized?			
			yes			
Type of trail use	hiking	yes	biking	yes	equestrian	yes
	service vehicles	yes	other	yes	dog	yes
illegal trail use?	1 = No sign of disturbance. describe:					
Other disturbance?	1 = No sign of disturbance. describe:					

MSP-Management Needs and Notes 2015

(top 2 rows auto-fill from page 1)

Scientific Name:

MSP Occur ID.

Date:

VI. MANAGEMENT RECOMMENDATIONS

Analyze treatment results and continue management as necessary

VII. MANAGEMENT ACTIONS IN LAST YEAR

Site treated with herbicide to address *Brachypodium distachyon* per CBI Protocols in Feb and Mar 2015

VIII. CNDDDB SPECIES DETECTED (list any plant or animal species to add to the CNDDDB)

NOTES

***Acanthomintha ilicifolia* (San Diego Thornmint) Penasquitos Canyon Observation # 2**



Panorama from North of population, facing Southeast, South, Southwest.
Panorama location is 6276540.332 1918463.766 NAD83 State Plane California Zone 6 (feet)
Photos merged using ArcSoft Panorama Maker 4.

Acanthomintha ilicifolia - Los Penasquitos Canyon



Pop. Area 2000 - 2015
Max Area: 2062 sq. m.
Min Area: 12 sq. m.

MSP - Rare Plant Occurrence Monitoring Form 2015										Page 1	
Scientific Name:	Acanthomintha ilicifolia				Common Name:	San Diego thornmint					
Existing MSP Occurrence?				yes	MSP Occurr. ID:	ACIL_6LPCA039					
CNDDB Elem. Occur. #:				n/a	Translocated?	no					
Preserve:	Los Penasquitos Canyon Preserve						Mgmt Unit	MU6			
Land Owner:	City of San Diego				Land Mangr:	City of San Diego Park and Recreation Department					
Occurrence Name:	Los Penasquitos Canyon subpop #3						Sample Point #:	3			
Surveyors:	Betsy Miller, Kim Roeland, Annabelle Bernabe						Affiliation	City of San Diego			
Date:	3/10/2015			Time Start:	14:22		Time Finish:	14:38			
I. OCCURRENCE STATUS - Assess # plants in both species-specific sampling area (typically 10-m radius circle) & in current mapped extent . See p. 4 for definitions of categories describing phenology & evidence of herbivory, disease & stunted growth within the sampling area. Record any notes on p. 3.											
# Plants/Current Mapped Extent:	4			exact count or estimate?	exact			uncert.	low		
Area of Current Mapped Extent:				6.98	units	square meters	exact (GPS) or estim? exact (GPS ma				
Species Found in Maximum Extent?				yes	if not found, known or suspected reason:						
# Plants/Sampling Area	4			exact count or estimate?	exact			uncert.	very low		
Sample Area Radius (m)				10							
Phenology In Sampling Area (1-6):				Vegetative	6 (≥75%)		Flowering	1 (0%)		Fruiting	1 (0%)
				Dead	1 (0%)		Flowering & Fruiting		1 (0%)		
Evidence in Sampling Area (1-6):				Herbivory	1 (0%)		Disease	1 (0%)		Stunted Growth	6 (≥75%)
Is Sampling Area within Current Mapped Extent?				yes							
Collection (if not collected previously)?				no							
If yes:				Collector				Collection #			
				Museum/Herbarium							
II. SAMPLING AREA LOCATION & SITE PHOTOMONITORING											
GPS Accuracy: +/-		<1		accur. units:	meters		Datum:	NAD83			
coord. system		State Plane (ft)									
Coord'n's at Center of Plot: E:						N:					
Camera type:		Pentax Optio W90									
Locat. 1 Coord.--E, N		6276371.01		1918517.83		Direction facing	E, SE, S, SW		Height	0.85 m	
		Camera angle	Level	Photo #	707-710	File location S:WSCP					
Locat. 2 Coord.--E,N						Direction facing			Height		
		Camera angle		Photo #		File location					
III. ASSOCIATED SPECIES If need more room, record additional data and any notes on page 3.											
species/substrate	% Cover	Collection #, or NC if collected	not	species/substrate	% Cover	Collect.# or NC if not collected					
Acanthomintha ilicifolia	0.5			Erodium cicutarium	1						
Adolphia californica	10			Chlorogalum parviflorum	1						
Salvia mellifera	4										
Rhus integrifolia	3										
Rhamnus crocea	1										
Plantago elongata	3										
Daucus pusillus	4										
Deinandra fasciculata	4										
Centaurea melitensis	3										
Acmispon glaber	2										
Isocoma menziesii	1										
Dichelostemma capitatum	1			bare ground	35						
Stipa pulchra	1			rock	3						
Brachypodium distachyon	15			litter	5						
COVER: Total % Cover:	54.5	%Herb:	33.5	%Shrub:	21	%Tree:	0				

IV. HABITAT ASSESSMENT IN SAMPLING AREA - Assess habitat covariates within **species-specific sampling area** (typically 10-m radius circle). Vegetation alliance/association can be assigned using San Diego vegetation key (AECOM 2012) in the office or field, using "Associated Species" data from page 1. See page 4 for definitions of habitat assessment categories.

SANDAG 2012 Vegetation Alliance/Association:	Deinandra fasciculata provisional alliance, Deinandra fasciculata association			
Cover classes (1-6)	Cryptogamic Crust Cover:	1 (0%)	Thatch Cover	2 (>0% to <10%)
	Thatch Depth Average (cm)	2	Thatch Depth max (cm)	4
Dead Standing Biomass	yes			
If yes, cover/species class	unknown/2		Average height (cm)	20
Mammal Species Activity (categ. 1-4)				
Feral pig activity	1 = No feral pig activity (rooting, wallowing, vegetation destruction, tracks, scat, pig) detected.			
ground squirr. activity	1 = No ground squirrel burrows detected.			
gopher activity	1 = No pocket gopher mounds detected.			
Sampling area representative of mapped occurrence?	yes	(If no, note differences on page 3)		

VI. THREATS ASSESSMENT IN MAXIMUM EXTENT - Assess threats within the **occurrence's maximum extent** (cumulative extent over years of monitoring) **plus 10-m surrounding buffer**. See page 4 for definitions of threat assessment categories. Record notes on page 3. See Argentine Ant Protocol (USGS 2015) for setting up bait, etc.

Surrounding Land Use/Activity at, or Adjacent to, Site	open space		
Argentine ant abundance at bait station (1-4)			
Time start		Temp start	
Ant sample collected?		Ant sample #	
		Ant Station Photo #	

DISTURBANCES (Rank each as 1-6):

Non-native forbs	3 = Disturbance	feral pig activity	1 = No sign of disturbance	altered hydrology	1 = No sign of disturbance	
Non-native grasses	4 = Disturbance	trampling	1 = No sign of disturbance	erosion	1 = No sign of disturbance	
Non-native woody pl.	1 = No sign of disturbance	vandalism	1 = No sign of disturbance	urban runoff	1 = No sign of disturbance	
competitive native pl.	1 = No sign of disturbance	current grazing	1 = No sign of disturbance	slope movement	1 = No sign of disturbance	
dumping/trash	1 = No sign of disturbance	historic grazing	7 = Disturbance	soil compaction	1 = No sign of disturbance	
encampments	1 = No sign of disturbance	historic agriculture	1 = No sign of disturbance			
fuel modification zone/fire break	1 = No sign of disturbance					
road construction/maintenance	1 = No sign of disturbance	if present, describe:				
illegal vegetation clearing	1 = No sign of disturbance	if present, describe:				
brush management/restoration	7 = Disturbance occurs ≥75% of area within maximum extent.					
ORV activity	1 = No sign of disturbance	if present, describe:				
Evidence of recent fire	1 = No sign of disturbance within maximum extent.					
If sign of recent fire, year burned?	1 = No sign of disturbance					
Trails	2 = Disturbance does not occur within maximum extent.		If trails are present, are they authorized?			
			yes			
Type of trail use	hiking	yes	biking	yes	equestrian	yes
	service vehicles	yes	other	yes	dog	yes
illegal trail use?	1 = No sign of disturbance					
Other disturbance?	1 = No sign of disturbance					

MSP-Management Needs and Notes 2015

(top 2 rows auto-fill from page 1)

Scientific Name: Acanthomintha ilicifolia

MSP Occur ID.

ACIL_6LPCA039

Date: 3/10/2015

VI. MANAGEMENT RECOMMENDATIONS

Analyze treatment results and continue management as necessary

VII. MANAGEMENT ACTIONS IN LAST YEAR

Site treated with herbicide to address Brachypodium distachyon per CBI Protocols in Feb and Mar 2015

VIII. CNDDDB SPECIES DETECTED (list any plant or animal species to add to the CNDDDB)

NOTES

***Acanthomintha ilicifolia* (San Diego Thornmint) Penasquitos Canyon Observation # 3**



Panorama from Western edge of population, facing East, Southeast, South, Southwest.
Panorama location is 6276371.012 191857.833 NAD83 State Plane California Zone 6 (feet)
Photos merged using ArcSoft Panorama Maker 4.

Acanthomintha ilicifolia - Los Penasquitos Canyon



Pop. Area 2000 - 2015
Max Area: 2062 sq. m.
Min Area: 12 sq. m.

0 10 20
Meters

Source: San GIS & City of San Diego Park & Rec
Created by: Annabelle Bernabe 2015



Every reasonable effort has been made to assure the accuracy of this map. However, neither the SanGIS participants nor San Diego Data Processing Corporation assume any liability arising from its use.

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MSP - Rare Plant Occurrence Monitoring Form 2015										Page 1	
Scientific Name:		Acanthomintha ilicifolia				Common Name:		San Diego thornmint			
Existing MSP Occurrence?		yes		MSP Occurr. ID:		ACIL_4MTRP021					
CNDDB Elem. Occur. #:		EO33		Translocated?		no					
Preserve:		Mission Trails Regional Park				Mgmt Unit		MU4			
Land Owner:		City of San Diego			Land Mangr:		City of San Diego Park and Recreation Department				
Occurrence Name:		Mission Trails Regional Park				Sample Point #:		1			
Surveyors:		Kim Roeland, Betsy Miller, Daniel Schwartz, Annabelle Bernabe				Affiliation		City of San Diego			
Date:		3/10/2015		Time Start:		10:10		Time Finish:		11:47	
I. OCCURRENCE STATUS - Assess # plants in both species-specific sampling area (typically 10-m radius circle) & in current mapped extent . See p. 4 for definitions of categories describing phenology & evidence of herbivory, disease & stunted growth within the sampling area. Record any notes on p. 3.											
# Plants/Current Mapped Extent:		510		exact count or estimate?		exact		uncert.		low	
Area of Current Mapped Extent:		23.58		units		square meters		exact (GPS) or estim?		exact (GPS ma	
Species Found in Maximum Extent?		yes		if not found, known or suspected reason:							
# Plants/Sampling Area:		0		exact count or estimate?		exact		uncert.		very low	
Sample Area Radius (m)		10									
Phenology In Sampling Area (1-6):		Vegetative		1 (0%)		Flowering		1 (0%)		Fruiting	
		Dead		1 (0%)		Flowering & Fruiting		1 (0%)			
Evidence in Sampling Area (1-6):		Herbivory		1 (0%)		Disease		1 (0%)		Stunted Growth	
										1 (0%)	
Is Sampling Area within Current Mapped Extent?		no									
Collection (if not collected previously)?		no									
If yes:		Collector				Collection #					
		Museum/Herbarium									
II. SAMPLING AREA LOCATION & SITE PHOTOMONITORING											
GPS Accuracy: +/-		<1		accur. units:		meters		Datum:		NAD83	
coord. system		State Plane (ft)									
Coord'n's at Center of Plot:		E:				N:					
Camera type:		Pentax Optio W90									
Locat. 1 Coord.--E, N		6308619.85		1881117.52		Direction facing		N,NE,E,SE,S		Height	
		Camera angle		10° down		Photo #		686-691		File location	
Locat. 2 Coord.--E,N						Direction facing				Height	
		Camera angle				Photo #				File location	
III. ASSOCIATED SPECIES If need more room, record additional data and any notes on page 3.											
species/substrate		% Cover		Collection #, or NC if collected		not collected		species/substrate		% Cover	
Rhus integrifolia		2		2		Convolvulus simulans				10	
Peritoma arborea		1		1		Brassica nigra				3	
Opuntia littoralis		1		1		Centaurea melitensis				7	
Baccharis sarothroides		1		1		Brachypodium distachyon				60	
Artemisia californica		1		1		Erodium cicutarium				5	
Malosma laurina		2		2		Logfia filaginoides				1	
Lepidium sp.		2		2		Sonchus asper				1	
Daucus pusillus		1		1		Lonicera subspicata				1	
Malacothamnus fasciculatus		1		1		Acmispon glaber				1	
Deinandra fasciculata		7		7		Heteromeles arbutifolia				2	
Acmispon maritimus		3		3							
Dichelostemma capitatum		3		3		bare ground				10	
Salvia mellifera		11		11		rock				2	
Isocoma menziesii		1		1		litter				3	
COVER: Total % Cover:		128		%Herb:		103		%Shrub:		25	
								%Tree:		0	

IV. HABITAT ASSESSMENT IN SAMPLING AREA - Assess habitat covariates within **species-specific sampling area** (typically 10-m radius circle). Vegetation alliance/association can be assigned using San Diego vegetation key (AECOM 2012) in the office or field, using "Associated Species" data from page 1. See page 4 for definitions of habitat assessment categories.

SANDAG 2012 Vegetation Alliance/Association: Salvia mellifera Alliance, Salvia mellifera-Malosma laurina Association

Cover classes (1-6)

Cryptogamic Crust Cover:

1 (0%)

Thatch Cover

2 (>0% to <10%)

Thatch Depth Average (cm)

1

Thatch Depth max (cm)

3

Dead Standing Biomass

yes

If yes, cover/species class

Centaurea melitensis

Average height (cm)

15

Mammal Species Activity (categ. 1-4)

Feral pig activity

1 = No feral pig activity (rooting, wallowing, vegetation destruction, tracks, scat, pig) detected.

ground squirr. activity

1 = No ground squirrel burrows detected.

gopher activity

1 = No pocket gopher mounds detected.

Sampling area representative of mapped occurrence? yes

(If no, note differences on page 3)

VI. THREATS ASSESSMENT IN MAXIMUM EXTENT - Assess threats within the **occurrence's maximum extent** (cumulative extent over years of monitoring) **plus 10-m surrounding buffer**. See page 4 for definitions of threat assessment categories. Record notes on page 3. See Argentine Ant Protocol (USGS 2015) for setting up bait, etc.

Surrounding Land Use/Activity at, or Adjacent to, Site open space

Argentine ant abundance at bait station (1-4)

1 = No ants detected at bait station or in vicinity.

Time start

10:12 AM

Temp start

unk

Time end

10:58 AM

Temp end

unk

Ant sample collected? no

Ant sample #

Ant Station Photo #

692

DISTURBANCES (Rank each as 1-6):

Non-native forbs

3 = Disturbance

feral pig activity

1 = No sign of

altered hydrology

1 = No sign of disturbance

Non-native grasses

6 = Disturbance

trampling

1 = No sign of

erosion

1 = No sign of disturbance

Non-native woody pl.

1 = No sign of

vandalism

1 = No sign of

urban runoff

1 = No sign of disturbance

competitive native pl.

1 = No sign of

current grazing

1 = No sign of

slope movement

1 = No sign of disturbance

dumping/trash

3 = Disturbance

historic grazing

7 = Disturbance

soil compaction

3 = Disturbance present

encampments

1 = No sign of

historic agriculture

1 = No sign of

fuel modification zone/fire break

1 = No sign of

road construction/maintenance

1 = No sign of

if present, describe:

illegal vegetation clearing

1 = No sign of

if present, describe:

brush management/restoration

1 = No sign of disturbance within maximum extent or in adjacent 10 m buffer.

ORV activity

1 = No sign of

if present, describe:

Evidence of recent fire

1 = No sign of disturbance within maximum

If sign of recent fire, year burned?

2003

Trails

2 = Disturbance does not occur within maximum

If trails are present, are they authorized?

yes

Type of trail use

hiking

yes

biking

yes

equestrian

no

dog

yes

service vehicles

yes

other

no

illegal trail use?

1 = No sign of

describe:

Other disturbance?

1 = No sign of

describe:

MSP-Management Needs and Notes 2015

(top 2 rows auto-fill from page 1)

Scientific Name:

MSP Occur ID:

Date:

VI. MANAGEMENT RECOMMENDATIONS

Analyze Feb 2015 management results and continue treatment program as necessary

VII. MANAGEMENT ACTIONS IN LAST YEAR

Maximum extent area was treated for grasses using CBI herbicide method in Feb 2015. Area hand weeded and surrounded by fencing.

VIII. CNDDDB SPECIES DETECTED (list any plant or animal species to add to the CNDDDB)

NOTES

The area where ACIL is found has been hand weeded for multiple years so it has a lower cover of invasive species.

***Acanthomintha ilicifolia* (San Diego Thornmint) Mission Trails Regional Park**



Panorama from Western edge of population, facing North, Northeast, East, Southeast, South.
Panorama location is 6308619.848 1881117.522 NAD83 State Plane California Zone 6 (feet)
Photos merged using ArcSoft Panorama Maker 4.

Acanthomintha ilicifolia - Mission Trails Regional Park



Pop. Area 2001 - 2015
Max Area: 1206.07 sq. m.
Min Area: 8.17 sq. m.

0 10 20 Meters

Source: San GIS & City of San Diego Park & Rec
Created by: Annabelle Bernabe, 2015



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MSP - Rare Plant Occurrence Monitoring Form 2015										Page 1	
Scientific Name:		Acanthomintha ilicifolia				Common Name:		San Diego thornmint			
Existing MSP Occurrence?		yes				MSP Occurr. ID:		ACIL_3OTLA012			
CNDDB Elem. Occur. #:		n/a				Translocated?		no			
Preserve:		Otay Lakes Cornerstone Lands				Mgmt Unit		MU3			
Land Owner:		City of San Diego				Land Mangr:		City of San Diego Public Utilities Department			
Occurrence Name:		Otay Lakes				Sample Point #:		1			
Surveyors:		Kim Roeland, Annabelle Bernabe				Affiliation		City of San Diego			
Date:		3/24/2015		Time Start:		9:45		Time Finish:		10:42	
I. OCCURRENCE STATUS - Assess # plants in both species-specific sampling area (typically 10-m radius circle) & in current mapped extent . See p. 4 for definitions of categories describing phenology & evidence of herbivory, disease & stunted growth within the sampling area. Record any notes on p. 3.											
# Plants/Current Mapped Extent:		0		exact count or estimate?		exact		uncert.		very low	
Area of Current Mapped Extent:		0		units		square meters		exact (GPS) or estim?		exact (GPS ma	
Species Found in Maximum Extent?		no		if not found, known or suspected reason:		population very low or absent for past decade					
# Plants/Sampling Area		0		exact count or estimate?		exact		uncert.		very low	
Sample Area Radius (m)		10		Phenology In Sampling Area (1-6):		Vegetative		1 (0%)		Flowering	
				Dead		1 (0%)		Flowering & Fruiting		1 (0%)	
Evidence in Sampling Area (1-6):		Herbivory		1 (0%)		Disease		1 (0%)		Stunted Growth	
Is Sampling Area within Current Mapped Extent?		yes									
Collection (if not collected previously)?		no									
If yes:		Collector				Collection #					
		Museum/Herbarium									
II. SAMPLING AREA LOCATION & SITE PHOTOMONITORING											
GPS Accuracy: +/-		<1		accur. units:		meters		Datum:		NAD83	
coord. system		State Plane (ft)									
Coord'n's at Center of Plot:		E:				N:					
Camera type:		Pentax Optio W90									
Locat. 1 Coord.--E, N		6357069.84		1807513.802		Direction facing		S, SW, W		Height	
		Camera angle		10° up		Photo #		883-888		File location	
Locat. 2 Coord.--E, N						Direction facing				Height	
		Camera angle				Photo #				File location	
III. ASSOCIATED SPECIES If need more room, record additional data and any notes on page 3.											
species/substrate		% Cover		Collection #, or NC if collected		not collected		species/substrate		% Cover	
Eriogonum fasciculatum		2						Erodium cicutarium		20	
Deinandra fasciculata		15						Anagallis arvensis		1	
Chlorogalum parviflorum		7						Plagiobotrys / Cryptantha sp.		1	
Acmispon glaber		1						Plantago erecta		1	
Crassula connata		25						Melilotus indicus		1	
Lepidium nitidum		10						Bromus madritensis		3	
Lasthenia gracilis		15						Avena sp.		1	
Bloomeria clevelandii		5						Bromus hordeaceus		2	
Cuscuta occidentalis		10						Eryngium aristulatum		2	
Acmispon micranthus		2						Hypochaeris glabra		1	
Erodium botrys		5						Sonchus asper		1	
Hordeum sp.		1						Cressa truxillensis		1	
Isocoma menziesii		1									
Linanthus dianthiflorus		2						bare ground		10	
Convolvulus simulans		3						rock		2	
Centaurea melitensis		3						litter		0	
COVER: Total % Cover:		142		%Herb:		138		%Shrub:		4	
								%Tree:		0	

IV. HABITAT ASSESSMENT IN SAMPLING AREA - Assess habitat covariates within **species-specific sampling area** (typically 10-m radius circle). Vegetation alliance/association can be assigned using San Diego vegetation key (AECOM 2012) in the office or field, using "Associated Species" data from page 1. See page 4 for definitions of habitat assessment categories.

SANDAG 2012 Vegetation Alliance/Association:	Vernal pools; Deinandra fasciculata Provisional Alliance, Deinandra fasciculata Association			
Cover classes (1-6)	Cryptogamic Crust Cover:	1 (0%)	Thatch Cover	1 (0%)
	Thatch Depth Average (cm)		Thatch Depth max (cm)	
Dead Standing Biomass	yes			
If yes, cover/species class	unknown/2		Average height (cm)	
Mammal Species Activity (categ. 1-4)				
Feral pig activity	1 = No feral pig activity (rooting, wallowing, vegetation destruction, tracks, scat, pig) detected.			
ground squirr. activity	1 = No ground squirrel burrows detected.			
gopher activity	1 = No pocket gopher mounds detected.			
Sampling area representative of mapped occurrence?	yes	(If no, note differences on page 3)		

VI. THREATS ASSESSMENT IN MAXIMUM EXTENT - Assess threats within the **occurrence's maximum extent** (cumulative extent over years of monitoring) **plus 10-m surrounding buffer**. See page 4 for definitions of threat assessment categories. Record notes on page 3. See Argentine Ant Protocol (USGS 2015) for setting up bait, etc.

Surrounding Land Use/Activity at, or Adjacent to, Site	open space				
Argentine ant abundance at bait station (1-4)					
Time start		Temp start		Time end	
				Temp end	
Ant sample collected?		Ant sample #		Ant Station Photo #	
DISTURBANCES (Rank each as 1-6):					
Non-native forbs	5 = Disturbance	feral pig activity	1 = No sign of disturbance	altered hydrology	1 = No sign of disturbance
Non-native grasses	3 = Disturbance	trampling	1 = No sign of disturbance	erosion	1 = No sign of disturbance
Non-native woody pl.	1 = No sign of disturbance	vandalism	1 = No sign of disturbance	urban runoff	1 = No sign of disturbance
competitive native pl.	1 = No sign of disturbance	current grazing	1 = No sign of disturbance	slope movement	1 = No sign of disturbance
dumping/trash	1 = No sign of disturbance	historic grazing	1 = No sign of disturbance	soil compaction	1 = No sign of disturbance
encampments	1 = No sign of disturbance	historic agriculture	6 = Disturbance		
fuel modification zone/fire break	1 = No sign of disturbance				
road construction/maintenance	1 = No sign of disturbance	if present, describe:			
illegal vegetation clearing	1 = No sign of disturbance	if present, describe:			
brush management/restoration	1 = No sign of disturbance within maximum extent or in adjacent 10 m buffer.				
ORV activity	1 = No sign of disturbance	if present, describe:			
Evidence of recent fire	1 = No sign of disturbance within maximum extent				
If sign of recent fire, year burned?					
Trails	1 = No sign of disturbance within maximum extent		If trails are present, are they authorized?		
Type of trail use	hiking		biking		
			equestrian		
	service vehicles		other		
illegal trail use?	1 = No sign of disturbance	describe:			
Other disturbance?	1 = No sign of disturbance	describe:			

MSP-Management Needs and Notes 2015

(top 2 rows auto-fill from page 1)

Scientific Name:

MSP Occur ID.

Date:

VI. MANAGEMENT RECOMMENDATIONS

Treat non-native forms (Erodium) as necessary; continue to control access via fencing and locked gate.

VII. MANAGEMENT ACTIONS IN LAST YEAR

Access control with fencing and locked gate.

VIII. CNDDDB SPECIES DETECTED (list any plant or animal species to add to the CNDDDB)

Horned larks (10+)

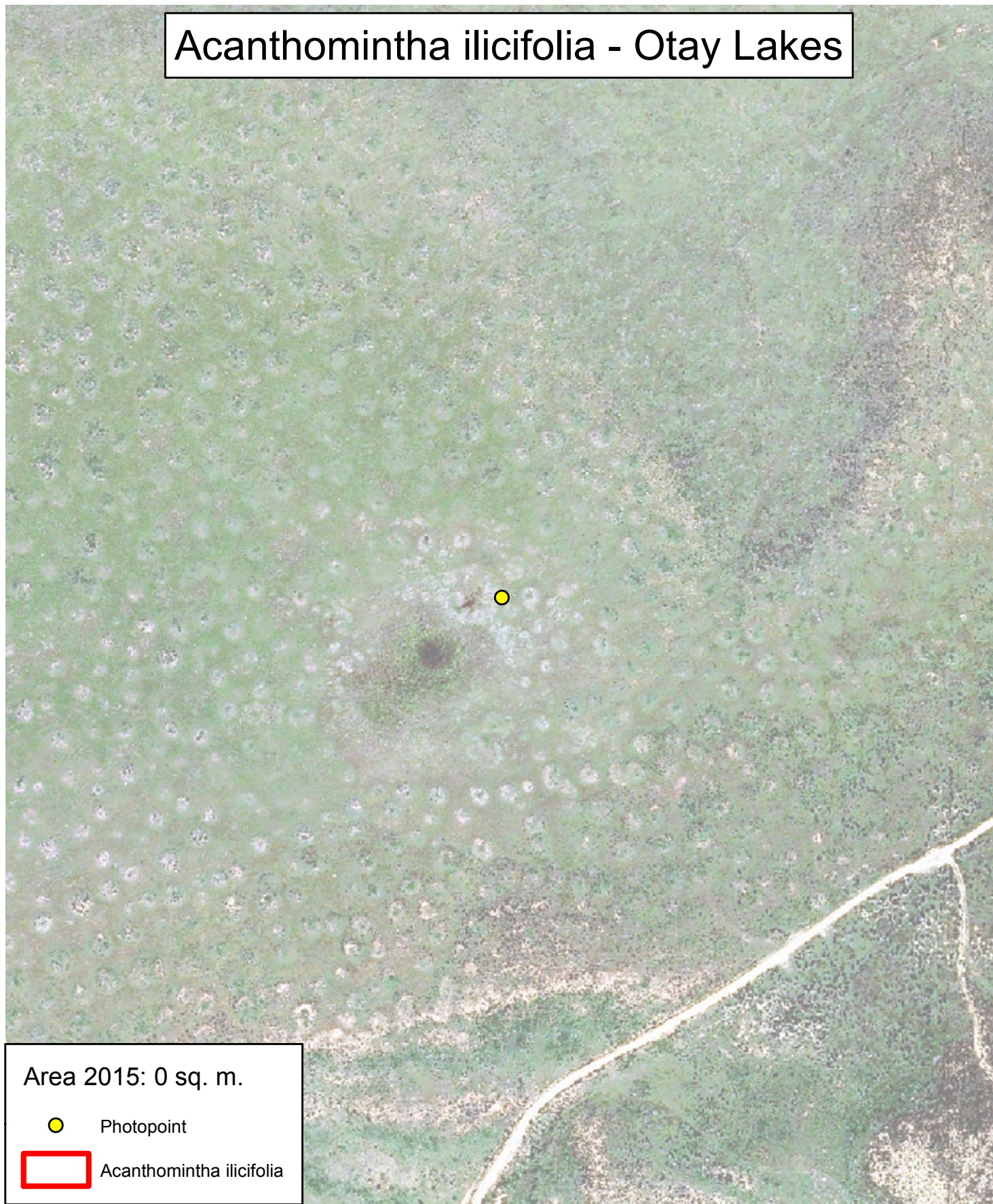
NOTES

***Acanthomintha ilicifolia* (San Diego Thornmint) Otay Lakes**



Panorama from North of population, facing West, Southwest, South.
Panorama location is 6357069.84 1807513.80 NAD83 State Plane California Zone 6 (feet)
Photos merged using ArcSoft Panorama Maker 4.

Acanthomintha ilicifolia - Otay Lakes



Pop. Area 2003 - 2015
Max Area: 10.7 sq. m.
Min Area: 0 sq. m.

0 50 100 Meters

Source: San GIS & City of San Diego Park & Rec
Created by: Annabelle Bernabe, 2015



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MSP - Rare Plant Occurrence Monitoring Form 2015										Page 1	
Scientific Name:		Acanthomintha ilicifolia				Common Name:		San Diego thornmint			
Existing MSP Occurrence?				yes		MSP Occurr. ID:		ACIL_4SASP025			
CNDDB Elem. Occur. #:				n/a		Translocated?		no			
Preserve:		Sabre Springs						Mgmt Unit		MU3	
Land Owner:		City of San Diego				Land Mangr:		City of San Diego Park and Recreation Department			
Occurrence Name:		Sabre Springs (east subpop 1)						Sample Point #:		1	
Surveyors:		Kim Roeland, Betsy Miller, Melanie Fontana						Affiliation		City of San Diego	
Date:		3/30/2015		Time Start:		10:17		Time Finish:		11:10	
I. OCCURRENCE STATUS - Assess # plants in both species-specific sampling area (typically 10-m radius circle) & in current mapped extent . See p. 4 for definitions of categories describing phenology & evidence of herbivory, disease & stunted growth within the sampling area. Record any notes on p. 3.											
# Plants/Current Mapped Extent:		7		exact count or estimate?		Exact		uncert.		low	
Area of Current Mapped Extent:				7.25		units		square meters		exact (GPS) or estim?	
Species Found in Maximum Extent?				yes		if not found, known or suspected reason:					
# Plants/Sampling Area		7		exact count or estimate?		exact		uncert.		low	
Sample Area Radius (m)				10							
Phenology In Sampling Area (1-6):				Vegetative		1 (0%)		Flowering		6 (≥75%)	
				Dead		1 (0%)		Flowering & Fruiting		1 (0%)	
Evidence in Sampling Area (1-6):				Herbivory		1 (0%)		Disease *		1 (0%)	
				Stunted Growth		6 (≥75%)					
Is Sampling Area within Current Mapped Extent?				yes							
Collection (if not collected previously)?				no							
If yes:		Collector				Collection #					
		Museum/Herbarium									
II. SAMPLING AREA LOCATION & SITE PHOTOMONITORING											
GPS Accuracy: +/-		<1		accur. units:		meters		Datum:		NAD83	
coord. system		State Plane (ft)									
Coord'n's at Center of Plot:				E:		N:					
Camera type:		Pentax Optio W90									
Locat. 1 Coord.--E, N		6303376.7		1923491.2		Direction facing		NW, N, NE		Height	
		Camera angle		10° down		Photo #		845-847		File location	
								S:WSCP			
Locat. 2 Coord.--E,N						Direction facing				Height	
		Camera angle				Photo #				File location	
III. ASSOCIATED SPECIES If need more room, record additional data and any notes on page 3.											
species/substrate		% Cover		Collection #, or NC if collected		not collected		species/substrate		% Cover	
Adolphia californica		10						Bromus madritensis		5	
Quercus berberidifolia		5						Bromus hordeaceus		1	
Acmispon glaber		3						Brachypodium distachyon		1	
Isocoma menziesii		5						Logfia gallica		1	
Artemisia californica		3						Cuscuta occidentalis		2	
Anagallis arvensis		10						Acmispon heermannii		1	
Deinandra fasciculata		15						Hedypnois cretica		1	
Erodium cicutarium		20						Plantago elongata		1	
Brassica nigra		10						Convolvulus simulans		1	
Apiastrum angustifolium		3						Acanthomintha ilicifolia		1	
Euphorbia peplus		2						bare ground		20	
Centaurea melitensis		1						rock		5	
Festuca myuros		1						litter		10	
COVER: Total % Cover:		114		%Herb:		78		%Shrub:		36	
								%Tree:		0	

IV. HABITAT ASSESSMENT IN SAMPLING AREA - Assess habitat covariates within **species-specific sampling area** (typically 10-m radius circle). Vegetation alliance/association can be assigned using San Diego vegetation key (AECOM 2012) in the office or field, using "Associated Species" data from page 1. See page 4 for definitions of habitat assessment categories.

SANDAG 2012 Vegetation Alliance/Association:	Baccharis pilularis Alliance, Baccharis pilularis/Herbaceous Association			
Cover classes (1-4)	Cryptogamic Crust Cover:	1 (0%)	Thatch Cover	2 (>0% to <10%)
	Thatch Depth Average (cm)	1	Thatch Depth max (cm)	1
Dead Standing Biomass	yes			
If yes, cover/species class	Brassica/2; Isocoma/2		Average height (cm)	10
Mammal Species Activity (categ. 1-4)				
Feral pig activity	1 = No feral pig activity (rooting, wallowing, vegetation destruction, tracks, scat, pig) detected.			
ground squirr. activity	1 = No ground squirrel burrows detected.			
gopher activity	1 = No pocket gopher mounds detected.			
Sampling area representative of mapped occurrence?	yes	(If no, note differences on page 3)		

VI. THREATS ASSESSMENT IN MAXIMUM EXTENT - Assess threats within the **occurrence's maximum extent** (cumulative extent over years of monitoring) **plus 10-m surrounding buffer**. See page 4 for definitions of threat assessment categories & page 5 for Overall Site Quality Scale. Record notes on page 3.

Surrounding Land Use/Activity	at, or open space		
Adjacent to, Site			
Argentine ant abundance at bait station (1-4)			
Time start		Temp start	
Ant sample collected?		Ant sample #	Ant Station Photo #
DISTURBANCES (Rank each as 1-6):			
Non-native forbs	5 = Disturbance	feral pig activity	1 = No sign of disturbance
Non-native grasses	3 = Disturbance	trampling	1 = No sign of disturbance
Non-native woody pl.	1 = No sign of disturbance	vandalism	1 = No sign of disturbance
competitive native pl.	1 = No sign of disturbance	current grazing	1 = No sign of disturbance
dumping/trash	2 = Disturbance	historic grazing	6 = Disturbance
encampments	2 = Disturbance	historic agriculture	1 = No sign of disturbance
fuel modification zone/fire break	1 = No sign of disturbance		
road construction/maintenance	1 = No sign of disturbance	if present, describe:	
illegal vegetation clearing	1 = No sign of disturbance	if present, describe:	
brush management/restoration	1 = No sign of disturbance within mapped occurrence perimeter or in adjacent 10 m buffer.		
ORV activity	1 = No sign of disturbance	if present, describe:	
Evidence of recent fire	1 = No sign of disturbance within mapped occurrence perimeter or in adjacent 10 m buffer.		
If sign of recent fire, year burned?			
Trails	3 = Disturbance present in >0% to <10% of area	If trails are present, are they authorized?	yes
Type of trail use	hiking yes	biking yes	equestrian no
	service vehicles yes	other no	dog yes
illegal trail use?	2 = Disturbance	describe:	
Other disturbance?	1 = No sign of disturbance	describe:	

MSP-Management Needs and Notes 2015

(top 2 rows auto-fill from page 1)

Scientific Name: Acanthomintha ilicifolia

MSP Occur ID. ACIL_4SASP025

Date: 3/20/2015

VI. MANAGEMENT RECOMMENDATIONS

Continue herbicide treatment of non-native grasses in conjunction with spot treatments of forbs.

VII. MANAGEMENT ACTIONS IN LAST YEAR

Treated *Brachypodium distachyon* with herbicides per CBI protocol in February and March 2015

VIII. CNDDDB SPECIES DETECTED (list any plant or animal species to add to the CNDDDB)

NOTES

Hand pulling of *Euphorbia* during monitoring visit.

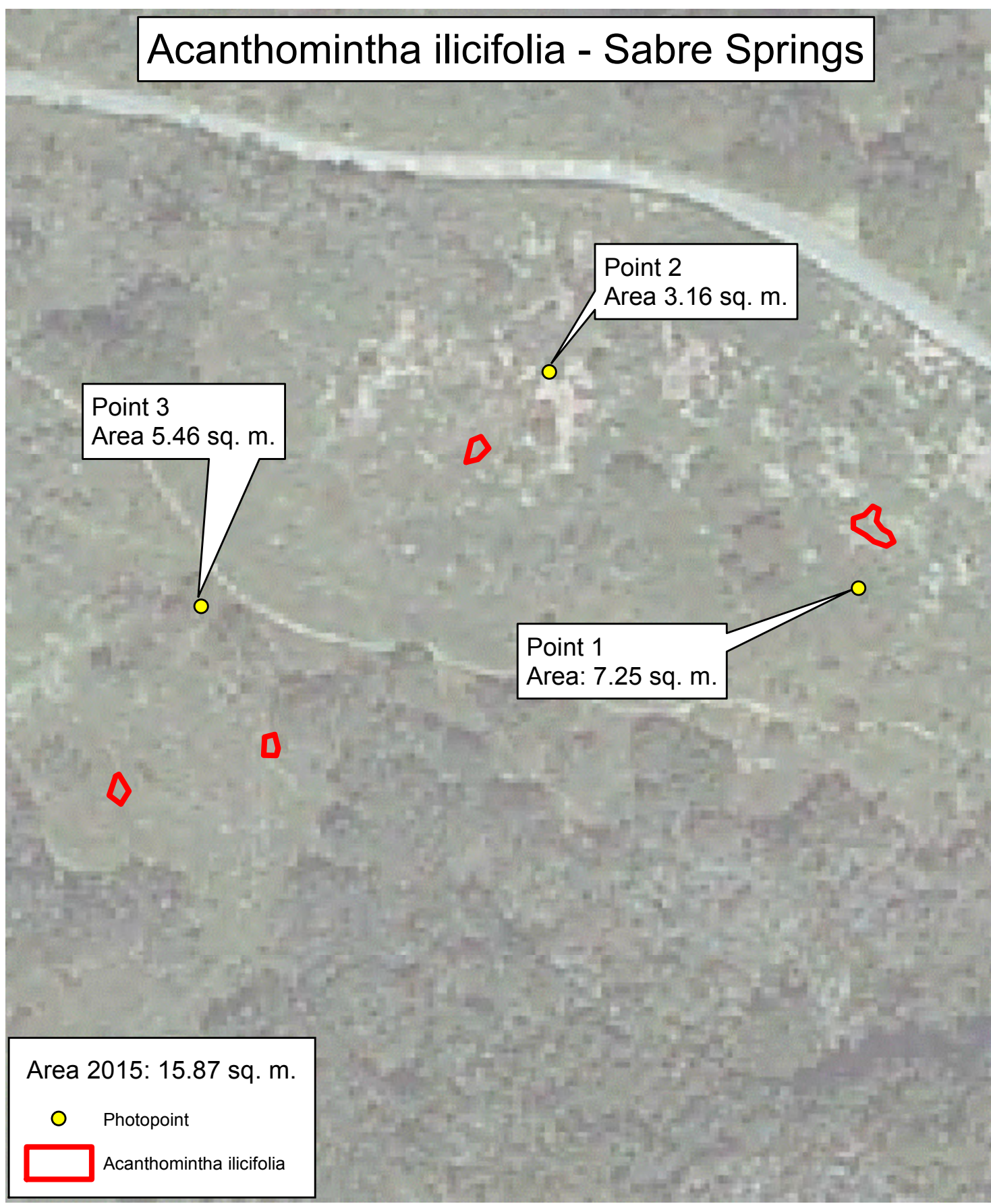
**Cuscuta* is growing on one ACIL- not sure if this should be categorized as "disease" on page 1.

***Acanthomintha ilicifolia* (San Diego Thornmint) Sabre Springs East Subpopulation # 1**



Panorama from South edge of subpopulation, facing Northwest, North, Northeast, East.
Panorama location is 6303376.7 1 1923491.22 NAD83 State Plane California Zone 6 (feet)
Photos merged using ArcSoft Panorama Maker 4.

Acanthomintha ilicifolia - Sabre Springs



Pop. Area 2006 - 2015
Max Area: 282.1 sq. m.
Min Area: 12 sq. m.

0 10 20 Meters

Source: San GIS & City of San Diego Park & Rec
Created by: Annabelle Bernabe, 2015



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MSP - Rare Plant Occurrence Monitoring Form 2015										Page 1	
Scientific Name:		Acanthomintha ilicifolia				Common Name:		San Diego thornmint			
Existing MSP Occurrence?		yes				MSP Occurr. ID:		ACIL_4SASP025			
CNDDB Elem. Occur. #:		n/a				Translocated?		no			
Preserve:		Sabre Springs				Mgmt Unit		MU4			
Land Owner:		City of San Diego				Land Mangr:		City of San Diego Park and Recreation Department			
Occurrence Name:		Sabre Springs (west, subpop 2)				Sample Point #:		2			
Surveyors:		Kim Roeland, Betsy Miller, Melanie Fontana				Affiliation		City of San Diego			
Date:		3/30/2015		Time Start:		11:11		Time Finish:		11:58	
I. OCCURRENCE STATUS - Assess # plants in both species-specific sampling area (typically 10-m radius circle) & in current mapped extent . See p. 4 for definitions of categories describing phenology & evidence of herbivory, disease & stunted growth within the sampling area. Record any notes on p. 3.											
# Plants/Current Mapped Extent:		7		exact count or estimate?		Exact		uncert.		low	
Area of Current Mapped Extent:		3.16		units		square meters		exact (GPS) or estim?		exact (GPS ma	
Species Found in Maximum Extent?		yes		if not found, known or suspected reason:							
# Plants/Sampling Area		7		exact count or estimate?		exact		uncert.		low	
Sample Area Radius (m)		10									
Phenology In Sampling Area (1-6):		Vegetative		1 (0%)		Flowering		6 (≥75%)		Fruiting	
		Dead		1 (0%)		Flowering & Fruiting		1 (0%)			
Evidence in Sampling Area (1-6):		Herbivory		1 (0%)		Disease		1 (0%)		Stunted Growth	
										2 (>0% to <10%	
Is Sampling Area within Current Mapped Extent?		yes									
Collection (if not collected previously)?		no									
If yes:		Collector				Collection #					
		Museum/Herbarium									
II. SAMPLING AREA LOCATION & SITE PHOTOMONITORING											
GPS Accuracy: +/-		<1		accur. units:		meters		Datum:		NAD83	
coord. system		State Plane (ft)									
Coord'n's at Center of Plot:		E:				N:					
Camera type:		Pentax Optio W90									
Locat. 1 Coord.--E, N		6303277.45		1923560.66		Direction facing		S, SW, W		Height	
		Camera angle		10° down		Photo #		848-851		File location	
Locat. 2 Coord.--E, N						Direction facing				Height	
		Camera angle				Photo #				File location	
III. ASSOCIATED SPECIES If need more room, record additional data and any notes on page 3.											
species/substrate		% Cover		Collection #, or NC if collected		not collected		species/substrate		% Cover	
Quercus berberidifolia		5						Brachypodium distachyon		7	
Baccharis pilularis		20						Festuca myuros		1	
Isocoma menziesii		5						Brassica nigra		10	
Artemisia californica		3						Centaurea melitensis		2	
Adolphia californica		3						Sonchus asper		1	
Convolvulus simulans		5						Bromus madritensis		20	
Apiastrum angustifolium		5						Medicago sp.		1	
Deinandra fasciculata		15						Geranium californica		1 photo	
Acanthomintha ilicifolia		1									
Anagalis arvensis		2									
Erodium cicutarium		20						bare ground		10	
Euphorbia peplus		10						rock		5	
Helminthotheca echioides		2						litter		5	
COVER: Total % Cover:		139		%Herb:		103		%Shrub:		36	
								%Tree:		0	

IV. HABITAT ASSESSMENT IN SAMPLING AREA - Assess habitat covariates within **species-specific sampling area** (typically 10-m radius circle). Vegetation alliance/association can be assigned using San Diego vegetation key (AECOM 2012) in the office or field, using "Associated Species" data from page 1. See page 4 for definitions of habitat assessment categories.

SANDAG 2012 Vegetation Alliance/Association:	Baccharis pilularis Alliance, Baccharis pilularis/Herbaceous Association			
Cover classes (1-4)	Cryptogamic Crust Cover:	1 (0%)	Thatch Cover	2 (>0% to <10%)
	Thatch Depth Average (cm)	2	Thatch Depth max (cm)	3
Dead Standing Biomass	yes			
If yes, cover/species class	Artemisia/2; other shrub/2; Nicotiana/2		Average height (cm)	50
Mammal Species Activity (categ. 1-4)				
Feral pig activity	1 = No feral pig activity (rooting, wallowing, vegetation destruction, tracks, scat, pig) detected.			
ground squirr. activity	1 = No ground squirrel burrows detected.			
gopher activity	2 = Mounds or gophers observed adjacent to sampling area but not within sampling area			
Sampling area representative of mapped occurrence?	yes	(If no, note differences on page 3)		

VI. THREATS ASSESSMENT IN MAXIMUM EXTENT - Assess threats within the **occurrence's maximum extent** (cumulative extent over years of monitoring) **plus 10-m surrounding buffer**. See page 4 for definitions of threat assessment categories & page 5 for Overall Site Quality Scale. Record notes on page 3.

Surrounding Land Use/Activity	at, or	open space
Adjacent to, Site		
Argentine ant abundance at bait station (1-4)		
Time start	Temp start	Time end
Ant sample collected?	Ant sample #	Ant Station Photo #

DISTURBANCES (Rank each as 1-6):

Non-native forbs	5 = Disturbance	feral pig activity	1 = No sign of disturbance	altered hydrology	1 = No sign of disturbance
Non-native grasses	5 = Disturbance	trampling	1 = No sign of disturbance	erosion	1 = No sign of disturbance
Non-native woody pl.	1 = No sign of disturbance	vandalism	1 = No sign of disturbance	urban runoff	1 = No sign of disturbance
competitive native pl.	1 = No sign of disturbance	current grazing	1 = No sign of disturbance	slope movement	1 = No sign of disturbance
dumping/trash	2 = Disturbance	historic grazing	6 = Disturbance	soil compaction	1 = No sign of disturbance
encampments	1 = No sign of disturbance	historic agriculture	1 = No sign of disturbance		
fuel modification zone/fire break	1 = No sign of disturbance				
road construction/maintenance	1 = No sign of disturbance	if present, describe:			
illegal vegetation clearing	1 = No sign of disturbance	if present, describe:			
brush management/restoration	1 = No sign of disturbance within mapped occurrence perimeter or in adjacent 10 m buffer.				
ORV activity	1 = No sign of disturbance	if present, describe:			
Evidence of recent fire	1 = No sign of disturbance within mapped occurrence perimeter or in adjacent 10 m buffer.				
If sign of recent fire, year burned?					
Trails	2 = Disturbance does not occur within mapped occurrence perimeter or in adjacent 10 m buffer.	If trails are present, are they authorized?	yes		
Type of trail use	hiking	yes	biking	yes	equestrian
	service vehicles	yes	other	no	dog
illegal trail use?	1 = No sign of disturbance	describe:			
Other disturbance?	1 = No sign of disturbance	describe:			

MSP-Management Needs and Notes 2015

(top 2 rows auto-fill from page 1)

Scientific Name:

MSP Occur ID.

Date:

VI. MANAGEMENT RECOMMENDATIONS

Continue herbicide treatment of non-native grasses in conjunction with spot treatments of forbs.

VII. MANAGEMENT ACTIONS IN LAST YEAR

Treated *Brachypodium distachyon* with herbicides per CBI protocol in February and March 2015

VIII. CNDDDB SPECIES DETECTED (list any plant or animal species to add to the CNDDDB)

NOTES

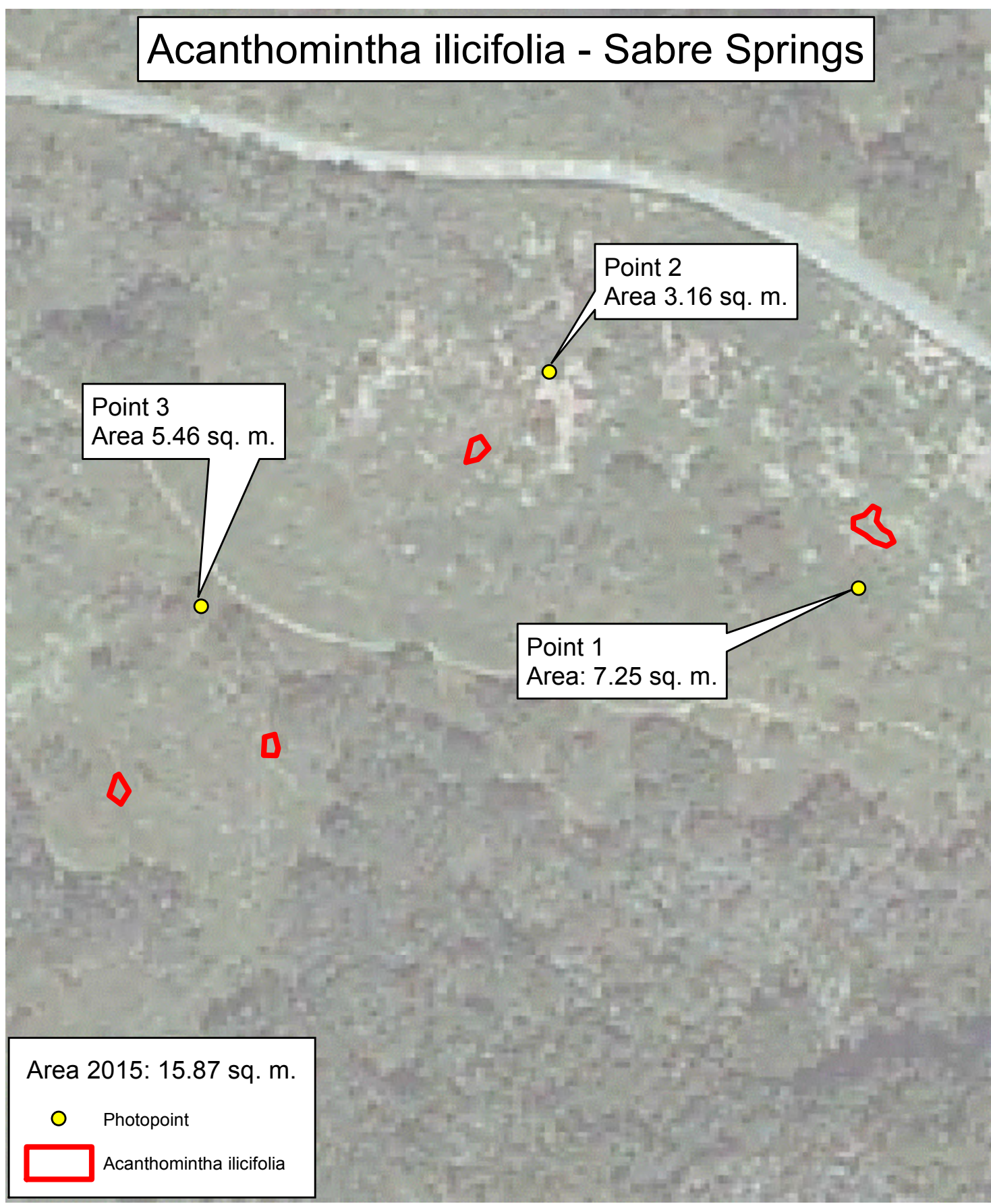
Hand pulling of *Euphorbia* during monitoring visit.

***Acanthomintha ilicifolia* (San Diego Thornmint) Sabre Springs West Flat Subpopulation # 2**

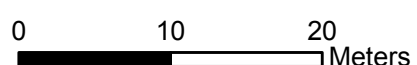


Panorama from Northwestern edge of subpopulation, facing South, Southwest, West.
Panorama location is 6303277.454 1923560.662 State Plane California Zone 6 (feet)
Photos merged using ArcSoft Panorama Maker 4.

Acanthomintha ilicifolia - Sabre Springs



Pop. Area 2006 - 2015
Max Area: 282.1 sq. m.
Min Area: 12 sq. m.



Source: San GIS & City of San Diego Park & Rec
Created by: Annabelle Bernabe, 2015



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MSP - Rare Plant Occurrence Monitoring Form 2015										Page 1
Scientific Name:		Acanthomintha ilicifolia			Common Name:		San Diego thornmint			
Existing MSP Occurrence?		yes			MSP Occurr. ID:		ACIL_4SASP025			
CNDDB Elem. Occur. #:		n/a			Translocated?		no			
Preserve:		Sabre Springs			Mgmt Unit		MU4			
Land Owner:		City of San Diego			Land Mangr:		City of San Diego Park and Recreation Department			
Occurrence Name:		Sabre Springs (south, subpop 3)			Sample Point #:		3			
Surveyors:		Kim Roeland, Betsy Miller, Melanie Fontana			Affiliation		City of San Diego			
Date:		3/30/2015		Time Start:		9:10		Time Finish: 10:15		
I. OCCURRENCE STATUS - Assess # plants in both species-specific sampling area (typically 10-m radius circle) & in current mapped extent . See p. 4 for definitions of categories describing phenology & evidence of herbivory, disease & stunted growth within the sampling area. Record any notes on p. 3.										
# Plants/Current Mapped Extent:		6		exact count or estimate?		Exact		uncert. low		
Area of Current Mapped Extent:		5.46		units		square meters		exact (GPS) or estim? exact (GPS ma		
Species Found in Maximum Extent?		yes		if not found, known or suspected reason:						
# Plants/Sampling Area		0		exact count or estimate?		exact		uncert. low		
Sample Area Radius (m)		10								
Phenology In Sampling Area (1-6):		Vegetative 1 (0%)		Flowering 6 (≥75%)		Fruiting 1 (0%)				
		Dead 1 (0%)		Flowering & Fruiting 1 (0%)						
Evidence in Sampling Area (1-6):		Herbivory 2 (>0% to <1		Disease 1 (0%)		Stunted Growth 3 (10% to <25%				
Is Sampling Area within Current Mapped Extent?		yes								
Collection (if not collected previously)?		no								
If yes:		Collector		Collection #						
		Museum/Herbarium								
II. SAMPLING AREA LOCATION & SITE PHOTOMONITORING										
GPS Accuracy: +/- <1		accur. units:		meters		Datum:		NAD83		
coord. system		State Plane (ft)								
Coord'n's at Center of Plot:		E:		N:						
Camera type:		Pentax Optio W90								
Locat. 1 Coord.--E, N		6303165.8		1923485.4		Direction facing		SE, S, SW		
		Camera angle		5° down		Photo #		835-839		
						File location		S:WSCP		
Locat. 2 Coord.--E,N						Direction facing		Height		
		Camera angle				Photo #		File location		
III. ASSOCIATED SPECIES If need more room, record additional data and any notes on page 3.										
species/substrate		% Cover		Collection #, or NC if collected		species/substrate		% Cover		
Adolphia californica		4				Brassica nigra		1		
Rhus integrifolia		3				Helminthotheca echiodides		1		
Quercus berberidifolia		7				Stipa pulchra		1		
Baccharis sarothroides		1				Avena sp.		1		
Isocoma menziesii		1				Sonchus asper		1		
Apiastrum angustifolium		2				Brachypodium distachyon		25		
Toxicoscordion venenosum		1				Bromus madritensis		1		
Deinandra fasciculata		2								
Convolvulus simulans		12								
Anagallis arvensis		2								
Euphorbia peplus		2				bare ground		15		
Erodium cicutarium		1				rock		5		
Sonchus asper		1				litter		3		
COVER: Total % Cover:		70		%Herb:		54		%Shrub: 16		
								%Tree: 0		

IV. HABITAT ASSESSMENT IN SAMPLING AREA - Assess habitat covariates within **species-specific sampling area** (typically 10-m radius circle). Vegetation alliance/association can be assigned using San Diego vegetation key (AECOM 2012) in the office or field, using "Associated Species" data from page 1. See page 4 for definitions of habitat assessment categories.

SANDAG 2012 Vegetation Alliance/Association: Bromus (diandrus, hordeaceus)-Brachypodium distachyon Semi-Natural Stands, Brachypodium distachyon Semi-Natural Stand Type

Cover classes (1-4)

Cryptogamic Crust Cover:

1 (0%)

Thatch Cover

2 (>0% to <10%)

Thatch Depth Average (cm)

3

Thatch Depth max (cm)

5

Dead Standing Biomass

yes

If yes, cover/species class

unknown shrub/2

Average height (cm)

25

Mammal Species Activity (categ. 1-4)

Feral pig activity

1 = No feral pig activity (rooting, wallowing, vegetation destruction, tracks, scat, pig) detected.

ground squirr. activity

1 = No ground squirrel burrows detected.

gopher activity

1 = No pocket gopher mounds detected.

Sampling area representative of mapped occurrence? yes

(If no, note differences on page 3)

VI. THREATS ASSESSMENT IN MAXIMUM EXTENT - Assess threats within the **occurrence's maximum extent** (cumulative extent over years of monitoring) **plus 10-m surrounding buffer**. See page 4 for definitions of threat assessment categories & page 5 for Overall Site Quality Scale. Record notes on page 3.

Surrounding Land Use/Activity

at, or open space

Adjacent to, Site

Argentine ant abundance at bait station (1-4)

Time start

Temp start

Time end

Temp end

Ant sample collected?

Ant sample #

Ant Station Photo #

DISTURBANCES (Rank each as 1-6):

Non-native forbs 3 = Disturbance

feral pig activity 1 = No sign of

altered hydrology 1 = No sign of disturbance

Non-native grasses 5 = Disturbance

trampling 1 = No sign of

erosion 1 = No sign of disturbance

Non-native woody pl. 1 = No sign of

vandalism 1 = No sign of

urban runoff 1 = No sign of disturbance

competitive native pl. 1 = No sign of

current grazing 1 = No sign of

slope movement 1 = No sign of disturbance

dumping/trash 1 = No sign of

historic grazing 6 = Disturbance

soil compaction 1 = No sign of disturbance

encampments 1 = No sign of

historic agriculture 1 = No sign of

fuel modification zone/fire break 1 = No sign of

road construction/maintenance 1 = No sign of

if present, describe:

illegal vegetation clearing 1 = No sign of

if present, describe:

brush management/restoration 6 = Disturbance occurs ≥50% of area within

herbicide treatment of BRDI

ORV activity

1 = No sign of

if present, describe:

Evidence of recent fire

1 = No sign of disturbance within mapped

If sign of recent fire, year burned?

Trails

2 = Disturbance does not occur within mapped

If trails are present, are they authorized?

yes

Type of trail use

hiking yes

biking yes

equestrian yes

dog yes

service vehicles yes

other no

illegal trail use?

1 = No sign of

describe:

Other disturbance?

1 = No sign of

describe:

MSP-Management Needs and Notes 2015

(top 2 rows auto-fill from page 1)

Scientific Name:

MSP Occur ID.

Date:

VI. MANAGEMENT RECOMMENDATIONS

Continue herbicide treatment of non-native grasses in conjunction with spot treatments of forbs.

VII. MANAGEMENT ACTIONS IN LAST YEAR

Treated *Brachypodium distachyon* with herbicides per CBI protocol in February and March 2015

VIII. CNDDDB SPECIES DETECTED (list any plant or animal species to add to the CNDDDB)

NOTES

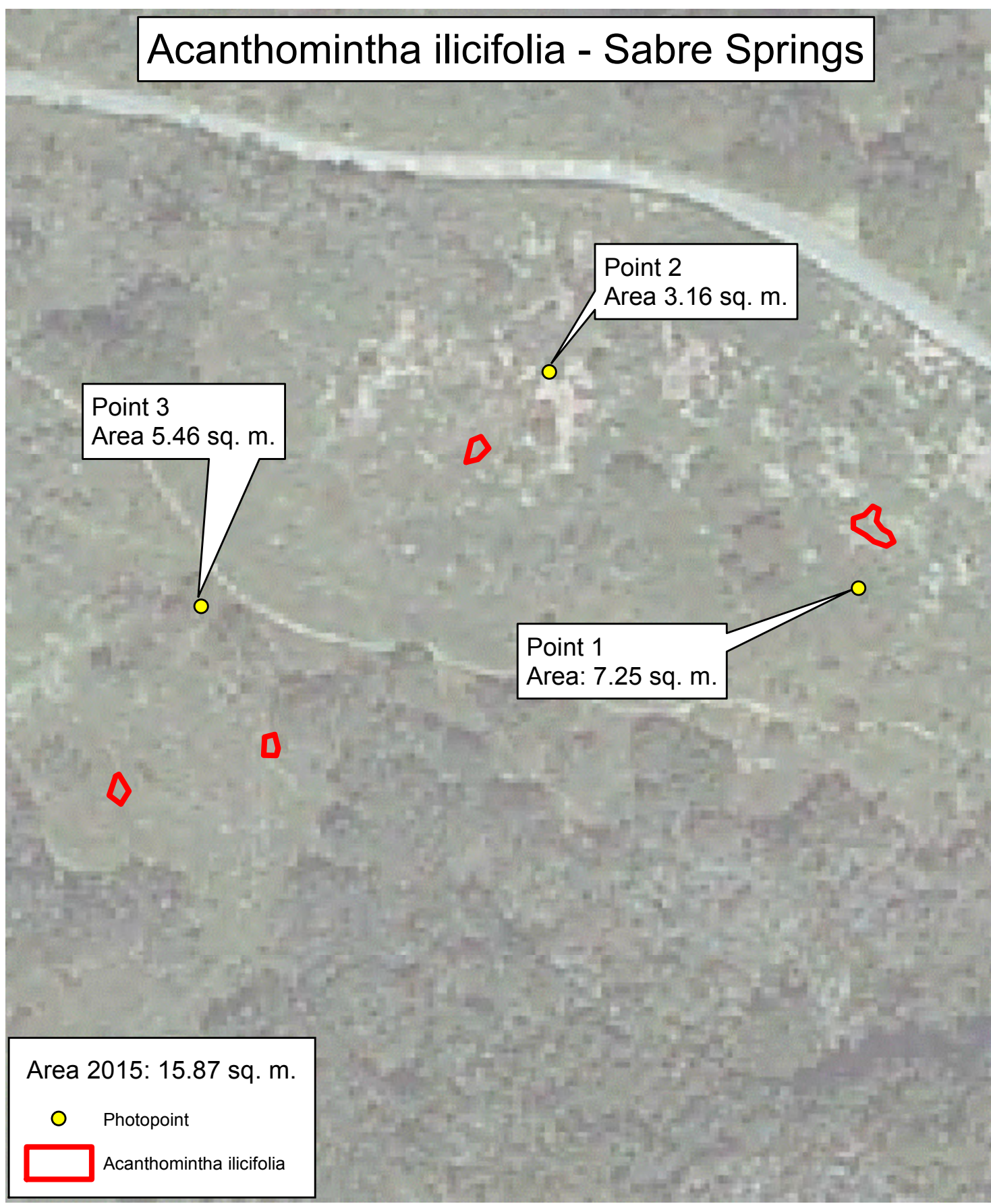
Hand pulling of *Brassica*, *Anagallis*, *Euphorbia* during monitoring visit.

***Acanthomintha ilicifolia* (San Diego Thornmint) Sabre Springs Southern Subpopulation # 3**

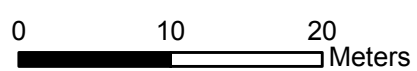


Panorama from Southwestern edge of subpopulation, facing Southeast, South, Southwest.
Panorama location is 6303165.85 1923485.4 NAD83 State Plane California Zone 6 (feet)
Photos merged using ArcSoft Panorama Maker 4.

Acanthomintha ilicifolia - Sabre Springs



Pop. Area 2006 - 2015
Max Area: 282.1 sq. m.
Min Area: 12 sq. m.



Source: San GIS & City of San Diego Park & Rec
Created by: Annabelle Bernabe, 2015



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Acemisson prostratus
Nuttall's Lotus



© City of San Diego, 2001

MSP - Rare Plant Occurrence Monitoring Form 2015										Page 1	
Scientific Name:		Acmispon prostratus			Common Name:		Nuttall's acmispon				
Existing MSP Occurrence?		yes			MSP Occurr. ID:		ACPR_1NMLA001				
CNDDB Elem. Occur. #:		EO6			Translocated?		no				
Preserve:		Mission Bay Park			Mgmt Unit		MU1				
Land Owner:		City of San Diego			Land Mangr:		City of San Diego Park and Recreation Department				
Occurrence Name:		Site 1 East of Sea World Drive, West of Interstate 5 = No Man's Land Site			Sample Point #:		1				
Surveyors:		Betsy Miller, Kim Roeland, Annabelle Bernabe (1); Keith Greer, Katie Day (2); Rebecca Schwartz (3)			Affiliation		(1) City of San Diego, (2) SANDAG, (3) San Diego Audubon				
Date:		5/21/2015		Time Start:		11:15		Time Finish:		12:30	
I. OCCURRENCE STATUS - Assess # plants in both species-specific sampling area (typically 10-m radius circle) & in current mapped extent . See p. 4 for definitions of categories describing phenology & evidence of herbivory, disease & stunted growth within the sampling area. Record any notes on p. 3.											
# Plants/Current Mapped Extent:		2		exact count or estimate?		exact		uncert.		very low	
Area of Current Mapped Extent:		2		units		square meters		exact (GPS) or estim?		exact (GPS ma	
Species Found in Maximum Extent?		yes		if not found, known or suspected reason: detected; decline suspected due to Brassica tournefortii							
# Plants/Sampling Area		0		exact count or estimate?		exact		uncert.		very low	
Sample Area Radius (m)		10									
Phenology In Sampling Area (1-6):		Vegetative		1 (0%)		Flowering		1 (0%)		Fruiting	
		Dead		1 (0%)		Flowering & Fruiting		1 (0%)		1 (0%)	
Evidence in Sampling Area (1-6):		Herbivory		1 (0%)		Disease		1 (0%)		Stunted Growth	
										1 (0%)	
Is Sampling Area within Current Mapped Extent?		no									
Collection (if not collected previously)?		no									
If yes:		Collector				Collection #					
		Museum/Herbarium									
II. SAMPLING AREA LOCATION & SITE PHOTOMONITORING											
GPS Accuracy: +/-		<1		accur. units:		meters		Datum:		NAD83	
coord. system		State Plane (ft)									
Coordin's at Center of Plot:		E:				N:					
Camera type:		Pentax Optio W90									
Locat. 1 Coord.--E, N		6267668.046		1859784.459		Direction facing		SE,S,SW, W		Height	
		Camera angle		5° down		Photo #		55-63		File location	
								S:\MSCP			
Locat. 2 Coord.-- E,N						Direction facing				Height	
		Camera angle				Photo #				File location	
III. ASSOCIATED SPECIES If need more room, record additional data and any notes on page 3.											
species/substrate		% Cover		Collection #, or NC if collected		not		species/substrate		% Cover	
										Collect.# or NC if not collected	
Heliotropium curassavicum		3									
Schismus barbata		1									
Heterotheca grandiflora		2									
Erodium cicutarium		1									
Camissoniopsis bistorta		5									
Glebionis coronaria		5									
Baccharis sarothroides		1									
Erodium botrys		3									
Brassica tournefortii		40									

IV. HABITAT ASSESSMENT IN SAMPLING AREA - Assess habitat covariates within **species-specific sampling area** (typically 10-m radius circle). Vegetation alliance/association can be assigned using San Diego vegetation key (AECOM 2012) in the office or field, using "Associated Species" data from page 1. See page 4 for definitions of habitat assessment categories.

SANDAG 2012 Vegetation Alliance/Association:	Brassica (nigra) and Other Mustards Semi-Natural Stands, Brassica nigra Semi-Natural Stand Type			
Cover classes (1-6)	Cryptogamic Crust Cover:	1 (0%)	Thatch Cover	1 (0%)
	Thatch Depth Average (cm)		Thatch Depth max (cm)	
Dead Standing Biomass	no			
If yes, cover/species class			Average height (cm)	
Mammal Species Activity (categ. 1-4)				
Feral pig activity	1 = No feral pig activity (rooting, wallowing, vegetation destruction, tracks, scat, pig) detected.			
ground squirr. activity	1 = No ground squirrel burrows detected.			
gopher activity	1 = No pocket gopher mounds detected.			
Sampling area representative of mapped occurrence?	yes	(If no, note differences on page 3)		

VI. THREATS ASSESSMENT IN MAXIMUM EXTENT - Assess threats within the **occurrence's maximum extent** (cumulative extent over years of monitoring) **plus 10-m surrounding buffer**. See page 4 for definitions of threat assessment categories. Record notes on page 3. See Argentine Ant Protocol (USGS 2015) for setting up bait, etc.

Surrounding Land Use/Activity at, or Adjacent to, Site	open space; transportation					
Argentine ant abundance at bait station (1-4)						
Time start		Temp start		Time end	Temp end	
Ant sample collected?		Ant sample #		Ant Station Photo #		
DISTURBANCES (Rank each as 1-6):						
Non-native forbs	5 = Disturbance	feral pig activity	1 = No sign of disturbance	altered hydrology	1 = No sign of disturbance	
Non-native grasses	3 = Disturbance	trampling	1 = No sign of disturbance	erosion	1 = No sign of disturbance	
Non-native woody pl.	1 = No sign of disturbance	vandalism	1 = No sign of disturbance	urban runoff	1 = No sign of disturbance	
competitive native pl.	1 = No sign of disturbance	current grazing	1 = No sign of disturbance	slope movement	1 = No sign of disturbance	
dumping/trash	1 = No sign of disturbance	historic grazing	1 = No sign of disturbance	soil compaction	1 = No sign of disturbance	
encampments	1 = No sign of disturbance	historic agriculture	1 = No sign of disturbance			
fuel modification zone/fire break	1 = No sign of disturbance					
road construction/maintenance	1 = No sign of disturbance	if present, describe:				
illegal vegetation clearing	2 = Disturbance	if present, describe:				
brush management/restoration	1 = No sign of disturbance within maximum extent or in adjacent 10 m buffer.					
ORV activity	1 = No sign of disturbance	if present, describe:				
Evidence of recent fire	1 = No sign of disturbance within maximum extent or in adjacent 10 m buffer.					
If sign of recent fire, year burned?						
Trails	3 = Disturbance present in >0% to <10% of area		If trails are present, are they authorized?		yes	
Type of trail use	hiking	no	biking	no	equestrian	no
	service vehicles	yes	other	no	dog	no
illegal trail use?	1 = No sign of disturbance					
Other disturbance?	1 = No sign of disturbance					

MSP-Management Needs and Notes 2015

(top 2 rows auto-fill from page 1)

Scientific Name:

MSP Occur ID.

Date:

VI. MANAGEMENT RECOMMENDATIONS

Treat *Brassica tournefortii* using approved methods once available

VII. MANAGEMENT ACTIONS IN LAST YEAR

none

VIII. CNDDDB SPECIES DETECTED (list any plant or animal species to add to the CNDDDB)

NOTES

Brassica tournefortii: 2 crops seen during this monitoring visit; the older one with many seeds and a seedling crop all over. Seeds cleaned from boots and equipment after this site visit.

***Acmispon prostratus* (Nuttall's Acmispon)**

Mission Bay – No Man's Land



Panorama from Southwestern edge of population, facing Southeast, South, Southwest, West.
Panorama location is 6267668.04 1859784.45 NAD83 State Plane California Zone 6 (feet)
Photos merged using ArcSoft Panorama Maker 4.

Acmispon prostratus - No Man's Land



Area 2015: 2.04 sq. m.

● Photopoint

□ Acmispon prostratus

Pop. Area 2003 - 2015
Max Area: 44032.65 sq. m.
Min Area: 2.0 sq. m.

0 10 20
Meters

Source: San GIS & City of San Diego Park & Rec
Created by: Annabelle Bernabe, 2015



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[illegible]

IV. HABITAT ASSESSMENT IN SAMPLING AREA - Assess habitat covariates within **species-specific sampling area** (typically 10-m radius circle). Vegetation alliance/association can be assigned using San Diego vegetation key (AECOM 2012) in the office or field, using "Associated Species" data from page 1. See page 4 for definitions of habitat assessment categories.

SANDAG 2012 Vegetation Alliance/Association: Ambrosia chamissonia-Abronia maritima Alliance, Ambrosia chamissonis-Abronia maritima-Cakile maritima Association

Cover classes (1-6)

Cryptogamic Crust Cover: 1 (0%)

Thatch Cover 1 (0%)

Thatch Depth Average (cm)

Thatch Depth max (cm)

Dead Standing Biomass

yes

If yes, cover/species class

Washingtonia stump/2

Average height (cm)

15

Mammal Species Activity (categ. 1-4)

Feral pig activity

1 = No feral pig activity (rooting, wallowing, vegetation destruction, tracks, scat, pig) detected.

ground squirr. activity

1 = No ground squirrel burrows detected.

gopher activity

1 = No pocket gopher mounds detected.

Sampling area representative of mapped occurrence? yes

(If no, note differences on page 3)

VI. THREATS ASSESSMENT IN MAXIMUM EXTENT - Assess threats within the **occurrence's maximum extent** (cumulative extent over years of monitoring) **plus 10-m surrounding buffer**. See page 4 for definitions of threat assessment categories. Record notes on page 3. See Argentine Ant Protocol (USGS 2015) for setting up bait, etc.

Surrounding Land Use/Activity at, or Adjacent to, Site

Developed park, parking lot, open channel

Argentine ant abundance at bait station (1-4)

Time start

Temp start

Time end

Temp end

Ant sample collected?

Ant sample #

Ant Station Photo #

DISTURBANCES (Rank each as 1-6):

Non-native forbs 3 = Disturbance

feral pig activity 1 = No sign of disturbance

altered hydrology 1 = No sign of disturbance

Non-native grasses 4 = Disturbance

trampling 1 = No sign of disturbance

erosion 1 = No sign of disturbance

Non-native woody pl. 3 = Disturbance

vandalism 1 = No sign of disturbance

urban runoff 1 = No sign of disturbance

competitive native pl. 1 = No sign of disturbance

current grazing 1 = No sign of disturbance

slope movement 1 = No sign of disturbance

dumping/trash 1 = No sign of disturbance

historic grazing 1 = No sign of disturbance

soil compaction 1 = No sign of disturbance

encampments 1 = No sign of disturbance

historic agriculture 1 = No sign of disturbance

fuel modification zone/fire break 1 = No sign of disturbance

road construction/maintenance 1 = No sign of disturbance

if present, describe:

illegal vegetation clearing 1 = No sign of disturbance

if present, describe:

brush management/restoration

7 = Disturbance occurs ≥75% of area within maximum extent.

ORV activity

1 = No sign of disturbance

if present, describe:

Evidence of recent fire

1 = No sign of disturbance within maximum extent

If sign of recent fire, year burned?

Trails

3 = Disturbance present in >0% to <10% of area

If trails are present, are they authorized?

yes

Type of trail use

hiking

yes

biking

no

equestrian

no

dog

yes

service vehicles

no

other

no

illegal trail use?

1 = No sign of disturbance

describe:

Other disturbance?

1 = No sign of disturbance

describe:

MSP-Management Needs and Notes 2015

(top 2 rows auto-fill from page 1)

Scientific Name:

MSP Occur ID.

Date:

VI. MANAGEMENT RECOMMENDATIONS

Continue to pull/remove non-native species. Consider application of herbicide to treat crab grass in areas where ACPR occurs.

VII. MANAGEMENT ACTIONS IN LAST YEAR

VIII. CNDDDB SPECIES DETECTED (list any plant or animal species to add to the CNDDDB)

NOTES

Probation crew just finished pulling weeds and raking that site; native species avoided. Trails = interpretive walk with signs.

***Acmispon prostratus* (Nuttall's Acmispon) Mission Bay – Hospitality Point Site # 2**



Panorama from Southern edge of population, facing Southwest, West, Northwest.
Panorama location is 6256864.804 1857560.724 NAD83 State Plane California Zone 6 (feet)
Photos merged using ArcSoft Panorama Maker 4.

Acmispon prostratus - Hospitality Point



Pop. Area 2006 - 2015
Max Area: 5505.4 sq. m.
Min Area: 1622.0 sq. m.

0 15 30 Meters

Source: San GIS & City of San Diego Park & Rec
Created by: Annabelle Bernabe, 2015



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MSP - Rare Plant Occurrence Monitoring Form 2015										Page 1
Scientific Name:		Acmispon prostratus			Common Name:		Nuttall's acmispon			
Existing MSP Occurrence?		yes			MSP Occurr. ID:		ACPR_1RRSO003			
CNDDB Elem. Occur. #:		EO31			Translocated?		no			
Preserve:		Flood Control Channel Southern Wildlife Preserve					Mgmt Unit MU1			
Land Owner:		City of San Diego			Land Mangr:		City of San Diego Park and Recreation Department			
Occurrence Name:		Site 3. Rip Rap South of Hospitality Point					Sample Point #:		3	
Surveyors:		Annabelle Bernabe, Robin Gilson					Affiliation		City of San Diego	
Date:		6/3/2015		Time Start:		8:34		Time Finish: 11:25		
I. OCCURRENCE STATUS - Assess # plants in both species-specific sampling area (typically 10-m radius circle) & in current mapped extent . See p. 4 for definitions of categories describing phenology & evidence of herbivory, disease & stunted growth within the sampling area. Record any notes on p. 3.										
# Plants/Current Mapped Extent:		647		exact count or estimate?		exact		uncert. low		
Area of Current Mapped Extent:		262.34		units		square meters		exact (GPS) or estim? exact (GPS ma		
Species Found in Maximum Extent?		yes		if not found, known or suspected reason:						
# Plants/Sampling Area:		0		exact count or estimate?		exact		uncert. very low		
Sample Area Radius (m)		10								
Phenology In Sampling Area (1-6):		Vegetative 1 (0%)		Flowering 1 (0%)		Fruiting 1 (0%)				
		Dead 1 (0%)		Flowering & Fruiting 1 (0%)						
Evidence in Sampling Area (1-6):		Herbivory 1 (0%)		Disease 1 (0%)		Stunted Growth 1 (0%)				
Is Sampling Area within Current Mapped Extent?		yes								
Collection (if not collected previously)?		no								
If yes:		Collector		Collection #						
		Museum/Herbarium								
II. SAMPLING AREA LOCATION & SITE PHOTOMONITORING										
GPS Accuracy: +/-		<1		accur. units:		meters		Datum: NAD83		
coord. system		State Plane (ft)								
Coord'n's at Center of Plot:		E:		N:						
Camera type:		Pentax Optio W90								
Locat. 1 Coord.--E, N		6258823.55		1857305.75		Direction facing		SW, W, NW		
		Camera angle		Level		Photo #		4017-4027		
						File location		S:WSCP		
Locat. 2 Coord.--E,N						Direction facing		Height		
		Camera angle				Photo #		File location		
III. ASSOCIATED SPECIES If need more room, record additional data and any notes on page 3.										
species/substrate		% Cover		Collection #, or NC if collected		not collected		species/substrate		
								% Cover		
								Collect.# or NC if not collected		
Pennisetum setaceum		45								
Distichlis spicata		10								
Salicornia pacifica		5								
Salsola tragus		1								
Medicago polymorpha		1								
Bromus diandrus		1								
Brassica tournefortii		3								
Frankenia salina		5								
Glebionis coronaria		3								
Malva parviflora		1								
Erodium cicutarium		1								
Melilotus indicus		1		bare ground				7		
Heterotheca grandiflora		1		rock				10		
Tribulis terrestris		1		litter				45		
COVER: Total % Cover:		79		%Herb:		74		%Shrub: 5		
								%Tree: 0		

IV. HABITAT ASSESSMENT IN SAMPLING AREA - Assess habitat covariates within **species-specific sampling area** (typically 10-m radius circle). Vegetation alliance/association can be assigned using San Diego vegetation key (AECOM 2012) in the office or field, using "Associated Species" data from page 1. See page 4 for definitions of habitat assessment categories.

SANDAG 2012 Vegetation Alliance/Association:	Distichlis spicata Alliance, Distichlis spicata-Annual Grasses Association				
Cover classes (1-6)	Cryptogamic Crust Cover:	1 (0%)	Thatch Cover	1 (0%)	
	Thatch Depth Average (cm)		Thatch Depth max (cm)		
Dead Standing Biomass	no				
If yes, cover/species class				Average height (cm)	
Mammal Species Activity (categ. 1-4)					
Feral pig activity	1 = No feral pig activity (rooting, wallowing, vegetation destruction, tracks, scat, pig) detected.				
ground squirr. activity	2 = Burrows and/or ground squirrels observed adjacent to sampling area but not within sampling area				
gopher activity	1 = No pocket gopher mounds detected.				
Sampling area representative of mapped occurrence?	no	(If no, note differences on page 3)			

VI. THREATS ASSESSMENT IN MAXIMUM EXTENT - Assess threats within the **occurrence's maximum extent** (cumulative extent over years of monitoring) **plus 10-m surrounding buffer**. See page 4 for definitions of threat assessment categories. Record notes on page 3. See Argentine Ant Protocol (USGS 2015) for setting up bait, etc.

Surrounding Land Use/Activity at, or Adjacent to, Site	flood control channel, parking					
Argentine ant abundance at bait station (1-4)						
Time start		Temp start		Time end		
				Temp end		
Ant sample collected?		Ant sample #		Ant Station Photo #		
DISTURBANCES (Rank each as 1-6):						
Non-native forbs	4 = Disturbance	feral pig activity	1 = No sign of disturbance	altered hydrology	1 = No sign of disturbance	
Non-native grasses	5 = Disturbance	trampling	1 = No sign of disturbance	erosion	1 = No sign of disturbance	
Non-native woody pl.	1 = No sign of disturbance	vandalism	1 = No sign of disturbance	urban runoff	1 = No sign of disturbance	
competitive native pl.	1 = No sign of disturbance	current grazing	1 = No sign of disturbance	slope movement	1 = No sign of disturbance	
dumping/trash	3 = Disturbance	historic grazing	1 = No sign of disturbance	soil compaction	1 = No sign of disturbance	
encampments	1 = No sign of disturbance	historic agriculture	1 = No sign of disturbance			
fuel modification zone/fire break	1 = No sign of disturbance					
road construction/maintenance	1 = No sign of disturbance	if present, describe:				
illegal vegetation clearing	1 = No sign of disturbance	if present, describe:				
brush management/restoration	1 = No sign of disturbance within maximum extent or in adjacent 10 m buffer.					
ORV activity	1 = No sign of disturbance	if present, describe:				
Evidence of recent fire	1 = No sign of disturbance within maximum extent					
If sign of recent fire, year burned?						
Trails	2 = Disturbance does not occur within maximum extent		If trails are present, are they authorized?			
			yes			
Type of trail use	hiking	yes	biking	yes	equestrian	no
	service vehicles	yes	other	yes	dog	yes
illegal trail use?	1 = No sign of disturbance					
Other disturbance?	1 = No sign of disturbance					

MSP-Management Needs and Notes 2015

(top 2 rows auto-fill from page 1)

Scientific Name:

MSP Occur ID.

Date:

VI. MANAGEMENT RECOMMENDATIONS

VII. MANAGEMENT ACTIONS IN LAST YEAR

VIII. CNDDDB SPECIES DETECTED (list any plant or animal species to add to the CNDDDB)

NOTES

Sampling area had greatest amount of *P. setaceum* in comparison to the maximum extent. Paved bike path is adjacent to population area.

***Acmispon prostratus* (Nuttall's Acmispon)**

Mission Bay – Rip Rap



Panorama from Southern edge of population, facing Southwest, West, Northwest.
Panorama location is 6258823.558 1857305.759 NAD83 State Plane California Zone 6 (feet)
Photos merged using ArcSoft Panorama Maker 4.

Acmispon prostratus - Rip Rap, Mission Bay



Pop. Area 2008 - 2015
Max Area: 10,774.29 sq. m.
Min Area: 70.41 sq. m.

0 50 100 Meters

Source: San GIS & City of San Diego Park & Rec
Map Created By: Annabelle Bernabe, 2015



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MSP - Rare Plant Occurrence Monitoring Form 2015										Page 1	
Scientific Name:		Acmispon prostratus				Common Name:		Nuttall's acmispon			
		Existing MSP Occurrence?		yes		MSP Occurr. ID:		ACPR_1MAPO004			
		CNDDB Elem. Occur. #:		EO28		Translocated?		no			
Preserve:		Mission Bay Park						Mgmt Unit MU1			
Land Owner:		City of San Diego				Land Mangr:		City of San Diego Park and Recreation Department			
Occurrence Name:		Site 4. Mariner's Point, Least Tern Nesting Site						Sample Point #:		4	
Surveyors:		Betsy Miller, Kim Roeland						Affiliation		City of San Diego	
Date:		5/22/2015		Time Start:		13:07		Time Finish:		13:30	
I. OCCURRENCE STATUS - Assess # plants in both species-specific sampling area (typically 10-m radius circle) & in current mapped extent . See p. 4 for definitions of categories describing phenology & evidence of herbivory, disease & stunted growth within the sampling area. Record any notes on p. 3.											
# Plants/Current Mapped Extent:		N/A		exact count or estimate?				uncert.			
		Area of Current Mapped Extent:		N/A		units				exact (GPS) or estim?	
		Species Found in Maximum Extent?		yes		if not found, known or suspected reason:					
# Plants/Sampling Area:		N/A				exact count or estimate?				uncert.	
		Sample Area Radius (m)									
		Phenology In Sampling Area (1-6):		Vegetative		Flowering				Fruiting	
				Dead		Flowering & Fruiting					
		Evidence in Sampling Area (1-6):		Herbivory		Disease				Stunted Growth	
		Is Sampling Area within Current Mapped Extent?									
		Collection (if not collected previously)?									
If yes:		Collector				Collection #					
		Museum/Herbarium									
II. SAMPLING AREA LOCATION & SITE PHOTOMONITORING											
GPS Accuracy: +/-		<1		accur. units:		meters		Datum:		NAD83	
coord. system		State Plane (ft)									
Coord'n's at Center of Plot:		E:				N:					
Camera type:		Pentax Optio W90									
Locat. 1 Coord.--E, N		6255570.1		1857963.18		Direction facing		SE, S, SW		Height	
		Camera angle		15° down		Photo #		609-612		File location	
Locat. 2 Coord.--E,N						Direction facing				Height	
		Camera angle				Photo #				File location	
III. ASSOCIATED SPECIES If need more room, record additional data and any notes on page 3.											
species/substrate		% Cover		Collection #, or NC if collected		not collected		species/substrate		% Cover	
Acmispon prostratus		3								Collect.# or NC if not collected	
Camissoniopsis bistorta		1									
Ambrosia chamissonis		5									
Abronia maritima		3									
Nemacaulis denudata		1									
Bromus diandrus		1									
Digitaria sanguinalis		20									
Camissoniopsis cheiranthifolia		2									
Mesembryanthemum crystallinum		2									
Cakile maritima		1									

IV. HABITAT ASSESSMENT IN SAMPLING AREA - Assess habitat covariates within **species-specific sampling area** (typically 10-m radius circle). Vegetation alliance/association can be assigned using San Diego vegetation key (AECOM 2012) in the office or field, using "Associated Species" data from page 1. See page 4 for definitions of habitat assessment categories.

SANDAG 2012 Vegetation Alliance/Association: Ambrosia chamissonis-Abronia maritima Alliance, Ambrosia chamissonia-Abronia maritima-Cakile maritima Association

Cover classes (1-6)

Cryptogamic Crust Cover:

Thatch Cover

Thatch Depth Average (cm)

Thatch Depth max (cm)

Dead Standing Biomass

If yes, cover/species class

Average height (cm)

Mammal Species Activity (categ. 1-4)

Feral pig activity

ground squirr. activity

gopher activity

Sampling area representative of mapped occurrence? (If no, note differences on page 3)

VI. THREATS ASSESSMENT IN MAXIMUM EXTENT - Assess threats within the **occurrence's maximum extent** (cumulative extent over years of monitoring) **plus 10-m surrounding buffer**. See page 4 for definitions of threat assessment categories. Record notes on page 3. See Argentine Ant Protocol (USGS 2015) for setting up bait, etc.

Surrounding Land Use/Activity at, or Adjacent to, Site

Argentine ant abundance at bait station (1-4)

Time start

Temp start

Time end

Temp end

Ant sample collected?

Ant sample #

Ant Station Photo #

DISTURBANCES (Rank each as 1-6):

Non-native forbs

Non-native grasses

Non-native woody pl.

competitive native pl.

dumping/trash

encampments

feral pig activity

trampling

vandalism

current grazing

historic grazing

historic agriculture

altered hydrology

erosion

urban runoff

slope movement

soil compaction

fuel modification zone/fire break

road construction/maintenance

illegal vegetation clearing

brush management/restoration

ORV activity

Evidence of recent fire

If sign of recent fire, year burned?

Trails

If trails are present, are they authorized?

Type of trail use

hiking

biking

equestrian

dog

service vehicles

other

illegal trail use?

describe:

Other disturbance?

describe:

MSP-Management Needs and Notes 2015

(top 2 rows auto-fill from page 1)

Scientific Name:

MSP Occur ID.

Date:

VI. MANAGEMENT RECOMMENDATIONS

Continue to maintain fencing and continue SD Audubon's work (including Transnet project)

VII. MANAGEMENT ACTIONS IN LAST YEAR

Fencing and signs in place around site; SD Audubon actively manages site with funds from Transnet

VIII. CNDDDB SPECIES DETECTED (list any plant or animal species to add to the CNDDDB)

California least tern (designated nesting site); horned larks also present

NOTES

Full habitat assessment not completed due to site being closed for least tern nesting season

***Acmispon prostratus* (Nuttall's Acmispon) Mariners Point**



Panorama from Northern edge of population, facing Southeast, South, Southwest.
Panorama location is 6255570.10 1857963.18 NAD83 State Plane California Zone 6 (feet)
Photos merged using ArcSoft Panorama Maker 4.

Page 1

I. OCCURRENCE STATUS - Assess # plants in both species-specific **sampling area** (typically 10-m radius circle) & in **current mapped extent**. See p. 4 for definitions of categories describing phenology & evidence of herbivory, disease & stunted growth within the sampling area. Record any notes on p. 3.

II. SAMPLING AREA LOCATION & SITE PHOTOMONITORING

GPS Accuracy: +/-	<1	accur. units:	meters	Datum:	NAD83
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III. ASSOCIATED SPECIES *If need more room, record additional data and any notes on page 3.*

species/substrate	% Cover	Collection #, or NC if not collected	species/substrate	% Cover	Collection #, or NC if not collected
-------------------	---------	--------------------------------------	-------------------	---------	--------------------------------------

IV. HABITAT ASSESSMENT IN SAMPLING AREA - Assess habitat covariates within **species-specific sampling area** (typically 10-m radius circle). Vegetation alliance/association can be assigned using San Diego vegetation key (AECOM 2012) in the office or field, using "Associated Species" data from page 1. See page 4 for definitions of habitat assessment categories.

SANDAG 2012 Vegetation Alliance/Association:	Encelia californica Alliance, Encelia californica-Artemisia californica Association			
Cover classes (1-6)	Cryptogamic Crust Cover:	1 (0%)	Thatch Cover	1 (0%)
	Thatch Depth Average (cm)		Thatch Depth max (cm)	
Dead Standing Biomass	yes			
If yes, cover/species class	Encelia and Isocoma/3		Average height (cm)	100
Mammal Species Activity (categ. 1-4)				
Feral pig activity	1 = No feral pig activity (rooting, wallowing, vegetation destruction, tracks, scat, pig) detected.			
ground squirr. activity	1 = No ground squirrel burrows detected.			
gopher activity	1 = No pocket gopher mounds detected.			
Sampling area representative of mapped occurrence?	yes	(If no, note differences on page 3)		

VI. THREATS ASSESSMENT IN MAXIMUM EXTENT - Assess threats within the **occurrence's maximum extent** (cumulative extent over years of monitoring) **plus 10-m surrounding buffer**. See page 4 for definitions of threat assessment categories. Record notes on page 3. See Argentine Ant Protocol (USGS 2015) for setting up bait, etc.

Surrounding Land Use/Activity at, or Adjacent to, Site	open space; transportation; bike path					
Argentine ant abundance at bait station (1-4)						
Time start		Temp start		Time end	Temp end	
Ant sample collected?		Ant sample #		Ant Station Photo #		
DISTURBANCES (Rank each as 1-6):						
Non-native forbs	4 = Disturbance	feral pig activity	1 = No sign of disturbance	altered hydrology	1 = No sign of disturbance	
Non-native grasses	1 = No sign of disturbance	trampling	1 = No sign of disturbance	erosion	1 = No sign of disturbance	
Non-native woody pl.	1 = No sign of disturbance	vandalism	1 = No sign of disturbance	urban runoff	1 = No sign of disturbance	
competitive native pl.	1 = No sign of disturbance	current grazing	1 = No sign of disturbance	slope movement	1 = No sign of disturbance	
dumping/trash	1 = No sign of disturbance	historic grazing	1 = No sign of disturbance	soil compaction	1 = No sign of disturbance	
encampments	1 = No sign of disturbance	historic agriculture	1 = No sign of disturbance			
fuel modification zone/fire break	1 = No sign of disturbance					
road construction/maintenance	1 = No sign of disturbance	if present, describe:				
illegal vegetation clearing	1 = No sign of disturbance	if present, describe:				
brush management/restoration	1 = No sign of disturbance within maximum extent or in adjacent 10 m buffer.					
ORV activity	1 = No sign of disturbance	if present, describe:				
Evidence of recent fire	1 = No sign of disturbance within maximum extent or in adjacent 10 m buffer.					
If sign of recent fire, year burned?						
Trails	2 = Disturbance does not occur within maximum extent or in adjacent 10 m buffer.		If trails are present, are they authorized?		yes	
Type of trail use	hiking	yes	biking	yes	equestrian	no
	service vehicles	no	other	no	dog	no
illegal trail use?	1 = No sign of disturbance within maximum extent or in adjacent 10 m buffer.					
Other disturbance?	1 = No sign of disturbance within maximum extent or in adjacent 10 m buffer.					

MSP-Management Needs and Notes 2015

(top 2 rows auto-fill from page 1)

Scientific Name:

MSP Occur ID.

Date:

VI. MANAGEMENT RECOMMENDATIONS

Treat *Brassica tournefortii* using best available methods

VII. MANAGEMENT ACTIONS IN LAST YEAR

none

VIII. CNDDDB SPECIES DETECTED (list any plant or animal species to add to the CNDDDB)

BSSP singing from marsh within flood control channel

NOTES

bike path adjacent to site

***Acmispon prostratus* (Nuttall's Acmispon) Mission Bay – Dune Triangle**



Panorama from the Southern edge of population, facing Northeast, East, Southeast, South, Southwest.

Panorama location is 6266528.38 1858616.164 NAD83 State Plane California Zone 6 (feet)

Photos merged using ArcSoft Panorama Maker 4.

Acmispon prostratus - Dune Triangle Mission Bay



Area 2015: 0 sq. m.

● 2014 Master Photopoints

□ Acmispon prostratus

Pop. Area 2006 - 2015
Max Area: 725.15 sq. m.
Min Area: 0.00 sq. m.

0 25 50
Meters

Source: San GIS & City of San Diego Park & Rec
Created by: Annabelle Bernabe, 2015



Every reasonable effort has been made to assure the accuracy of this map. However, neither the SanGIS participants nor San Diego Data Processing Corporation assume any liability arising from its use.

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MSP - Rare Plant Occurrence Monitoring Form 2015										Page 1
Scientific Name:	Acmispon prostratus				Common Name:	Nuttall's acmispon				
Existing MSP Occurrence?				yes	MSP Occurr. ID:	ACPR_1SOSH006				
CNDDB Elem. Occur. #:				EO6	Translocated?	no				
Preserve:	Mission Bay Park						Mgmt Unit	MU1		
Land Owner:	City of San Diego				Land Mangr:	City of San Diego Park and Recreation Department				
Occurrence Name:	Site 6. South Shores						Sample Point #:	6		
Surveyors:	Betsy Miller, Kim Roeland, Annabelle Bernabe (1); Keith Greer, Katie Day (2); Rebecca Schwartz (3)						Affiliation	(1) City of San Diego; (2) SANDAG; (3) San Diego Audubon		
Date:	5/21/2015		Time Start:	8:40		Time Finish:	11:00			
I. OCCURRENCE STATUS - Assess # plants in both species-specific sampling area (typically 10-m radius circle) & in current mapped extent . See p. 4 for definitions of categories describing phenology & evidence of herbivory, disease & stunted growth within the sampling area. Record any notes on p. 3.										
# Plants/Current Mapped Extent:	431		exact count or estimate?	exact		uncert.	very low			
Area of Current Mapped Extent:			6855.51		units	square meters	exact (GPS) or estim?		exact (GPS ma	
Species Found in Maximum Extent?			yes		if not found, known or suspected reason:					
# Plants/Sampling Area	1		exact count or estimate?	exact		uncert.	very low			
Sample Area Radius (m)			10							
Phenology In Sampling Area (1-6):			Vegetative 6 (≥75%)		Flowering	1 (0%)		Fruiting	1 (0%)	
			Dead 1 (0%)		Flowering & Fruiting		1 (0%)			
Evidence in Sampling Area (1-6):			Herbivory 1 (0%)		Disease	1 (0%)		Stunted Growth	1 (0%)	
Is Sampling Area within Current Mapped Extent?			yes							
Collection (if not collected previously)?			no							
If yes:	Collector				Collection #					
	Museum/Herbarium									
II. SAMPLING AREA LOCATION & SITE PHOTOMONITORING										
GPS Accuracy: +/-	<1		accur. units:	meters		Datum:	NAD83			
coord. system	State Plane (ft)									
Coord'n's at Center of Plot:	E:				N:					
Camera type:	Pentax Optio W90									
Locat. 1 Coord.--E, N	6266789.998		1859495.947		Direction facing	S,SW, W, NW		Height	1.1 m	
	Camera angle	10° down	Photo #	33-40	File location	S:\MSCP				
Locat. 2 Coord.-- E,N					Direction facing			Height		
	Camera angle		Photo #	41-53	File location					
III. ASSOCIATED SPECIES If need more room, record additional data and any notes on page 3.										
species/substrate	% Cover	Collection #, or NC if collected	not	species/substrate	% Cover	Collect.# or NC if not collected				
Acmispon prostratus	1		Dead Carpobrotus = dead standing biomass							
Baccharis sarothroides	1									
Heliotropium curassavicum	1									
Carpobrotus edulis (alive)	1									
Camissoniopsis lewesii	1									
Lepidium sp.	1									
Chenopodium murale	1									
Glebionis coronaria	2									
Erodium cicutarium	1									
Schismus barbatus	1									
Heterotheca grandiflora	1									
Brassica tournefortii	35		bare ground		5					
Melilotus offinalis	1		rock (SHELL)		2					
			litter		5					
COVER: Total % Cover:	48	%Herb:	47	%Shrub:	1	%Tree:	0			

IV. HABITAT ASSESSMENT IN SAMPLING AREA - Assess habitat covariates within **species-specific sampling area** (typically 10-m radius circle). Vegetation alliance/association can be assigned using San Diego vegetation key (AECOM 2012) in the office or field, using "Associated Species" data from page 1. See page 4 for definitions of habitat assessment categories.

SANDAG 2012 Vegetation Alliance/Association:	Brassica (nigra) and Other Mustards Semi-Natural Stands, Brassica nigra Semi-Natural Stand Type			
Cover classes (1-6)	Cryptogamic Crust Cover:	1 (0%)	Thatch Cover	1 (0%)
	Thatch Depth Average (cm)		Thatch Depth max (cm)	
Dead Standing Biomass	yes			
If yes, cover/species class	Carpobrotus sp./3		Average height (cm)	5
Mammal Species Activity (categ. 1-4)				

Feral pig activity	1 = No feral pig activity (rooting, wallowing, vegetation destruction, tracks, scat, pig) detected.		
ground squirr. activity	1 = No ground squirrel burrows detected.		
gopher activity	1 = No pocket gopher mounds detected.		
Sampling area representative of mapped occurrence?	yes	(If no, note differences on page 3)	

VI. THREATS ASSESSMENT IN MAXIMUM EXTENT - Assess threats within the **occurrence's maximum extent** (cumulative extent over years of monitoring) **plus 10-m surrounding buffer**. See page 4 for definitions of threat assessment categories. Record notes on page 3. See Argentine Ant Protocol (USGS 2015) for setting up bait, etc.

Surrounding Land Use/Activity at, or Adjacent to, Site	transportation; river channel		
Argentine ant abundance at bait station (1-4)			
Time start		Temp start	
Ant sample collected?		Ant sample #	
		Ant Station Photo #	

DISTURBANCES (Rank each as 1-6):

Non-native forbs	5 = Disturbance	feral pig activity	1 = No sign of disturbance	altered hydrology	1 = No sign of disturbance
Non-native grasses	3 = Disturbance	trampling	1 = No sign of disturbance	erosion	1 = No sign of disturbance
Non-native woody pl.	1 = No sign of disturbance	vandalism	1 = No sign of disturbance	urban runoff	1 = No sign of disturbance
competitive native pl.	1 = No sign of disturbance	current grazing	1 = No sign of disturbance	slope movement	1 = No sign of disturbance
dumping/trash	1 = No sign of disturbance	historic grazing	1 = No sign of disturbance	soil compaction	1 = No sign of disturbance
encampments	1 = No sign of disturbance	historic agriculture	1 = No sign of disturbance		
fuel modification zone/fire break	1 = No sign of disturbance				
road construction/maintenance	1 = No sign of disturbance	if present, describe:			
illegal vegetation clearing	1 = No sign of disturbance	if present, describe:			
brush management/restoration	7 = Disturbance occurs ≥75% of area within maximum extent.				
ORV activity	1 = No sign of disturbance	if present, describe:			
Evidence of recent fire	1 = No sign of disturbance within maximum extent.				
If sign of recent fire, year burned?					
Trails	1 = No sign of disturbance within maximum extent.		If trails are present, are they authorized?		
Type of trail use	hiking		biking		equestrian
					dog
service vehicles			other		
illegal trail use?	1 = No sign of disturbance	describe:			
Other disturbance?	1 = No sign of disturbance	describe:			

MSP-Management Needs and Notes 2015

(top 2 rows auto-fill from page 1)

Scientific Name:

MSP Occur ID.

Date:

VI. MANAGEMENT RECOMMENDATIONS

Continue San Diego Audubon's management of the site; continue management of iceplant but consider starting management focusing on the Sahara mustard moving forward, including reaching out to desert land managers

VII. MANAGEMENT ACTIONS IN LAST YEAR

SD Audubon management of site using TransNet grant funding; management included herbicide application by contractor targeting ice plant on 3 dates in 2014 and hand removal of ice plant using City Probation crews on three occasions in 2014.

VIII. CNDDDB SPECIES DETECTED (list any plant or animal species to add to the CNDDDB)

NOTES

***Acmispon prostratus* (Nuttall's Acmispon) Mission Bay – South Shores Site # 6**



Panorama from Western edge of population, facing South, Southwest, West, Northwest.
Panorama location is 6266789.998 1859495.947 NAD83 State Plane California Zone 6 (feet)
Photos merged using ArcSoft Panorama Maker 4.

Acmispon prostratus - South Shores



Pop. Area 2001 - 2015
Max Area: 15970.4 sq. m.
Min Area: 15.6 sq. m.

Ambrosia pumila
San Diego Ambrosia



© City of San Diego 2015

MSP - Rare Plant Occurrence Monitoring Form 2015										Page 1	
Scientific Name:		Ambrosia pumila			Common Name:		San Diego ambrosia				
Existing MSP Occurrence?		yes			MSP Occurr. ID:		AMPU_4KULA005				
CNDDB Elem. Occur. #:		EO12			Translocated?		no				
Preserve:		Mission Trails Regional Park					Mgmt Unit MU4				
Land Owner:		City of San Diego			Land Mangr:		City of San Diego Park and Recreation Department				
Occurrence Name:		Kumeyaay Lake					Sample Point #:		1		
Surveyors:		Betsy Miller, Kim Roeland, Annabelle Bernabe, Jason Allen					Affiliation		City of San Diego		
Date:		5/19/2015			Time Start:		9:15		Time Finish: 12:17		
I. OCCURRENCE STATUS - Assess # plants in both species-specific sampling area (typically 10-m radius circle) & in current mapped extent . See p. 4 for definitions of categories describing phenology & evidence of herbivory, disease & stunted growth within the sampling area. Record any notes on p. 3.											
# Plants/Current Mapped Extent:		28456		exact count or estimate?		exact		uncert. medium			
Area of Current Mapped Extent:		7930.27		units		square meters		exact (GPS) or estim? exact (GPS ma			
Species Found in Maximum Extent?		yes		if not found, known or suspected reason:							
# Plants/Sampling Area:		0		exact count or estimate?		exact		uncert. very low			
Sample Area Radius (m)		10									
Phenology In Sampling Area (1-6):		Vegetative 1 (0%)		Flowering 1 (0%)		Fruiting 1 (0%)					
		Dead 1 (0%)		Flowering & Fruiting 1 (0%)							
Evidence in Sampling Area (1-6):		Herbivory 1 (0%)		Disease 1 (0%)		Stunted Growth 1 (0%)					
Is Sampling Area within Current Mapped Extent?		no									
Collection (if not collected previously)?		no									
If yes:		Collector		Collection #							
		Museum/Herbarium									
II. SAMPLING AREA LOCATION & SITE PHOTOMONITORING											
GPS Accuracy: +/-		<1		accur. units:		meters		Datum: NAD83			
coord. system		State Plane (ft)									
Coord'n's at Center of Plot:		E:		N:							
Camera type:		Pentax Optio W90									
Locat. 1 Coord.--E, N		6321443.02		1886016.48		Direction facing		NW, N, NE, E			
		Camera angle		5° down		Photo #		3508-3571			
						File location		S:WSCP			
Locat. 2 Coord.-- E,N						Direction facing		Height			
		Camera angle				Photo #		File location			
III. ASSOCIATED SPECIES If need more room, record additional data and any notes on page 3.											
species/substrate		% Cover		Collection #, or NC if collected		not collected		species/substrate			
								% Cover			
								Collect.# or NC if not collected			
Eriogonum fasciculatum		10				Isocoma menziesii		1			
Nuttallanthus texanus		7				Daucus pusillus		1			
Artemisia californica		1				Deinandra fasciculata		1			
Centaurea melitensis		1				Pseudognaphalium californicum		1			
Heteromeles arbutifolia		1				Camissoniopsis bistorta		2			
Brassica nigra		1				Corethrogyne filaginifolia		1			
Croton setigerus		2									
Quercus agrifolia		1 (planted)									
Erodium botrys		7									
Baccharis sarothroides		1									
Populus fremontii		1 (planted)									
Crassula connata		1				bare ground		1			
Bromus madritensis		1				rock		0			
Festuca myuros		1				litter		2			
COVER: Total % Cover:		43		%Herb:		27		%Shrub: 14			
								%Tree: 2			

IV. HABITAT ASSESSMENT IN SAMPLING AREA - Assess habitat covariates within **species-specific sampling area** (typically 10-m radius circle). Vegetation alliance/association can be assigned using San Diego vegetation key (AECOM 2012) in the office or field, using "Associated Species" data from page 1. See page 4 for definitions of habitat assessment categories.

SANDAG 2012 Vegetation Alliance/Association: Artemisia californica-Eriogonum fasciculatum Alliance, Artemisia californica-Eriogonum fasciculatum-Malosma laurina Association

Cover classes (1-6)

Cryptogamic Crust Cover: 1 (0%)

Thatch Cover 1 (0%)

Thatch Depth Average (cm)

Thatch Depth max (cm)

Dead Standing Biomass

yes

If yes, cover/species class

unknown shrub

Average height (cm)

80

Mammal Species Activity (categ. 1-4)

Feral pig activity 1 = No feral pig activity (rooting, wallowing, vegetation destruction, tracks, scat, pig) detected.

ground squirr. activity 1 = No ground squirrel burrows detected.

gopher activity 1 = No pocket gopher mounds detected. (old)

Sampling area representative of mapped occurrence? yes (If no, note differences on page 3)

VI. THREATS ASSESSMENT IN MAXIMUM EXTENT - Assess threats within the **occurrence's maximum extent** (cumulative extent over years of monitoring) **plus 10-m surrounding buffer**. See page 4 for definitions of threat assessment categories. Record notes on page 3. See Argentine Ant Protocol (USGS 2015) for setting up bait, etc.

Surrounding Land Use/Activity at, or Adjacent to, Site open space; gravel parking lot

Argentine ant abundance at bait station (1-4)

2 = 1-50 Argentine ants detected at bait station.

Time start 9:20 AM

Temp start

66F

Time end

9:45 AM

Temp end

66F

Ant sample collected? yes

Ant sample #

5

Ant Station Photo #

3518

DISTURBANCES (Rank each as 1-6):

Non-native forbs 3 = Disturbance

feral pig activity 1 = No sign of disturbance

altered hydrology 1 = No sign of disturbance

Non-native grasses 3 = Disturbance

trampling 1 = No sign of disturbance

erosion 1 = No sign of disturbance

Non-native woody pl. 1 = No sign of disturbance

vandalism 1 = No sign of disturbance

urban runoff 1 = No sign of disturbance

competitive native pl. 1 = No sign of disturbance

current grazing 1 = No sign of disturbance

slope movement 1 = No sign of disturbance

dumping/trash 1 = No sign of disturbance

historic grazing 7 = Disturbance

soil compaction 1 = No sign of disturbance

encampments 1 = No sign of disturbance

historic agriculture 1 = No sign of disturbance

fuel modification zone/fire break 1 = No sign of disturbance

road construction/maintenance 1 = No sign of disturbance

if present, describe:

illegal vegetation clearing 1 = No sign of disturbance

if present, describe:

brush management/restoration 1 = No sign of disturbance within maximum extent or in adjacent 10 m buffer.

ORV activity

1 = No sign of disturbance

if present, describe:

Evidence of recent fire 1 = No sign of disturbance within maximum extent or in adjacent 10 m buffer.

If sign of recent fire, year burned?

Trails

2 = Disturbance does not occur within maximum extent or in adjacent 10 m buffer.

If trails are present, are they authorized?

yes

Type of trail use

hiking

yes

biking

yes

equestrian

yes

dog

yes

service vehicles

yes

other

no

illegal trail use?

1 = No sign of disturbance

describe:

Other disturbance?

1 = No sign of disturbance

describe:

MSP-Management Needs and Notes 2015

(top 2 rows auto-fill from page 1)

Scientific Name: Ambrosia pumila

MSP Occur ID: AMPU_4KULA005

Date: 5/19/2015

VI. MANAGEMENT RECOMMENDATIONS

Continue the herbicide treatment as needed (e.g. spot-spraying for Erodium and Brassica, and control of non-native grasses)

VII. MANAGEMENT ACTIONS IN LAST YEAR

Application of herbicide: glyphosate spot spray and fusilade along perimeter

VIII. CNDDDB SPECIES DETECTED (list any plant or animal species to add to the CNDDDB)

YBCH and YEWA heard calling from riparian area near the lake; Orange-throated whiptail seen on mounds with buckwheat near the western edge of the population

NOTES

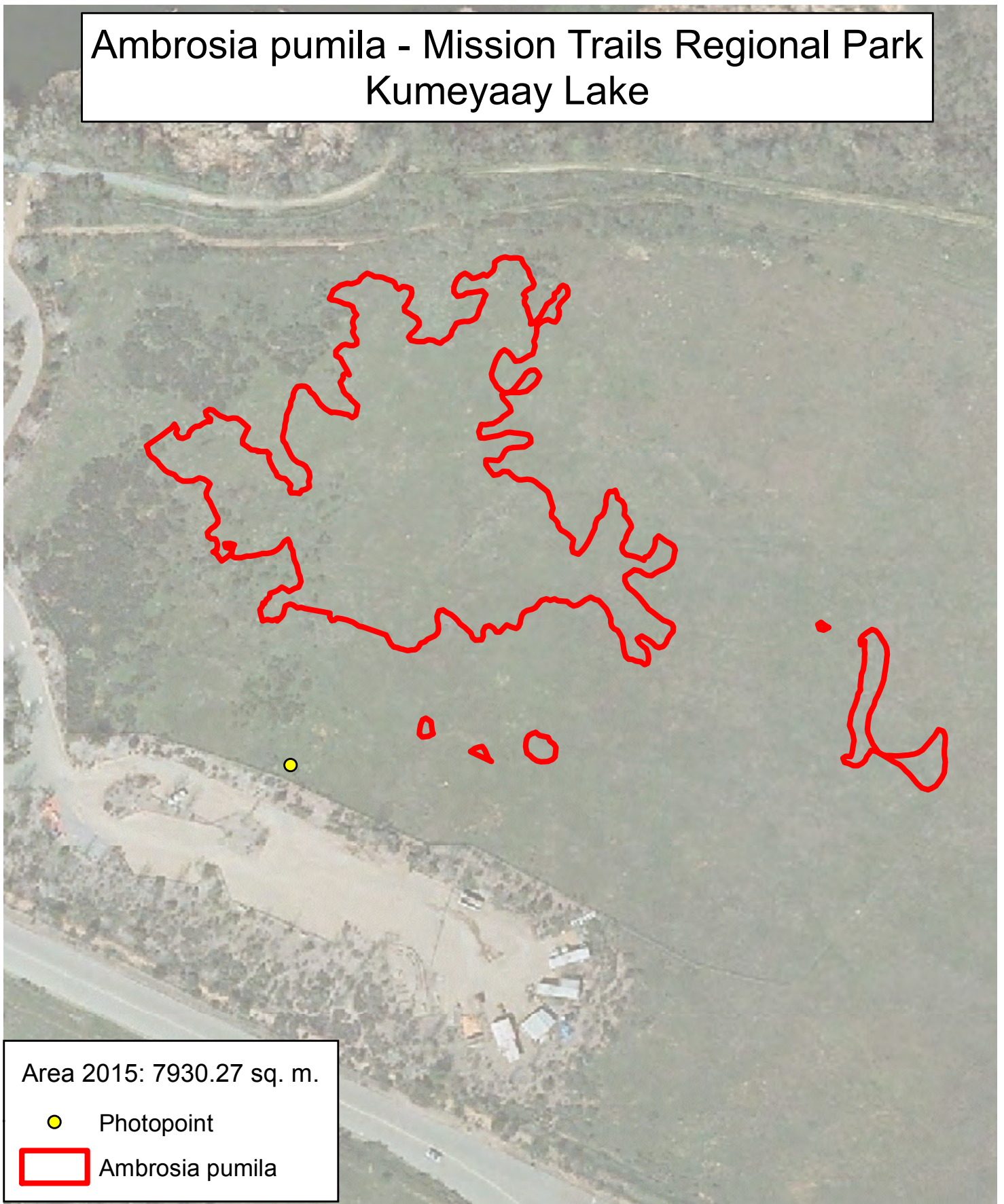
***Ambrosia pumila* (San Diego Ragweed)**

Mission Trails Regional Park - Kumeyaay Lake



Panorama from Western edge of population, facing Northwest, North, Northeast, East.
Panorama location is 6321443.02 1886016.48 NAD83 State Plane California Zone 6 (feet)
Photos merged using ArcSoft Panorama Maker 4.

Ambrosia pumila - Mission Trails Regional Park Kumeyaay Lake



Bloomeria clevelandii
San Diego Goldenstar



© City of San Diego, 2015

MSP - Rare Plant Occurrence Monitoring Form 2015										Page 1	
Scientific Name:		Bloomeria clevelandii				Common Name:		San Diego goldenstar			
Existing MSP Occurrence?		yes				MSP Occurr. ID:		BLCL_4EAEL014			
CNDDB Elem. Occur. #:		EO3				Translocated?		no			
Preserve:		Mission Trails Regional Park						Mgmt Unit		MU4	
Land Owner:		City of San Diego				Land Mangr:		City of San Diego Park and Recreation Department			
Occurrence Name:		East Elliott				Sample Point #:		1			
Surveyors:		Kim Roeland, Betsy Miller, Annnabelle Bernabe						Affiliation		City of San Diego	
Date:		4/14/2015		Time Start:		15:48		Time Finish:		16:20	
I. OCCURRENCE STATUS - Assess # plants in both species-specific sampling area (typically 10-m radius circle) & in current mapped extent . See p. 4 for definitions of categories describing phenology & evidence of herbivory, disease & stunted growth within the sampling area. Record any notes on p. 3.											
# Plants/Current Mapped Extent:		1100		exact count or estimate?		estimate (extrapolate partial ct)		uncert.		medium	
Area of Current Mapped Extent:		25054		units		square meters		exact (GPS) or estim?		exact (GPS ma	
Species Found in Maximum Extent?		yes		if not found, known or suspected reason:							
# Plants/Sampling Area		191		exact count or estimate?		exact		uncert.		low	
Sample Area Radius (m)		10									
Phenology In Sampling Area (1-6):		Vegetative		2 (>0% to <1		Flowering		6 (≥75%)		Fruiting	
		Dead		1 (0%)		Flowering & Fruiting		1 (0%)			
Evidence in Sampling Area (1-6):		Herbivory		1 (0%)		Disease		1 (0%)		Stunted Growth	
										1 (0%)	
Is Sampling Area within Current Mapped Extent?		yes									
Collection (if not collected previously)?		no									
If yes:		Collector				Collection #					
		Museum/Herbarium									
II. SAMPLING AREA LOCATION & SITE PHOTOMONITORING											
GPS Accuracy: +/-		<1		accur. units:		meters		Datum:		NAD83	
coord. system		State Plane (ft)									
Coordin's at Center of Plot:		E:				N:					
Camera type:		Pentax Optio W90									
Locat. 1 Coord.--E, N		63192620.21		1891551.76		Direction facing		W, SW, S, SE, E		Height	
		Camera angle		10° down		Photo #		3167-3173		File location	
Locat. 2 Coord.--E,N						Direction facing				Height	
		Camera angle				Photo #				File location	
III. ASSOCIATED SPECIES If need more room, record additional data and any notes on page 3.											
species/substrate		% Cover		Collection #, or NC if collected		not		species/substrate		% Cover	
										Collect.# or NC if not collected	
Bloomeria clevelandii		3				Bromus hordeaceus				5	
Malosma laurina		6				Artemisia californica				2	
Salvia apiana		3				Brachypodium distachyon				40	
Ceanothus tomentosus		3				Sisyrinchium bellum				2	
Rhamnus crocea		3				Avena sp.				1	
Mimulus aurantiacus		2									
Acmispon glaber		2									
Deinandra fasciculata		4									
Osmadenia tenella		3									
Stipa pulchra		2									
Galium angustifolium		1									
Centaurea melitensis		2				bare ground				7	
Hypochaeris glabra		1				rock				15	
Bromus madritensis		5				litter				3	
COVER: Total % Cover:		90		%Herb:		71		%Shrub:		19	
								%Tree:		0	

IV. HABITAT ASSESSMENT IN SAMPLING AREA - Assess habitat covariates within **species-specific sampling area** (typically 10-m radius circle). Vegetation alliance/association can be assigned using San Diego vegetation key (AECOM 2012) in the office or field, using "Associated Species" data from page 1. See page 4 for definitions of habitat assessment categories.

SANDAG 2012 Vegetation Alliance/Association:	Malosma laurina Alliance, Malosma laurina-Lotus scoparius Association			
Cover classes (1-6)	Cryptogamic Crust Cover:	1 (0%)	Thatch Cover	2 (>0% to <10%)
	Thatch Depth Average (cm)	2	Thatch Depth max (cm)	2
Dead Standing Biomass	yes			
If yes, cover/species class	Acmispon glaber (?)/2		Average height (cm)	15
Mammal Species Activity (categ. 1-4)				
Feral pig activity	1 = No feral pig activity (rooting, wallowing, vegetation destruction, tracks, scat, pig) detected.			
ground squirr. activity	1 = No ground squirrel burrows detected.			
gopher activity	1 = No pocket gopher mounds detected.			
Sampling area representative of mapped occurrence?	yes	(If no, note differences on page 3)		

VI. THREATS ASSESSMENT IN MAXIMUM EXTENT - Assess threats within the **occurrence's maximum extent** (cumulative extent over years of monitoring) **plus 10-m surrounding buffer**. See page 4 for definitions of threat assessment categories. Record notes on page 3. See Argentine Ant Protocol (USGS 2015) for setting up bait, etc.

Surrounding Land Use/Activity at, or Adjacent to, Site	open space			
Argentine ant abundance at bait station (1-4)	1 = No ants detected at bait station or in vicinity.			
Time start	3:45 AM	Temp start	75 F	
Time end	4:20 AM	Temp end	75 F	
Ant sample collected?	no	Ant sample #		Ant Station Photo #
				3174

DISTURBANCES (Rank each as 1-6):

Non-native forbs	3 = Disturbance	feral pig activity	1 = No sign of disturbance	altered hydrology	1 = No sign of disturbance
Non-native grasses	6 = Disturbance	trampling	1 = No sign of disturbance	erosion	1 = No sign of disturbance
Non-native woody pl.	1 = No sign of disturbance	vandalism	1 = No sign of disturbance	urban runoff	1 = No sign of disturbance
competitive native pl.	1 = No sign of disturbance	current grazing	1 = No sign of disturbance	slope movement	1 = No sign of disturbance
dumping/trash	1 = No sign of disturbance	historic grazing	1 = No sign of disturbance	soil compaction	1 = No sign of disturbance
encampments	1 = No sign of disturbance	historic agriculture	1 = No sign of disturbance		
fuel modification zone/fire break	1 = No sign of disturbance				
road construction/maintenance	1 = No sign of disturbance	if present, describe:			
illegal vegetation clearing	1 = No sign of disturbance	if present, describe:			
brush management/restoration	1 = No sign of disturbance within maximum extent or in adjacent 10 m buffer.				
ORV activity	1 = No sign of disturbance	if present, describe:			
Evidence of recent fire	7 = Disturbance occurs ≥75% of area with				
If sign of recent fire, year burned?	2003				
Trails	1 = No sign of disturbance within maximum extent		If trails are present, are they authorized?		
Type of trail use	hiking	biking	equestrian	dog	
service vehicles	other				
illegal trail use?	1 = No sign of disturbance	describe:	illegal trail had been brushed and is recovering		
Other disturbance?	1 = No sign of disturbance	describe:			

MSP-Management Needs and Notes 2015

(top 2 rows auto-fill from page 1)

Scientific Name:

MSP Occur ID.

Date:

VI. MANAGEMENT RECOMMENDATIONS

Continue to monitor and make sure old illegal trail does not start getting more use.

VII. MANAGEMENT ACTIONS IN LAST YEAR

Trail brushing and signs installed to close illegal trail.

VIII. CNDDDB SPECIES DETECTED (list any plant or animal species to add to the CNDDDB)

NOTES

2 rattlesnakes

***Bloomeria clevelandii* (San Diego Goldenstar) East Elliott # 1**



Panorama from Southwestern edge of population, facing West, Southwest, South, Southeast, East.
Panorama location is 6319260.20 1891551.76 NAD83 State Plane California Zone 6 (feet)
Photos merged using ArcSoft Panorama Maker 4.

Bloomeria clevelandii - East Elliott

Point 4
Area 7806.19 sq. m.

Point 3
Area 1900.7 sq. m.

Point 2
Area 8.07 sq. m.

Point 5
Area 21509.7 sq. m.

Point 1
Area 25054 sq. m.

Area 2015: 56278.71 sq. m.

● Photopoint

□ Bloomeria clevelandii

Pop. Area 2008 - 2015
Max Area: 809519 sq. m.
Min Area: 2404 sq. m.

0 250 500 Meters

Source: San GIS & City of San Diego Park & Rec
Created by: Annabelle Bernabe, 2015



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MSP - Rare Plant Occurrence Monitoring Form 2015										Page 1				
Scientific Name:		Bloomeria clevelandii			Common Name:		San Diego goldenstar							
Existing MSP Occurrence?				yes		MSP Occurr. ID:		BLCL_4EAELO14						
CNDDB Elem. Occur. #:				EO3		Translocated?		no						
Preserve:		Mission Trails Regional Park					Mgmt Unit			MU4				
Land Owner:		City of San Diego			Land Mangr:		City of San Diego Park and Recreation Department							
Occurrence Name:		East Elliott					Sample Point #:		2					
Surveyors:		Kim Roeland, Betsy Miller, Annabelle Bernabe					Affiliation		City of San Diego					
Date:		4/14/2015		Time Start:		14:48		Time Finish:		15:09				
I. OCCURRENCE STATUS - Assess # plants in both species-specific sampling area (typically 10-m radius circle) & in current mapped extent . See p. 4 for definitions of categories describing phenology & evidence of herbivory, disease & stunted growth within the sampling area. Record any notes on p. 3.														
# Plants/Current Mapped Extent:		7		exact count or estimate?		exact		uncert.		low				
Area of Current Mapped Extent:				8.07		units		square meters		exact (GPS) or estim?	exact (GPS ma			
Species Found in Maximum Extent?				yes		if not found, known or suspected reason:								
# Plants/Sampling Area		0		exact count or estimate?		exact		uncert.		low				
Sample Area Radius (m)				10										
Phenology In Sampling Area (1-6):				Vegetative		1 (0%)		Flowering		1 (0%)	Fruiting	1 (0%)		
				Dead		1 (0%)		Flowering & Fruiting		1 (0%)				
Evidence in Sampling Area (1-6):				Herbivory		1 (0%)		Disease		1 (0%)		Stunted Growth	1 (0%)	
Is Sampling Area within Current Mapped Extent?				no										
Collection (if not collected previously)?				no										
If yes:		Collector			Collection #									
		Museum/Herbarium												
II. SAMPLING AREA LOCATION & SITE PHOTOMONITORING														
GPS Accuracy: +/-		<1		accur. units:		meters		Datum:		NAD83				
coord. system		State Plane (ft)												
Coord'n's at Center of Plot:				E:		N:								
Camera type:		Pentax Optio W90												
Locat. 1 Coord.--E, N		6317389.9		1894565.895		Direction facing		N, W, S		Height		1.1 m		
		Camera angle		5° up		Photo #		3158-3166		File location		S:MSCP		
Locat. 2 Coord.--E,N						Direction facing				Height				
		Camera angle				Photo #				File location				
III. ASSOCIATED SPECIES If need more room, record additional data and any notes on page 3.														
species/substrate		% Cover		Collection #, or NC if collected		not collected		species/substrate		% Cover		Collect.# or NC if not collected		
Adenostoma fasciculatum		20						Lepidium sp.		1				
Eriogonum fasciculatum		3						Festuca myuros		10				
Malosma laurina		7						Hypochaeris glabra		2				
Ceanothus tomentosus		25						Cordylanthus rigidus		1				
Deinandra fasciculata		5						Salvia mellifera		1				
Pseudognaphalium californicum		1												
Logfia filaginoides		3												
Chlorogalum parviflorum		2												
Acmispon glaber		1												
Osmadenia tenella		1												
Crassula connata		2												
Acmispon heermannii		1						bare ground		20				
Erodium cicutarium		1						rock		30				
Daucus pusillus		1						litter		15				
COVER: Total % Cover:		88		%Herb:		31		%Shrub:		57		%Tree:		0

IV. HABITAT ASSESSMENT IN SAMPLING AREA - Assess habitat covariates within **species-specific sampling area** (typically 10-m radius circle). Vegetation alliance/association can be assigned using San Diego vegetation key (AECOM 2012) in the office or field, using "Associated Species" data from page 1. See page 4 for definitions of habitat assessment categories.

SANDAG 2012 Vegetation Alliance/Association: Adenostoma fasciculatum Alliance, Adenostoma fasciculatum-Lotus scoparius Association

Cover classes (1-6)

Cryptogamic Crust Cover: 2 (>0% to <1

Thatch Cover 1 (0%)

Thatch Depth Average (cm) 0

Thatch Depth max (cm) 0

Dead Standing Biomass yes

If yes, cover/species class unknown shrub/2

Average height (cm) 7

Mammal Species Activity (categ. 1-4)

Feral pig activity 1 = No feral pig activity (rooting, wallowing, vegetation destruction, tracks, scat, pig) detected.

ground squirr. activity 1 = No ground squirrel burrows detected.

gopher activity 1 = No pocket gopher mounds detected.

Sampling area representative of mapped occurrence? yes (If no, note differences on page 3)

VI. THREATS ASSESSMENT IN MAXIMUM EXTENT - Assess threats within the **occurrence's maximum extent** (cumulative extent over years of monitoring) **plus 10-m surrounding buffer**. See page 4 for definitions of threat assessment categories. Record notes on page 3. See Argentine Ant Protocol (USGS 2015) for setting up bait, etc.

Surrounding Land Use/Activity at, or Adjacent to, Site Open space

Argentine ant abundance at bait station (1-4)

Time start

Temp start

Time end

Temp end

Ant sample collected?

Ant sample #

Ant Station Photo #

DISTURBANCES (Rank each as 1-6):

Non-native forbs 3 = Disturbance

feral pig activity 1 = No sign of disturbance

altered hydrology 1 = No sign of disturbance

Non-native grasses 3 = Disturbance

trampling 1 = No sign of disturbance

erosion 1 = No sign of disturbance

Non-native woody pl. 1 = No sign of disturbance

vandalism 1 = No sign of disturbance

urban runoff 1 = No sign of disturbance

competitive native pl. 1 = No sign of disturbance

current grazing 1 = No sign of disturbance

slope movement 1 = No sign of disturbance

dumping/trash 1 = No sign of disturbance

historic grazing 1 = No sign of disturbance

soil compaction 1 = No sign of disturbance

encampments 1 = No sign of disturbance

historic agriculture 1 = No sign of disturbance

fuel modification zone/fire break 1 = No sign of disturbance

road construction/maintenance 3 = Disturbance

if present, describe:

illegal vegetation clearing 1 = No sign of disturbance

if present, describe:

brush management/restoration 1 = No sign of disturbance within maximum extent or in adjacent 10 m buffer.

ORV activity

3 = Disturbance

if present, describe:

Evidence of recent fire 7 = Disturbance occurs ≥75% of area with

If sign of recent fire, year burned?

Trails

3 = Disturbance present in >0% to <10% of area

If trails are present, are they authorized?

yes

Type of trail use

hiking

yes

biking

yes

equestrian

yes

dog

yes

service vehicles

yes

other

no

illegal trail use?

1 = No sign of disturbance

describe:

Other disturbance?

1 = No sign of disturbance

describe:

MSP-Management Needs and Notes 2015

(top 2 rows auto-fill from page 1)

Scientific Name:

MSP Occur ID.

Date:

VI. MANAGEMENT RECOMMENDATIONS

None.

VII. MANAGEMENT ACTIONS IN LAST YEAR

None.

VIII. CNDDDB SPECIES DETECTED (list any plant or animal species to add to the CNDDDB)

NOTES

***Bloomeria clevelandii* (San Diego Goldenstar) East Elliott # 2**



Panorama from Southeastern edge of population, facing North, West, South.
Panorama location is 6317389.88 1894565.90 NAD83 State Plane California Zone 6 (feet)
Photos merged using ArcSoft Panorama Maker 4.

Bloomeria clevelandii - East Elliott

Point 4
Area 7806.19 sq. m.

Point 3
Area 1900.7 sq. m.

Point 2
Area 8.07 sq. m.

Point 5
Area 21509.7 sq. m.

Point 1
Area 25054 sq. m.

Area 2015: 56278.71 sq. m.

● Photopoint

□ Bloomeria clevelandii

Pop. Area 2008 - 2015
Max Area: 809519 sq. m.
Min Area: 2404 sq. m.

0 250 500 Meters

Source: San GIS & City of San Diego Park & Rec
Created by: Annabelle Bernabe, 2015



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MSP - Rare Plant Occurrence Monitoring Form 2015										Page 1
Scientific Name:	Bloomeria clevelandii				Common Name:	San Diego goldenstar				
Existing MSP Occurrence?				yes	MSP Occurr. ID:	BLCL_4EAEL014				
CNDDB Elem. Occur. #:				EO3	Translocated?	no				
Preserve:	Mission Trails Regional Park						Mgmt Unit	MU4		
Land Owner:	City of San Diego				Land Mangr:	City of San Diego Park and Recreation Department				
Occurrence Name:	East Elliott						Sample Point #:	3		
Surveyors:	Kim Roeland, Betsy Miller, Annabelle Bernabe						Affiliation	City of San Diego		
Date:	4/14/2015			Time Start:	11:20		Time Finish:	12:05		
I. OCCURRENCE STATUS - Assess # plants in both species-specific sampling area (typically 10-m radius circle) & in current mapped extent . See p. 4 for definitions of categories describing phenology & evidence of herbivory, disease & stunted growth within the sampling area. Record any notes on p. 3.										
# Plants/Current Mapped Extent:	59			exact count or estimate?	exact			uncert.	low	
Area of Current Mapped Extent:				1900.7	units	square meters	exact (GPS) or estim?		exact (GPS ma	
Species Found in Maximum Extent?				yes	if not found, known or suspected reason:					
# Plants/Sampling Area	5			exact count or estimate?	exact			very low		
Sample Area Radius (m)				10						
Phenology In Sampling Area (1-6):				Vegetative	1 (0%)	Flowering	6 (≥75%)	Fruiting	1 (0%)	
				Dead	1 (0%)	Flowering & Fruiting		1 (0%)		
Evidence in Sampling Area (1-6):				Herbivory	1 (0%)	Disease	1 (0%)	Stunted Growth	1 (0%)	
Is Sampling Area within Current Mapped Extent?				yes						
Collection (if not collected previously)?				no						
If yes:				Collector				Collection #		
				Museum/Herbarium						
II. SAMPLING AREA LOCATION & SITE PHOTOMONITORING										
GPS Accuracy: +/-		<1		accur. units:	meters		Datum:	NAD83		
coord. system		State Plane (ft)								
Coord'n's at Center of Plot: E:						N:				
Camera type:		Pentax Optio W90								
Locat. 1 Coord.--E, N		6316943.661		1895945.738		Direction facing	S, SW, W, NW		Height	1.1 m
		Camera angle	5° down	Photo #	3143-3150	File location	S:WSCP			
Locat. 2 Coord.--E, N						Direction facing			Height	
		Camera angle		Photo #		File location				
III. ASSOCIATED SPECIES If need more room, record additional data and any notes on page 3.										
species/substrate	% Cover	Collection #, or NC if collected	not	species/substrate	% Cover	Collect.# or NC if not collected				
Bloomeria clevelandii	1			Selaginella cinerascens	3					
Adenostoma fasciculatum	17			Navarretia hamata	2					
Eriogonum fasciculatum	7									
Lasthenia coronaria	4									
Crassula connata	3									
Chlorogalum parviflorum	2									
Logfia filaginoides	2									
Acmispon glaber	1									
Hypochaeris glabra	3									
Centaurea melitensis	2									
Festuca myuros	2									
Bromus madritensis	3			bare ground	30					
Erodium botrys	1			rock	20					
Calochortus splendens	1			litter	7					
COVER: Total % Cover:	54	%Herb:	29	%Shrub:	25	%Tree:				
					0					

IV. HABITAT ASSESSMENT IN SAMPLING AREA - Assess habitat covariates within **species-specific sampling area** (typically 10-m radius circle). Vegetation alliance/association can be assigned using San Diego vegetation key (AECOM 2012) in the office or field, using "Associated Species" data from page 1. See page 4 for definitions of habitat assessment categories.

SANDAG 2012 Vegetation Alliance/Association: Adenostoma fasciculatum-Xylococcus bicolor Alliance, Adenostoma fasciculatum-Xylococcus bicolor-Ceanothus tomentosus

Cover classes (1-6)

Cryptogamic Crust Cover: 3 (10% to <2

Thatch Cover 1 (0%)

Thatch Depth Average (cm)

Thatch Depth max (cm)

Dead Standing Biomass

yes

If yes, cover/species class

Acmsipon glaber/2; unknown shrubs/2

Average height (cm)

7

Mammal Species Activity (categ. 1-4)

Feral pig activity

1 = No feral pig activity (rooting, wallowing, vegetation destruction, tracks, scat, pig) detected.

ground squirr. activity

1 = No ground squirrel burrows detected.

gopher activity

1 = No pocket gopher mounds detected.

Sampling area representative of mapped occurrence? yes

(If no, note differences on page 3)

VI. THREATS ASSESSMENT IN MAXIMUM EXTENT - Assess threats within the **occurrence's maximum extent** (cumulative extent over years of monitoring) **plus 10-m surrounding buffer**. See page 4 for definitions of threat assessment categories. Record notes on page 3. See Argentine Ant Protocol (USGS 2015) for setting up bait, etc.

Surrounding Land Use/Activity at, or Adjacent to, Site open space

Argentine ant abundance at bait station (1-4)

Time start

Temp start

Time end

Temp end

Ant sample collected?

Ant sample #

Ant Station Photo #

DISTURBANCES (Rank each as 1-6):

Non-native forbs 3 = Disturbance

feral pig activity 1 = No sign of

altered hydrology 1 = No sign of disturbance

Non-native grasses 3 = Disturbance

trampling 1 = No sign of

erosion 1 = No sign of disturbance

Non-native woody pl. 1 = No sign of

vandalism 1 = No sign of

urban runoff 1 = No sign of disturbance

competitive native pl. 1 = No sign of

current grazing 1 = No sign of

slope movement 1 = No sign of disturbance

dumping/trash 1 = No sign of

historic grazing 1 = No sign of

soil compaction 1 = No sign of disturbance

encampments 1 = No sign of

historic agriculture 1 = No sign of

fuel modification zone/fire break 1 = No sign of

road construction/maintenance 2 = Disturbance

if present, describe:

illegal vegetation clearing 1 = No sign of

if present, describe:

brush management/restoration

1 = No sign of disturbance within maximum extent or in adjacent 10 m buffer.

ORV activity

1 = No sign of if present, describe:

Evidence of recent fire

7 = Disturbance occurs ≥75% of area with

If sign of recent fire, year burned?

2003

Trails

2 = Disturbance does not occur within maximum

If trails are present, are they authorized?

yes

Type of trail use

hiking

yes

biking

yes

equestrian

yes

dog

yes

service vehicles

yes

other

no

illegal trail use?

1 = No sign of

describe:

Other disturbance?

1 = No sign of

describe:

MSP-Management Needs and Notes 2015

(top 2 rows auto-fill from page 1)

Scientific Name:

MSP Occur ID.

Date:

VI. MANAGEMENT RECOMMENDATIONS

None.

VII. MANAGEMENT ACTIONS IN LAST YEAR

None.

VIII. CNDDDB SPECIES DETECTED (list any plant or animal species to add to the CNDDDB)

Coast horned lizard

NOTES

The vegetation type for the sampling area keys out to Adenostoma fasciculatum Alliance; Adenostoma fasciculatum Southern Maritime Association which does not appear to correctly reflect the habitat; the vegetation type listed for this site takes into consideration other diagnostic species are found beyond the sampling area

***Bloomeria clevelandii* (San Diego Goldenstar) East Elliott # 3**



Panorama from Northwestern edge of population, facing South, Southwest, West, Northwest.
Panorama location is 6316943.661 1895945.738 NAD83 State Plane California Zone 6 (feet)
Photos merged using ArcSoft Panorama Maker 4.

Bloomeria clevelandii - East Elliott

Point 4
Area 7806.19 sq. m.

Point 3
Area 1900.7 sq. m.

Point 2
Area 8.07 sq. m.

Point 5
Area 21509.7 sq. m.

Point 1
Area 25054 sq. m.

Area 2015: 56278.71 sq. m.

● Photopoint

□ Bloomeria clevelandii

Pop. Area 2008 - 2015
Max Area: 809519 sq. m.
Min Area: 2404 sq. m.

0 250 500 Meters

Source: San GIS & City of San Diego Park & Rec
Created by: Annabelle Bernabe, 2015



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MSP - Rare Plant Occurrence Monitoring Form 2015										Page 1	
Scientific Name:		Bloomeria clevelandii				Common Name:		San Diego goldenstar			
Existing MSP Occurrence?		yes				MSP Occurr. ID:		BLCL_4EAEL014			
CNDDB Elem. Occur. #:		EO3				Translocated?		no			
Preserve:		Mission Trails Regional Park						Mgmt Unit		MU4	
Land Owner:		City of San Diego				Land Mangr:		City of San Diego Park and Recreation Department			
Occurrence Name:		East Elliott				Sample Point #:		4			
Surveyors:		Kim Roeland, Betsy Miller, Annabelle Bernabe						Affiliation		City of San Diego	
Date:		4/14/2015		Time Start:		9:57		Time Finish:		11:06	
I. OCCURRENCE STATUS - Assess # plants in both species-specific sampling area (typically 10-m radius circle) & in current mapped extent . See p. 4 for definitions of categories describing phenology & evidence of herbivory, disease & stunted growth within the sampling area. Record any notes on p. 3.											
# Plants/Current Mapped Extent:		133		exact count or estimate?		exact		uncert.		low	
Area of Current Mapped Extent:		7806.19		units		square meters		exact (GPS) or estim?		exact (GPS ma	
Species Found in Maximum Extent?		yes		if not found, known or suspected reason:							
# Plants/Sampling Area		26		exact count or estimate?		exact		uncert.		low	
Sample Area Radius (m)		10									
Phenology In Sampling Area (1-6):		Vegetative		1 (0%)		Flowering		5 (50% to <75%)		Fruiting	
		Dead		1 (0%)		Flowering & Fruiting		1 (0%)			
Evidence in Sampling Area (1-6):		Herbivory		1 (0%)		Disease		1 (0%)		Stunted Growth	
		Is Sampling Area within Current Mapped Extent?		yes							
Collection (if not collected previously)?		no									
If yes:		Collector				Collection #					
		Museum/Herbarium									
II. SAMPLING AREA LOCATION & SITE PHOTOMONITORING											
GPS Accuracy: +/-		<1		accur. units:		meters		Datum:		NAD83	
coord. system		State Plane (ft)									
Coord'n's at Center of Plot:		E:				N:					
Camera type:		Pentax Optio W90									
Locat. 1 Coord.--E, N		6317566.226		1898394.55		Direction facing		NE, N, W, SW+A1		Height	
		Camera angle		10° up		Photo #		3126-3142		File location	
								S:WSCP			
Locat. 2 Coord.--E,N						Direction facing				Height	
		Camera angle				Photo #				File location	
III. ASSOCIATED SPECIES If need more room, record additional data and any notes on page 3.											
species/substrate		% Cover		Collection #, or NC if collected		not collected		species/substrate		% Cover	
Bloomeria clevelandii		1						Centaurea melitensis		2	
Adenostoma fasciculatum		35						Hypochaeris glabra		1	
Hesperoyucca whipplei		1						Festuca myuros		5	
Xylococcus bicolor		7						Bromus madritensis		1	
Malosma laurina		3						Logfia filaginoides		2	
Ceanothus tomentosus		5						Plantago erecta		1	
Navarretia hamata		5						Osmaenia tenella		1	
Antirrhinum nuttallianum		1						Acrispion glaber		1	
Lasthenia coronaria		2						Erodium botrys		1	
Crassula connata		3									
Selaginella cinerascens		3									
Stylocline gnaphaloides		2						bare ground		25	
Chlorogalum parviflorum		1						rock		20	
Dichelostemma capitatum		1						litter		5	
COVER: Total % Cover:		85		%Herb:		33		%Shrub:		52	
								%Tree:		0	

IV. HABITAT ASSESSMENT IN SAMPLING AREA - Assess habitat covariates within **species-specific sampling area** (typically 10-m radius circle). Vegetation alliance/association can be assigned using San Diego vegetation key (AECOM 2012) in the office or field, using "Associated Species" data from page 1. See page 4 for definitions of habitat assessment categories.

SANDAG 2012 Vegetation Alliance/Association: Adenostoma fasciculatum-Xylococcus bicolor Alliance, Adenostoma fasciculatum-Xylococcus bicolor-Ceanothus tomentosus Association

Cover classes (1-6)

Cryptogamic Crust Cover: 3 (10% to <2

Thatch Cover 1 (0%)

Thatch Depth Average (cm) 0

Thatch Depth max (cm) 0

Dead Standing Biomass yes

If yes, cover/species class helianthemum scoparium/2

Average height (cm) 10

Mammal Species Activity (categ. 1-4)

Feral pig activity 1 = No feral pig activity (rooting, wallowing, vegetation destruction, tracks, scat, pig) detected.

ground squirr. activity 1 = No ground squirrel burrows detected.

gopher activity 1 = No pocket gopher mounds detected.

Sampling area representative of mapped occurrence? yes (If no, note differences on page 3)

VI. THREATS ASSESSMENT IN MAXIMUM EXTENT - Assess threats within the **occurrence's maximum extent** (cumulative extent over years of monitoring) **plus 10-m surrounding buffer**. See page 4 for definitions of threat assessment categories. Record notes on page 3. See Argentine Ant Protocol (USGS 2015) for setting up bait, etc.

Surrounding Land Use/Activity at, or Adjacent to, Site open space

Argentine ant abundance at bait station (1-4)

Time start

Temp start

Time end

Temp end

Ant sample collected?

Ant sample #

Ant Station Photo #

DISTURBANCES (Rank each as 1-6):

Non-native forbs 3 = Disturbance

feral pig activity 1 = No sign of

altered hydrology 1 = No sign of disturbance

Non-native grasses 3 = Disturbance

trampling 1 = No sign of

erosion 1 = No sign of disturbance

Non-native woody pl. 1 = No sign of

vandalism 1 = No sign of

urban runoff 1 = No sign of disturbance

competitive native pl. 1 = No sign of

current grazing 1 = No sign of

slope movement 1 = No sign of disturbance

dumping/trash 1 = No sign of

historic grazing 1 = No sign of

soil compaction 1 = No sign of disturbance

encampments 1 = No sign of

historic agriculture 1 = No sign of

fuel modification zone/fire break 1 = No sign of

road construction/maintenance 2 = Disturbance

if present, describe:

illegal vegetation clearing 1 = No sign of

if present, describe:

brush management/restoration 1 = No sign of disturbance within maximum extent or in adjacent 10 m buffer.

ORV activity

1 = No sign of if present, describe:

Evidence of recent fire 7 = Disturbance occurs ≥75% of area with

If sign of recent fire, year burned? 2003

Trails 2 = Disturbance does not occur within maximum

If trails are present, are they authorized?

yes

Type of trail use

hiking

yes

biking

yes

equestrian

yes

dog

yes

service vehicles

yes

other

no

illegal trail use?

1 = No sign of

describe:

Other disturbance?

1 = No sign of

describe:

MSP-Management Needs and Notes 2015

(top 2 rows auto-fill from page 1)

Scientific Name:

MSP Occur ID.

Date:

VI. MANAGEMENT RECOMMENDATIONS

None.

VII. MANAGEMENT ACTIONS IN LAST YEAR

None.

VIII. CNDDDB SPECIES DETECTED (list any plant or animal species to add to the CNDDDB)

orange-throated whiptail

NOTES

***Bloomeria clevelandii* (San Diego Goldenstar) East Elliott # 4**



Panorama from Northwestern edge population, facing Northeast, North, West, Southwest.
Panorama location is 6317566.226 189394.550 NAD83 State Plane California Zone 6 (feet)
Photos merged using ArcSoft Panorama Maker 4.

Bloomeria clevelandii - East Elliott

Point 4
Area 7806.19 sq. m.

Point 3
Area 1900.7 sq. m.

Point 2
Area 8.07 sq. m.

Point 5
Area 21509.7 sq. m.

Point 1
Area 25054 sq. m.

Area 2015: 56278.71 sq. m.

● Photopoint

□ Bloomeria clevelandii

Pop. Area 2008 - 2015
Max Area: 809519 sq. m.
Min Area: 2404 sq. m.

0 250 500 Meters

Source: San GIS & City of San Diego Park & Rec
Created by: Annabelle Bernabe, 2015



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MSP - Rare Plant Occurrence Monitoring Form 2015										Page 1	
Scientific Name:		Bloomeria clevelandii				Common Name:		San Diego goldenstar			
		Existing MSP Occurrence?		yes		MSP Occurr. ID:		BLCL_4EAELO14			
		CNDDB Elem. Occur. #:		EO3		Translocated?		no			
Preserve:		Mission Trails Regional Park						Mgmt Unit		MU4	
Land Owner:		City of San Diego				Land Mangr:		City of San Diego Park and Recreation Department			
Occurrence Name:		East Elliott						Sample Point #:		5	
Surveyors:		Kim Roeland, Betsy Miller, Annabelle Bernabe						Affiliation		City of San Diego	
Date:		4/14/2015		Time Start:		12:39		Time Finish:		14:29	
I. OCCURRENCE STATUS - Assess # plants in both species-specific sampling area (typically 10-m radius circle) & in current mapped extent . See p. 4 for definitions of categories describing phenology & evidence of herbivory, disease & stunted growth within the sampling area. Record any notes on p. 3.											
# Plants/Current Mapped Extent:		550		exact count or estimate?		estimate (extrapolate partial ct)		uncert.		medium	
		Area of Current Mapped Extent:		21509.7		units		square meters		exact (GPS) or estim?	
		Species Found in Maximum Extent?		yes		if not found, known or suspected reason:					
# Plants/Sampling Area		8		exact count or estimate?		exact		uncert.		low	
		Sample Area Radius (m)		10							
		Phenology In Sampling Area (1-6):		Vegetative		1 (0%)		Flowering		6 (≥75%)	
				Dead		1 (0%)		Flowering & Fruiting		1 (0%)	
		Evidence in Sampling Area (1-6):		Herbivory		1 (0%)		Disease		1 (0%)	
								Stunted Growth		1 (0%)	
		Is Sampling Area within Current Mapped Extent?		yes							
		Collection (if not collected previously)?		no							
If yes:		Collector				Collection #					
		Museum/Herbarium									
II. SAMPLING AREA LOCATION & SITE PHOTOMONITORING											
GPS Accuracy: +/-		<1		accur. units:		meters		Datum:		NAD83	
coord. system		State Plane (ft)									
Coord'n's at Center of Plot:		E:				N:					
Camera type:		Pentax Optio W90									
Locat. 1 Coord.--E, N		6316118.119		1894089.91		Direction facing		SW, S, SE		Height	
		Camera angle		3° up		Photo #		3151-3157		File location	
Locat. 2 Coord.--E,N						Direction facing				Height	
		Camera angle				Photo #				File location	
III. ASSOCIATED SPECIES If need more room, record additional data and any notes on page 3.											
species/substrate		% Cover		Collection #, or NC if collected		not collected		species/substrate		% Cover	
Bloomeria clevelandii		2						Antirrhinum nuttallianum		1	
Adenostoma fasciculatum		30						Hypochaeris glabra		1	
Quercus berberidifolia		3						Eriophyllum confertiflorum		1	
Mimulus aurantiacus		5						Gastrodium phleoides		1	
Osmadenia tenella		2									
Stylocine gnaphaloides		3									
Chlorogalum parviflorum		1									
Helianthemum scoparium		1									
Logfia filaginoides		1									
Festuca myuros		3									
Lamarckia aurea		1									
Calochortus splendens		1						bare ground		15	
Stipa pulchra		1						rock		20	
Ceanothus tomentosus		2						litter		3	
COVER: Total % Cover:		60		%Herb:		20		%Shrub:		40	
										%Tree:	
										0	

IV. HABITAT ASSESSMENT IN SAMPLING AREA - Assess habitat covariates within **species-specific sampling area** (typically 10-m radius circle). Vegetation alliance/association can be assigned using San Diego vegetation key (AECOM 2012) in the office or field, using "Associated Species" data from page 1. See page 4 for definitions of habitat assessment categories.

SANDAG 2012 Vegetation Alliance/Association: Adenostoma fasciculatum-Xylococcus bicolor Alliance, Adenostoma fasciculatum-Xylococcus bicolor-Ceanothus tomentosus

Cover classes (1-6)

Cryptogamic Crust Cover: 1 (0%)

Thatch Cover 1 (0%)

Thatch Depth Average (cm)

Thatch Depth max (cm)

Dead Standing Biomass

yes

If yes, cover/species class

Helianthemum scoparium/3

Average height (cm)

5

Mammal Species Activity (categ. 1-4)

Feral pig activity 1 = No feral pig activity (rooting, wallowing, vegetation destruction, tracks, scat, pig) detected.

ground squirr. activity 1 = No ground squirrel burrows detected.

gopher activity 1 = No pocket gopher mounds detected.

Sampling area representative of mapped occurrence? yes (If no, note differences on page 3)

VI. THREATS ASSESSMENT IN MAXIMUM EXTENT - Assess threats within the **occurrence's maximum extent** (cumulative extent over years of monitoring) **plus 10-m surrounding buffer**. See page 4 for definitions of threat assessment categories. Record notes on page 3. See Argentine Ant Protocol (USGS 2015) for setting up bait, etc.

Surrounding Land Use/Activity at, or Adjacent to, Site open space

Argentine ant abundance at bait station (1-4)

Time start

Temp start

Time end

Temp end

Ant sample collected?

Ant sample #

Ant Station Photo #

DISTURBANCES (Rank each as 1-6):

Non-native forbs 3 = Disturbance

feral pig activity 1 = No sign of disturbance

altered hydrology 1 = No sign of disturbance

Non-native grasses 3 = Disturbance

trampling 1 = No sign of disturbance

erosion 1 = No sign of disturbance

Non-native woody pl. 1 = No sign of disturbance

vandalism 1 = No sign of disturbance

urban runoff 1 = No sign of disturbance

competitive native pl. 1 = No sign of disturbance

current grazing 1 = No sign of disturbance

slope movement 1 = No sign of disturbance

dumping/trash 1 = No sign of disturbance

historic grazing 1 = No sign of disturbance

soil compaction 1 = No sign of disturbance

encampments 1 = No sign of disturbance

historic agriculture 1 = No sign of disturbance

fuel modification zone/fire break 1 = No sign of disturbance

road construction/maintenance 1 = No sign of disturbance

if present, describe:

illegal vegetation clearing 1 = No sign of disturbance

if present, describe:

brush management/restoration

ORV activity

Evidence of recent fire

If sign of recent fire, year burned?

2003

Trails

1 = No sign of disturbance within maximum extent

If trails are present, are they authorized?

Type of trail use

hiking

biking

equestrian

dog

service vehicles

other

illegal trail use?

1 = No sign of disturbance

describe:

Other disturbance?

1 = No sign of disturbance

describe:

MSP-Management Needs and Notes 2015

(top 2 rows auto-fill from page 1)

Scientific Name:

MSP Occur ID.

Date:

VI. MANAGEMENT RECOMMENDATIONS

None.

VII. MANAGEMENT ACTIONS IN LAST YEAR

None.

VIII. CNDDDB SPECIES DETECTED (list any plant or animal species to add to the CNDDDB)

NOTES

The vegetation type for the sampling area keys out to Adenostoma fasciculatum Alliance; Adenostoma fasciculatum Southern Maritime Association which does not appear to correctly reflect the habitat; the vegetation type listed for this site takes into consideration other diagnostic species are found beyond the sampling area

***Bloomeria clevelandii* (San Diego Goldenstar) East Elliott # 5**



Panorama from Western edge of population, facing Southwest, South, Southeast.
Panorama location is 6316118.12 1894089.91 NAD83 State Plane California Zone 6 (feet)
Photos merged using ArcSoft Panorama Maker 4.

Bloomeria clevelandii - East Elliott

Point 4
Area 7806.19 sq. m.

Point 3
Area 1900.7 sq. m.

Point 5
Area 21509.7 sq. m.

Point 2
Area 8.07 sq. m.

Point 1
Area 25054 sq. m.

Area 2015: 56278.71 sq. m.

● Photopoint

□ Bloomeria clevelandii

Pop. Area 2008 - 2015
Max Area: 809519 sq. m.
Min Area: 2404 sq. m.

0 250 500 Meters

Source: San GIS & City of San Diego Park & Rec
Created by: Annabelle Bernabe, 2015



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MSP - Rare Plant Occurrence Monitoring Form 2015										Page 1
Scientific Name:		Bloomeria clevelandii			Common Name:		San Diego goldenstar			
Existing MSP Occurrence?		yes			MSP Occurr. ID:		BLCL_6LORI021			
CNDDB Elem. Occur. #:		EO10			Translocated?		no			
Preserve:		Los Penasquitos Canyon Preserve					Mgmt Unit			
Land Owner:		City of San Diego			Land Mangr:		City San Diego Environmental Services Department/California			
Occurrence Name:		Lopez Ridge					Sample Point #:		1	
Surveyors:		Betsy Miller, Kim Roeland, Annabelle Bernabe					Affiliation		City of San Diego	
Date:		4/2/2015		Time Start:		10:07		Time Finish: 12:15		
I. OCCURRENCE STATUS - Assess # plants in both species-specific sampling area (typically 10-m radius circle) & in current mapped extent . See p. 4 for definitions of categories describing phenology & evidence of herbivory, disease & stunted growth within the sampling area. Record any notes on p. 3.										
# Plants/Current Mapped Extent:		560		exact count or estimate?		exact		uncert. low		
Area of Current Mapped Extent:		1164		units		square meters		exact (GPS) or estim? exact (GPS ma		
Species Found in Maximum Extent?		yes		if not found, known or suspected reason:						
# Plants/Sampling Area		40		exact count or estimate?		exact		uncert. low		
Sample Area Radius (m)		10								
Phenology In Sampling Area (1-6):		Vegetative 1 (0%)		Flowering 6 (≥75%)		Fruiting 1 (0%)				
		Dead 1 (0%)		Flowering & Fruiting 1 (0%)						
Evidence in Sampling Area (1-6):		Herbivory 1 (0%)		Disease 1 (0%)		Stunted Growth 1 (0%)				
Is Sampling Area within Current Mapped Extent?		yes								
Collection (if not collected previously)?		no								
If yes:		Collector		Collection #						
		Museum/Herbarium								
II. SAMPLING AREA LOCATION & SITE PHOTOMONITORING										
GPS Accuracy: +/-		<1		accur. units:		meters		Datum: NAD83		
coord. system		State Plane (ft)								
Coord'n's at Center of Plot:		E:		N:						
Camera type:		Pentax Optio W90								
Locat. 1 Coord.--E, N		6278246.403		1915522.734		Direction facing		SW, W, NW, N, NE		
		Camera angle		10° down		Photo #		3030-3038		
						File location		S:\OS\MSCP		
Locat. 2 Coord.--E, N						Direction facing		Height		
		Camera angle				Photo #		File location		
III. ASSOCIATED SPECIES If need more room, record additional data and any notes on page 3.										
species/substrate		Cover		Collection # (if collected)		species/substrate		Cover Collect.# (if collected)		
Adenostoma fasciculatum		30				Antirrhinum nuttallianum		1 (dead)		
Pogogyne abramsii		5				Plantago erecta		1		
Crassula connata		5				Logfia filaginoides		1		
Navarretia hamata		5				Dichelostemma capitatum		1		
Osmadenia tenella		1				Erodium botrys		2		
Deinandra fasciculata		7				Hypochaeris glabra		5		
Zeltnera venusta		1				Festuca myuros		20		
Castilleja exserta		1				Bromus madritensis		5		
Allium haematochiton		2 old				Juncus bufonius		1 (BM to check)		
Deschampsia danthonioides		1				Bromus hordeaceus		1		
Bloomeria clevelandii		1				Hordeum murinum		1		
Brodiaea orcuttii		1				Lepidium nitidum		1		
Psilocarphus brevissimus		1				Chlorogalum parviflorum		1		
Muilla maritima		1				Helianthemum scoparium		1		
Selaginella cinerascens		20 (dead, see a				bare ground		2		
						rock		2		
						litter		1		
COVER: Total % Cover:		124		%Herb:		94		%Shrub: 30 %Tree: 0		

IV. HABITAT ASSESSMENT IN SAMPLING AREA - Assess habitat covariates within **species-specific sampling area** (typically 10-m radius circle). Vegetation alliance/association can be assigned using San Diego vegetation key (AECOM 2012) in the office or field, using "Associated Species" data from page 1. See page 4 for definitions of habitat assessment categories.

SANDAG 2012 Vegetation Alliance/Association:	Adenostoma fasciculatum Alliance, Alliance level only; vernal pool			
Cover classes (1-4)	Cryptogamic Crust Cover:	3 (10% to <20%)	Thatch Cover	1 (0%)
	Thatch Depth Average (cm)		Thatch Depth max (cm)	
Dead Standing Biomass	yes			
If yes, cover/species class	Adenostoma/2		Average height (cm)	40
Mammal Species Activity (categ. 1-4)				
Feral pig activity	1 = No feral pig activity (rooting, wallowing, vegetation destruction, tracks, scat, pig) detected.			
ground squirr. activity	1 = No ground squirrel burrows detected.			
gopher activity	1 = No pocket gopher mounds detected.			
Sampling area representative of mapped occurrence?	yes	(If no, note differences on page 3)		

VI. THREATS ASSESSMENT IN MAXIMUM EXTENT - Assess threats within the **occurrence's maximum extent** (cumulative extent over years of monitoring) **plus 10-m surrounding buffer**. See page 4 for definitions of threat assessment categories & page 5 for Overall Site Quality Scale. Record notes on page 3.

Surrounding Land Use/Activity	at, or Adjacent to, Site	Open Space					
Argentine ant abundance at bait station (1-4)	1 = No ants detected at bait station or in vicinity.						
Time start	10:05 AM	Temp start	68F	Time end	11:30 AM	Temp end	73F
Ant sample collected?	no	Ant sample #		Ant Station Photo #	3061		

DISTURBANCES (Rank each as 1-6):

Non-native forbs	3 = Disturbance	feral pig activity	1 = No sign of disturbance	altered hydrology	1 = No sign of disturbance
Non-native grasses	5 = Disturbance	trampling	1 = No sign of disturbance	erosion	1 = No sign of disturbance
Non-native woody pl.	1 = No sign of disturbance	vandalism	1 = No sign of disturbance	urban runoff	1 = No sign of disturbance
competitive native pl.	1 = No sign of disturbance	current grazing	1 = No sign of disturbance	slope movement	1 = No sign of disturbance
dumping/trash	1 = No sign of disturbance	historic grazing	1 = No sign of disturbance	soil compaction	1 = No sign of disturbance
encampments	1 = No sign of disturbance	historic agriculture	1 = No sign of disturbance		
fuel modification zone/fire break	1 = No sign of disturbance				
road construction/maintenance	1 = No sign of disturbance	if present, describe:			
illegal vegetation clearing	1 = No sign of disturbance	if present, describe:			
brush management/restoration	1 = No sign of disturbance within mapped occurrence perimeter or in adjacent 10 m buffer.				
ORV activity	1 = No sign of disturbance	if present, describe:			
Evidence of recent fire	1 = No sign of disturbance within mapped occurrence perimeter or in adjacent 10 m buffer.				
If sign of recent fire, year burned?					
Trails	1 = No sign of disturbance within mapped occurrence perimeter or in adjacent 10 m buffer.		If trails are present, are they authorized?		
Type of trail use	hiking		biking		equestrian
					dog
service vehicles			other		
illegal trail use?		describe:			
Other disturbance?	1 = No sign of disturbance	describe:			

MSP-Management Needs and Notes 2015

(top 2 rows auto-fill from page 1)

Scientific Name:

MSP Occur ID.

Date:

VI. MANAGEMENT RECOMMENDATIONS

Continue to control access using fence and locked gate

VII. MANAGEMENT ACTIONS IN LAST YEAR

Access controlled with fencing and locked gate

VIII. CNDDDB SPECIES DETECTED (list any plant or animal species to add to the CNDDDB)

NOTES

***Bloomeria clevelandii* (San Diego Goldenstar) Lopez Ridge**



Panorama from Eastern edge of population, facing Southwest, West, Northwest, North, Northeast.

Panorama location is 6278246.40 1915522.73 NAD83 State Plane California Zone 6 (feet)

Photos merged using ArcSoft Panorama Maker 4.

Bloomeria clevelandii - Lopez Ridge

Also photopoint for Pogogyne abramsii and Brodiaea orcuttia

Area 2015: 1,164 sq. m.

 Bloomeria clevelandii

• Photopoint

Pop. Area 2011 - 2015
Max Area: 2,632.37 sq. m.
Min Area: 12 sq. m.

0 5 10 20
 Meters

Source: San GIS & City of San Diego Park & Rec
Created by: Kim Roeland 2015



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MSP - Rare Plant Occurrence Monitoring Form 2015										Page 1	
Scientific Name:		Bloomeria clevelandii				Common Name:		San Diego goldenstar			
Existing MSP Occurrence?		yes				MSP Occurr. ID:		BLCL_3MAVA005			
CNDDB Elem. Occur. #:		EO68				Translocated?		no			
Preserve:		Marron Valley				Mgmt Unit		MU6			
Land Owner:		City of San Diego				Land Mangr:		City of San Diego Public Utilities Department			
Occurrence Name:		Marron Valley				Sample Point #:		1			
Surveyors:		Kim Roeland, Betsy Miller, Annabelle Bernabe, Daniel Schwartz				Affiliation		City of San Diego			
Date:		4/1/2015				Time Start:		14:20		Time Finish: 14:51	
I. OCCURRENCE STATUS - Assess # plants in both species-specific sampling area (typically 10-m radius circle) & in current mapped extent . See p. 4 for definitions of categories describing phenology & evidence of herbivory, disease & stunted growth within the sampling area. Record any notes on p. 3.											
# Plants/Current Mapped Extent:		290000		exact count or estimate?		estimate (extrapolate partial ct)		uncert.		medium	
Area of Current Mapped Extent:		82578		units		square meters		exact (GPS) or estim?		exact (GPS ma	
Species Found in Maximum Extent?		yes		if not found, known or suspected reason:							
# Plants/Sampling Area		1001		exact count or estimate?		exact		uncert.		low	
Sample Area Radius (m)		10									
Phenology In Sampling Area (1-6):		Vegetative		2 (>0% to <1		Flowering		6 (≥75%)		Fruiting	
		Dead		1 (0%)		Flowering & Fruiting		1 (0%)			
Evidence in Sampling Area (1-6):		Herbivory		1 (0%)		Disease		1 (0%)		Stunted Growth	
										1 (0%)	
Is Sampling Area within Current Mapped Extent?		yes									
Collection (if not collected previously)?		no									
If yes:		Collector				Collection #					
		Museum/Herbarium									
II. SAMPLING AREA LOCATION & SITE PHOTOMONITORING											
GPS Accuracy: +/-		<1		accur. units:		meters		Datum:		NAD83	
coord. system		State Plane (ft)									
Coord'n's at Center of Plot:		E:				N:					
Camera type:		Pentax Optio W90									
Locat. 1 Coord.--E, N		6406792.551		1788021.137		Direction facing		S, SE, N, W		Height	
		Camera angle		15° down		Photo #		3021-3026		File location	
								S:WSCP			
Locat. 2 Coord.-- E,N						Direction facing				Height	
		Camera angle				Photo #				File location	
III. ASSOCIATED SPECIES If need more room, record additional data and any notes on page 3.											
species/substrate		% Cover		Collection #, or NC if collected		not collected		species/substrate		% Cover	
Bloomeria clevelandii		5						Stipa pulchra		1	
Isocoma menziesii		3						Bromus madritensis ssp. rubens		3	
Malosma laurina		2						Bromus hordeaceus		12	
Artemisia californica		5						Clematis pauciflora		7	
Eriogonum fasciculatum		3						Festuca myuros		1	
Salvia apiana		2						Silene gallica		12	
Rhamnus crocea		3						Festuca perennis		1	
Gutierrezia californica		3						Erodium cicutarium		2	
Galium angustifolium		1						Clarkia purpurea		1	
Bahiopsis laciniata		1						Logifa filaginoides		1	
Dichelostemma capitatum		1						Anagallis arvensis		1	
Centaurea melitensis		8						Hypochaeris glabra		1	
Osmadenia tenella		2						bare ground		17	
Acmispon micranthus		2						rock		2	
Erodium botrys		5						litter		8	
COVER: Total % Cover:		89		%Herb:		67		%Shrub:		22	
								%Tree:		0	

IV. HABITAT ASSESSMENT IN SAMPLING AREA - Assess habitat covariates within **species-specific sampling area** (typically 10-m radius circle). Vegetation alliance/association can be assigned using San Diego vegetation key (AECOM 2012) in the office or field, using "Associated Species" data from page 1. See page 4 for definitions of habitat assessment categories.

SANDAG 2012 Vegetation Alliance/Association:	Mediterranean California Naturalized Annual and Perennial Grassland Semi-Natural Stands, Mediterranean California Naturalized Annual and Perennial Grassland Semi-Natural Stands			
Cover classes (1-6)	Cryptogamic Crust Cover:	1 (0%)	Thatch Cover	2 (>0% to <10%)
	Thatch Depth Average (cm)	5	Thatch Depth max (cm)	15
Dead Standing Biomass	yes			
If yes, cover/species class	unknown shrubs/2		Average height (cm)	25
Mammal Species Activity (categ. 1-4)				
Feral pig activity	1 = No feral pig activity (rooting, wallowing, vegetation destruction, tracks, scat, pig) detected.			
ground squirr. activity	1 = No ground squirrel burrows detected.			
gopher activity	3 = <10 mounds observed within sampling area.			
Sampling area representative of mapped occurrence?	yes	(If no, note differences on page 3)		

VI. THREATS ASSESSMENT IN MAXIMUM EXTENT - Assess threats within the **occurrence's maximum extent** (cumulative extent over years of monitoring) **plus 10-m surrounding buffer**. See page 4 for definitions of threat assessment categories. Record notes on page 3. See Argentine Ant Protocol (USGS 2015) for setting up bait, etc.

Surrounding Land Use/Activity at, or Adjacent to, Site	open space				
Argentine ant abundance at bait station (1-4)					
Time start		Temp start		Time end	
				Temp end	
Ant sample collected?		Ant sample #		Ant Station Photo #	
DISTURBANCES (Rank each as 1-6):					
Non-native forbs	4 = Disturbance	feral pig activity	1 = No sign of disturbance	altered hydrology	1 = No sign of disturbance
Non-native grasses	5 = Disturbance	trampling	1 = No sign of disturbance	erosion	1 = No sign of disturbance
Non-native woody pl.	1 = No sign of disturbance	vandalism	1 = No sign of disturbance	urban runoff	1 = No sign of disturbance
competitive native pl.	1 = No sign of disturbance	current grazing	1 = No sign of disturbance	slope movement	1 = No sign of disturbance
dumping/trash	1 = No sign of disturbance	historic grazing	7 = Disturbance	soil compaction	1 = No sign of disturbance
encampments	1 = No sign of disturbance	historic agriculture	1 = No sign of disturbance		
fuel modification zone/fire break	1 = No sign of disturbance				
road construction/maintenance	1 = No sign of disturbance	if present, describe:			
illegal vegetation clearing	1 = No sign of disturbance	if present, describe:			
brush management/restoration	1 = No sign of disturbance within maximum extent or in adjacent 10 m buffer.				
ORV activity	7 = Disturbance	if present, describe:			
Evidence of recent fire	7 = Disturbance occurs ≥75% of area with				
If sign of recent fire, year burned?	2003				
Trails	1 = No sign of disturbance within maximum extent	If trails are present, are they authorized?			
Type of trail use	hiking	biking	equestrian	dog	
service vehicles		other			
illegal trail use?	1 = No sign of disturbance	describe:			
Other disturbance?	1 = No sign of disturbance	describe:			

MSP-Management Needs and Notes 2015

(top 2 rows auto-fill from page 1)

Scientific Name:

MSP Occur ID.

Date: **VI. MANAGEMENT RECOMMENDATIONS**

Continue to control access with locked gates

VII. MANAGEMENT ACTIONS IN LAST YEAR

None

VIII. CNDDDB SPECIES DETECTED (list any plant or animal species to add to the CNDDDB)

1) red diamond rattlesnake in area to the south (upslope) of photopoint

NOTES

Gopher activity was not recent.

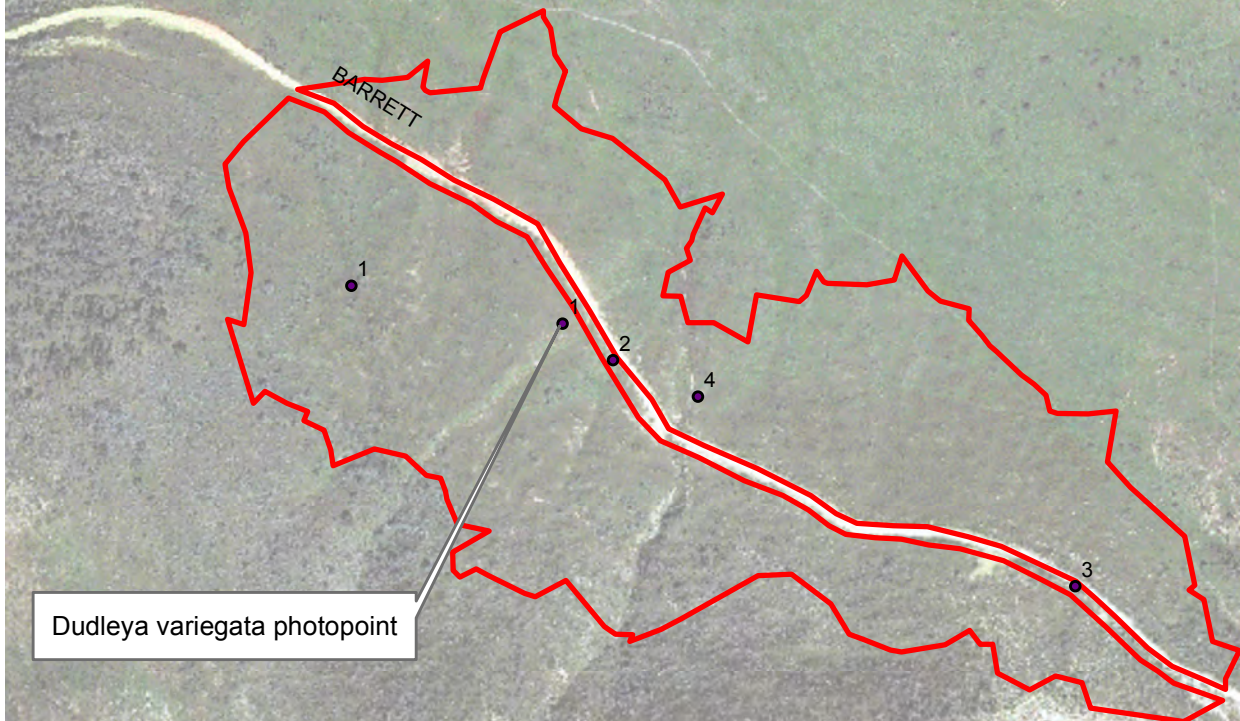
Current Mapped extent covers all 4 monitoring locations. Exact count was completed within the sampling area for each of the 4 monitoring locations. Then estimate was made based on the average density within the 4 sampling areas. Average estimate = 290,000. High estimate (based on highest density) = 408,000. Low estimate = 164,000.

***Bloomeria clevelandii* (San Diego Goldenstar) Marron Valley # 1**



Panorama from Western edge of population, facing Southeast, South, West, North.
Panorama location is 6406792.551 1788021.0137 NAD83 State Plane California Zone 6 (feet)
Photos merged using ArcSoft Panorama Maker 4.

Bloomeria clevelandii - Marron Valley



Area 2015: 82,578 sq. m.

• Photopoint

Bloomeria clevelandii

Pop. Area 2004 - 2015
Max Area: 95,087.1 sq. m.
Min Area: 0 sq. m.

0 25 50 100
Meters

Source: San GIS & City of San Diego Park & Rec
Created by: Kim Roeland 2015



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MSP - Rare Plant Occurrence Monitoring Form 2015										Page 1		
Scientific Name:		Bloomeria clevelandii			Common Name:		San Diego goldenstar					
Existing MSP Occurrence?		yes			MSP Occurr. ID:		BLCL_3MAVA005					
CNDDB Elem. Occur. #:		EO68			Translocated?		no					
Preserve:		Marron Valley					Mgmt Unit		MU3			
Land Owner:		City of San Diego			Land Mangr:		City of San Diego Public Utilities Department					
Occurrence Name:		Marron Valley					Sample Point #:		2			
Surveyors:		Betsy Miller, Kim Roeland, Daniel Schwartz, Annabelle Bernabe					Affiliation		City of San Diego			
Date:		4/1/2015			Time Start:		11:56		Time Finish:		12:23	
I. OCCURRENCE STATUS - Assess # plants in both species-specific sampling area (typically 10-m radius circle) & in current mapped extent . See p. 4 for definitions of categories describing phenology & evidence of herbivory, disease & stunted growth within the sampling area. Record any notes on p. 3.												
# Plants/Current Mapped Extent:		290000		exact count or estimate?		estimate (extrapolate partial ct)		uncert.		medium		
Area of Current Mapped Extent:		82578		units		square meters		exact (GPS) or estim?		exact (GPS ma		
Species Found in Maximum Extent?		yes		if not found, known or suspected reason:								
# Plants/Sampling Area		1555		exact count or estimate?		exact		uncert.		low		
Sample Area Radius (m)		10										
Phenology In Sampling Area (1-6):		Vegetative		1 (0%)		Flowering		6 (≥75%)		Fruiting		
		Dead		1 (0%)		Flowering & Fruiting		1 (0%)				
Evidence in Sampling Area (1-6):		Herbivory		1 (0%)		Disease		1 (0%)		Stunted Growth		
										1 (0%)		
Is Sampling Area within Current Mapped Extent?		yes										
Collection (if not collected previously)?		no										
If yes:		Collector				Collection #						
		Museum/Herbarium										
II. SAMPLING AREA LOCATION & SITE PHOTOMONITORING												
GPS Accuracy: +/-		<1		accur. units:		meters		Datum:		NAD83		
coord. system		State Plane (ft)										
Coord'n's at Center of Plot:		E:				N:						
Camera type:		Pentax Optio W90										
Locat. 1 Coord.--E, N		64067225.72		1787897.828		Direction facing		S, SW		Height		
		Camera angle		15° down		Photo #		990-995		File location		
Locat. 2 Coord.--E,N						Direction facing				Height		
		Camera angle				Photo #				File location		
III. ASSOCIATED SPECIES If need more room, record additional data and any notes on page 3.												
species/substrate	% Cover	Collection #, or NC if collected	not	species/substrate	% Cover	Collect.# or NC if not collected						
Bloomeria clevelandii	20			Festuca myuros	1							
Artemisia californica	15			Bromus madritensis	30							
Eriogonum fasciculatum	5			Malosma laurina	2							
Isocoma menziesii	3			Baccharis sarothroides	2							
Gutierrezia californica	2			Gastidium phleoides	1							
Clarkia purpurea	2			Acmispon micranthus	1							
Crassula connata	5			Bromus hordeaceus	5							
Osmadenia tenella	5			Stipa pulchra	1							
Calochortus splendens	5			Centaurea melitensis	1							
Selaginella cinerascens	1			Brassica nigra	1							
Logfia filaginoides	1			Calystegia macrostegia	2							
Stylocline gnaphaloides	1			Sanicula arguta	1							
Silene gallica	1			Avena sp.	7							
Dichelostemma capitatum	3			Sonchus oleraceus	1							
Salvia apiana	1			Lepidium nitidum	1							
Plantago erecta	1			bare ground	2							
Erodium botrys	20			rock	2							
Hypochaeris glabra	1			litter	0							
COVER: Total % Cover:	149	%Herb:	99	%Shrub:	50	%Tree:						
					0							

IV. HABITAT ASSESSMENT IN SAMPLING AREA - Assess habitat covariates within **species-specific sampling area** (typically 10-m radius circle). Vegetation alliance/association can be assigned using San Diego vegetation key (AECOM 2012) in the office or field, using "Associated Species" data from page 1. See page 4 for definitions of habitat assessment categories.

SANDAG 2012 Vegetation Alliance/Association:

Salvia apiana Alliance, Salvia apiana-Artemisia californica Association

Cover classes (1-6)

Cryptogamic Crust Cover: 2 (>0% to <1

Thatch Cover 1 (0%)

Thatch Depth Average (cm)

Thatch Depth max (cm)

Dead Standing Biomass

yes

If yes, cover/species class

Isocoma/2

Average height (cm)

20

Mammal Species Activity (categ. 1-4)

Feral pig activity

1 = No feral pig activity (rooting, wallowing, vegetation destruction, tracks, scat, pig) detected.

ground squirr. activity

1 = No ground squirrel burrows detected.

gopher activity

4 = ≥10 mounds or one or more gophers seen within sampling area.

(old gopher holes)

Sampling area representative of mapped occurrence? yes

(If no, note differences on page 3)

VI. THREATS ASSESSMENT IN MAXIMUM EXTENT - Assess threats within the **occurrence's maximum extent** (cumulative extent over years of monitoring) **plus 10-m surrounding buffer**. See page 4 for definitions of threat assessment categories. Record notes on page 3. See Argentine Ant Protocol (USGS 2015) for setting up bait, etc.

Surrounding Land Use/Activity at, or Adjacent to, Site

Open space

Argentine ant abundance at bait station (1-4)

1 = No ants detected at bait station or in vicinity.

Time start

11:56 AM

Temp start

70F

Time end

1:00 AM

Temp end

70F

Ant sample collected? no

Ant sample #

Ant Station Photo #

3010

DISTURBANCES (Rank each as 1-6):

Non-native forbs

4 = Disturbance

feral pig activity

1 = No sign of

altered hydrology

1 = No sign of disturbance

Non-native grasses

5 = Disturbance

trampling

1 = No sign of

erosion

3 = Disturbance present i

Non-native woody pl.

1 = No sign of

vandalism

1 = No sign of

urban runoff

1 = No sign of disturbance

competitive native pl.

1 = No sign of

current grazing

1 = No sign of

slope movement

1 = No sign of disturbance

dumping/trash

1 = No sign of

historic grazing

6 = Disturbance

soil compaction

3 = Disturbance present i

encampments

1 = No sign of

historic agriculture

1 = No sign of

fuel modification zone/fire break

1 = No sign of

road construction/maintenance

3 = Disturbance

if present, describe:

illegal vegetation clearing

1 = No sign of

if present, describe:

brush management/restoration

1 = No sign of disturbance within maximum extent or in adjacent 10 m buffer.

ORV activity

1 = No sign of

if present, describe:

Evidence of recent fire

6 = Disturbance occurs 50% to < 75% of area

If sign of recent fire, year burned?

2003

Trails

1 = No sign of disturbance within maximum extent

If trails are present, are they authorized?

Type of trail use

hiking

no

biking

no

equestrian

no

dog

no

service vehicles

yes

other

no

illegal trail use?

1 = No sign of

describe:

Other disturbance?

1 = No sign of

describe:

MSP-Management Needs and Notes 2015

(top 2 rows auto-fill from page 1)

Scientific Name:

MSP Occur ID.

Date:

VI. MANAGEMENT RECOMMENDATIONS

Continue to control access with locked gates

VII. MANAGEMENT ACTIONS IN LAST YEAR

Access control with locked gates

VIII. CNDDDB SPECIES DETECTED (list any plant or animal species to add to the CNDDDB)

NOTES

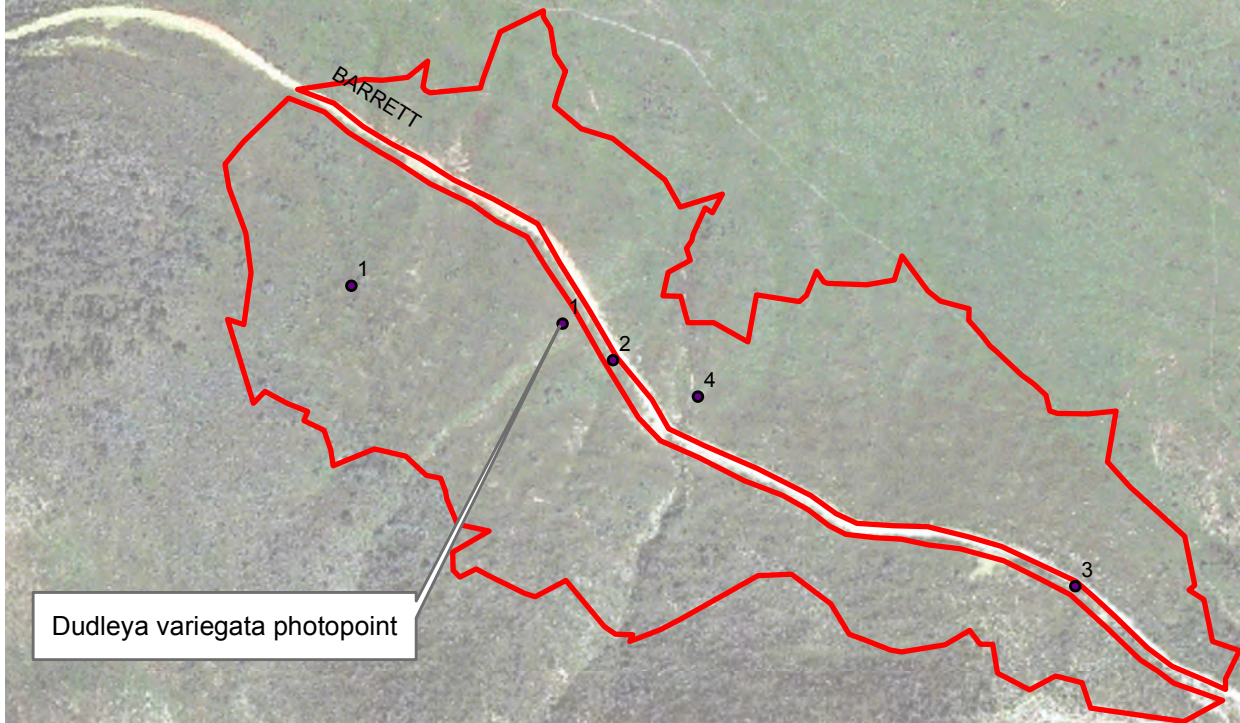
Current Mapped extent covers all 4 monitoring locations. Exact count was completed within the sampling area for each of the 4 monitoring locations. Then estimate was made based on the average density within the 4 sampling areas. Average estimate = 290,000. High estimate (based on highest density) = 408,000. Low estimate = 164,000.

***Bloomeria clevelandii* (San Diego Goldenstar) Marron Valley # 2**



Panorama from Western edge of population, facing South, Southwest.
Panorama location is 6407225.72 1787897.83 NAD83 State Plane California Zone 6 (feet)
Photos merged using ArcSoft Panorama Maker 4.

Bloomeria clevelandii - Marron Valley



Area 2015: 82,578 sq. m.

• Photopoint

Bloomeria clevelandii

Pop. Area 2004 - 2015
Max Area: 95,087.1 sq. m.
Min Area: 0 sq. m.

0 25 50 100
Meters

Source: San GIS & City of San Diego Park & Rec
Created by: Kim Roeland 2015



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MSP - Rare Plant Occurrence Monitoring Form 2015										Page 1	
Scientific Name:	Bloomeria clevelandii				Common Name:	San Diego goldenstar					
Existing MSP Occurrence?				yes	MSP Occurr. ID:	BLCL_3MAVA005					
CNDDB Elem. Occur. #:				EO68	Translocated?	no					
Preserve:	Marron Valley						Mgmt Unit	MU3			
Land Owner:	City of San Diego				Land Mangr:	City of San Diego Public Utilities Department					
Occurrence Name:	Marron Valley						Sample Point #:	3			
Surveyors:	Kim Roeland, Betsy Miller, Annabelle Bernabe, Daniel Schwartz						Affiliation	City of San Diego			
Date:	4/1/2015			Time Start:	9:50		Time Finish:	10:58			
I. OCCURRENCE STATUS - Assess # plants in both species-specific sampling area (typically 10-m radius circle) & in current mapped extent . See p. 4 for definitions of categories describing phenology & evidence of herbivory, disease & stunted growth within the sampling area. Record any notes on p. 3.											
# Plants/Current Mapped Extent:	290000			exact count or estimate?	estimate (extrapolate partial ct)			uncert.	medium		
Area of Current Mapped Extent:				82.578	units	square meters	exact (GPS) or estim?		exact (GPS ma		
Species Found in Maximum Extent?				yes	if not found, known or suspected reason:						
# Plants/Sampling Area	626			exact count or estimate?	exact			uncert.	low		
Sample Area Radius (m)				10							
Phenology In Sampling Area (1-6):				Vegetative	1 (0%)		Flowering	6 (≥75%)		Fruiting	1 (0%)
				Dead	1 (0%)		Flowering & Fruiting		1 (0%)		
Evidence in Sampling Area (1-6):				Herbivory	1 (0%)		Disease	1 (0%)		Stunted Growth	1 (0%)
Is Sampling Area within Current Mapped Extent?				yes							
II. SAMPLING AREA LOCATION & SITE PHOTOMONITORING											
GPS Accuracy: +/-		<1		accur. units:		meters		Datum:		NAD83	
coord. system		State Plane (ft)									
Coordin's at Center of Plot:				E:		N:					
Camera type:		Pentax Optio W90									
Locat. 1 Coord.--E, N		6407990.151		1787523.484		Direction facing		NW, N, NE, E		Height	1.1 m
		Camera angle		45° down		Photo #		2962-2967		File location	
Locat. 2 Coord.-- E,N						Direction facing				Height	
		Camera angle				Photo #				File location	
III. ASSOCIATED SPECIES If need more room, record additional data and any notes on page 3.											
species/substrate	% Cover	Collection #, or NC if collected	not	species/substrate	% Cover	Collect.# or NC if not collected					
Bloomeria clevelandii	7			Corethrogyne filaginifolia	1						
Salvia apiana	5			Bromus hordeaceus	1						
Artemisia californica	7			Erodium cicutarium	2						
Eriogonum fasciculatum	3			Stipa pulchra	3						
Dichelostemma capitatum	1			Hypochaeris glabra	3						
Layia platyglossa	7			Logfia filaginoides	2						
Malosma laurina	1			Pellaea mucronata	1						
Eriophyllum confertiflorum	2			Bromus diandrus	10						
Galium angustifolium	2			Hedypnois cretica	1						
Gutierrezia californica	1			Microseris douglasii	1						
Plantago erecta	5			Sonchus asper	1						
Isocoma menziesii	1			Festuca perennis	4						
Pseudognaphalium microcephalum	1			Trifolium wilddenovii	1						
Phalaris minor	1			Anagallis arvensis	1						
Brassica nigra	1			Pentagramma triangularis	1						
Avena sp.	7			Daucus pusillus	1						
Bromus madritensis ssp. rubens	5			Clarkia purpurea	1						
Festuca myuros	4			bare ground	20						
Erodium botrys	3			rock	12						
Centaurea melitensis	2			litter	3						
COVER: Total % Cover:	101	%Herb:	83	%Shrub:	18	%Tree:	0				

IV. HABITAT ASSESSMENT IN SAMPLING AREA - Assess habitat covariates within **species-specific sampling area** (typically 10-m radius circle). Vegetation alliance/association can be assigned using San Diego vegetation key (AECOM 2012) in the office or field, using "Associated Species" data from page 1. See page 4 for definitions of habitat assessment categories.

SANDAG 2012 Vegetation
Alliance/Association:

Salvia apiana Alliance, Salvia apiana-Artemisia californica Association

Cover classes (1-6)

Cryptogamic Crust Cover:

1 (0%)

Thatch Cover

2 (>0% to <10%)

Thatch Depth Average (cm)

5

Thatch Depth max (cm)

7

Dead Standing Biomass

yes

If yes, cover/species class

unknown shrubs/2

Average height (cm)

20

Mammal Species Activity (categ. 1-4)

Feral pig activity

1 = No feral pig activity (rooting, wallowing, vegetation destruction, tracks, scat, pig) detected.

ground squirr. activity

1 = No ground squirrel burrows detected.

gopher activity

1 = No pocket gopher mounds detected.

Sampling area representative of mapped occurrence? yes

(If no, note differences on page 3)

VI. THREATS ASSESSMENT IN MAXIMUM EXTENT - Assess threats within the **occurrence's maximum extent** (cumulative extent over years of monitoring) **plus 10-m surrounding buffer**. See page 4 for definitions of threat assessment categories. Record notes on page 3. See Argentine Ant Protocol (USGS 2015) for setting up bait, etc.

Surrounding Land Use/Activity at, or Adjacent to, Site

Open space

Argentine ant abundance at bait station (1-4)

1 = No ants detected at bait station or in vicinity.

Time start

9:54 AM

Temp start

68

Time end

10:43 AM

Temp end

70

Ant sample collected? no

Ant sample #

n/a

Ant Station Photo #

2968

DISTURBANCES (Rank each as 1-6):

Non-native forbs

4 = Disturbance

feral pig activity

1 = No sign of

altered hydrology

1 = No sign of disturbance

Non-native grasses

5 = Disturbance

trampling

1 = No sign of

erosion

3 = Disturbance present i

Non-native woody pl.

1 = No sign of

vandalism

1 = No sign of

urban runoff

1 = No sign of disturbance

competitive native pl.

1 = No sign of

current grazing

1 = No sign of

slope movement

1 = No sign of disturbance

dumping/trash

1 = No sign of

historic grazing

7 = Disturbance

soil compaction

3 = Disturbance present i

encampments

1 = No sign of

historic agriculture

1 = No sign of

fuel modification zone/fire break

1 = No sign of

road construction/maintenance

3 = Disturbance

if present, describe:

illegal vegetation clearing

1 = No sign of

if present, describe:

brush management/restoration

1 = No sign of disturbance within maximum extent or in adjacent 10 m buffer.

ORV activity

1 = No sign of

if present, describe:

Evidence of recent fire

7 = Disturbance occurs ≥75% of area with

If sign of recent fire, year burned?

2003

Trails

1 = No sign of disturbance within maximum ex

If trails are present, are they authorized?

Type of trail use

hiking

biking

equestrian

dog

service vehicles

other

illegal trail use?

1 = No sign of

describe:

Other disturbance?

1 = No sign of

describe:

MSP-Management Needs and Notes 2015

(top 2 rows auto-fill from page 1)

Scientific Name:

MSP Occur ID.

Date:

VI. MANAGEMENT RECOMMENDATIONS

Continue to control access with locked gates.

VII. MANAGEMENT ACTIONS IN LAST YEAR

Access control with locked gates

VIII. CNDDDB SPECIES DETECTED (list any plant or animal species to add to the CNDDDB)

NOTES

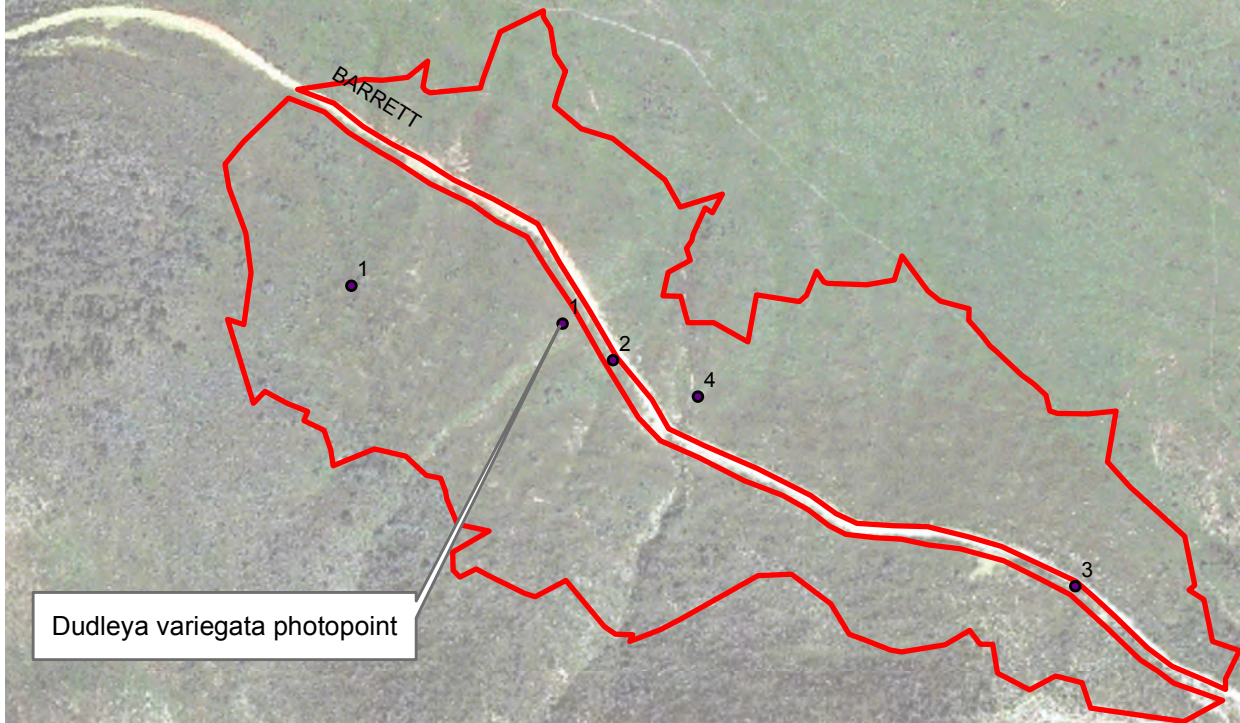
Current Mapped extent covers all 4 monitoring locations. Exact count was completed within the sampling area for each of the 4 monitoring locations. Then estimate was made based on the average density within the 4 sampling areas. Average estimate = 290,000. High estimate (based on highest density) = 408,000. Low estimate = 164,000

***Bloomeria clevelandii* (San Diego Goldenstar) Marron Valley # 3**



Panorama from Northeastern edge of population, facing Northwest, North, Northeast, East.
Panorama location is 6407990.15 1787523.48 NAD83 State Plane California Zone 6 (feet)
Photos merged using ArcSoft Panorama Maker 4.

Bloomeria clevelandii - Marron Valley



Area 2015: 82,578 sq. m.

• Photopoint

Bloomeria clevelandii

Pop. Area 2004 - 2015
Max Area: 95,087.1 sq. m.
Min Area: 0 sq. m.

0 25 50 100
Meters

Source: San GIS & City of San Diego Park & Rec
Created by: Kim Roeland 2015



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MSP - Rare Plant Occurrence Monitoring Form 2015										Page 1	
Scientific Name:		Bloomeria clevelandii				Common Name:		San Diego goldenstar			
		Existing MSP Occurrence?		yes		MSP Occurr. ID:		BLCL_3MAVA005			
		CNDDB Elem. Occur. #:		EO68		Translocated?		no			
Preserve:		Marron Valley						Mgmt Unit MU3			
Land Owner:		City of San Diego				Land Mangr:		City of San Diego Public Utilities Department			
Occurrence Name:		Marron Valley						Sample Point #:		4	
Surveyors:		Betsy Miller, Kim Roeland, Daniel Schwartz, Annabelle Bernabe						Affiliation		City of San Diego	
Date:		4/1/2015		Time Start:		11:09		Time Finish:		11:50	
I. OCCURRENCE STATUS - Assess # plants in both species-specific sampling area (typically 10-m radius circle) & in current mapped extent . See p. 4 for definitions of categories describing phenology & evidence of herbivory, disease & stunted growth within the sampling area. Record any notes on p. 3.											
# Plants/Current Mapped Extent:		290000		exact count or estimate?		estimate (extrapolate partial ct)		uncert.		medium	
		Area of Current Mapped Extent:		82578		units		square meters		exact (GPS) or estim?	
		Species Found in Maximum Extent?		yes		if not found, known or suspected reason:					
# Plants/Sampling Area:		1235				exact count or estimate?		exact		uncert. low	
		Sample Area Radius (m)		10							
		Phenology In Sampling Area (1-6):		Vegetative 1 (0%)		Flowering 6 (≥75%)		Fruiting 1 (0%)			
				Dead 1 (0%)		Flowering & Fruiting 1 (0%)					
		Evidence in Sampling Area (1-6):		Herbivory 1 (0%)		Disease 1 (0%)		Stunted Growth 1 (0%)			
		Is Sampling Area within Current Mapped Extent?		yes							
		Collection (if not collected previously)?		no							
If yes:		Collector				Collection #					
		Museum/Herbarium									
II. SAMPLING AREA LOCATION & SITE PHOTOMONITORING											
GPS Accuracy: +/-		<1		accur. units:		meters		Datum:		NAD83	
coord. system		State Plane (ft)									
Coord'n's at Center of Plot:		E:				N:					
Camera type:		Pentax Optio W90									
Locat. 1 Coord.--E, N		6407366.178		1787837.573		Direction facing		SE, E, NE, N		Height 1.1 m	
		Camera angle		Level		Photo # 9-974; 975-980		File location S:WSCP			
Locat. 2 Coord.--E,N						Direction facing				Height	
		Camera angle				Photo #		File location			
III. ASSOCIATED SPECIES If need more room, record additional data and any notes on page 3.											
species/substrate		% Cover		Collection #, or NC if collected		not species/substrate		% Cover		Collect.# or NC if not collected	
Bloomeria clevelandii		10				Brassica nigra		1			
Isocoma menziesii		7				Calochortus splendens		1			
Artemisia californica		15				Osmaadenia tenella		2			
Eriogonum fasciculatum		3									
Gutierrezia californica		1									
Erodium botrys		20									
Gastrium phleoides		1									
Bromus madritensis		20									
Avena sp.		7									
Festuca myuros		2									
Hypochaeris glabra		3									
Bromus hordeaceus		5				bare ground		2			
Rhamnus crocea		2				rock		5 (road bed)			
Logfia filaginoides		1				litter		0			
COVER: Total % Cover:		101		%Herb:		73		%Shrub:		28	
								%Tree:		0	

IV. HABITAT ASSESSMENT IN SAMPLING AREA - Assess habitat covariates within **species-specific sampling area** (typically 10-m radius circle). Vegetation alliance/association can be assigned using San Diego vegetation key (AECOM 2012) in the office or field, using "Associated Species" data from page 1. See page 4 for definitions of habitat assessment categories.

SANDAG 2012 Vegetation Alliance/Association: Artemisia californica-Eriogonum fasciculatum Alliance, Artemisia californica-Eriogonum fasciculatum-Malosma laurina Association

Cover classes (1-6)

Cryptogamic Crust Cover: 1 (0%)

Thatch Cover 1 (0%)

Thatch Depth Average (cm)

Thatch Depth max (cm)

Dead Standing Biomass

yes

If yes, cover/species class

Isocoma/2

Average height (cm)

30

Mammal Species Activity (categ. 1-4)

Feral pig activity 1 = No feral pig activity (rooting, wallowing, vegetation destruction, tracks, scat, pig) detected.

ground squirr. activity 1 = No ground squirrel burrows detected.

gopher activity 4 = ≥10 mounds or one or more gophers seen within sampling area. (old)

Sampling area representative of mapped occurrence? yes (If no, note differences on page 3)

VI. THREATS ASSESSMENT IN MAXIMUM EXTENT - Assess threats within the **occurrence's maximum extent** (cumulative extent over years of monitoring) **plus 10-m surrounding buffer**. See page 4 for definitions of threat assessment categories. Record notes on page 3. See Argentine Ant Protocol (USGS 2015) for setting up bait, etc.

Surrounding Land Use/Activity at, or Adjacent to, Site Open Space

Argentine ant abundance at bait station (1-4)

Time start

Temp start

Time end

Temp end

Ant sample collected?

Ant sample #

Ant Station Photo #

DISTURBANCES (Rank each as 1-6):

Non-native forbs 4 = Disturbance

feral pig activity 1 = No sign of

altered hydrology 1 = No sign of disturbance

Non-native grasses 5 = Disturbance

trampling 1 = No sign of

erosion 3 = Disturbance present i

Non-native woody pl. 1 = No sign of

vandalism 1 = No sign of

urban runoff 1 = No sign of disturbance

competitive native pl. 1 = No sign of

current grazing 1 = No sign of

slope movement 1 = No sign of disturbance

dumping/trash 1 = No sign of

historic grazing 6 = Disturbance

soil compaction 3 = Disturbance present i

encampments 1 = No sign of

historic agriculture 1 = No sign of

fuel modification zone/fire break 1 = No sign of

road construction/maintenance 3 = Disturbance

if present, describe:

illegal vegetation clearing 1 = No sign of

if present, describe:

brush management/restoration 1 = No sign of disturbance within maximum extent or in adjacent 10 m buffer.

ORV activity

1 = No sign of

if present, describe:

Evidence of recent fire 6 = Disturbance occurs 50% to < 75% of area

If sign of recent fire, year burned?

2003

Trails

1 = No sign of disturbance within maximum extent

If trails are present, are they authorized?

Type of trail use

hiking

biking

equestrian

dog

service vehicles yes

other

illegal trail use?

1 = No sign of

describe:

Other disturbance?

1 = No sign of

describe:

MSP-Management Needs and Notes 2015

(top 2 rows auto-fill from page 1)

Scientific Name:

MSP Occur ID.

Date: **VI. MANAGEMENT RECOMMENDATIONS**

Maintain access control with locked gate

VII. MANAGEMENT ACTIONS IN LAST YEAR

Access control maintained with locked gate

VIII. CNDDDB SPECIES DETECTED (list any plant or animal species to add to the CNDDDB)**NOTES**

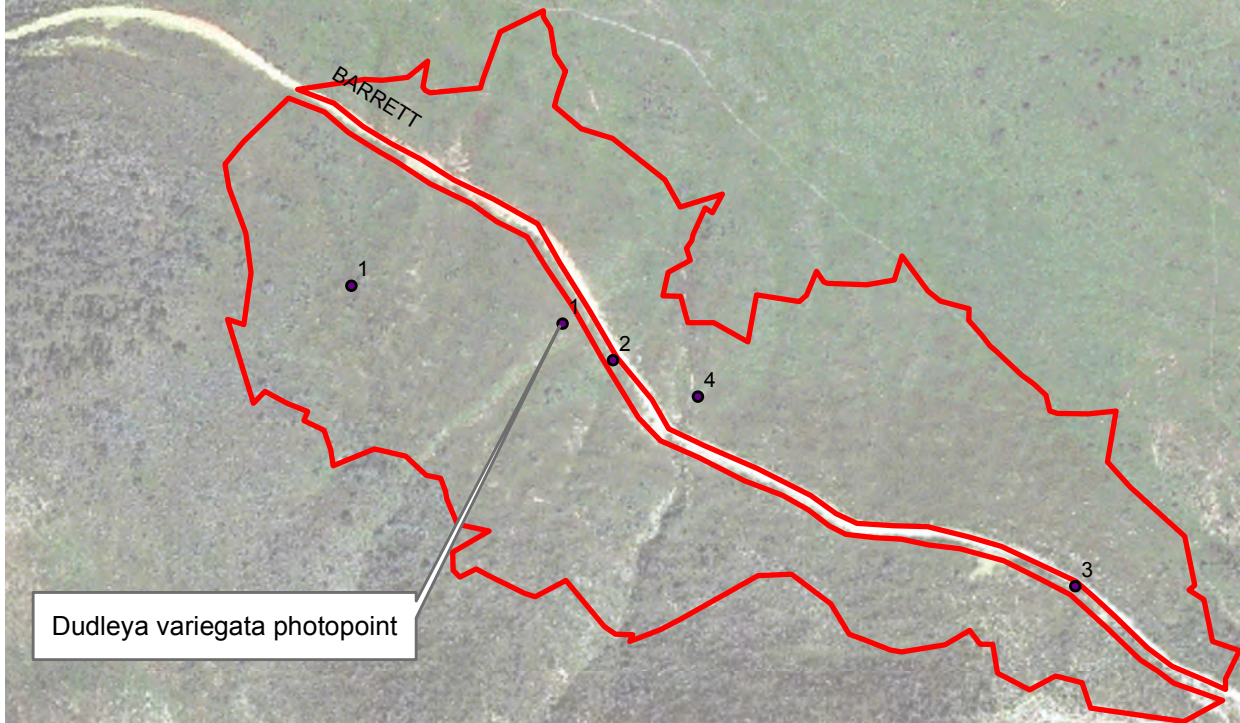
Current Mapped extent covers all 4 monitoring locations. Exact count was completed within the sampling area for each of the 4 monitoring locations. Then estimate was made based on the average density within the 4 sampling areas. Average estimate = 290,000. High estimate (based on highest density) = 408,000. Low estimate = 164,000

***Bloomeria clevelandii* (San Diego Goldenstar) Marron Valley # 4**



Panorama from Eastern edge of population, facing Southeast, East, Northeast, North.
Panorama location is 6407366.178 1787837.573 NAD83 State Plane California Zone 6 (feet)
Photos merged using ArcSoft Panorama Maker 4.

Bloomeria clevelandii - Marron Valley



Area 2015: 82,578 sq. m.

• Photopoint

Bloomeria clevelandii

Pop. Area 2004 - 2015
Max Area: 95,087.1 sq. m.
Min Area: 0 sq. m.

0 25 50 100
Meters

Source: San GIS & City of San Diego Park & Rec
Created by: Kim Roeland 2015



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MSP - Rare Plant Occurrence Monitoring Form 2015										Page 1	
Scientific Name:		Bloomeria clevelandii				Common Name:		San Diego goldenstar			
Existing MSP Occurrence?		yes				MSP Occurr. ID:		BLCL_4MTRP023			
CNDDB Elem. Occur. #:		EO2				Translocated?		no			
Preserve:		Mission Trails Regional Park				Mgmt Unit		MU4			
Land Owner:		City of San Diego				Land Mangr:		City of San Diego			
Occurrence Name:		Mission Trails Regional Park				Sample Point #:		1			
Surveyors:		Kim Roeland, Betsy Miller				Affiliation		City of San Diego			
Date:		4/23/2015		Time Start:		9:25		Time Finish:		11:10	
I. OCCURRENCE STATUS - Assess # plants in both species-specific sampling area (typically 10-m radius circle) & in current mapped extent . See p. 4 for definitions of categories describing phenology & evidence of herbivory, disease & stunted growth within the sampling area. Record any notes on p. 3.											
# Plants/Current Mapped Extent:		0		exact count or estimate?		exact		uncert.		low	
Area of Current Mapped Extent:		0		units		square meters		exact (GPS) or estim?		exact (GPS ma	
Species Found in Maximum Extent?		no		if not found, known or suspected reason:		not found since 2003 fire					
# Plants/Sampling Area:		0		exact count or estimate?		exact		uncert.		low	
Sample Area Radius (m)		10									
Phenology In Sampling Area (1-6):		Vegetative		1 (0%)		Flowering		1 (0%)		Fruiting	
		Dead		1 (0%)		Flowering & Fruiting		1 (0%)			
Evidence in Sampling Area (1-6):		Herbivory		1 (0%)		Disease		1 (0%)		Stunted Growth	
										1 (0%)	
Is Sampling Area within Current Mapped Extent?		yes									
Collection (if not collected previously)?		no									
If yes:		Collector				Collection #					
		Museum/Herbarium									
II. SAMPLING AREA LOCATION & SITE PHOTOMONITORING											
GPS Accuracy: +/-		<1		accur. units:		meters		Datum:		NAD83	
coord. system		State Plane (ft)									
Coord'n's at Center of Plot:		E:				N:					
Camera type:		Pentax Optio W90									
Locat. 1 Coord.--E, N		6307533.854		1887727.084		Direction facing		SE, E, NE, N		Height	
		Camera angle		Level		Photo #		295-302		File location	
								S:WSCP			
Locat. 2 Coord.--E,N						Direction facing				Height	
		Camera angle				Photo #				File location	
III. ASSOCIATED SPECIES If need more room, record additional data and any notes on page 3.											
species/substrate		% Cover		Collection #, or NC if collected		not collected		species/substrate		% Cover	
Acmispon glaber		15						Dodecatheon clevelandii		1	
Artemisia californica		3						Bromus diandrus		1	
Adenostoma fasciculatum		5						Bromus madritensis		1	
Mimulus aurantiacus		2						Quercus sp.		2	
Deinandra fasciculata		4						Corethrogyne filaginifolia		1	
Calochortus splendens		1									
Stipa pulchra		7									
Erodium botrys		5									
Brachypodium distachyon		65									
Festuca myuros		20									
Avena sp.		2									
Sanicula arguta		1						bare ground		5	
Hypochaeris glabra		1						rock		5	
Isocoma menziesii		1						litter		3	
COVER: Total % Cover:		138		%Herb:		110		%Shrub:		28	
								%Tree:		0	

IV. HABITAT ASSESSMENT IN SAMPLING AREA - Assess habitat covariates within **species-specific sampling area** (typically 10-m radius circle). Vegetation alliance/association can be assigned using San Diego vegetation key (AECOM 2012) in the office or field, using "Associated Species" data from page 1. See page 4 for definitions of habitat assessment categories.

SANDAG 2012 Vegetation Alliance/Association:	Adenostoma fasciculatum Alliance, Adenostoma fasciculatum-Lotus scoparius Association			
Cover classes (1-6)	Cryptogamic Crust Cover:	1 (0%)	Thatch Cover	4 (25% to <50%)
	Thatch Depth Average (cm)	2	Thatch Depth max (cm)	4
Dead Standing Biomass	yes			
If yes, cover/species class	Acmispon glaber/3		Average height (cm)	25
Mammal Species Activity (categ. 1-4)				
Feral pig activity	1 = No feral pig activity (rooting, wallowing, vegetation destruction, tracks, scat, pig) detected.			
ground squirr. activity	1 = No ground squirrel burrows detected.			
gopher activity	1 = No pocket gopher mounds detected.			
Sampling area representative of mapped occurrence?	yes	(If no, note differences on page 3)		

VI. THREATS ASSESSMENT IN MAXIMUM EXTENT - Assess threats within the **occurrence's maximum extent** (cumulative extent over years of monitoring) **plus 10-m surrounding buffer**. See page 4 for definitions of threat assessment categories. Record notes on page 3. See Argentine Ant Protocol (USGS 2015) for setting up bait, etc.

Surrounding Land Use/Activity at, or Adjacent to, Site	open space		
Argentine ant abundance at bait station (1-4)			
Time start		Temp start	
Ant sample collected?		Ant sample #	
		Ant Station Photo #	

DISTURBANCES (Rank each as 1-6):

Non-native forbs	3 = Disturbance	feral pig activity	1 = No sign of disturbance	altered hydrology	1 = No sign of disturbance
Non-native grasses	7 = Disturbance	trampling	1 = No sign of disturbance	erosion	1 = No sign of disturbance
Non-native woody pl.	1 = No sign of disturbance	vandalism	1 = No sign of disturbance	urban runoff	1 = No sign of disturbance
competitive native pl.	1 = No sign of disturbance	current grazing	1 = No sign of disturbance	slope movement	1 = No sign of disturbance
dumping/trash	1 = No sign of disturbance	historic grazing	1 = No sign of disturbance	soil compaction	1 = No sign of disturbance
encampments	1 = No sign of disturbance	historic agriculture	1 = No sign of disturbance		
fuel modification zone/fire break	1 = No sign of disturbance				
road construction/maintenance	1 = No sign of disturbance	if present, describe:			
illegal vegetation clearing	1 = No sign of disturbance	if present, describe:			
brush management/restoration	1 = No sign of disturbance within maximum extent or in adjacent 10 m buffer.				
ORV activity	1 = No sign of disturbance	if present, describe:			
Evidence of recent fire	7 = Disturbance occurs ≥75% of area with				
If sign of recent fire, year burned?	2003				
Trails	1 = No sign of disturbance within maximum extent		If trails are present, are they authorized?		
Type of trail use	hiking		biking		equestrian
					dog
service vehicles			other		
illegal trail use?	1 = No sign of disturbance	describe:			
Other disturbance?	1 = No sign of disturbance	describe:			

MSP-Management Needs and Notes 2015

(top 2 rows auto-fill from page 1)

Scientific Name:

MSP Occur ID.

Date:

VI. MANAGEMENT RECOMMENDATIONS

continue to maintain post-burn and treat non-native grasses

VII. MANAGEMENT ACTIONS IN LAST YEAR

none

VIII. CNDDDB SPECIES DETECTED (list any plant or animal species to add to the CNDDDB)

NOTES

***Bloomeria clevelandii* (San Diego Goldenstar) Mission Trails Regional Park**



Panorama from Northwestern edge of population, facing Southeast, East, Northeast, North.
Panorama location is 6307533.854 1887727.084 NAD83 State Plane California Zone 6 (feet)
Photos merged using ArcSoft Panorama Maker 4.

Bloomeria clevelandii - Mission Trails Regional Park



Area 2015: 0 sq. m.

● Photopoint

□ Bloomeria clevelandii

Pop. Area 2001-2015
Max Area: 1255.77 sq. m.
Min Area: 0 sq. m.

0 50 100 Meters

Source: San GIS & City of San Diego Park & Rec
Map Created By: Annabelle Bernabe, 2015



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MSP - Rare Plant Occurrence Monitoring Form 2015										Page 1	
Scientific Name:		Bloomeria clevelandii				Common Name:		San Diego goldenstar			
Existing MSP Occurrence?		yes		MSP Occurr. ID:		BLCL_3OTLA006					
CNDDB Elem. Occur. #:		n/a		Translocated?		no					
Preserve:		Otay Lakes Cornerstone Lands				Mgmt Unit		MU3			
Land Owner:		City of San Diego			Land Mangr:		City of San Diego Public Utilities Department				
Occurrence Name:		Otay Lakes				Sample Point #:		1			
Surveyors:		Kim Roeland, Annabelle Bernabe				Affiliation		City of San Diego			
Date:		3/24/2015		Time Start:		11:00		Time Finish:		12:36	
I. OCCURRENCE STATUS - Assess # plants in both species-specific sampling area (typically 10-m radius circle) & in current mapped extent . See p. 4 for definitions of categories describing phenology & evidence of herbivory, disease & stunted growth within the sampling area. Record any notes on p. 3.											
# Plants/Current Mapped Extent:		75000		exact count or estimate?		estimate (extrapolate partial ct)		uncert.		high	
Area of Current Mapped Extent:		308991		units		square meters		exact (GPS) or estim?		exact (GPS ma	
Species Found in Maximum Extent?		yes		if not found, known or suspected reason:							
# Plants/Sampling Area		65		exact count or estimate?		exact		uncert.		low	
Sample Area Radius (m)		10									
Phenology In Sampling Area (1-6):		Vegetative		1 (0%)		Flowering		6 (≥75%)		Fruiting	
		Dead		1 (0%)		Flowering & Fruiting		1 (0%)			
Evidence in Sampling Area (1-6):		Herbivory		1 (0%)		Disease		1 (0%)		Stunted Growth	
										1 (0%)	
Is Sampling Area within Current Mapped Extent?		yes									
Collection (if not collected previously)?		no									
If yes:		Collector				Collection #					
		Museum/Herbarium									
II. SAMPLING AREA LOCATION & SITE PHOTOMONITORING											
GPS Accuracy: +/-		<1		accur. units:		meters		Datum:		NAD83	
coord. system		State Plane (ft)									
Coord'n's at Center of Plot:		E:				N:					
Camera type:		Pentax Optio W90									
Locat. 1 Coord.--E, N		6357208.466		1807472.481		Direction facing		NW, N		Height	
		Camera angle		5° down		Photo #		891-896		File location	
Locat. 2 Coord.--E,N						Direction facing				Height	
		Camera angle				Photo #				File location	
III. ASSOCIATED SPECIES If need more room, record additional data and any notes on page 3.											
species/substrate		% Cover		Collection #, or NC if collected		not collected		species/substrate		% Cover	
Bloomeria clevelandii		1						Plagiobotrys/Cryptantha sp.		3	
Eriogonum fasciculatum		10						Acmispon micranthus		2	
Acmispon glaber		5						Bromus madritensis		2	
Deinandra fasciculata		5						Cuscuta occidentalis		5	
Convolvulus simulans		2						Eryngium aristulatum		2	
Crassula connata		40						Isocoma menziesii		3	
Plantago erecta		5						Peritoma arborea		2	
Chlorogalum parviflorum		5									
Lasthenia gracilis		7									
Sisyrinchium bellum		3									
Erodium botrys		15									
Lepidium nitidum		5						bare ground		15	
Hedynois cretica		1						rock		0	
Linanthus dianthiflorus		1						litter		2	
COVER: Total % Cover:		124		%Herb:		100		%Shrub:		20	
								%Tree:		0	

IV. HABITAT ASSESSMENT IN SAMPLING AREA - Assess habitat covariates within **species-specific sampling area** (typically 10-m radius circle). Vegetation alliance/association can be assigned using San Diego vegetation key (AECOM 2012) in the office or field, using "Associated Species" data from page 1. See page 4 for definitions of habitat assessment categories.

SANDAG 2012 Vegetation Alliance/Association:	Deinandra fasciculata Provisional Alliance, Deinandra fasciculata Association			
Cover classes (1-6)	Cryptogamic Crust Cover:	2 (>0% to <1	Thatch Cover	1 (0%)
	Thatch Depth Average (cm)		Thatch Depth max (cm)	
Dead Standing Biomass	yes			
If yes, cover/species class	Acmispon/2		Average height (cm)	20
Mammal Species Activity (categ. 1-4)				
Feral pig activity	1 = No feral pig activity (rooting, wallowing, vegetation destruction, tracks, scat, pig) detected.			
ground squirr. activity	1 = No ground squirrel burrows detected.			
gopher activity	1 = No pocket gopher mounds detected.			
Sampling area representative of mapped occurrence?	yes	(If no, note differences on page 3)		

VI. THREATS ASSESSMENT IN MAXIMUM EXTENT - Assess threats within the **occurrence's maximum extent** (cumulative extent over years of monitoring) **plus 10-m surrounding buffer**. See page 4 for definitions of threat assessment categories. Record notes on page 3. See Argentine Ant Protocol (USGS 2015) for setting up bait, etc.

Surrounding Land Use/Activity at, or Adjacent to, Site	open space		
Argentine ant abundance at bait station (1-4)			
Time start		Temp start	
Ant sample collected?		Ant sample #	
		Ant Station Photo #	

DISTURBANCES (Rank each as 1-6):

Non-native forbs	4 = Disturbance	feral pig activity	1 = No sign of disturbance	altered hydrology	1 = No sign of disturbance	
Non-native grasses	3 = Disturbance	trampling	1 = No sign of disturbance	erosion	1 = No sign of disturbance	
Non-native woody pl.	1 = No sign of disturbance	vandalism	1 = No sign of disturbance	urban runoff	1 = No sign of disturbance	
competitive native pl.	1 = No sign of disturbance	current grazing	1 = No sign of disturbance	slope movement	1 = No sign of disturbance	
dumping/trash	1 = No sign of disturbance	historic grazing	1 = No sign of disturbance	soil compaction	1 = No sign of disturbance	
encampments	1 = No sign of disturbance	historic agriculture	6 = Disturbance			
fuel modification zone/fire break	1 = No sign of disturbance					
road construction/maintenance	1 = No sign of disturbance	if present, describe:				
illegal vegetation clearing	1 = No sign of disturbance	if present, describe:				
brush management/restoration	1 = No sign of disturbance within maximum extent or in adjacent 10 m buffer.					
ORV activity	1 = No sign of disturbance	if present, describe:				
Evidence of recent fire	1 = No sign of disturbance within maximum extent or in adjacent 10 m buffer.					
If sign of recent fire, year burned?	2003					
Trails	2 = Disturbance does not occur within maximum extent or in adjacent 10 m buffer.	If trails are present, are they authorized?	yes			
Type of trail use	hiking	no	biking	no	equestrian	no
	service vehicles	yes	other	no	dog	no
illegal trail use?	2 = Disturbance	describe:	dirt bikes on main road			
Other disturbance?	1 = No sign of disturbance	describe:				

MSP-Management Needs and Notes 2015

(top 2 rows auto-fill from page 1)

Scientific Name: MSP Occur ID: Date: **VI. MANAGEMENT RECOMMENDATIONS**

Treat non-native forbs (*Erodium*) as necessary; continue to control access via fencing and locked gate.

VII. MANAGEMENT ACTIONS IN LAST YEAR

Access control with fencing and locked gate.

VIII. CNDDDB SPECIES DETECTED (list any plant or animal species to add to the CNDDDB)

Black-tailed jackrabbit, flushed from vegetation north of photopoint on slope. Golden eagle seen flying east near photopoint. Horned larks all over.

NOTES

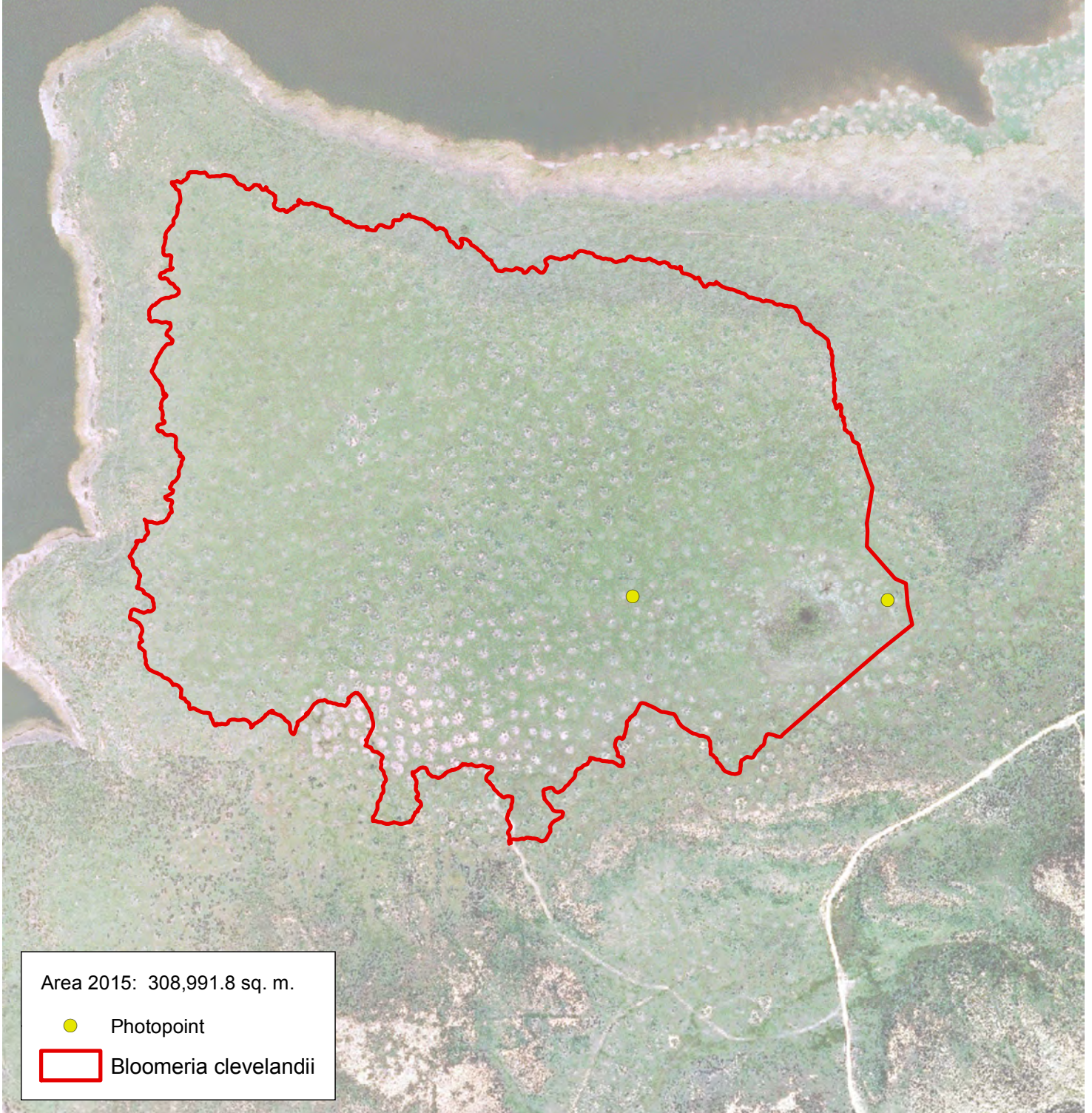
Estimate for point 1 and 2 are the same; population is continuous across entire site. Estimate based on 3 mapped polygons with exact count. Density calculated and the lowest density was used to extrapolate to the entire current mapped extent. Range of estimates: 75,000-210,000.

***Bloomeria clevelandii* (San Diego Goldenstar) Otay Lakes Observation # 1**



Panorama from Northeastern edge of population, facing Northwest, North.
Panorama location is 6357208.466 1807472.481 NAD83 State Plane California Zone 6 (feet)
Photos merged using ArcSoft Panorama Maker 4.

Bloomeria clevelandii - Otay Lakes



Pop. Area 2003 - 2014
Max Area: 381,089 sq.m.
Min Area: 0 sq. m.

0 50 100 200 Meters

Source: San GIS & City of San Diego Park & Rec
Created by: Kim Roeland, 2015



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MSP - Rare Plant Occurrence Monitoring Form 2015										Page 1					
Scientific Name:		Bloomeria clevelandii			Common Name:		San Diego goldenstar								
Existing MSP Occurrence?				yes		MSP Occurr. ID:		BLCL_4MTRP023							
CNDDB Elem. Occur. #:				n/a		Translocated?		no							
Preserve:		Otay Lakes Cornerstone Lands						Mgmt Unit				MU3			
Land Owner:		City of San Diego				Land Mangr:		City of San Diego Public Utilities Department							
Occurrence Name:		Otay Lakes						Sample Point #:		2					
Surveyors:		Kim Roeland, Annabelle Bernabe						Affiliation		City of San Diego					
Date:		3/24/2015		Time Start:		12:54		Time Finish:		14:38					
I. OCCURRENCE STATUS - Assess # plants in both species-specific sampling area (typically 10-m radius circle) & in current mapped extent . See p. 4 for definitions of categories describing phenology & evidence of herbivory, disease & stunted growth within the sampling area. Record any notes on p. 3.															
# Plants/Current Mapped Extent:		75000		exact count or estimate?		estimate (extrapolate partial ct)		uncert.		high					
Area of Current Mapped Extent:		308991		units		square meters		exact (GPS) or estim?		exact (GPS ma					
Species Found in Maximum Extent?		yes		if not found, known or suspected reason:											
# Plants/Sampling Area		687		exact count or estimate?		exact		uncert.		low					
Sample Area Radius (m)		10													
Phenology In Sampling Area (1-6):		Vegetative		1 (0%)		Flowering		6 (≥75%)		Fruiting		1 (0%)			
		Dead		1 (0%)		Flowering & Fruiting		1 (0%)							
Evidence in Sampling Area (1-6):		Herbivory		1 (0%)		Disease		1 (0%)		Stunted Growth		1 (0%)			
Is Sampling Area within Current Mapped Extent?		yes													
Collection (if not collected previously)?		no													
If yes:		Collector				Collection #									
		Museum/Herbarium													
II. SAMPLING AREA LOCATION & SITE PHOTOMONITORING															
GPS Accuracy: +/-		<1		accur. units:		meters		Datum:		NAD83					
coord. system		State Plane (ft)													
Coord'n's at Center of Plot:		E:				N:									
Camera type:		Pentax Optio W90													
Locat. 1 Coord.--E, N		6356421.867		1807483.77		Direction facing		N, NE, E		Height		1.1 m			
		Camera angle		15° down		Photo #		897-901		File location		S:WSCP			
Locat. 2 Coord.-- E,N						Direction facing				Height					
		Camera angle				Photo #				File location					
III. ASSOCIATED SPECIES If need more room, record additional data and any notes on page 3.															
species/substrate		% Cover		Collection #, or NC if collected		not		species/substrate		% Cover		Collect.# or NC if not collected			
Bloomeria clevelandii		2						Hedynois cretica		1					
Isocoma menziesii		5						Bromus madritensis		2					
Eriogonum fasciculatum		15						Bromus hordeaceus		1					
Acmispon glaber		10						Sonchus sp.		1					
Lepidium nitidum		10						Cressa truxillensis		1					
Sisyrinchium bellum		7													
Crassula connata		20													
Deinandra fasciculata		7													
Cuscuta occidentalis		25													
Lasthenia gracilis		10													
Convolvulus simulans		2													
Erodium botrys		20						bare ground							
Plantago erecta		5						rock							
Chlorogalum parviflorum		2						litter							
COVER: Total % Cover:		146		%Herb:		116		%Shrub:		30		%Tree:		0	

IV. HABITAT ASSESSMENT IN SAMPLING AREA - Assess habitat covariates within **species-specific sampling area** (typically 10-m radius circle). Vegetation alliance/association can be assigned using San Diego vegetation key (AECOM 2012) in the office or field, using "Associated Species" data from page 1. See page 4 for definitions of habitat assessment categories.

SANDAG 2012 Vegetation Alliance/Association:	Deinandra fasciculata Provisional Alliance, Deinandra fasciculata Association			
Cover classes (1-6)	Cryptogamic Crust Cover:	1 (0%)	Thatch Cover	1 (0%)
	Thatch Depth Average (cm)		Thatch Depth max (cm)	
Dead Standing Biomass	yes			
If yes, cover/species class	Acmispon/3; Eriogonum/2		Average height (cm)	20
Mammal Species Activity (categ. 1-4)				
Feral pig activity	1 = No feral pig activity (rooting, wallowing, vegetation destruction, tracks, scat, pig) detected.			
ground squirr. activity	1 = No ground squirrel burrows detected.			
gopher activity	1 = No pocket gopher mounds detected.			
Sampling area representative of mapped occurrence?	yes	(If no, note differences on page 3)		

VI. THREATS ASSESSMENT IN MAXIMUM EXTENT - Assess threats within the **occurrence's maximum extent** (cumulative extent over years of monitoring) **plus 10-m surrounding buffer**. See page 4 for definitions of threat assessment categories. Record notes on page 3. See Argentine Ant Protocol (USGS 2015) for setting up bait, etc.

Surrounding Land Use/Activity at, or Adjacent to, Site	Open Space					
Argentine ant abundance at bait station (1-4)						
Time start		Temp start		Time end		
				Temp end		
Ant sample collected?		Ant sample #		Ant Station Photo #		
DISTURBANCES (Rank each as 1-6):						
Non-native forbs	4 = Disturbance	feral pig activity	1 = No sign of disturbance	altered hydrology	1 = No sign of disturbance	
Non-native grasses	3 = Disturbance	trampling	1 = No sign of disturbance	erosion	1 = No sign of disturbance	
Non-native woody pl.	1 = No sign of disturbance	vandalism	1 = No sign of disturbance	urban runoff	1 = No sign of disturbance	
competitive native pl.	1 = No sign of disturbance	current grazing	1 = No sign of disturbance	slope movement	1 = No sign of disturbance	
dumping/trash	1 = No sign of disturbance	historic grazing	6 = Disturbance	soil compaction	1 = No sign of disturbance	
encampments	1 = No sign of disturbance	historic agriculture	1 = No sign of disturbance			
fuel modification zone/fire break	1 = No sign of disturbance					
road construction/maintenance	1 = No sign of disturbance	if present, describe:				
illegal vegetation clearing	1 = No sign of disturbance	if present, describe:				
brush management/restoration	1 = No sign of disturbance within maximum extent or in adjacent 10 m buffer.					
ORV activity	2 = Disturbance	if present, describe:	dirt bike on main access road			
Evidence of recent fire	1 = No sign of disturbance within maximum extent					
If sign of recent fire, year burned?	2003					
Trails	2 = Disturbance does not occur within maximum extent	If trails are present, are they authorized?				
		yes				
Type of trail use	hiking	no	biking	no	equestrian	no
	service vehicles	yes	other	no	dog	no
illegal trail use?	2 = Disturbance	describe: dirt bike on main access road				
Other disturbance?	1 = No sign of disturbance	describe:				

MSP-Management Needs and Notes 2015

(top 2 rows auto-fill from page 1)

Scientific Name: MSP Occur ID: Date: **VI. MANAGEMENT RECOMMENDATIONS**

Treat non-native forbs (Erodium) as necessary; continue to control access via fencing and locked gate

VII. MANAGEMENT ACTIONS IN LAST YEAR

Access control with fencing and locked gate

VIII. CNDDDB SPECIES DETECTED (list any plant or animal species to add to the CNDDDB)

Black-tailed jackrabbit

NOTES

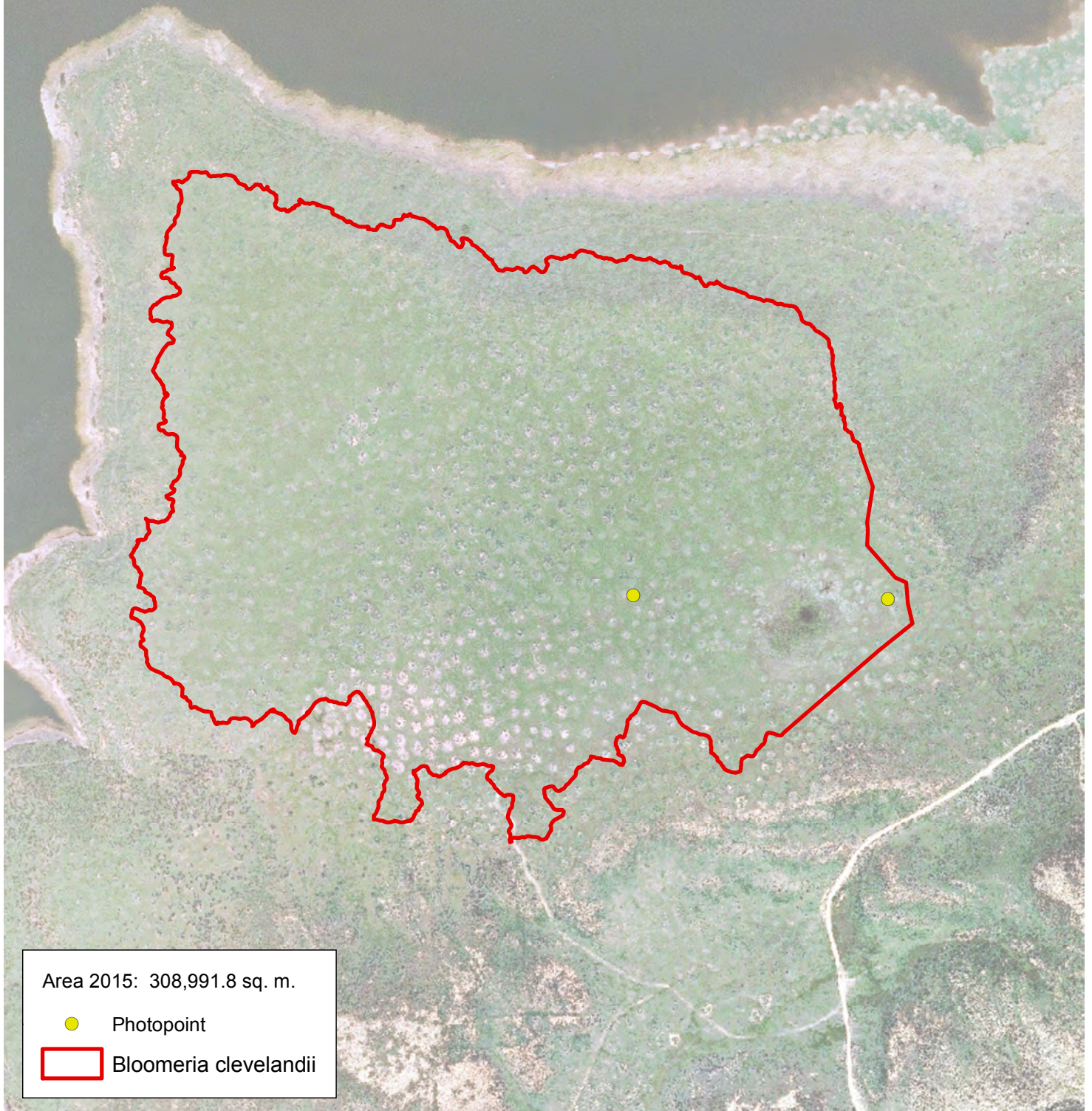
Estimate for point 1 and 2 are the same; population is continuous across entire site. Estimate based on 3 mapped polygons with exact count. Density calculated and the lowest density was used to extrapolate to the entire current mapped extent. Range of estimates: 75,000-210,000

***Bloomeria clevelandii* (San Diego Goldenstar) Otay Lakes Observation # 2**



Panorama from Southeastern edge of population, facing North, Northeast, East.
Panorama location is 6356421.86 1807483.77 NAD83 State Plane California Zone 6 (feet)
Photos merged using ArcSoft Panorama Maker 4.

Bloomeria clevelandii - Otay Lakes



Pop. Area 2003 - 2014
Max Area: 381,089 sq.m.
Min Area: 0 sq. m.

0 50 100 200 Meters

Source: San GIS & City of San Diego Park & Rec
Created by: Kim Roeland, 2015



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Brodiaea filifolia
Thread-leaved Brodiaea



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MSP - Rare Plant Occurrence Monitoring Form 2015										Page 1		
Scientific Name:		Brodiaea filifolia			Common Name:		Thread-leaved brodiaea					
Existing MSP Occurrence?				yes		MSP Occurr. ID:		BRFI_6BMRA002				
CNDDB Elem. Occur. #:				EO89		Translocated?		no				
Preserve:		Black Mountain Open Space Park					Mgmt Unit					MU6
Land Owner:		City of San Diego			Land Mangr:		City of San Diego Park and Recreation Department					
Occurrence Name:		Black Mountain					Sample Point #:			1		
Surveyors:		Kim Roeland, Betsy Miller, Carey Goldstein, Joe DeWolf					Affiliation			City of San Diego		
Date:		4/24/2015			Time Start:		14:05		Time Finish:		14:41	
I. OCCURRENCE STATUS - Assess # plants in both species-specific sampling area (typically 10-m radius circle) & in current mapped extent . See p. 4 for definitions of categories describing phenology & evidence of herbivory, disease & stunted growth within the sampling area. Record any notes on p. 3.												
# Plants/Current Mapped Extent:		10		exact count or estimate?		exact		uncert.		low		
Area of Current Mapped Extent:				31.36		units		square meters		exact (GPS) or estim?		
Species Found in Maximum Extent?				yes		if not found, known or suspected reason:						
# Plants/Sampling Area:		2		exact count or estimate?		exact		uncert.		low		
Sample Area Radius (m)				10								
Phenology In Sampling Area (1-6):				Vegetative		1 (0%)		Flowering		6 (≥75%)		
				Dead		1 (0%)		Flowering & Fruiting		1 (0%)		
Evidence in Sampling Area (1-6):				Herbivory		1 (0%)		Disease		1 (0%)		
				Is Sampling Area within Current Mapped Extent?		yes		Stunted Growth		1 (0%)		
Collection (if not collected previously)?				no								
If yes:		Collector				Collection #						
		Museum/Herbarium										
II. SAMPLING AREA LOCATION & SITE PHOTOMONITORING												
GPS Accuracy: +/-		<1		accur. units:		meters		Datum:		NAD83		
coord. system		State Plane (ft)										
Coord'n's at Center of Plot: E:						N:						
Camera type:		Pentax Optio W90										
Locat. 1 Coord.--E, N		6296131.963		1933513.962		Direction facing		NE, E, SE		Height		
		Camera angle		5° up		Photo #		327-332		File location		
Locat. 2 Coord.--E,N						Direction facing				Height		
		Camera angle				Photo #				File location		
III. ASSOCIATED SPECIES If need more room, record additional data and any notes on page 3.												
species/substrate		% Cover		Collection #, or NC if collected		not		species/substrate		% Cover		
										Collect.# or NC if not collected		
Brodiaea filifolia		1										
Eriogonum fasciculatum		15										
Malosma laurina		7										
Deinandra fasciculata		3										
Brassica nigra		7										
Avena sp.		20										
Brachypodium distachyon		75										
Anagallis arvensis		3										
Sonchus oleraceus		1										
Convolvulus arvensis		4										
Calystegia macrostegia		1										
Dichelostemma capitatum		1				bare ground				10		
Baccharis pilularis		1				rock				5		
Centaurea melitensis		1				litter				1		
COVER: Total % Cover:		140		%Herb:		117		%Shrub:		23		
								%Tree:		0		

IV. HABITAT ASSESSMENT IN SAMPLING AREA - Assess habitat covariates within **species-specific sampling area** (typically 10-m radius circle). Vegetation alliance/association can be assigned using San Diego vegetation key (AECOM 2012) in the office or field, using "Associated Species" data from page 1. See page 4 for definitions of habitat assessment categories.

SANDAG 2012 Vegetation Alliance/Association:	Eriogonum fasciculatum Alliance, Eriogonum fasciculatum Association			
Cover classes (1-6)	Cryptogamic Crust Cover:	1 (0%)	Thatch Cover	4 (25% to <50%)
	Thatch Depth Average (cm)	3	Thatch Depth max (cm)	5
Dead Standing Biomass	yes			
If yes, cover/species class	Brassica nigra/2		Average height (cm)	40
Mammal Species Activity (categ. 1-4)				
Feral pig activity	1 = No feral pig activity (rooting, wallowing, vegetation destruction, tracks, scat, pig) detected.			
ground squirr. activity	1 = No ground squirrel burrows detected.			
gopher activity	1 = No pocket gopher mounds detected.			
Sampling area representative of mapped occurrence?	yes	(If no, note differences on page 3)		

VI. THREATS ASSESSMENT IN MAXIMUM EXTENT - Assess threats within the **occurrence's maximum extent** (cumulative extent over years of monitoring) **plus 10-m surrounding buffer**. See page 4 for definitions of threat assessment categories. Record notes on page 3. See Argentine Ant Protocol (USGS 2015) for setting up bait, etc.

Surrounding Land Use/Activity at, or Adjacent to, Site	open space; high school		
Argentine ant abundance at bait station (1-4)			
Time start		Temp start	
Ant sample collected?		Ant sample #	
		Ant Station Photo #	

DISTURBANCES (Rank each as 1-6):

Non-native forbs	4 = Disturbance	feral pig activity	1 = No sign of disturbance	altered hydrology	1 = No sign of disturbance	
Non-native grasses	7 = Disturbance	trampling	1 = No sign of disturbance	erosion	1 = No sign of disturbance	
Non-native woody pl.	1 = No sign of disturbance	vandalism	1 = No sign of disturbance	urban runoff	1 = No sign of disturbance	
competitive native pl.	1 = No sign of disturbance	current grazing	1 = No sign of disturbance	slope movement	1 = No sign of disturbance	
dumping/trash	1 = No sign of disturbance	historic grazing	1 = No sign of disturbance	soil compaction	1 = No sign of disturbance	
encampments	1 = No sign of disturbance	historic agriculture	1 = No sign of disturbance			
fuel modification zone/fire break	1 = No sign of disturbance					
road construction/maintenance	1 = No sign of disturbance	if present, describe:				
illegal vegetation clearing	1 = No sign of disturbance	if present, describe:				
brush management/restoration	1 = No sign of disturbance within maximum extent or in adjacent 10 m buffer.					
ORV activity	1 = No sign of disturbance	if present, describe:				
Evidence of recent fire	1 = No sign of disturbance within maximum extent or in adjacent 10 m buffer.					
If sign of recent fire, year burned?						
Trails	2 = Disturbance does not occur within maximum extent or in adjacent 10 m buffer.		If trails are present, are they authorized?			
			yes			
Type of trail use	hiking	yes	biking	yes	equestrian	no
	service vehicles	yes	other	no	dog	yes
illegal trail use?	1 = No sign of disturbance					
Other disturbance?	1 = No sign of disturbance					

MSP-Management Needs and Notes 2015

(top 2 rows auto-fill from page 1)

Scientific Name: Brodiaea filifolia

MSP Occur ID. BRFI_6BMRA002

Date: 4/24/2015

VI. MANAGEMENT RECOMMENDATIONS

Treat BRDI using CBI-style protocols

VII. MANAGEMENT ACTIONS IN LAST YEAR

Repaired fence that was installed in 2013

VIII. CNDDDB SPECIES DETECTED (list any plant or animal species to add to the CNDDDB)

CAGN heard calling continuously through survey - see CNDDDB shapefile for location

NOTES

***Brodiaea filifolia* (Threadleaf Brodiaea)**
Black Mountain Ranch



Panorama from Northeastern end of population, facing Northeast, East, Southeast.
Panorama location is 6296131.963 1933513.962 NAD83 State Plane California Zone 6 (feet)
Photos merged using ArcSoft Panorama Maker 4.

Brodiaea filifolia - Black Mountain



Pop. Area 2014-2015
Max Area: 252 sq. m.
Min. Area: 31.36 sq. m.

0 15 30 Meters

Source: San GIS & City of San Diego Park & Rec
Map Created By: Annabelle Bernabe, 2015



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Brodiaea orcuttii
Orcutt's Brodiaea



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MSP - Rare Plant Occurrence Monitoring Form 2015										Page 1			
Scientific Name:		Brodiaea orcuttii			Common Name:		Orcutt's brodiaea						
Existing MSP Occurrence?		yes			MSP Occurr. ID:		BROR_6CACA015						
CNDDB Elem. Occur. #:		EO50			Translocated?		no						
Preserve:		Carroll Canyon Vernal Pool Preserve					Mgmt Unit					MU6	
Land Owner:		City of San Diego			Land Mangr:		City of San Diego Park and Recreation Department						
Occurrence Name:		Carroll Canyon Vernal Pool Preserve					Sample Point #:		1				
Surveyors:		Kim Roeland, Betsy Miller, Annabelle Bernabe					Affiliation		City of San Diego				
Date:		4/2/2015		Time Start:		14:03		Time Finish:		14:23			
I. OCCURRENCE STATUS - Assess # plants in both species-specific sampling area (typically 10-m radius circle) & in current mapped extent . See p. 4 for definitions of categories describing phenology & evidence of herbivory, disease & stunted growth within the sampling area. Record any notes on p. 3.													
# Plants/Current Mapped Extent:		1273		exact count or estimate?		exact		uncert.		low			
Area of Current Mapped Extent:		503.97		units		square meters		exact (GPS) or estim?		exact (GPS ma			
Species Found in Maximum Extent?		yes		if not found, known or suspected reason:									
# Plants/Sampling Area		4		exact count or estimate?		exact		uncert.		low			
Sample Area Radius (m)		10											
Phenology In Sampling Area (1-6):		Vegetative		2 (>0% to <1		Flowering		6 (≥75%)		Fruiting		1 (0%)	
		Dead		1 (0%)		Flowering & Fruiting		1 (0%)					
Evidence in Sampling Area (1-6):		Herbivory		1 (0%)		Disease		1 (0%)		Stunted Growth		1 (0%)	
Is Sampling Area within Current Mapped Extent?		yes											
Collection (if not collected previously)?		no											
If yes:		Collector				Collection #							
		Museum/Herbarium											
II. SAMPLING AREA LOCATION & SITE PHOTOMONITORING													
GPS Accuracy: +/-		<1		accur. units:		meters		Datum:		NAD83			
coord. system		State Plane (ft)											
Coord'n's at Center of Plot:		E:				N:							
Camera type:		Pentax Optio W90											
Locat. 1 Coord.--E, N		6282439.86		1907633.765		Direction facing		E, SE, S, SW		Height		1.1 m	
		Camera angle		40° down		Photo #		3062-3070		File location		S:WSCP	
Locat. 2 Coord.--E,N						Direction facing				Height			
		Camera angle				Photo #				File location			
III. ASSOCIATED SPECIES If need more room, record additional data and any notes on page 3.													
species/substrate		% Cover		Collection #, or NC if collected		not collected		species/substrate		% Cover		Collect.# or NC if not collected	
Brodiaea orcuttii		1						Stylocline gnaphaloides		1			
Dichelostemma capitatum		1						Hypochaeris glabra		2			
Deinandra fasciculata		20						Stipa pulchra		1			
Crassula connata		15						Pseudognaphalium stramineum		1			
Selaginella cinerascens		4						Festuca myuros		2			
Plantago erecta		3						Antirrhinum nuttallianum		1			
Navarretia hamata		2											
Erodium botrys		5											
Zeltnera venusta		1											
Adenostoma fasciculatum		7											
Salvia mellifera		5											
Daucus pusillus		2						bare ground		40			
Castilleja exserta		1						rock		10			
Logfia filaginoides		1						litter		3			
COVER: Total % Cover:		76		%Herb:		64		%Shrub:		12		%Tree:	0

IV. HABITAT ASSESSMENT IN SAMPLING AREA - Assess habitat covariates within **species-specific sampling area** (typically 10-m radius circle). Vegetation alliance/association can be assigned using San Diego vegetation key (AECOM 2012) in the office or field, using "Associated Species" data from page 1. See page 4 for definitions of habitat assessment categories.

SANDAG 2012 Vegetation Alliance/Association: Adenostoma fasciculatum Alliance, Adenostoma fasciculatum-(Eriogonum fasciculatum I Artemisia californica I Salvia mellifera) Association; vernal pool

Cover classes (1-6)

Cryptogamic Crust Cover: 2 (>0% to <1

Thatch Cover 1 (0%)

Thatch Depth Average (cm) 0

Thatch Depth max (cm) 0

Dead Standing Biomass yes

If yes, cover/species class

Adenostoma fasciculata/2

Average height (cm) 20

Mammal Species Activity (categ. 1-4)

Feral pig activity 1 = No feral pig activity (rooting, wallowing, vegetation destruction, tracks, scat, pig) detected.

ground squirr. activity 1 = No ground squirrel burrows detected.

gopher activity 1 = No pocket gopher mounds detected.

Sampling area representative of mapped occurrence? yes (If no, note differences on page 3)

VI. THREATS ASSESSMENT IN MAXIMUM EXTENT - Assess threats within the **occurrence's maximum extent** (cumulative extent over years of monitoring) **plus 10-m surrounding buffer**. See page 4 for definitions of threat assessment categories. Record notes on page 3. See Argentine Ant Protocol (USGS 2015) for setting up bait, etc.

Surrounding Land Use/Activity at, or Adjacent to, Site open space, residential, mining

Argentine ant abundance at bait station (1-4)

4 = ≥100 Argentine ants detected at bait station.

Time start 2:05 PM

Temp start 70

Time end 3:47 PM

Temp end 70

Ant sample collected? yes

Ant sample # 1

Ant Station Photo # 3090

DISTURBANCES (Rank each as 1-6):

Non-native forbs 3 = Disturbance

feral pig activity 1 = No sign of disturbance

altered hydrology 1 = No sign of disturbance

Non-native grasses 3 = Disturbance

trampling 1 = No sign of disturbance

erosion 1 = No sign of disturbance

Non-native woody pl. 1 = No sign of disturbance

vandalism 1 = No sign of disturbance

urban runoff 1 = No sign of disturbance

competitive native pl. 1 = No sign of disturbance

current grazing 1 = No sign of disturbance

slope movement 1 = No sign of disturbance

dumping/trash 1 = No sign of disturbance

historic grazing 1 = No sign of disturbance

soil compaction 1 = No sign of disturbance

encampments 1 = No sign of disturbance

historic agriculture 1 = No sign of disturbance

fuel modification zone/fire break 1 = No sign of disturbance

road construction/maintenance 1 = No sign of disturbance

if present, describe:

illegal vegetation clearing 1 = No sign of disturbance

if present, describe:

brush management/restoration 1 = No sign of disturbance within maximum extent or in adjacent 10 m buffer.

ORV activity

1 = No sign of disturbance if present, describe:

Evidence of recent fire 1 = No sign of disturbance within maximum extent

If sign of recent fire, year burned?

Trails 1 = No sign of disturbance within maximum extent

If trails are present, are they authorized?

yes

Type of trail use

hiking

biking

equestrian

dog

service vehicles yes

other

illegal trail use?

1 = No sign of disturbance describe:

Other disturbance?

3 = Disturbance

describe: old road bed currently closed to public, gravel, not maintained

MSP-Management Needs and Notes 2015

(top 2 rows auto-fill from page 1)

Scientific Name: Brodiaea orcuttii

MSP Occur ID. BROR_6CACA015

Date: 4/2/2015

VI. MANAGEMENT RECOMMENDATIONS

None.

VII. MANAGEMENT ACTIONS IN LAST YEAR

Major vernal pool creation/restoration project underway at site; does not affect photopoint or sampling area.

VIII. CNDDDB SPECIES DETECTED (list any plant or animal species to add to the CNDDDB)

NOTES

***Brodiaea orcuttii* (Orcutt's Brodiaea) Carroll Canyon**



Panorama from Southern edge of population, facing East, Southeast, South, Southwest.
Panorama location is 6282439.860 1907633.765 NAD83 State Plane California Zone 6 (feet)
Photos merged using ArcSoft Panorama Maker 4.

Brodiaea orcuttii - Carroll Canyon



Area 2015: 503.97 sq. m.

● Photopoint

□ Brodiaea orcuttii

Pop. Area 2003 - 2015
Max Area: 4863.29 sq. m.
Min Area: 0 sq. m.

0 12.5 25
Meters

Source: San GIS & City of San Diego Park & Rec
Created by: Annabelle Bernabe, 2015



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MSP - Rare Plant Occurrence Monitoring Form 2015										Page 1
Scientific Name:		Brodiaea orcuttii			Common Name:		Orcutt's brodiaea			
Existing MSP Occurrence?		yes			MSP Occurr. ID:		BROR_6LORI018			
CNDDB Elem. Occur. #:		EO63			Translocated?		no			
Preserve:		Los Penasquitos Canyon Preserve					Mgmt Unit			
Land Owner:		City of San Diego			Land Manger:		City of San Diego Park and Recreation Department			
Occurrence Name:		Lopez Ridge					Sample Point #:		1	
Surveyors:		Betsy Miller, Kim Roeland, Annabelle Bernabe					Affiliation		City of San Diego	
Date:		4/2/2015		Time Start:		10:00		Time Finish: 12:15		
I. OCCURRENCE STATUS - Assess # plants in both species-specific sampling area (typically 10-m radius circle) & in current mapped extent . See p. 4 for definitions of categories describing phenology & evidence of herbivory, disease & stunted growth within the sampling area. Record any notes on p. 3.										
# Plants/Current Mapped Extent:		1771		exact count or estimate?		exact		uncert. medium		
Area of Current Mapped Extent:		1295.5		units		square meters		exact (GPS) or estim? exact (GPS ma		
Species Found in Maximum Extent?		yes		if not found, known or suspected reason:						
# Plants/Sampling Area		133		exact count or estimate?		exact		uncert. low		
Sample Area Radius (m)		10								
Phenology In Sampling Area (1-6):		Vegetative 1 (0%)		Flowering 6 (≥75%)		Fruiting 1 (0%)				
		Dead 1 (0%)		Flowering & Fruiting 1 (0%)						
Evidence in Sampling Area (1-6):		Herbivory 1 (0%)		Disease 1 (0%)		Stunted Growth 1 (0%)				
Is Sampling Area within Current Mapped Extent?		yes								
Collection (if not collected previously)?		no								
If yes:		Collector		Collection #						
		Museum/Herbarium								
II. SAMPLING AREA LOCATION & SITE PHOTOMONITORING										
GPS Accuracy: +/-		<1		accur. units:		meters		Datum: NAD83		
coord. system		State Plane (ft)								
Coord'n's at Center of Plot:		E:		N:						
Camera type:		Pentax Optio W90								
Locat. 1 Coord.--E, N		6278246.403		1915522.734		Direction facing		SW, W, NW		
		Camera angle		10° down		Photo #		3030-3038		
						File location		S:WSCP		
Locat. 2 Coord.--E,N						Direction facing		Height		
		Camera angle				Photo #		File location		
III. ASSOCIATED SPECIES If need more room, record additional data and any notes on page 3.										
species/substrate		Cover	Collection # (if collected)	species/substrate		Cover	Collect.# (if collected)			
Adenostoma fasciculatum		30		Antirrhinum nuttallianum		1	(dead)			
Pogogyne abramsii		5		Plantago erecta		1				
Crassula connata		5		Logfia filaginoides		1				
Navarretia hamata		5		Dichelostemma capitatum		1				
Osmadenia tenella		1		Erodium botrys		2				
Deinandra fasciculata		7		Hypochaeris glabra		5				
Zeltnera venusta		1		Festuca myuros		20				
Castilleja exserta		1		Bromus madritensis		5				
Allium haematochiton		2	old	Juncus bufonius		1	(BM to check)			
Deschampsia danthonioides		1		Bromus hordeaceus		1				
Bloomeria clevelandii		1		Hordeum murinum		1				
Brodiaea orcuttii		1		Lepidium nitidum		1				
Psilocarphus brevissimus		1		Chlorogalum parviflorum		1				
Muilla maritima		1		Helianthemum scoparium		1				
Selaginella cinerascens		20	(dead, see a	bare ground		2				
				rock		2				
				litter		1				
COVER: Total % Cover:		124	%Herb:	94	%Shrub:	30	%Tree:	0		

IV. HABITAT ASSESSMENT IN SAMPLING AREA - Assess habitat covariates within **species-specific sampling area** (typically 10-m radius circle). Vegetation alliance/association can be assigned using San Diego vegetation key (AECOM 2012) in the office or field, using "Associated Species" data from page 1. See page 4 for definitions of habitat assessment categories.

SANDAG 2012 Vegetation Alliance/Association:	Adenostoma fasciculatum Alliance, Alliance level only; vernal pool				
Cover classes (1-4)	Cryptogamic Crust Cover:	3 (10% to <2	Thatch Cover	1 (0%)	
	Thatch Depth Average (cm)		Thatch Depth max (cm)		
Dead Standing Biomass	yes				
If yes, cover/species class	Adenostoma/2			Average height (cm)	40
Mammal Species Activity (categ. 1-4)					
Feral pig activity	1 = No feral pig activity (rooting, wallowing, vegetation destruction, tracks, scat, pig) detected.				
ground squirr. activity	1 = No ground squirrel burrows detected.				
gopher activity	1 = No pocket gopher mounds detected.				
Sampling area representative of mapped occurrence?	yes	(If no, note differences on page 3)			

VI. THREATS ASSESSMENT IN MAXIMUM EXTENT - Assess threats within the **occurrence's maximum extent** (cumulative extent over years of monitoring) **plus 10-m surrounding buffer**. See page 4 for definitions of threat assessment categories & page 5 for Overall Site Quality Scale. Record notes on page 3.

Surrounding Land Use/Activity	at, or	Open Space					
Adjacent to, Site							
Argentine ant abundance at bait station (1-4)	1 = No ants detected at bait station or in vicinity.						
Time start	10:05 AM	Temp start	68F	Time end	11:30 AM	Temp end	73F
Ant sample collected?	no	Ant sample #		Ant Station Photo #	3061		

DISTURBANCES (Rank each as 1-6):

Non-native forbs	3 = Disturbance	feral pig activity	1 = No sign of disturbance	altered hydrology	1 = No sign of disturbance	
Non-native grasses	5 = Disturbance	trampling	1 = No sign of disturbance	erosion	1 = No sign of disturbance	
Non-native woody pl.	1 = No sign of disturbance	vandalism	1 = No sign of disturbance	urban runoff	1 = No sign of disturbance	
competitive native pl.	1 = No sign of disturbance	current grazing	1 = No sign of disturbance	slope movement	1 = No sign of disturbance	
dumping/trash	1 = No sign of disturbance	historic grazing	1 = No sign of disturbance	soil compaction	1 = No sign of disturbance	
encampments	1 = No sign of disturbance	historic agriculture	1 = No sign of disturbance			
fuel modification zone/fire break	1 = No sign of disturbance					
road construction/maintenance	1 = No sign of disturbance	if present, describe:				
illegal vegetation clearing	1 = No sign of disturbance	if present, describe:				
brush management/restoration	1 = No sign of disturbance within mapped occurrence perimeter or in adjacent 10 m buffer.					
ORV activity	1 = No sign of disturbance	if present, describe:				
Evidence of recent fire	1 = No sign of disturbance within mapped occurrence perimeter or in adjacent 10 m buffer.					
If sign of recent fire, year burned?						
Trails	1 = No sign of disturbance within mapped occurrence perimeter or in adjacent 10 m buffer.		If trails are present, are they authorized?			
Type of trail use	hiking		biking		equestrian	dog
service vehicles			other			
illegal trail use?	1 = No sign of disturbance		describe:			
Other disturbance?	1 = No sign of disturbance		describe:			

MSP-Management Needs and Notes 2015

(top 2 rows auto-fill from page 1)

Scientific Name: Brodiaea orcuttii

MSP Occur ID. BROR_6LORI018

Date: 4/2/2015

VI. MANAGEMENT RECOMMENDATIONS

Continue to control access using fence and locked gate

VII. MANAGEMENT ACTIONS IN LAST YEAR

Access controlled with fence and locked gate

VIII. CNDDDB SPECIES DETECTED (list any plant or animal species to add to the CNDDDB)

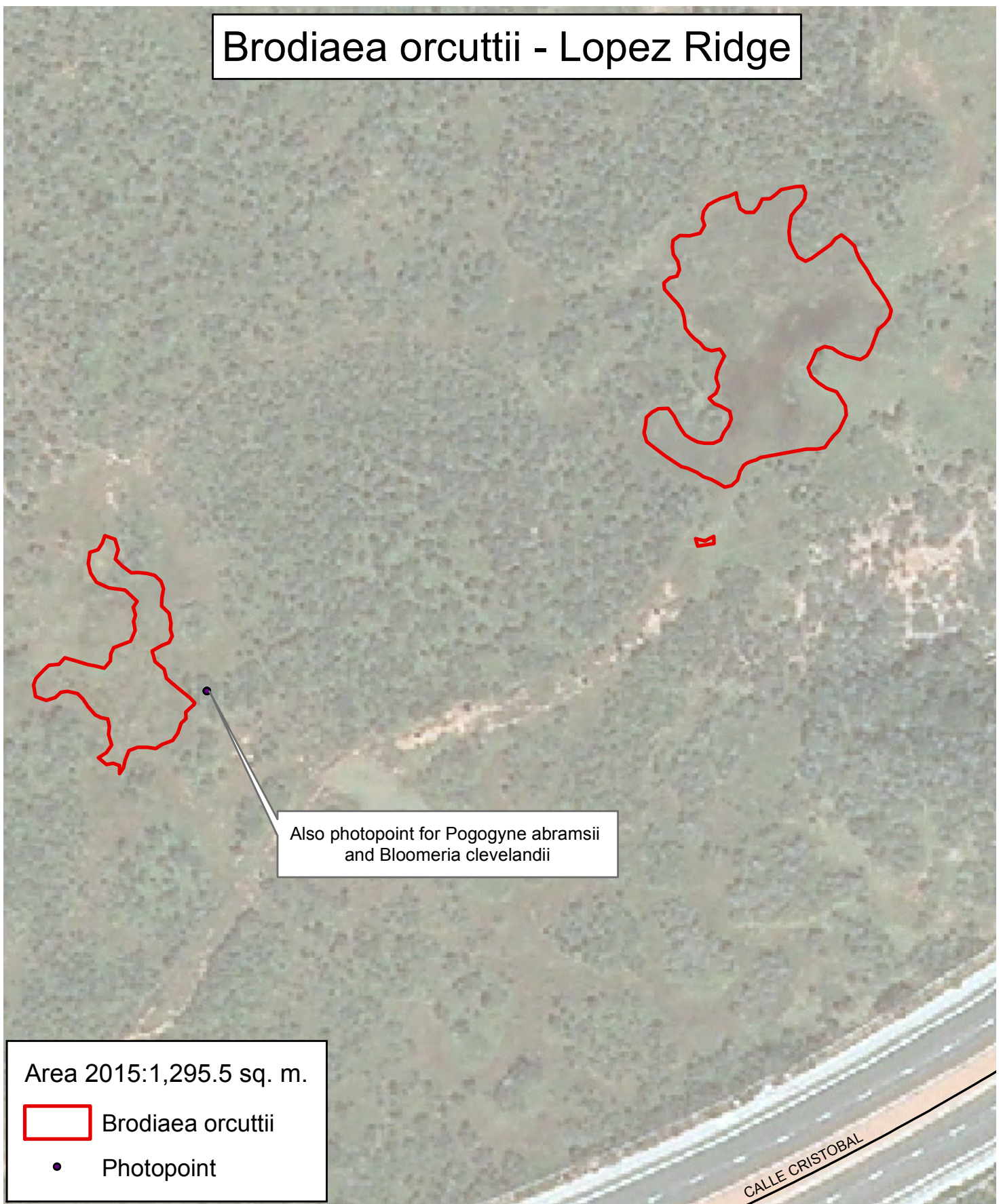
NOTES

***Brodiaea orcuttii* (Orcutt's Brodiaea) Lopez Ridge**



Panorama from Eastern edge of population, facing Southwest, West, Northwest.
Panorama location is 6278246.403 1915522.734 NAD83 State Plane California Zone 6 (feet)
Photos merged using ArcSoft Panorama Maker 4.

Brodiaea orcuttii - Lopez Ridge



Area 2015: 1,295.5 sq. m.

Brodiaea orcuttii

• Photopoint

Pop. Area 2003 - 2015
Max Area: 1,295.5 sq. m.
Min Area: 25 sq. m.

0 5 10 20
Meters

Source: San GIS & City of San Diego Park & Rec
Created by: Kim Roeland 2015



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MSP - Rare Plant Occurrence Monitoring Form 2015										Page 1
Scientific Name:	Brodiaea orcuttii				Common Name:	Orcutt's brodiaea				
Existing MSP Occurrence?				yes	MSP Occurr. ID:	BROR_4OACR012				
CNDDB Elem. Occur. #:				N/A	Translocated?	no				
Preserve:	Mission Trails Regional Park						Mgmt Unit	MU4		
Land Owner:	City of San Diego				Land Mangr:	City of San Diego Park and Recreation Department				
Occurrence Name:	Mission Trails Regional Park - Oak Creek						Sample Point #:	1		
Surveyors:	Kim Roeland, Betsy Miller						Affiliation	City of San Diego		
Date:	4/23/2015		Time Start:	11:45		Time Finish:	13:20			
I. OCCURRENCE STATUS - Assess # plants in both species-specific sampling area (typically 10-m radius circle) & in current mapped extent . See p. 4 for definitions of categories describing phenology & evidence of herbivory, disease & stunted growth within the sampling area. Record any notes on p. 3.										
# Plants/Current Mapped Extent:	19		exact count or estimate?	exact		uncert.	low			
Area of Current Mapped Extent:		20.5		units	square meters	exact (GPS) or estim?		exact (GPS ma		
Species Found in Maximum Extent?		yes		if not found, known or suspected reason:						
# Plants/Sampling Area	19		exact count or estimate?	exact		uncert.	low			
Sample Area Radius (m)		10								
Phenology In Sampling Area (1-6):		Vegetative		1 (0%)		Flowering	6 (≥75%)		Fruiting	1 (0%)
		Dead		1 (0%)		Flowering & Fruiting		1 (0%)		
Evidence in Sampling Area (1-6):		Herbivory		1 (0%)		Disease	1 (0%)		Stunted Growth	1 (0%)
Is Sampling Area within Current Mapped Extent?		yes								
II. SAMPLING AREA LOCATION & SITE PHOTOMONITORING										
GPS Accuracy: +/-	<1		accur. units:	meters		Datum:	NAD83			
coord. system	State Plane (ft)									
Coordn's at Center of Plot:	E:				N:					
Camera type:	Pentax Optio W90									
Locat. 1 Coord.--E, N	6316339.88		1888177.768		Direction facing	S, SW, W		Height	1.1 m	
Camera angle	level		Photo #	303-307		File location	S:MSCP			
III. ASSOCIATED SPECIES If need more room, record additional data and any notes on page 3.										
species/substrate	% Cover	Collection #, or NC if collected	not collected	species/substrate	% Cover	Collect.# or NC if not collected				
Brodiaea orcuttii				Mimulus guttatus						
Malosma laurina				Spergula arvensis						
Salvia mellifera				Cryptantha intermedia						
Baccharis salicifolia				Carduus pycnocephalus						
Salix laevigata				Digitaria sanguinalis						
Ambrosia psilostachya				Logfia gallica						
Distichlis spicata				Eleocharis sp.						
Dichelostemma capitatum				Artemisia palmeri						
Brachypodium distachyon				Ceanothus tomentosus						
Erodium botrys				Eriogonum fasciculatum						
Bothriochloa barbinodis				Calystegia macrostegia						
Muhlenbergia rigens				Deinandra fasciculata						
Festuca perennis				Eschscholzia californica			pics 317-321			
Hypochaeris glabra				Stephanomeria sp.						
Centaurea melitensis				Trifolium hirtum						
Bromus madritensis				Briza minor						
Bromus diandrus				Crassula connata						
Avena barbata				Lepidium sp.						
Medicago polymorpha				Hedypnois cretica			pics 322-324			
Cyperus eragrostis				Vicia villosa						
Acmispon americanus var. americanus				bare ground						
Juncus bufonius				rock						
Antirrhinum nuttallianum				litter						
COVER: Total % Cover:		%Herb:		%Shrub:		%Tree:	178			

IV. HABITAT ASSESSMENT IN SAMPLING AREA - Assess habitat covariates within **species-specific sampling area** (typically 10-m radius circle). Vegetation alliance/association can be assigned using San Diego vegetation key (AECOM 2012) in the office or field, using "Associated Species" data from page 1. See page 4 for definitions of habitat assessment categories.

SANDAG 2012 Vegetation Alliance/Association:	Ephemeral stream		
Cover classes (1-6)	Cryptogamic Crust Cover:	1 (0%)	Thatch Cover
	Thatch Depth Average (cm)	0	Thatch Depth max (cm)
Dead Standing Biomass	no		Average height (cm)
If yes, cover/species class			0
Mammal Species Activity (categ. 1-4)			
Feral pig activity	1 = No feral pig activity (rooting, wallowing, vegetation destruction, tracks, scat, pig) detected.		
ground squirr. activity	1 = No ground squirrel burrows detected.		
gopher activity	1 = No pocket gopher mounds detected.		
Sampling area representative of mapped occurrence?	yes	(If no, note differences on page 3)	

VI. THREATS ASSESSMENT IN MAXIMUM EXTENT - Assess threats within the **occurrence's maximum extent** (cumulative extent over years of monitoring) **plus 10-m surrounding buffer**. See page 4 for definitions of threat assessment categories. Record notes on page 3. See Argentine Ant Protocol (USGS 2015) for setting up bait, etc.

Surrounding Land Use/Activity at, or Adjacent to, Site	open space		
Argentine ant abundance at bait station (1-4)			
Time start		Temp start	
Ant sample collected?		Ant sample #	Ant Station Photo #
DISTURBANCES (Rank each as 1-6):			
Non-native forbs		feral pig activity	1 = No sign of disturbance
Non-native grasses		trampling	1 = No sign of disturbance
Non-native woody pl.		vandalism	1 = No sign of disturbance
competitive native pl.	1 = No sign of disturbance	current grazing	1 = No sign of disturbance
dumping/trash	1 = No sign of disturbance	historic grazing	1 = No sign of disturbance
encampments	1 = No sign of disturbance	historic agriculture	1 = No sign of disturbance
altered hydrology	1 = No sign of disturbance	erosion	1 = No sign of disturbance
urban runoff	1 = No sign of disturbance	slope movement	1 = No sign of disturbance
soil compaction	1 = No sign of disturbance		
fuel modification zone/fire break	1 = No sign of disturbance		
road construction/maintenance	1 = No sign of disturbance	if present, describe:	
illegal vegetation clearing	1 = No sign of disturbance	if present, describe:	
brush management/restoration	1 = No sign of disturbance within maximum extent or in adjacent 10 m buffer.		
ORV activity	1 = No sign of disturbance	if present, describe:	
Evidence of recent fire	7 = Disturbance occurs ≥75% of area within		
If sign of recent fire, year burned?	2003		
Trails	2 = Disturbance does not occur within maximum extent	If trails are present, are they authorized?	yes
Type of trail use	hiking	yes	biking
	no	other	no
service vehicles	no		
illegal trail use?	1 = No sign of disturbance	describe:	
Other disturbance?	1 = No sign of disturbance	describe:	

MSP-Management Needs and Notes 2015

(top 2 rows auto-fill from page 1)

Scientific Name: Brodiaea orcuttii

MSP Occur ID. BROR_4OACR012

Date: 4/23/2015

VI. MANAGEMENT RECOMMENDATIONS

None.

VII. MANAGEMENT ACTIONS IN LAST YEAR

None.

VIII. CNDDDB SPECIES DETECTED (list any plant or animal species to add to the CNDDDB)

NOTES

% cover not collected in 2015.

***Brodiaea orcuttii* (Orcutt's Brodiaea)**
Mission Trails Regional Park- Oak Creek



Panorama from Southern end of population, facing South, Southwest, West.
Panorama location is 6316339.88 1888177.768 NAD83 State Plane California Zone 6 (feet)
Photos merged using ArcSoft Panorama Maker 4.

Brodiaea orcuttii - Mission Trails Regional Park - Oak Creek



Area 2015: 20.5 sq. m.

 Brodiaea orcuttii

 Photopoint

Pop. Area 2015
Max Area: N/A
Min Area: N/A

0 5 10 20
 Meters

Source: San GIS & City of San Diego Park & Rec
Created by: Kim Roeland 2015



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MSP - Rare Plant Occurrence Monitoring Form 2015										Page 1	
Scientific Name:		Brodiaea orcuttii			Common Name:		Orcutt's brodiaea				
Existing MSP Occurrence?		yes			MSP Occurr. ID:		BROR_2NOBD002				
CNDDB Elem. Occur. #:		EO36			Translocated?		no				
Preserve:		Rose Canyon Open Space					Mgmt Unit MU2				
Land Owner:		City of San Diego			Land Mangr:		City of San Diego Park and Recreation Department				
Occurrence Name:		Nobel Drive					Sample Point #:		1		
Surveyors:		Betsy Miller, Kim Roeland					Affiliation		City of San Diego		
Date:		4/17/2015		Time Start:		10:50		Time Finish: 11:23			
I. OCCURRENCE STATUS - Assess # plants in both species-specific sampling area (typically 10-m radius circle) & in current mapped extent . See p. 4 for definitions of categories describing phenology & evidence of herbivory, disease & stunted growth within the sampling area. Record any notes on p. 3.											
# Plants/Current Mapped Extent:		0		exact count or estimate?		exact		uncert. medium			
Area of Current Mapped Extent:		0		units		square meters		exact (GPS) or estim? exact (GPS ma			
Species Found in Maximum Extent?		no		if not found, known or suspected reason: see notes							
# Plants/Sampling Area:		0		exact count or estimate?		exact		uncert. medium			
Sample Area Radius (m)		10									
Phenology In Sampling Area (1-6):		Vegetative 1 (0%)		Flowering 1 (0%)		Fruiting 1 (0%)					
		Dead 1 (0%)		Flowering & Fruiting 1 (0%)							
Evidence in Sampling Area (1-6):		Herbivory 1 (0%)		Disease 1 (0%)		Stunted Growth 1 (0%)					
Is Sampling Area within Current Mapped Extent?		yes									
Collection (if not collected previously)?		no									
If yes:		Collector		Collection #							
		Museum/Herbarium									
II. SAMPLING AREA LOCATION & SITE PHOTOMONITORING											
GPS Accuracy: +/- <1		accur. units: meters		Datum: NAD83							
coord. system		State Plane (ft)									
Coord'n's at Center of Plot: E:				N:							
Camera type:		Pentax Optio W90									
Locat. 1 Coord.--E, N		6271105.37		1896318.834		Direction facing NW, W, SW, S		Height 1.1 m			
		Camera angle 20° down		Photo # 226-230		File location S:WSCP					
Locat. 2 Coord.-- E,N						Direction facing		Height			
		Camera angle		Photo # 221-225		File location					
III. ASSOCIATED SPECIES If need more room, record additional data and any notes on page 3.											
species/substrate		% Cover		Collection #, or NC if collected		species/substrate		% Cover		Collect.# or NC if not collected	
Navarretia fossalis		1				Gastridium phleoides		1			
Eriogonum fasciculatum		5				Festuca myuros		2			
Deinandra fasciculata		10				Bromus hordeaceus		1			
Psilocarphus brevissimus		5				Sanicula arguta		1			
Croton setigerus		2									
Lythrum hyssopifolia		2									
Crassula connata		3									
Deschampsia danthonoides		2									
Holocarpha virgata elongata		2									
Castilleja exerta		1 (dead)									
Logfia gallica		1									
Erodium botrys		1									
Stipa pulchra		2				bare ground		35			
Bromus madritensis		5				rock		1			
Avena sp.		10				litter		0			
COVER: Total % Cover:		58		%Herb: 53		%Shrub: 5		%Tree: 0			

IV. HABITAT ASSESSMENT IN SAMPLING AREA - Assess habitat covariates within **species-specific sampling area** (typically 10-m radius circle). Vegetation alliance/association can be assigned using San Diego vegetation key (AECOM 2012) in the office or field, using "Associated Species" data from page 1. See page 4 for definitions of habitat assessment categories.

SANDAG 2012 Vegetation Alliance/Association:	vernal pool			
Cover classes (1-6)	Cryptogamic Crust Cover:	1 (0%)	Thatch Cover*	1 (0%)
	Thatch Depth Average (cm)		Thatch Depth max (cm)	
Dead Standing Biomass	yes			
If yes, cover/species class	Eriogonum fasciculatum/2		Average height (cm)	30
Mammal Species Activity (categ. 1-4)				
Feral pig activity	1 = No feral pig activity (rooting, wallowing, vegetation destruction, tracks, scat, pig) detected.			
ground squirr. activity	1 = No ground squirrel burrows detected.			
gopher activity	1 = No pocket gopher mounds detected.			
Sampling area representative of mapped occurrence?	yes	(If no, note differences on page 3)		

VI. THREATS ASSESSMENT IN MAXIMUM EXTENT - Assess threats within the **occurrence's maximum extent** (cumulative extent over years of monitoring) **plus 10-m surrounding buffer**. See page 4 for definitions of threat assessment categories. Record notes on page 3. See Argentine Ant Protocol (USGS 2015) for setting up bait, etc.

Surrounding Land Use/Activity at, or Adjacent to, Site	open space				
Argentine ant abundance at bait station (1-4)					
Time start		Temp start		Time end	Temp end
Ant sample collected?		Ant sample #		Ant Station Photo #	
DISTURBANCES (Rank each as 1-6):					
Non-native forbs	3 = Disturbance	feral pig activity	1 = No sign of disturbance	altered hydrology	1 = No sign of disturbance
Non-native grasses	3 = Disturbance	trampling	1 = No sign of disturbance	erosion	1 = No sign of disturbance
Non-native woody pl.	1 = No sign of disturbance	vandalism	1 = No sign of disturbance	urban runoff	1 = No sign of disturbance
competitive native pl.	1 = No sign of disturbance	current grazing	1 = No sign of disturbance	slope movement	1 = No sign of disturbance
dumping/trash	1 = No sign of disturbance	historic grazing	1 = No sign of disturbance	soil compaction	1 = No sign of disturbance
encampments	1 = No sign of disturbance	historic agriculture	1 = No sign of disturbance		
fuel modification zone/fire break	1 = No sign of disturbance				
road construction/maintenance	1 = No sign of disturbance	if present, describe:			
illegal vegetation clearing	1 = No sign of disturbance	if present, describe:			
brush management/restoration	1 = No sign of disturbance within maximum extent or in adjacent 10 m buffer.				
ORV activity	1 = No sign of disturbance	if present, describe:			
Evidence of recent fire	1 = No sign of disturbance within maximum extent				
If sign of recent fire, year burned?					
Trails	1 = No sign of disturbance within maximum extent		If trails are present, are they authorized?		
Type of trail use	hiking		biking		equestrian
					dog
service vehicles			other		
illegal trail use?	1 = No sign of disturbance	describe:			
Other disturbance?	1 = No sign of disturbance	describe:			

MSP-Management Needs and Notes 2015

(top 2 rows auto-fill from page 1)

Scientific Name:

MSP Occur ID.

Date:

VI. MANAGEMENT RECOMMENDATIONS

Continue current management by Caltrans

VII. MANAGEMENT ACTIONS IN LAST YEAR

Weeding by Caltrans

VIII. CNDDDB SPECIES DETECTED (list any plant or animal species to add to the CNDDDB)

NOTES

One plant detected in vegetative form, will need to return to verify the species. Individuals were mapped. Returned to verify on 5/27/15 and no plants were seen.

*Active management of vernal pools extends to 5-m buffer around vernal pool fenced area; some of the sampling area extends out of the buffer but the form has been filled out focusing on the actively managed area.

***Brodiaea orcuttii* (Orcutt's Brodiaea) Nobel Drive**



Panorama from Northern end of population, facing Northwest, West, Southwest, and South.
Panorama location is 6271105.37 1896318.834 NAD83 State Plane California Zone 6 (feet)
Photos merged using ArcSoft Panorama Maker 4.

Brodiaea orcuttii - Nobel Drive



Mapped individuals in vegetative state - species not confirmed

Area 2015: 3.02 sq. m.



Photopoint



Brodiaea orcuttii

Pop. Area 2003 - 2015
Max Area: 22.28 sq. m.
Min Area: 0 sq. m.

0 10 20 Meters

Source: San GIS & City of San Diego Park & Rec
Created by: Annabelle Bernabe, 2015



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Chloropyron maritimum ssp.
maritimum
Salt-marsh Bird's Beak



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MSP - Rare Plant Occurrence Monitoring Form 2015										Page 1
Scientific Name:		Chloropyron maritimum ssp. maritimum			Common Name:		Salt marsh bird's-beak			
Existing MSP Occurrence?		yes			MSP Occurr. ID:		COMAM3_1DOBE007			
CNDDB Elem. Occur. #:		n/a			Translocated?		no			
Preserve:		Flood Control Channel Southern Wildlife Preserve					Mgmt Unit MU1			
Land Owner:		City of San Diego			Land Manger:		City of San Diego Park and Recreation Department			
Occurrence Name:		Dog Beach					Sample Point #:		1	
Surveyors:		Betsy Miller, Kim Roeland					Affiliation		City of San Diego	
Date:		5/22/2015		Time Start:		11:05		Time Finish: 11:30		
I. OCCURRENCE STATUS - Assess # plants in both species-specific sampling area (typically 10-m radius circle) & in current mapped extent . See p. 4 for definitions of categories describing phenology & evidence of herbivory, disease & stunted growth within the sampling area. Record any notes on p. 3.										
# Plants/Current Mapped Extent:		17793		exact count or estimate?		estimate (extrapolate partial ct)		uncert. medium		
Area of Current Mapped Extent:		1977		units		square meters		exact (GPS) or estim? exact (GPS ma		
Species Found in Maximum Extent?		yes		if not found, known or suspected reason:						
# Plants/Sampling Area		2837		exact count or estimate?		exact		uncert. low		
Sample Area Radius (m)		10								
Phenology In Sampling Area (1-6):		Vegetative 1 (0%)		Flowering 6 (≥75%)		Fruiting 2 (>0% to <10%)				
		Dead 1 (0%)		Flowering & Fruiting 1 (0%)						
Evidence in Sampling Area (1-6):		Herbivory 1 (0%)		Disease 1 (0%)		Stunted Growth 1 (0%)				
Is Sampling Area within Current Mapped Extent?		yes								
Collection (if not collected previously)?		no								
If yes:		Collector		Collection #						
		Museum/Herbarium								
II. SAMPLING AREA LOCATION & SITE PHOTOMONITORING										
GPS Accuracy: +/-		<1		accur. units:		meters		Datum: NAD83		
coord. system		State Plane (ft)								
Coord'n's at Center of Plot:		E:		N:						
Camera type:		Pentax Optio W90								
Locat. 1 Coord.--E, N		6254606.503		1856076.178+A1		Direction facing		NE, N, NW		
		Camera angle		0°		Photo #		603-608		
						File location		S:WSCP		
Locat. 2 Coord.--E,N						Direction facing		Height		
		Camera angle				Photo #		File location		
III. ASSOCIATED SPECIES If need more room, record additional data and any notes on page 3.										
species/substrate		% Cover		Collection #, or NC if collected		not collected		species/substrate		
								% Cover		
								Collect.# or NC if not collected		
Chloropyron maritimum		20								
Salicornia pacifica		30								
Frankenia salina		7								
Suaeda esteroa		1								
Jaumea carnosa		1								
Triglochin maritima		5								
Limonium perezii		1								
Limonium ramosissimum		15								
Cuscuta pacifica		1								
Distichlis littoralis		15								
						bare ground		30 Path/Trail		
						rock		0		
						litter		0		
COVER: Total % Cover:		96		%Herb:		96		%Shrub: 0		
								%Tree: 0		

IV. HABITAT ASSESSMENT IN SAMPLING AREA - Assess habitat covariates within **species-specific sampling area** (typically 10-m radius circle). Vegetation alliance/association can be assigned using San Diego vegetation key (AECOM 2012) in the office or field, using "Associated Species" data from page 1. See page 4 for definitions of habitat assessment categories.

SANDAG 2012 Vegetation Alliance/Association: Sarcocornia pacifica (Salicornia depressa) Alliance, Sarcocornia pacifica-Frankenia salina Association

Cover classes (1-6)

Cryptogamic Crust Cover: 1 (0%)

Thatch Cover 1 (0%)

Thatch Depth Average (cm)

Thatch Depth max (cm)

Dead Standing Biomass

no

If yes, cover/species class

Average height (cm)

Mammal Species Activity (categ. 1-4)

Feral pig activity 1 = No feral pig activity (rooting, wallowing, vegetation destruction, tracks, scat, pig) detected.

ground squirr. activity 1 = No ground squirrel burrows detected.

gopher activity 1 = No pocket gopher mounds detected.

Sampling area representative of mapped occurrence? yes (If no, note differences on page 3)

VI. THREATS ASSESSMENT IN MAXIMUM EXTENT - Assess threats within the **occurrence's maximum extent** (cumulative extent over years of monitoring) **plus 10-m surrounding buffer**. See page 4 for definitions of threat assessment categories. Record notes on page 3. See Argentine Ant Protocol (USGS 2015) for setting up bait, etc.

Surrounding Land Use/Activity at, or Adjacent to, Site Flood control channel, open water, beach/dunes

Argentine ant abundance at bait station (1-4)

Time start

Temp start

Time end

Temp end

Ant sample collected?

Ant sample #

Ant Station Photo #

DISTURBANCES (Rank each as 1-6):

Non-native forbs 4 = Disturbance

feral pig activity 1 = No sign of

altered hydrology 7 = Disturbance occurs

Non-native grasses 1 = No sign of

trampling 1 = No sign of

erosion 1 = No sign of disturbance

Non-native woody pl. 1 = No sign of

vandalism 1 = No sign of

urban runoff 1 = No sign of disturbance

competitive native pl. 1 = No sign of

current grazing 1 = No sign of

slope movement 1 = No sign of disturbance

dumping/trash 1 = No sign of

historic grazing 1 = No sign of

soil compaction 1 = No sign of disturbance

encampments 1 = No sign of

historic agriculture 1 = No sign of

fuel modification zone/fire break 1 = No sign of

road construction/maintenance 1 = No sign of

if present, describe:

illegal vegetation clearing 1 = No sign of

if present, describe:

brush management/restoration 1 = No sign of disturbance within maximum extent or in adjacent 10 m buffer.

ORV activity

1 = No sign of

if present, describe:

Evidence of recent fire

1 = No sign of disturbance within maximum

If sign of recent fire, year burned?

Trails

5 = Disturbance occurs in 25% to <50% of area

If trails are present, are they authorized?

yes

Type of trail use

hiking

yes

biking

yes

equestrian

no

dog

yes

service vehicles

no

other

no

illegal trail use?

1 = No sign of

describe:

Other disturbance?

1 = No sign of

describe:

MSP-Management Needs and Notes 2015

(top 2 rows auto-fill from page 1)

Scientific Name: Chloropyron maritimum ssp. maritimu

MSP Occur ID: COMAM3_1DOBE007

Date: 5/22/2015

VI. MANAGEMENT RECOMMENDATIONS

Repair broken fence near population; treat Limonium spp. with best management practices when available

VII. MANAGEMENT ACTIONS IN LAST YEAR

Fencing and signs around population to keep dogs/people on the trail

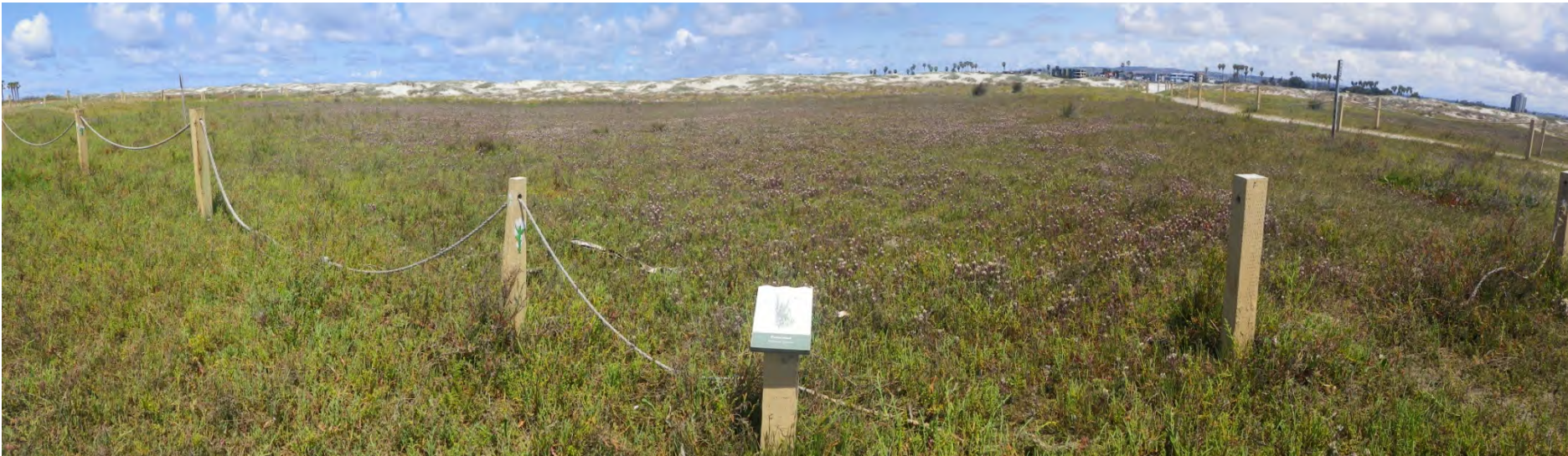
VIII. CNDDDB SPECIES DETECTED (list any plant or animal species to add to the CNDDDB)

Horned larks heard calling

NOTES

Vegetation type appears to have elements of both Sarcocornia pacifica (Salicornia depressa) Alliance, Sarcocornia pacifica-Frankenia salina Association and Sarcocornia pacifica (Salicornia depressa) Alliance, Salicornia bigelovii Provisional Association

Chloropyron maritimum* ssp. *maritimum
(Salt Marsh Bird's Beak)
Dog Beach



Panorama from Eastern end of population, facing Northeast, North, Northwest.
Panorama location is 6254606.503 1856076.178 NAD83 State Plane California Zone 6 (feet)
Photos merged using ArcSoft Panorama Maker 4.

Chloropyron maritimum - Dog Beach




Area 2015: 1,977 sq. m.

 Chloropyron maritimum

• Photopoint

Pop. Area 2014-2015
Max Area: 1,977 sq. m.
Min Area: 223.57 sq. m.

0 5 10 20
 Meters

Source: San GIS & City of San Diego Park & Rec
Created by: Kim Roeland, 2015



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Cylindropuntia californica var. *californica*
Snake Cholla



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MSP - Rare Plant Occurrence Monitoring Form 2015										Page 1
CNDDDB Elem. Occur. #	Cylindropuntia californica var. californica				Common Name:		Snake cholla			
Existing MSP Occurrence?				no		MSP Occur. ID:				
CNDDDB Elem. Occur. #:				n/a		Translocated?		no		
Preserve:	Balboa Park / Switzer Canyon							Mgmt Unit		
Land Owner:	City of San Diego				Land Mangr:	City of San Diego Park and Recreation Department				
Occurrence Name:	Balboa Golf Course							Sample Point #:		1
Surveyors:	Betsy Miller, Kim Roeland, Annabelle Bernabe							Affiliation		City of San Diego
Date:	5/12/2015			Time Start:	12:40		Time Finish:		13:30	
I. OCCURRENCE STATUS - Assess # plants in both species-specific sampling area (typically 10-m radius circle) & in current mapped extent . See p. 4 for definitions of categories describing phenology & evidence of herbivory, disease & stunted growth within the sampling area. Record any notes on p. 3.										
# Plants/Current Mapped Extent:	2		exact count or estimate?		exact		uncert.		very low	
Area of Current Mapped Extent:		81.61		units	square meters		exact (GPS) or estim?		exact (GPS ma	
Species Found in Maximum Extent?		yes		if not found, known or suspected reason:						
# Plants/Sampling Area	1		exact count or estimate?		exact		uncert.		very low	
Sample Area Radius (m)		10								
Phenology In Sampling Area (1-6):		Vegetative 6 (≥75%)		Flowering 1 (0%)		Fruiting 1 (0%)				
		Dead 1 (0%)		Flowering & Fruiting 1 (0%)						
Evidence in Sampling Area (1-6):		Herbivory 1 (0%)		Disease 1 (0%)		Stunted Growth 1 (0%)				
Is Sampling Area within Current Mapped Extent?		yes								
Collection (if not collected previously)?		no								
If yes:		Collector				Collection #				
		Museum/Herbarium								
II. SAMPLING AREA LOCATION & SITE PHOTOMONITORING										
GPS Accuracy: +/-		<1		accur. units:		meters		Datum:		NAD83
coord. system		State Plane (ft)								
Coord'n's at Center of Plot:		E:				N:				
Camera type:		Pentax Optio W90								
Locat. 1 Coord.--E, N		6287974.598		1845159.527		Direction facing		NW, N, NE+A1		Height
		Camera angle		Level		Photo #		74-81		File location
Locat. 2 Coord.--E,N						Direction facing				Height
		Camera angle				Photo #				File location
III. ASSOCIATED SPECIES If need more room, record additional data and any notes on page 3.										
species/substrate	% Cover	Collection #, or NC if collected	not	species/substrate	% Cover	Collect.# or NC if not collected				
Cylindropuntia californica	1			Muhlenbergia microsperma	1					
Yucca schidigera	7			Deinandra fasciculata	2					
Opuntia littoralis	1			Encelia californica	2					
Salvia mellifera	5			Stipa sp.	1					
Artemisia californica	35			Marah macrocarpus	1					
Isocoma menziesii	5			Mimulus aurantiacus	1					
Rhus integrifolia	10									
Malosma laurina	4									
Eriogonum fasciculatum	2									
Ceanothus verrucosus	3									
Adenostoma fasciculatum	5									
Ferocactus viridescens	1			bare ground	20					
Pseudognaphalium stramineum	1			rock	7					
Pseudognaphalium biolettii	1			litter	3					
COVER: Total % Cover:	89	%Herb:	7	%Shrub:	75	%Tree:				

IV. HABITAT ASSESSMENT IN SAMPLING AREA - Assess habitat covariates within **species-specific sampling area** (typically 10-m radius circle). Vegetation alliance/association can be assigned using San Diego vegetation key (AECOM 2012) in the office or field, using "Associated Species" data from page 1. See page 4 for definitions of habitat assessment categories.

SANDAG 2012 Vegetation Alliance/Association:	Adenostoma fasciculatum Alliance, Adenostoma fasciculatum-(Eriogonum fasciculatum I Artemisia californica I Salvia mellifera) Association			
Cover classes (1-6)	Cryptogamic Crust Cover:	1 (0%)	Thatch Cover	1 (0%)
	Thatch Depth Average (cm)		Thatch Depth max (cm)	
Dead Standing Biomass	yes			
If yes, cover/species class	Unknown shrubs (Art cal and Sal Mel?)		Average height (cm)	30
Mammal Species Activity (categ. 1-4)				
Feral pig activity	1 = No feral pig activity (rooting, wallowing, vegetation destruction, tracks, scat, pig) detected.			
ground squirr. activity	1 = No ground squirrel burrows detected.			
gopher activity	1 = No pocket gopher mounds detected.			
Sampling area representative of mapped occurrence?	yes	(If no, note differences on page 3)		

VI. THREATS ASSESSMENT IN MAXIMUM EXTENT - Assess threats within the **occurrence's maximum extent** (cumulative extent over years of monitoring) **plus 10-m surrounding buffer**. See page 4 for definitions of threat assessment categories. Record notes on page 3. See Argentine Ant Protocol (USGS 2015) for setting up bait, etc.

Surrounding Land Use/Activity at, or Adjacent to, Site	Open Space; golf						
Argentine ant abundance at bait station (1-4)	2 = 1-50 Argentine ants detected at bait station.						
Time start	1:00 AM	Temp start	65F	Time end	1:25 AM	Temp end	65F
Ant sample collected?	yes	Ant sample #	4	Ant Station Photo #	82		

DISTURBANCES (Rank each as 1-6):

Non-native forbs	1 = No sign of disturbance	feral pig activity	1 = No sign of disturbance	altered hydrology	1 = No sign of disturbance	
Non-native grasses	1 = No sign of disturbance	trampling	1 = No sign of disturbance	erosion	1 = No sign of disturbance	
Non-native woody pl.	1 = No sign of disturbance	vandalism	1 = No sign of disturbance	urban runoff	1 = No sign of disturbance	
competitive native pl.	1 = No sign of disturbance	current grazing	1 = No sign of disturbance	slope movement	1 = No sign of disturbance	
dumping/trash	1 = No sign of disturbance	historic grazing	1 = No sign of disturbance	soil compaction	1 = No sign of disturbance	
encampments	1 = No sign of disturbance	historic agriculture	1 = No sign of disturbance			
fuel modification zone/fire break	1 = No sign of disturbance					
road construction/maintenance	1 = No sign of disturbance	if present, describe:				
illegal vegetation clearing	1 = No sign of disturbance	if present, describe:				
brush management/restoration	1 = No sign of disturbance within maximum extent or in adjacent 10 m buffer.					
ORV activity	1 = No sign of disturbance	if present, describe:				
Evidence of recent fire	1 = No sign of disturbance within maximum extent					
If sign of recent fire, year burned?						
Trails	1 = No sign of disturbance within maximum extent		If trails are present, are they authorized?			
Type of trail use	hiking		biking		equestrian	dog
service vehicles			other			
illegal trail use?	1 = No sign of disturbance	describe:				
Other disturbance?	1 = No sign of disturbance	describe:				

MSP-Management Needs and Notes 2015

(top 2 rows auto-fill from page 1)

Scientific Name:

MSP Occur ID.

Date:

VI. MANAGEMENT RECOMMENDATIONS

none

VII. MANAGEMENT ACTIONS IN LAST YEAR

none

VIII. CNDDDB SPECIES DETECTED (list any plant or animal species to add to the CNDDDB)

NOTES

Cylindropuntia californica* var. *californica
(Snake Cholla)
Balboa Golf Course



Panorama from Northern edge of population, facing Northwest, North, Northeast.
Panorama location is 6287974.598 1845159.527 NAD83 State Plane California Zone 6 (feet)
Photos merged using ArcSoft Panorama Maker 4.

Cylindropuntia californica - Balboa Golf Course



Area 2015: 81.61 sq. m.

● Photopoint

□ *Cylindropuntia californica*

Pop. Area 2004 - 2015
Max Area: 386.4 sq. m.
Min Area: 20.4 sq. m.

0 10 20
Meters

Source: San GIS & City of San Diego Park & Rec
Created by: Annabelle Bernabe, 2015



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MSP - Rare Plant Occurrence Monitoring Form 2015										Page 1		
CNDDDB Elem. Occur. #	Cylindropuntia californica var. californica				Common Name:		Snake cholla					
Existing MSP Occurrence?				no		MSP Occur. ID:						
CNDDDB Elem. Occur. #:				n/a		Translocated?		no				
Preserve:	Spring Canyon					Mgmt Unit					MU3	
Land Owner:	City of San Diego Public Utilities Department				Land Mangr:	City of San Diego Public Utilities Department						
Occurrence Name:	Otay Mesa					Sample Point #:		1				
Surveyors:	Betsy Miller, Kim Roeland, Annabelle Bernabe					Affiliation		City of San Diego				
Date:	4/21/2015			Time Start:	13:06		Time Finish:	14:10				
I. OCCURRENCE STATUS - Assess # plants in both species-specific sampling area (typically 10-m radius circle) & in current mapped extent . See p. 4 for definitions of categories describing phenology & evidence of herbivory, disease & stunted growth within the sampling area. Record any notes on p. 3.												
# Plants/Current Mapped Extent:	32			exact count or estimate?	exact			uncert.	very low			
Area of Current Mapped Extent:				1205.28		units	square meters	exact (GPS) or estim?			exact (GPS ma	
Species Found in Maximum Extent?				yes		if not found, known or suspected reason:						
# Plants/Sampling Area	0			exact count or estimate?	exact			uncert.	very low			
Sample Area Radius (m)				10								
Phenology In Sampling Area (1-6):				Vegetative		1 (0%)		Flowering	1 (0%)		Fruiting	1 (0%)
				Dead		1 (0%)		Flowering & Fruiting		1 (0%)		
Evidence in Sampling Area (1-6):				Herbivory		1 (0%)		Disease	1 (0%)		Stunted Growth	1 (0%)
Is Sampling Area within Current Mapped Extent?				no								
Collection (if not collected previously)?				no								
If yes:				Collector				Collection #				
				Museum/Herbarium								
II. SAMPLING AREA LOCATION & SITE PHOTOMONITORING												
GPS Accuracy: +/-		<1		accur. units:		meters		Datum:		NAD83		
coord. system		State Plane (ft)										
Coord'n's at Center of Plot:				E:		N:						
Camera type:		Pentax Optio W90										
Locat. 1 Coord.--E, N		6323509.09		1779631.202		Direction facing		E, NE, N		Height	1.1 m	
		Camera angle	Level	Photo #	3281-3294	File location					S:\MSCP	
Locat. 2 Coord.-- E,N						Direction facing				Height		
		Camera angle		Photo #		File location						
III. ASSOCIATED SPECIES If need more room, record additional data and any notes on page 3.												
species/substrate	% Cover	Collection #, or NC if collected	not	species/substrate	% Cover	Collect.# or NC if not collected						
Artemisia californica	7			Bromus diandrus	2							
Simmondsia chinensis	3			Avena sp.	2							
Encelia californica	10			Silene or Antirrhinum	1 (dead)							
Ambrosia chenopodiifolia	3											
Cylindropuntia prolifera	2											
Deinandra fasciculata	1											
Erodium sp.	10 (dead)											
Bromus madritensis	15											
Salsola tragus	3											
Lepidium nitidum	1											
Brassica tournefortii	1											
Cistanthe maritima	1			bare ground	10							
Cryptantha sp.	1 (dead)			rock	2							
Centaurea melitensis	1			litter	1							
COVER: Total % Cover:	64	%Herb:	39	%Shrub:	25	%Tree:	0					

IV. HABITAT ASSESSMENT IN SAMPLING AREA - Assess habitat covariates within **species-specific sampling area** (typically 10-m radius circle). Vegetation alliance/association can be assigned using San Diego vegetation key (AECOM 2012) in the office or field, using "Associated Species" data from page 1. See page 4 for definitions of habitat assessment categories.

SANDAG 2012 Vegetation Alliance/Association: Simmondsia chinensis Alliance, Simmondsia chinensis-Bahiopsis laciniata Association

Cover classes (1-6)

Cryptogamic Crust Cover: 1 (0%)

Thatch Cover 1 (0%)

Thatch Depth Average (cm)

Thatch Depth max (cm)

Dead Standing Biomass

yes

If yes, cover/species class

unknown shrub/2

Average height (cm)

10

Mammal Species Activity (categ. 1-4)

Feral pig activity

1 = No feral pig activity (rooting, wallowing, vegetation destruction, tracks, scat, pig) detected.

ground squirr. activity

1 = No ground squirrel burrows detected.

gopher activity

1 = No pocket gopher mounds detected.

Sampling area representative of mapped occurrence? yes

(If no, note differences on page 3)

VI. THREATS ASSESSMENT IN MAXIMUM EXTENT - Assess threats within the **occurrence's maximum extent** (cumulative extent over years of monitoring) **plus 10-m surrounding buffer**. See page 4 for definitions of threat assessment categories. Record notes on page 3. See Argentine Ant Protocol (USGS 2015) for setting up bait, etc.

Surrounding Land Use/Activity at, or Adjacent to, Site open space

Argentine ant abundance at bait station (1-4)

Time start

Temp start

Time end

Temp end

Ant sample collected?

Ant sample #

Ant Station Photo #

DISTURBANCES (Rank each as 1-6):

Non-native forbs 4 = Disturbance

feral pig activity 1 = No sign of disturbance

altered hydrology 1 = No sign of disturbance

Non-native grasses 4 = Disturbance

trampling 1 = No sign of disturbance

erosion 1 = No sign of disturbance

Non-native woody pl. 1 = No sign of disturbance

vandalism 1 = No sign of disturbance

urban runoff 1 = No sign of disturbance

competitive native pl. 1 = No sign of disturbance

current grazing 1 = No sign of disturbance

slope movement 1 = No sign of disturbance

dumping/trash 1 = No sign of disturbance

historic grazing 7 = Disturbance

soil compaction 1 = No sign of disturbance

encampments 1 = No sign of disturbance

historic agriculture 1 = No sign of disturbance

fuel modification zone/fire break 1 = No sign of disturbance

road construction/maintenance 1 = No sign of disturbance

if present, describe:

illegal vegetation clearing 1 = No sign of disturbance

if present, describe:

brush management/restoration

1 = No sign of disturbance within maximum extent or in adjacent 10 m buffer.

ORV activity

1 = No sign of disturbance

if present, describe:

Evidence of recent fire

1 = No sign of disturbance within maximum extent

If sign of recent fire, year burned?

Trails

2 = Disturbance does not occur within maximum extent

If trails are present, are they authorized?

yes

Type of trail use

hiking

no

biking

no

equestrian

no

dog

no

service vehicles

yes

other

no

illegal trail use?

1 = No sign of disturbance

describe:

Other disturbance?

1 = No sign of disturbance

describe:

MSP-Management Needs and Notes 2015

(top 2 rows auto-fill from page 1)

Scientific Name:

MSP Occur ID.

Date:

VI. MANAGEMENT RECOMMENDATIONS

Continue to control access at entrance with locked gate

VII. MANAGEMENT ACTIONS IN LAST YEAR

Access controlled at entrance with locked gate

VIII. CNDDB SPECIES DETECTED (list any plant or animal species to add to the CNDDB)

Orange-throated whiptail - CNDDB point taken; Cistanthe maritima found all over in bloom

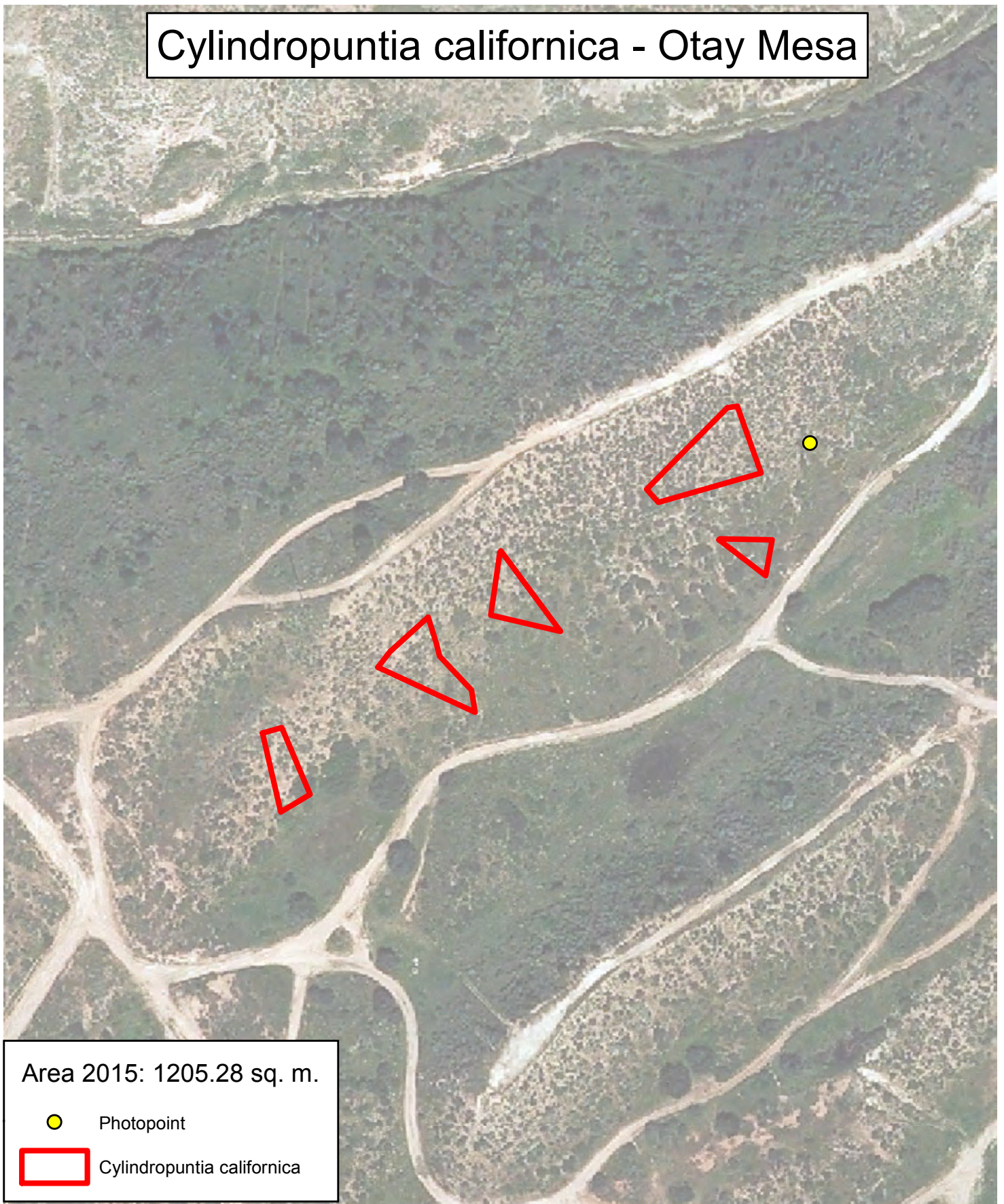
NOTES

Cylindropuntia californica* var. *californica
(Snake Cholla)
Otay Mesa



Panorama from Northern edge of population, facing East, Northeast, North.
Panorama location is 6323509.09 1779631.20 NAD83 State Plane California Zone 6 (feet)
Photos merged using ArcSoft Panorama Maker 4.

Cylindropuntia californica - Otay Mesa



Area 2015: 1205.28 sq. m.

● Photopoint

□ Cylindropuntia californica

Pop. Area 2002 - 2015
Max Area: 6547.26 sq. m.
Min Area: 460.3 sq. m.

0 25 50
Meters

Source: San GIS & City of San Diego Park & Rec
Created by: Annabelle Bernabe, 2015



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MSP - Rare Plant Occurrence Monitoring Form 2015										Page 1	
Scientific Name:		Cylindropuntia californica var. californica				Common Name:		Snake cholla			
Existing MSP Occurrence?		no				MSP Occurr. ID:					
CNDDB Elem. Occur. #:		n/a				Translocated?		no			
Preserve:		Spring Canyon				Mgmt Unit		MU3			
Land Owner:		City of San Diego				Land Manager:		City of San Diego Public Utilities Department			
Occurrence Name:		Goat Mesa/Spring Canyon				Sample Point #:		1			
Surveyors:		Betsy Miller, Kim Roeland, Annabelle Bernabe				Affiliation		City of San Diego			
Date:		4/21/2015		Time Start:		11:35		Time Finish:		12:25	
I. OCCURRENCE STATUS - Assess # plants in both species-specific sampling area (typically 10-m radius circle) & in current mapped extent . See p. 4 for definitions of categories describing phenology & evidence of herbivory, disease & stunted growth within the sampling area. Record any notes on p. 3.											
# Plants/Current Mapped Extent:		57		exact count or estimate?		exact		uncert.		very low	
Area of Current Mapped Extent:		2030.74		units		square meters		exact (GPS) or estim?		exact (GPS ma	
Species Found in Maximum Extent?		yes		if not found, known or suspected reason:							
# Plants/Sampling Area		0		exact count or estimate?		exact		uncert.		very low	
Sample Area Radius (m)		10									
Phenology In Sampling Area (1-6):		Vegetative		1 (0%)		Flowering		1 (0%)		Fruiting	
		Dead		1 (0%)		Flowering & Fruiting		1 (0%)			
Evidence in Sampling Area (1-6):		Herbivory		1 (0%)		Disease		1 (0%)		Stunted Growth	
										1 (0%)	
Is Sampling Area within Current Mapped Extent?		no									
Collection (if not collected previously)?		no									
If yes:		Collector				Collection #					
		Museum/Herbarium									
II. SAMPLING AREA LOCATION & SITE PHOTOMONITORING											
GPS Accuracy: +/-		<1		accur. units:		meters		Datum:		NAD83	
coord. system		State Plane (ft)									
Coord'n's at Center of Plot:		E:				N:					
Camera type:		Pentax Optio W90									
Locat. 1 Coord.--E, N		6330060.051		1781287.695		Direction facing		N, NE, E, SE		Height	
		Camera angle		5° up		Photo #		3257-3267		File location	
Locat. 2 Coord.--E,N						Direction facing				Height	
		Camera angle				Photo #				File location	
III. ASSOCIATED SPECIES If need more room, record additional data and any notes on page 3.											
species/substrate		% Cover		Collection #, or NC if collected		not collected		species/substrate		% Cover	
										Collect.# or NC if not collected	
Simmondsia chinensis		10				Avena sp.				1	
Ambrosia chenopodiifolia		5				Bromus hordeaceus				1	
Artemisia californica		3				Plantago erecta				5 (dead)	
Atriplex pacifica		1				Lepidium nitidum				3 (dead)	
Deinandra fasciculata		7				Stipa pulchra				1	
Selaginella cinerascens		5 (dead)				Festuca sp.				1 (dead)	
Salsola tragus		3				Encelia californica				1	
Logfia gallica		3									
Erodium sp.		10 (dead)									
Crassula connata		5 (dead)									
Centaurea melitensis		2									
Brassica nigra		1				bare ground				30	
Bromus madritensis		3				rock				1	
Bromus diandrus		1				litter				2	
COVER: Total % Cover:		72		%Herb:		53		%Shrub:		19	
								%Tree:		0	

IV. HABITAT ASSESSMENT IN SAMPLING AREA - Assess habitat covariates within **species-specific sampling area** (typically 10-m radius circle). Vegetation alliance/association can be assigned using San Diego vegetation key (AECOM 2012) in the office or field, using "Associated Species" data from page 1. See page 4 for definitions of habitat assessment categories.

SANDAG 2012 Vegetation Alliance/Association: Simmondsia chinensis Alliance, Simmondsia chinensis-Bahiopsis lacinata Association

Cover classes (1-6)

Cryptogamic Crust Cover: 2 (>0% to <1

Thatch Cover 1 (0%)

Thatch Depth Average (cm)

Thatch Depth max (cm)

Dead Standing Biomass

yes

If yes, cover/species class

Stipa pulchra/2

Average height (cm)

5

Mammal Species Activity (categ. 1-4)

Feral pig activity 1 = No feral pig activity (rooting, wallowing, vegetation destruction, tracks, scat, pig) detected.

ground squirr. activity 2 = Burrows and/or ground squirrels observed adjacent to sampling area but not within sampling area

gopher activity 1 = No pocket gopher mounds detected.

Sampling area representative of mapped occurrence? yes (If no, note differences on page 3)

VI. THREATS ASSESSMENT IN MAXIMUM EXTENT - Assess threats within the **occurrence's maximum extent** (cumulative extent over years of monitoring) **plus 10-m surrounding buffer**. See page 4 for definitions of threat assessment categories. Record notes on page 3. See Argentine Ant Protocol (USGS 2015) for setting up bait, etc.

Surrounding Land Use/Activity at, or Adjacent to, Site open space

Argentine ant abundance at bait station (1-4)

Time start

Temp start

Time end

Temp end

Ant sample collected?

Ant sample #

Ant Station Photo #

DISTURBANCES (Rank each as 1-6):

Non-native forbs 4 = Disturbance

feral pig activity 1 = No sign of disturbance

altered hydrology 1 = No sign of disturbance

Non-native grasses 3 = Disturbance

trampling 1 = No sign of disturbance

erosion 1 = No sign of disturbance

Non-native woody pl. 1 = No sign of disturbance

vandalism 1 = No sign of disturbance

urban runoff 1 = No sign of disturbance

competitive native pl. 1 = No sign of disturbance

current grazing 1 = No sign of disturbance

slope movement 1 = No sign of disturbance

dumping/trash 1 = No sign of disturbance

historic grazing 7 = Disturbance

soil compaction 1 = No sign of disturbance

encampments 1 = No sign of disturbance

historic agriculture 1 = No sign of disturbance

fuel modification zone/fire break 1 = No sign of disturbance

road construction/maintenance 1 = No sign of disturbance

if present, describe:

illegal vegetation clearing 1 = No sign of disturbance

if present, describe:

brush management/restoration 1 = No sign of disturbance within maximum extent or in adjacent 10 m buffer.

ORV activity

1 = No sign of disturbance

if present, describe:

Evidence of recent fire

1 = No sign of disturbance within maximum extent

If sign of recent fire, year burned?

Trails

2 = Disturbance does not occur within maximum extent

If trails are present, are they authorized?

yes

Type of trail use

hiking

no

biking

no

equestrian

no

dog

no

service vehicles

yes

other

no

illegal trail use?

1 = No sign of disturbance

describe:

Other disturbance?

1 = No sign of disturbance

describe:

MSP-Management Needs and Notes 2015

(top 2 rows auto-fill from page 1)

Scientific Name: Clyindropuntia californica var. californica

MSP Occur ID. 0

Date: 4/21/2015

VI. MANAGEMENT RECOMMENDATIONS

maintain access control with fencing and locked gate

VII. MANAGEMENT ACTIONS IN LAST YEAR

fencing installed by PUD along access road

VIII. CNDDDB SPECIES DETECTED (list any plant or animal species to add to the CNDDDB)

BTJR - CNDDDB point taken

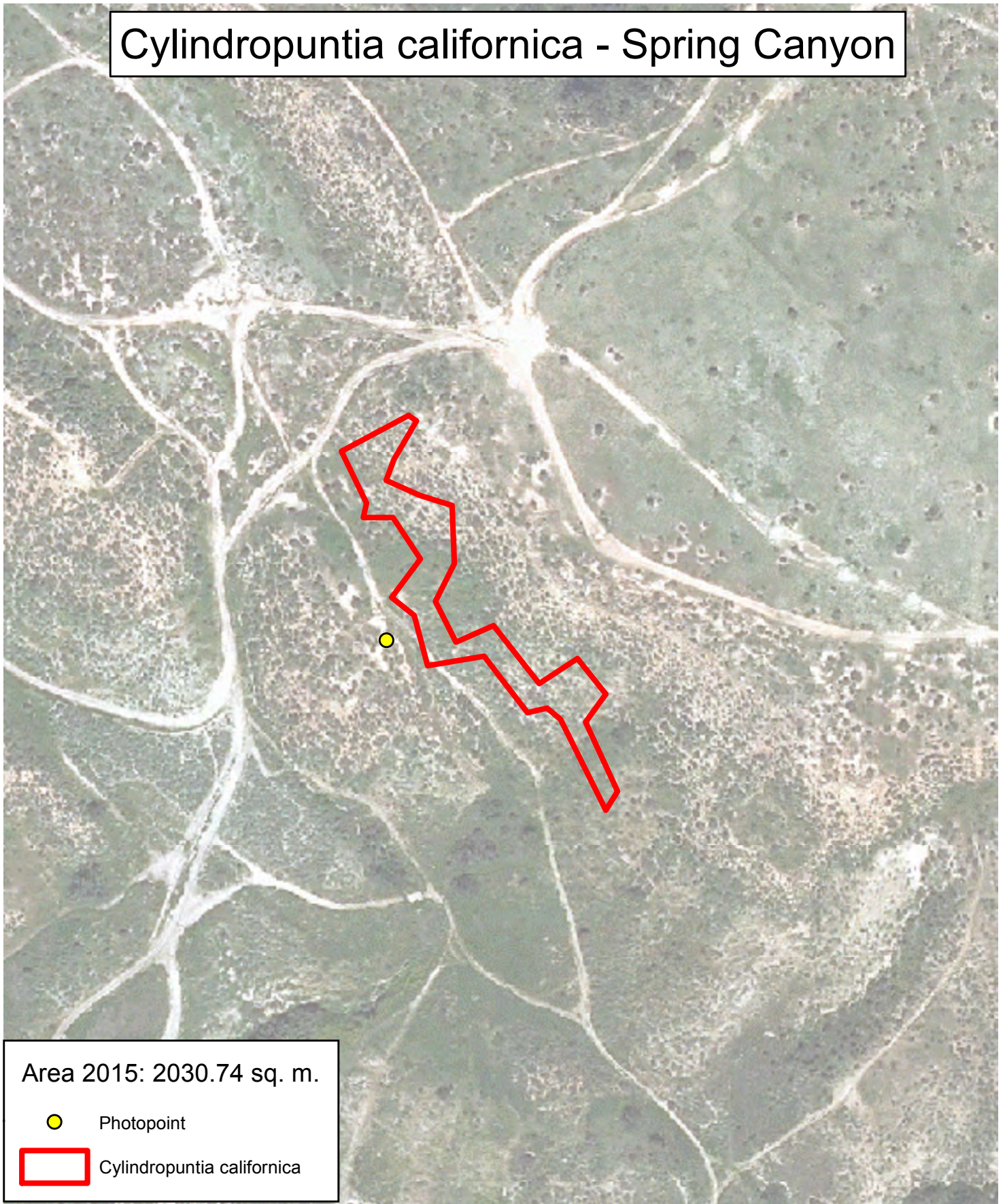
NOTES

Cylindropuntia californica* var. *californica
(Snake Cholla)
Spring Canyon



Panorama from Northeastern edge of population, facing North, Northeast, East, Southeast.
Panorama location is 6330060.051 1781287.695 NAD83 State Plane California Zone 6 (feet)
Photos merged using ArcSoft Panorama Maker 4.

Cylindropuntia californica - Spring Canyon



Area 2015: 2030.74 sq. m.

● Photopoint

□ *Cylindropuntia californica*

Pop. Area 2002 - 2015
Max Area: 3138.6 sq. m.
Min Area: 559.0 sq. m.

0 25 50
Meters

Source: San GIS & City of San Diego Park & Rec
Created by: Annabelle Bernabe, 2015



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Deinandra conjugens
Otay Tarplant



© City of San Diego, 2015

MSP - Rare Plant Occurrence Monitoring Form 2015										Page 1
Scientific Name:		Deinandra conjugens			Common Name:		Otay tarplant			
Existing MSP Occurrence?		yes			MSP Occurr. ID:		DECO13_3DERA020			
CNDDB Elem. Occur. #:		EO27/29			Translocated?		no			
Preserve:		Dennery Ranch					Mgmt Unit MU3			
Land Owner:		City of San Diego			Land Mangr:		City of San Diego Park and Recreation Department			
Occurrence Name:		Dennery Ranch					Sample Point #:		1	
Surveyors:		Betsy Miller, Kim Roeland, Annabelle Bernabe					Affiliation		City of San Diego	
Date:		4/7/2015		Time Start:		14:15		Time Finish: 14:55		
I. OCCURRENCE STATUS - Assess # plants in both species-specific sampling area (typically 10-m radius circle) & in current mapped extent . See p. 4 for definitions of categories describing phenology & evidence of herbivory, disease & stunted growth within the sampling area. Record any notes on p. 3.										
# Plants/Current Mapped Extent:		5		exact count or estimate?		exact		uncert. very high		
Area of Current Mapped Extent:		70.8		units		square meters		exact (GPS) or estim? exact (GPS ma		
Species Found in Maximum Extent?		yes		if not found, known or suspected reason:						
# Plants/Sampling Area		1		exact count or estimate?		exact		uncert. medium		
Sample Area Radius (m)		10								
Phenology In Sampling Area (1-6):		Vegetative 1 (0%)		Flowering 6 (≥75%)		Fruiting 1 (0%)				
		Dead 1 (0%)		Flowering & Fruiting 1 (0%)						
Evidence in Sampling Area (1-6):		Herbivory 1 (0%)		Disease 1 (0%)		Stunted Growth 1 (0%)				
Is Sampling Area within Current Mapped Extent?		yes								
Collection (if not collected previously)?		no								
If yes:		Collector		Collection #						
		Museum/Herbarium								
II. SAMPLING AREA LOCATION & SITE PHOTOMONITORING										
GPS Accuracy: +/-		<1		accur. units:		meters		Datum: NAD83		
coord. system		State Plane (ft)								
Coord'n's at Center of Plot:		E:		N:						
Camera type:		Pentax Optio W90								
Locat. 1 Coord.--E, N		6321437.419		1791601.507		Direction facing		S, SE, E		
		Camera angle		5° up		Photo #		3118-3123		
						File location		S:WSCP		
Locat. 2 Coord.--E,N						Direction facing		Height		
		Camera angle				Photo #		File location		
III. ASSOCIATED SPECIES If need more room, record additional data and any notes on page 3.										
species/substrate		% Cover		Collection #, or NC if collected		species/substrate		% Cover		
Deinandra conjugens		0.5				Eriogonum fasciculatum		1		
Bahiopsis lacinata		5				Bromus hordeaceus		1		
Rosa minutifolia		3				Melilotus albus		2		
Artemisia californica		7				Anagallis arvensis		1		
Encelia californica		5				Medicago polymorpha		1		
Deinandra fasciculata		10				Gutierrezia californica		1		
Rhus integrifolia		3								
Simmondsia chinensis		3								
Glebionis coronaria		3								
Centaurea melitensis		2								
Festuca myuros		20								
Bromus madritensis		5				bare ground		1		
Convolvulus simulans		3		dead		rock		3		
Cylindropuntia prolifera		1				litter		7		
COVER: Total % Cover:		77.5		%Herb:		49.5		%Shrub: 28		
								%Tree: 0		

IV. HABITAT ASSESSMENT IN SAMPLING AREA - Assess habitat covariates within **species-specific sampling area** (typically 10-m radius circle). Vegetation alliance/association can be assigned using San Diego vegetation key (AECOM 2012) in the office or field, using "Associated Species" data from page 1. See page 4 for definitions of habitat assessment categories.

SANDAG 2012 Vegetation Alliance/Association:	Simmondsia chinensis Alliance, Simmondsia chinensis-Bahiopsis laciniata Association			
Cover classes (1-6)	Cryptogamic Crust Cover:	1 (0%)	Thatch Cover	1 (0%)
	Thatch Depth Average (cm)		Thatch Depth max (cm)	
Dead Standing Biomass	yes			
If yes, cover/species class	Artemisia/2		Average height (cm)	100
Mammal Species Activity (categ. 1-4)				
Feral pig activity	1 = No feral pig activity (rooting, wallowing, vegetation destruction, tracks, scat, pig) detected.			
ground squirr. activity	1 = No ground squirrel burrows detected.			
gopher activity	1 = No pocket gopher mounds detected.			
Sampling area representative of mapped occurrence?	yes	(If no, note differences on page 3)		

VI. THREATS ASSESSMENT IN MAXIMUM EXTENT - Assess threats within the **occurrence's maximum extent** (cumulative extent over years of monitoring) **plus 10-m surrounding buffer**. See page 4 for definitions of threat assessment categories. Record notes on page 3. See Argentine Ant Protocol (USGS 2015) for setting up bait, etc.

Surrounding Land Use/Activity at, or Adjacent to, Site	open space, residential				
Argentine ant abundance at bait station (1-4)					
Time start		Temp start		Time end	Temp end
Ant sample collected?		Ant sample #		Ant Station Photo #	
DISTURBANCES (Rank each as 1-6):					
Non-native forbs	3 = Disturbance	feral pig activity	1 = No sign of disturbance	altered hydrology	1 = No sign of disturbance
Non-native grasses	5 = Disturbance	trampling	1 = No sign of disturbance	erosion	1 = No sign of disturbance
Non-native woody pl.	1 = No sign of disturbance	vandalism	1 = No sign of disturbance	urban runoff	1 = No sign of disturbance
competitive native pl.	1 = No sign of disturbance	current grazing	1 = No sign of disturbance	slope movement	1 = No sign of disturbance
dumping/trash	3 = Disturbance	historic grazing	1 = No sign of disturbance	soil compaction	1 = No sign of disturbance
encampments	1 = No sign of disturbance	historic agriculture	1 = No sign of disturbance		
fuel modification zone/fire break	1 = No sign of disturbance				
road construction/maintenance	1 = No sign of disturbance	if present, describe:			
illegal vegetation clearing	1 = No sign of disturbance	if present, describe:			
brush management/restoration	6 = Disturbance occurs 50% to < 75% of area within maximum extent.				
ORV activity	1 = No sign of disturbance	if present, describe:			
Evidence of recent fire	1 = No sign of disturbance within maximum extent.				
If sign of recent fire, year burned?					
Trails	1 = No sign of disturbance within maximum extent.		If trails are present, are they authorized?		
Type of trail use	hiking		biking		equestrian
					dog
service vehicles			other		
illegal trail use?	1 = No sign of disturbance	describe:			
Other disturbance?	1 = No sign of disturbance	describe:			

MSP-Management Needs and Notes 2015

(top 2 rows auto-fill from page 1)

Scientific Name:

MSP Occur ID:

Date:

VI. MANAGEMENT RECOMMENDATIONS

continue to maintain fences/gates

VII. MANAGEMENT ACTIONS IN LAST YEAR

VIII. CNDDDB SPECIES DETECTED (list any plant or animal species to add to the CNDDDB)

NOTES

Not all of the Deinandra were in bloom yet; most Deinandra found were D. fasciculata

***Deinandra conjugens* (Otay Tarplant) Dennery Ranch**



Panorama from Southern edge of population, facing South, Southeast, East.
Panorama location is 6321437.419 1791601.507 NAD83 State Plane California Zone 6 (feet)
Photos merged using ArcSoft Panorama Maker 4.

Deinandra conjugens - Dennery Ranch



Pop. Area 2000 - 2015
Max Area: 43623.64 sq. m.
Min Area: 0 sq. m.

0 5 10 20
Meters

Source: San GIS & City of San Diego Park & Rec
Created by: Kim Roeland 2015



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MSP - Rare Plant Occurrence Monitoring Form 2015										Page 1	
Scientific Name:		Deinandra conjugens				Common Name:		Otay tarplant			
Existing MSP Occurrence?		yes				MSP Occurr. ID:		DECO13_3DREA021			
CNDDB Elem. Occur. #:		EO27/29				Translocated?		no			
Preserve:		Dennery Ranch				Mgmt Unit		MU3			
Land Owner:		City of San Diego				Land Mangr:		City of San Diego Park and Recreation Department			
Occurrence Name:		Dennery Ranch East				Sample Point #:		1			
Surveyors:		Betsy Miller, Kim Roeland, Annabelle Bernabe				Affiliation		City of San Diego			
Date:		4/7/2015		Time Start:		10:40		Time Finish:		12:30	
I. OCCURRENCE STATUS - Assess # plants in both species-specific sampling area (typically 10-m radius circle) & in current mapped extent . See p. 4 for definitions of categories describing phenology & evidence of herbivory, disease & stunted growth within the sampling area. Record any notes on p. 3.											
# Plants/Current Mapped Extent:		35000		exact count or estimate?		estimate (extrapolate partial ct)		uncert.		medium	
Area of Current Mapped Extent:		42393		units		square meters		exact (GPS) or estim?		exact (GPS ma	
Species Found in Maximum Extent?		yes		if not found, known or suspected reason:							
# Plants/Sampling Area		4000		exact count or estimate?		estimate (1ks,10ks)		uncert.		medium	
Sample Area Radius (m)		10									
Phenology In Sampling Area (1-6):		Vegetative		1 (0%)		Flowering		6 (≥75%)		Fruiting	
		Dead		1 (0%)		Flowering & Fruiting		1 (0%)			
Evidence in Sampling Area (1-6):		Herbivory		1 (0%)		Disease		1 (0%)		Stunted Growth	
										1 (0%)	
Is Sampling Area within Current Mapped Extent?		yes									
Collection (if not collected previously)?		no									
If yes:		Collector				Collection #					
		Museum/Herbarium									
II. SAMPLING AREA LOCATION & SITE PHOTOMONITORING											
GPS Accuracy: +/-		<1		accur. units:		meters		Datum:		NAD83	
coord. system		State Plane (ft)									
Coord'n's at Center of Plot:		E:				N:					
Camera type:		Pentax Optio W90									
Locat. 1 Coord.--E, N		6323116.396		1792756.721+A1		Direction facing		SW, S, SE		Height	
		Camera angle		5° up		Photo #		3105-3112		File location	
Locat. 2 Coord.--E,N						Direction facing				Height	
		Camera angle				Photo #				File location	
III. ASSOCIATED SPECIES If need more room, record additional data and any notes on page 3.											
species/substrate		% Cover		Collection #, or NC if collected		not collected		species/substrate		% Cover	
Deinandra conjugens		15						Brachypodium distachyon		2	
Simmondsia chinensis		5						Logfia sp.		3 (dead)	
Peritoma arborea		2						Convolvulus simulans		1	
Eriogonum fasciculatum		3						Bloomeria crocea		1	
Brassica nigra		2						Bromus diandrus		1	
Ambrosia chenopodiifolia		1						Plantago sp.		1	
Festuca perennis		5									
Avena sp.		15									
Bromus hordeaceus		2									
Bromus madritensis		2									
Centaurea melitensis		10									
Stipa pulchra		1						bare ground		1	
Hedynois cretica		3						rock		2	
Isocoma menziesii		3						litter		1	
COVER: Total % Cover:		78		%Herb:		65		%Shrub:		13	
								%Tree:		0	

IV. HABITAT ASSESSMENT IN SAMPLING AREA - Assess habitat covariates within **species-specific sampling area** (typically 10-m radius circle). Vegetation alliance/association can be assigned using San Diego vegetation key (AECOM 2012) in the office or field, using "Associated Species" data from page 1. See page 4 for definitions of habitat assessment categories.

SANDAG 2012 Vegetation Alliance/Association: Simmondsia chinensis Alliance, Simmondsia chinensis-Bahiopsis lacinata Association

Cover classes (1-6)

Cryptogamic Crust Cover: 1 (0%)

Thatch Cover 1 (0%)

Thatch Depth Average (cm)

Thatch Depth max (cm)

Dead Standing Biomass

yes

If yes, cover/species class

Brassica/2

Average height (cm)

Mammal Species Activity (categ. 1-4)

Feral pig activity 1 = No feral pig activity (rooting, wallowing, vegetation destruction, tracks, scat, pig) detected.

ground squirr. activity 1 = No ground squirrel burrows detected.

gopher activity 1 = No pocket gopher mounds detected.

Sampling area representative of mapped occurrence? yes (If no, note differences on page 3)

VI. THREATS ASSESSMENT IN MAXIMUM EXTENT - Assess threats within the **occurrence's maximum extent** (cumulative extent over years of monitoring) **plus 10-m surrounding buffer**. See page 4 for definitions of threat assessment categories. Record notes on page 3. See Argentine Ant Protocol (USGS 2015) for setting up bait, etc.

Surrounding Land Use/Activity at, or Adjacent to, Site open space

Argentine ant abundance at bait station (1-4)

1 = No ants detected at bait station or in vicinity.

Time start 10:42 AM

Temp start 65F

Time end 11:31 AM

Temp end 70F

Ant sample collected? no

Ant sample #

Ant Station Photo # 3117

DISTURBANCES (Rank each as 1-6):

Non-native forbs 4 = Disturbance

feral pig activity 1 = No sign of disturbance

altered hydrology 1 = No sign of disturbance

Non-native grasses 5 = Disturbance

trampling 1 = No sign of disturbance

erosion 1 = No sign of disturbance

Non-native woody pl. 1 = No sign of disturbance

vandalism 1 = No sign of disturbance

urban runoff 1 = No sign of disturbance

competitive native pl. 1 = No sign of disturbance

current grazing 1 = No sign of disturbance

slope movement 1 = No sign of disturbance

dumping/trash 1 = No sign of disturbance

historic grazing 7 = Disturbance

soil compaction 1 = No sign of disturbance

encampments 1 = No sign of disturbance

historic agriculture 1 = No sign of disturbance

fuel modification zone/fire break 1 = No sign of disturbance

road construction/maintenance 1 = No sign of disturbance

if present, describe:

illegal vegetation clearing 1 = No sign of disturbance

if present, describe:

brush management/restoration 1 = No sign of disturbance within maximum extent or in adjacent 10 m buffer.

ORV activity

1 = No sign of disturbance

if present, describe:

Evidence of recent fire

1 = No sign of disturbance within maximum extent or in adjacent 10 m buffer.

If sign of recent fire, year burned?

Trails

3 = Disturbance present in >0% to <10% of area

If trails are present, are they authorized?

Type of trail use

hiking

no

biking

no

equestrian

no

dog

no

service vehicles

yes

other

no

illegal trail use?

1 = No sign of disturbance

describe:

Other disturbance?

1 = No sign of disturbance

describe:

MSP-Management Needs and Notes 2015

(top 2 rows auto-fill from page 1)

Scientific Name:

MSP Occur ID:

Date:

VI. MANAGEMENT RECOMMENDATIONS

treat non-native forbs and grasses; restrict access on unauthorized trail

VII. MANAGEMENT ACTIONS IN LAST YEAR

None

VIII. CNDDDB SPECIES DETECTED (list any plant or animal species to add to the CNDDDB)

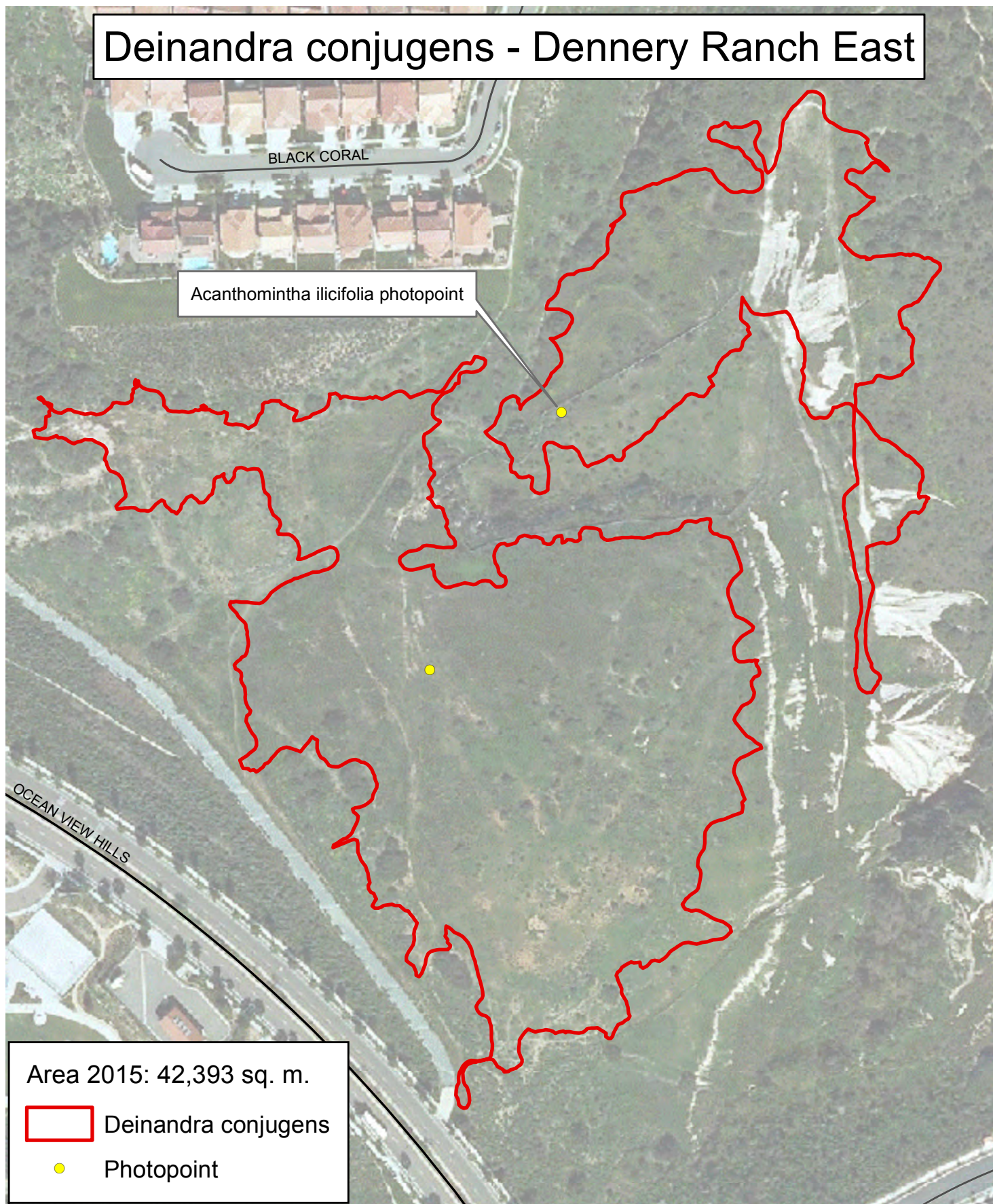
NOTES

***Deinandra conjugens* (Otay Tarplant) Dennery Ranch East**



Panorama from Southern edge of population, facing Southwest, South, Southeast.
Panorama location is 6323116.396 1792756.721 NAD83 State Plane California Zone 6 (feet)
Photos merged using ArcSoft Panorama Maker 4.

Deinandra conjugens - Dennery Ranch East



Pop. Area 2000 - 2015
Max Area: 42,393 sq. m.
Min Area: 0 sq. m.

0 12.525 50
Meters

Source: San GIS & City of San Diego Park & Rec
Created by: Kim Roeland 2015



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MSP - Rare Plant Occurrence Monitoring Form 2015										Page 1	
Scientific Name:		Deinandra conjugens				Common Name:		Otay tarplant			
Existing MSP Occurrence?		yes		MSP Occurr. ID:		DECO13_3PRVA013					
CNDDB Elem. Occur. #:		EO27/29		Translocated?		no					
Preserve:		Otay Lakes Cornerstone Lands				Mgmt Unit		MU3			
Land Owner:		City of San Diego			Land Mangr:		City of San Diego Public Utilities Department				
Occurrence Name:		Proctor Valley				Sample Point #:		1			
Surveyors:		Kim Roeland, Betsy Miller, Annabelle Bernabe				Affiliation		City of San Diego			
Date:		4/16/2015		Time Start:		13:55		Time Finish:		14:43	
I. OCCURRENCE STATUS - Assess # plants in both species-specific sampling area (typically 10-m radius circle) & in current mapped extent . See p. 4 for definitions of categories describing phenology & evidence of herbivory, disease & stunted growth within the sampling area. Record any notes on p. 3.											
# Plants/Current Mapped Extent:		380		exact count or estimate?		exact		uncert.		low	
Area of Current Mapped Extent:		1732.16		units		square meters		exact (GPS) or estim?		exact (GPS ma	
Species Found in Maximum Extent?		yes		if not found, known or suspected reason:							
# Plants/Sampling Area		316		exact count or estimate?		exact		uncert.		low	
Sample Area Radius (m)		10									
Phenology In Sampling Area (1-6):		Vegetative		1 (0%)		Flowering		5 (50% to <75%)		Fruiting	
		Dead		1 (0%)		Flowering & Fruiting		1 (0%)			
Evidence in Sampling Area (1-6):		Herbivory		1 (0%)		Disease		1 (0%)		Stunted Growth	
										1 (0%)	
Is Sampling Area within Current Mapped Extent?		yes									
Collection (if not collected previously)?		no									
If yes:		Collector				Collection #					
		Museum/Herbarium									
II. SAMPLING AREA LOCATION & SITE PHOTOMONITORING											
GPS Accuracy: +/-		<1		accur. units:		meters		Datum:		NAD83	
coord. system		State Plane (ft)									
Coord'n's at Center of Plot:		E:				N:					
Camera type:		Pentax Optio W90									
Locat. 1 Coord.--E, N		6353224.493		1825326.858		Direction facing		E, SE, S		Height	
		Camera angle		5° down		Photo #		3211-3218		File location	
								S:WSCP			
Locat. 2 Coord.-- E,N						Direction facing				Height	
		Camera angle				Photo #				File location	
III. ASSOCIATED SPECIES If need more room, record additional data and any notes on page 3.											
species/substrate		% Cover		Collection #, or NC if collected		not collected		species/substrate		% Cover	
Collect.# or NC if not collected											
Isocoma menziesii		2				Erodium sp.				1	
Acmispon glaber		2				Brachypodium distachyon				70	
Stipa sp.		7				Centaurea melitensis				1	
Deinandra fasciculata		5									
Sisyrinchium bellum		3									
Brassica nigra		1									
Brassica tournefortii		5									
Avena sp.		2									
Bromus madritensis		1									
Dichelostemma capitatum		1									
Deinandra conjugens		2									
Chlorogalum parviflorum		1				bare ground				3	
Festuca perennis		1				rock				2	
Salsola tragus		1				litter				1	
COVER: Total % Cover:		106		%Herb:		102		%Shrub:		4	
								%Tree:		0	

IV. HABITAT ASSESSMENT IN SAMPLING AREA - Assess habitat covariates within **species-specific sampling area** (typically 10-m radius circle). Vegetation alliance/association can be assigned using San Diego vegetation key (AECOM 2012) in the office or field, using "Associated Species" data from page 1. See page 4 for definitions of habitat assessment categories.

SANDAG 2012 Vegetation Alliance/Association:	Nasella pulchra Alliance, Nasella pulchra Association			
Cover classes (1-6)	Cryptogamic Crust Cover:	1 (0%)	Thatch Cover	5 (50% to <75%)
	Thatch Depth Average (cm)	5	Thatch Depth max (cm)	10
Dead Standing Biomass	yes			
If yes, cover/species class	Unknown shrub (Acmispon glaber?)/2		Average height (cm)	20
Mammal Species Activity (categ. 1-4)				
Feral pig activity	1 = No feral pig activity (rooting, wallowing, vegetation destruction, tracks, scat, pig) detected.			
ground squirr. activity	1 = No ground squirrel burrows detected.			
gopher activity	1 = No pocket gopher mounds detected.			
Sampling area representative of mapped occurrence?	yes	(If no, note differences on page 3)		

VI. THREATS ASSESSMENT IN MAXIMUM EXTENT - Assess threats within the **occurrence's maximum extent** (cumulative extent over years of monitoring) **plus 10-m surrounding buffer**. See page 4 for definitions of threat assessment categories. Record notes on page 3. See Argentine Ant Protocol (USGS 2015) for setting up bait, etc.

Surrounding Land Use/Activity at, or Adjacent to, Site	open space						
Argentine ant abundance at bait station (1-4)	1 = No ants detected at bait station or in vicinity.						
Time start	1:55 PM	Temp start	73	Time end	2:47 PM	Temp end	73
Ant sample collected?	no	Ant sample #	n/a	Ant Station Photo #	3220		

DISTURBANCES (Rank each as 1-6):

Non-native forbs	3 = Disturbance	feral pig activity	1 = No sign of disturbance	altered hydrology	1 = No sign of disturbance
Non-native grasses	5 = Disturbance	trampling	1 = No sign of disturbance	erosion	1 = No sign of disturbance
Non-native woody pl.	1 = No sign of disturbance	vandalism	1 = No sign of disturbance	urban runoff	1 = No sign of disturbance
competitive native pl.	1 = No sign of disturbance	current grazing	1 = No sign of disturbance	slope movement	1 = No sign of disturbance
dumping/trash	1 = No sign of disturbance	historic grazing	7 = Disturbance	soil compaction	1 = No sign of disturbance
encampments	1 = No sign of disturbance	historic agriculture	1 = No sign of disturbance		
fuel modification zone/fire break	1 = No sign of disturbance				
road construction/maintenance	1 = No sign of disturbance	if present, describe:			
illegal vegetation clearing	1 = No sign of disturbance	if present, describe:			
brush management/restoration	1 = No sign of disturbance within maximum extent or in adjacent 10 m buffer.				
ORV activity	3 = Disturbance	if present, describe:	single set of vehicle tracks in grass; report to ranger station		
Evidence of recent fire	7 = Disturbance occurs ≥75% of area with				
If sign of recent fire, year burned?	2007				
Trails	1 = No sign of disturbance within maximum extent		If trails are present, are they authorized?		
Type of trail use	hiking	biking	equestrian	dog	
service vehicles	other				
illegal trail use?	1 = No sign of disturbance	describe:			
Other disturbance?	1 = No sign of disturbance	describe:			

MSP-Management Needs and Notes 2015

(top 2 rows auto-fill from page 1)

Scientific Name:

MSP Occur ID.

Date:

VI. MANAGEMENT RECOMMENDATIONS

Treat BRDI using CBI methods if funding is available.

VII. MANAGEMENT ACTIONS IN LAST YEAR

None.

VIII. CNDDDB SPECIES DETECTED (list any plant or animal species to add to the CNDDDB)

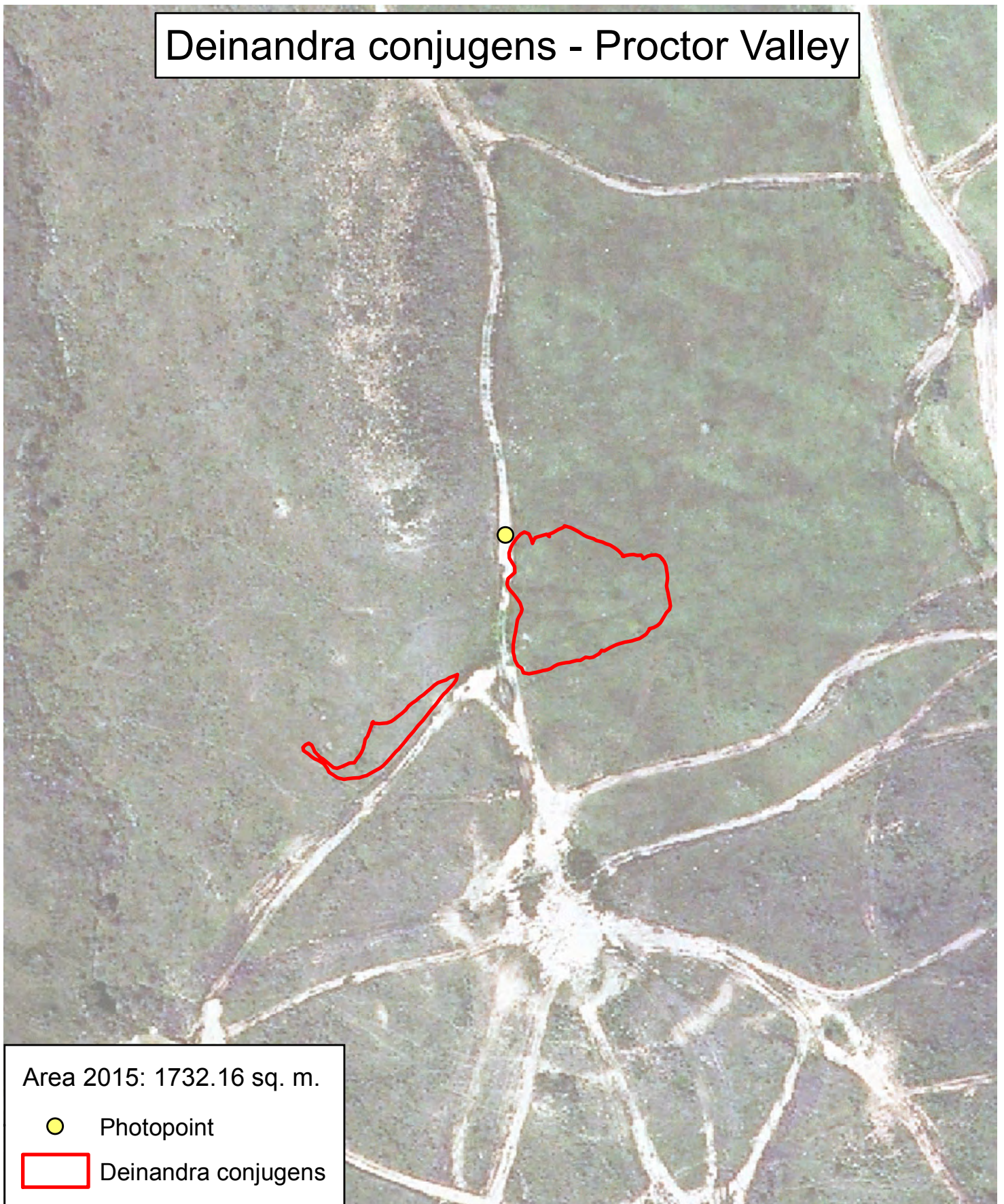
NOTES

***Deinandra conjugens* (Otay Tarplant) Proctor Valley**



Panorama from Southeastern edge of population, facing East, Southeast, South.
Panorama location is 6353224.49 1825326.86 NAD83 State Plane California Zone 6 (feet)
Photos merged using ArcSoft Panorama Maker 4.

Deinandra conjugens - Proctor Valley



Pop Area: 2003 - 2015

Max: 3347.3 sq. m.

Min: 0 sq. m.

0 25 50 Meters

Source: San GIS & City of San Diego Park & Rec
Created by: Annabelle Bernabe, 2015



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Dicranostegia orcuttiana
Orcutt's Bird's Beak



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MSP - Rare Plant Occurrence Monitoring Form 2015										Page 1	
Scientific Name:		Dicranostegia orcuttiana				Common Name:		Orcutt's birds-beak			
		Existing MSP Occurrence?		yes		MSP Occurr. ID:		COOR7_3ORVA001			
		CNDDB Elem. Occur. #:		EO6		Translocated?		no			
Preserve:		Otay Valley Regional Park						Mgmt Unit		MU3	
Land Owner:		City of San Diego				Land Mangr:		City of San Diego Park and Recreation Department			
Occurrence Name:		Otay River Valley						Sample Point #:		1	
Surveyors:		Betsy Miller, Kim Roeland, Annabelle Bernabe						Affiliation		City of San Diego	
Date:		5/12/2015		Time Start:		10:15		Time Finish:		11:29	
I. OCCURRENCE STATUS - Assess # plants in both species-specific sampling area (typically 10-m radius circle) & in current mapped extent . See p. 4 for definitions of categories describing phenology & evidence of herbivory, disease & stunted growth within the sampling area. Record any notes on p. 3.											
# Plants/Current Mapped Extent:		8038		exact count or estimate?		exact		uncert.		high	
		Area of Current Mapped Extent:		621.01		units		square meters		exact (GPS) or estim?	
		Species Found in Maximum Extent?		yes		if not found, known or suspected reason:					
# Plants/Sampling Area:		513				exact count or estimate?		exact		uncert. medium	
		Sample Area Radius (m)		10							
		Phenology In Sampling Area (1-6):		Vegetative 5 (50% to <7)		Flowering 4 (25% to <50%)				Fruiting 1 (0%)	
				Dead 1 (0%)		Flowering & Fruiting 1 (0%)					
		Evidence in Sampling Area (1-6):		Herbivory 1 (0%)		Disease 1 (0%)				Stunted Growth 1 (0%)	
		Is Sampling Area within Current Mapped Extent?		yes							
		Collection (if not collected previously)?		no							
If yes:		Collector				Collection #					
		Museum/Herbarium									
II. SAMPLING AREA LOCATION & SITE PHOTOMONITORING											
GPS Accuracy: +/-		<1		accur. units:		meters		Datum:		NAD83	
coord. system		State Plane (ft)									
Coord'n's at Center of Plot:		E:				N:					
Camera type:		Pentax Optio W90									
Locat. 1 Coord.--E, N		6316896.838		1794306.621		Direction facing		N, NE, E		Height 1.1 m	
		Camera angle		10-15° down		Photo #		464-471		File location S:\MSCP	
Locat. 2 Coord.-- E,N						Direction facing				Height	
		Camera angle				Photo #				File location	
III. ASSOCIATED SPECIES If need more room, record additional data and any notes on page 3.											
species/substrate		% Cover		Collection #, or NC if collected		not collected		species/substrate		% Cover	
										Collect.# or NC if not collected	
Dicranostegia orcuttiana		5						Dudleya pulverulenta		1	
Baccharis sarothroides		10						Pseudognaphalium californicum		1	
Rhus integrifolia		15						Galium nuttallii		1	
Malosma laurina		5						Eriastrum sapphirinum		1	
Baccharis pilularis		2						Festuca myuros		1	
Baccharis salicifolia		2						Bromus madritensis		1	
Isocoma menziesii		1						Selaginella cinerascens		1	
Artemisia californica		1						unk dead flower		1	
Heteromeles arbutifolia		1									
Mimulus aurantiacus		2									
Rhamnus crocea		1									
Eriogonum fasciculatum		1						bare ground		30 road	
Toxicodendron diversilobum		1						rock		2 excluding rd	
Salix lasiolepis		3						litter		2	
COVER: Total % Cover:		58		%Herb:		13		%Shrub:		42	
								%Tree:		3	

IV. HABITAT ASSESSMENT IN SAMPLING AREA - Assess habitat covariates within **species-specific sampling area** (typically 10-m radius circle). Vegetation alliance/association can be assigned using San Diego vegetation key (AECOM 2012) in the office or field, using "Associated Species" data from page 1. See page 4 for definitions of habitat assessment categories.

SANDAG 2012 Vegetation Alliance/Association:	Baccharis sarothroides Provisional Alliance, Baccharis sarothroides Association				
Cover classes (1-6)	Cryptogamic Crust Cover:	2 (>0% to <1	Thatch Cover	1 (0%)	
	Thatch Depth Average (cm)		Thatch Depth max (cm)		
Dead Standing Biomass	yes				
If yes, cover/species class	Rhanmus crocea/2			Average height (cm)	100
Mammal Species Activity (categ. 1-4)					
Feral pig activity	1 = No feral pig activity (rooting, wallowing, vegetation destruction, tracks, scat, pig) detected.				
ground squirr. activity	1 = No ground squirrel burrows detected.				
gopher activity	1 = No pocket gopher mounds detected.				
Sampling area representative of mapped occurrence?	yes	(If no, note differences on page 3)			

VI. THREATS ASSESSMENT IN MAXIMUM EXTENT - Assess threats within the **occurrence's maximum extent** (cumulative extent over years of monitoring) **plus 10-m surrounding buffer**. See page 4 for definitions of threat assessment categories. Record notes on page 3. See Argentine Ant Protocol (USGS 2015) for setting up bait, etc.

Surrounding Land Use/Activity at, or Adjacent to, Site	Open Space				
Argentine ant abundance at bait station (1-4)	2 = 1-50 Argentine ants detected at bait station.				
Time start	10:20 AM	Temp start	73F		
Time end	10:58 AM	Temp end	73F		
Ant sample collected?	yes	Ant sample #	3	Ant Station Photo #	3472

DISTURBANCES (Rank each as 1-6):

Non-native forbs	1 = No sign of disturbance	feral pig activity	1 = No sign of disturbance	altered hydrology	1 = No sign of disturbance	
Non-native grasses	3 = Disturbance	trampling	1 = No sign of disturbance	erosion	1 = No sign of disturbance	
Non-native woody pl.	1 = No sign of disturbance	vandalism	1 = No sign of disturbance	urban runoff	1 = No sign of disturbance	
competitive native pl.	1 = No sign of disturbance	current grazing	1 = No sign of disturbance	slope movement	1 = No sign of disturbance	
dumping/trash	1 = No sign of disturbance	historic grazing	1 = No sign of disturbance	soil compaction	1 = No sign of disturbance	
encampments	1 = No sign of disturbance	historic agriculture	1 = No sign of disturbance			
fuel modification zone/fire break	1 = No sign of disturbance					
road construction/maintenance	1 = No sign of disturbance	if present, describe:				
illegal vegetation clearing	1 = No sign of disturbance	if present, describe:				
brush management/restoration	1 = No sign of disturbance within maximum extent or in adjacent 10 m buffer.					
ORV activity	1 = No sign of disturbance	if present, describe:				
Evidence of recent fire	1 = No sign of disturbance within maximum extent or in adjacent 10 m buffer.					
If sign of recent fire, year burned?						
Trails	5 = Disturbance occurs in 25% to <50% of area		If trails are present, are they authorized?			
			yes			
Type of trail use	hiking	yes	biking	yes	equestrian	yes
	service vehicles	yes	other	no	dog	yes
illegal trail use?	1 = No sign of disturbance					
Other disturbance?	1 = No sign of disturbance					

MSP-Management Needs and Notes 2015

(top 2 rows auto-fill from page 1)

Scientific Name: Dicranostegia orcuttiana

MSP Occur ID: COOR7_3ORVA001

Date: 5/12/2015

VI. MANAGEMENT RECOMMENDATIONS

Fix peeler log fence that has been broken

VII. MANAGEMENT ACTIONS IN LAST YEAR

Access controlled with fencing

VIII. CNDDDB SPECIES DETECTED (list any plant or animal species to add to the CNDDDB)

YBCH detected near photopoint advertising; Orange throated whiptail also detected near photopoint; 2-stripe garter snake seen near photopoint. On the walk in, we also detected LBVI, YEWA, and YBCH - CNDDDB point taken

NOTES

Uncertainty = high and medium, this is because the plants were growing at very high densities, in some areas it was easy to distinguish separate stems but in other areas it was clumped so it was very difficult to separate individual plants for the exact count; surveyors did the best they could to get the exact count

***Dicranostegia orcuttiana* (Orcutt's Bird's Beak) Otay River Valley**



Panorama from Southwestern end of population, facing North, Northeast, East.
Panorama location is 6316896.838 1794306.621 NAD83 State Plane California Zone 6 (feet)
Photos merged using ArcSoft Panorama Maker 4.

Dicranostegia orcuttiana - Otay River Valley



Dudleya brevifolia
Short-Leaved Dudleya



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MSP - Rare Plant Occurrence Monitoring Form 2015										Page 1
Scientific Name:	Dudleya brevifolia				Common Name:	Short-leaved dudleya				
Existing MSP Occurrence?				yes	MSP Occurr. ID:	DUBLB2_6CMPR001				
CNDDB Elem. Occur. #:				EO8	Translocated?	no				
Preserve:	Carmel Mountain Preserve						Mgmt Unit	MU6		
Land Owner:	City of San Diego				Land Mangr:	City of San Diego Park and Recreation Department				
Occurrence Name:	Carmel Mountain Preserve						Sample Point #:	1		
Surveyors:	Betsy Miller, Kim Roeland, Annabelle Bernabe, Melanie Fontana (1); Katherine Day (2)						Affiliation	(1) City of San Diego; (2) SANDAG		
Date:	4/28/2015		Time Start:	11:54		Time Finish:	12:44			
I. OCCURRENCE STATUS - Assess # plants in both species-specific sampling area (typically 10-m radius circle) & in current mapped extent . See p. 4 for definitions of categories describing phenology & evidence of herbivory, disease & stunted growth within the sampling area. Record any notes on p. 3.										
# Plants/Current Mapped Extent:	3118		exact count or estimate?	exact		uncert.	low			
Area of Current Mapped Extent:		213.8		units	square meters	exact (GPS) or estim?		exact (GPS ma		
Species Found in Maximum Extent?		yes		if not found, known or suspected reason:						
# Plants/Sampling Area	0		exact count or estimate?	exact		uncert.	low			
Sample Area Radius (m)		10								
Phenology In Sampling Area (1-6):		Vegetative	1 (0%)	Flowering	1 (0%)	Fruiting	1 (0%)			
		Dead	1 (0%)	Flowering & Fruiting		1 (0%)				
Evidence in Sampling Area (1-6):		Herbivory	1 (0%)	Disease	1 (0%)	Stunted Growth	1 (0%)			
Is Sampling Area within Current Mapped Extent?		no								
Collection (if not collected previously)?		no								
If yes:	Collector				Collection #					
	Museum/Herbarium									
II. SAMPLING AREA LOCATION & SITE PHOTOMONITORING										
GPS Accuracy: +/-	<1		accur. units:	meters		Datum:	NAD83			
coord. system	State Plane (ft)									
Coordin's at Center of Plot:	E:				N:					
Camera type:	Pentax Optio W90									
Locat. 1 Coord.--E, N	6264079.979		1920661.488+A1	Direction facing	SW, W, NW, N		Height	1.1 m		
	Camera angle	10° down	Photo #	363-371	File location	S:\MSCP				
Locat. 2 Coord.-- E,N				Direction facing			Height			
	Camera angle		Photo #		File location					
III. ASSOCIATED SPECIES If need more room, record additional data and any notes on page 3.										
species/substrate	% Cover	Collection #, or NC if collected	not	species/substrate	% Cover	Collect.# or NC if not collected				
Eriogonum fasciculatum	5			Allium sp.	1	dead				
Adenostoma fasciculatum	1			Selaginella bigelovii	1					
Artemisia californica	2			Festuca myuros	2					
Heteromeles arbutifolia	2			Osmadenia tenella	1					
Deinandra fasciculata	5									
Gnaphalium palustre	1									
Crassula connata	3									
Ferocactus viridescens	1									
Selaginella cinerascens	1									
Erodium cicutarium	5									
Bromus madritensis	2									
Avena sp.	5			bare ground	30					
Bromus diandrus	2			rock	1					
Logfia gallica	1			litter	1					
COVER: Total % Cover:	41	%Herb:	30	%Shrub:	11	%Tree:	0			

IV. HABITAT ASSESSMENT IN SAMPLING AREA - Assess habitat covariates within **species-specific sampling area** (typically 10-m radius circle). Vegetation alliance/association can be assigned using San Diego vegetation key (AECOM 2012) in the office or field, using "Associated Species" data from page 1. See page 4 for definitions of habitat assessment categories.

SANDAG 2012 Vegetation Alliance/Association: Adenostoma fasciculatum-Xylococcus bicolor Alliance, Adenostoma fasciculatum-Xylococcus bicolor Association

Cover classes (1-6)

Cryptogamic Crust Cover: 2 (>0% to <1

Thatch Cover 1 (0%)

Thatch Depth Average (cm)

Thatch Depth max (cm)

Dead Standing Biomass

yes

If yes, cover/species class

Allium sp. (dead)

Average height (cm)

10

Mammal Species Activity (categ. 1-4)

Feral pig activity 1 = No feral pig activity (rooting, wallowing, vegetation destruction, tracks, scat, pig) detected.

ground squirr. activity 1 = No ground squirrel burrows detected.

gopher activity 1 = No pocket gopher mounds detected.

Sampling area representative of mapped occurrence? yes (If no, note differences on page 3)

VI. THREATS ASSESSMENT IN MAXIMUM EXTENT - Assess threats within the **occurrence's maximum extent** (cumulative extent over years of monitoring) **plus 10-m surrounding buffer**. See page 4 for definitions of threat assessment categories. Record notes on page 3. See Argentine Ant Protocol (USGS 2015) for setting up bait, etc.

Surrounding Land Use/Activity at, or Adjacent to, Site Open Space

Argentine ant abundance at bait station (1-4)

Time start

Temp start

Time end

Temp end

Ant sample collected?

Ant sample #

Ant Station Photo #

DISTURBANCES (Rank each as 1-6):

Non-native forbs 3 = Disturbance

feral pig activity 1 = No sign of disturbance

altered hydrology 1 = No sign of disturbance

Non-native grasses 4 = Disturbance

trampling 1 = No sign of disturbance

erosion 1 = No sign of disturbance

Non-native woody pl. 1 = No sign of disturbance

vandalism 1 = No sign of disturbance

urban runoff 1 = No sign of disturbance

competitive native pl. 1 = No sign of disturbance

current grazing 1 = No sign of disturbance

slope movement 1 = No sign of disturbance

dumping/trash 1 = No sign of disturbance

historic grazing 1 = No sign of disturbance

soil compaction 1 = No sign of disturbance

encampments 1 = No sign of disturbance

historic agriculture 1 = No sign of disturbance

fuel modification zone/fire break 1 = No sign of disturbance

road construction/maintenance 1 = No sign of disturbance

if present, describe:

illegal vegetation clearing 1 = No sign of disturbance

if present, describe:

brush management/restoration 1 = No sign of disturbance within maximum extent or in adjacent 10 m buffer.

ORV activity

1 = No sign of disturbance

if present, describe:

Evidence of recent fire

1 = No sign of disturbance within maximum extent or in adjacent 10 m buffer.

If sign of recent fire, year burned?

Trails

2 = Disturbance does not occur within maximum extent or in adjacent 10 m buffer.

If trails are present, are they authorized?

yes

Type of trail use

hiking

yes

biking

yes

equestrian

yes

dog

yes

service vehicles

yes

other

yes

illegal trail use?

1 = No sign of disturbance

describe:

Other disturbance?

1 = No sign of disturbance

describe:

MSP-Management Needs and Notes 2015

(top 2 rows auto-fill from page 1)

Scientific Name:

MSP Occur ID:

Date:

VI. MANAGEMENT RECOMMENDATIONS

VII. MANAGEMENT ACTIONS IN LAST YEAR

Fencing added to limit off trail access via Chaparral Lands Conservancy grant; fence posts currently installed, cable to be installed shortly

VIII. CNDDDB SPECIES DETECTED (list any plant or animal species to add to the CNDDDB)

NOTES

Habitat type for sampling area keys out to Adenostoma fasciculatum Alliance; Adenostoma fasciculatum-(Eriogonum fasciculatum | Artemisia californica | Salvia mellifera) Association but a survey of the greater area results in the Adenostoma fasciculatum-Xylococcus bicolor Alliance; Adenostoma fasciculatum-Xylococcus bicolor Association type as shown in Section IV

Dudleya brevifolia
(Short-Leaved Dudleya)
Carmel Mountain Subpopulation # 1



Panorama from Northwestern edge of population, Southwest, West, Northwest, North.
Panorama location is 6264079.979 1920661.488 NAD83 State Plane California Zone 6 (feet)
Photos merged using ArcSoft Panorama Maker 4.

Dudleya brevifolia - Carmel Mountain Subpop 1



Pop. Area 2001 - 2015
Max Area: 313.30 sq. m.
Min Area: 137.43 sq. m.

0 10 20 Meters

Source: San GIS & City of San Diego Park & Rec
Created by: Annabelle Bernabe, 2015



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MSP - Rare Plant Occurrence Monitoring Form 2015										Page 1
Scientific Name:	Dudleya brevifolia				Common Name:	Short-leaved dudleya				
Existing MSP Occurrence?				yes	MSP Occurr. ID:	DUBLB2_6CMPR001				
CNDDB Elem. Occur. #:				EO8	Translocated?	no				
Preserve:	Carmel Mountain Preserve						Mgmt Unit	MU6		
Land Owner:	City of San Diego				Land Mangr:	City of San Diego Park and Recreation Department				
Occurrence Name:	Carmel Mountain Preserve						Sample Point #:	2		
Surveyors:	Betsy Miller, Kim Roeland, Annabelle Bernabe, Melanie Fontana (1); Katherine Day (2)						Affiliation	(1) City of San Diego; (2) SANDAG		
Date:	4/28/2015		Time Start:	8:40		Time Finish:	9:42			
I. OCCURRENCE STATUS - Assess # plants in both species-specific sampling area (typically 10-m radius circle) & in current mapped extent . See p. 4 for definitions of categories describing phenology & evidence of herbivory, disease & stunted growth within the sampling area. Record any notes on p. 3.										
# Plants/Current Mapped Extent:	1053		exact count or estimate?	exact		uncert.	low			
Area of Current Mapped Extent:		237.87		units	square meters	exact (GPS) or estim?		exact (GPS ma		
Species Found in Maximum Extent?		yes		if not found, known or suspected reason:						
# Plants/Sampling Area	38		exact count or estimate?	exact		uncert.	very low			
Sample Area Radius (m)		10								
Phenology In Sampling Area (1-6):		Vegetative		1 (0%)		Flowering	6 (≥75%)		Fruiting	1 (0%)
		Dead		1 (0%)		Flowering & Fruiting		1 (0%)		
Evidence in Sampling Area (1-6):		Herbivory		1 (0%)		Disease	1 (0%)		Stunted Growth	6 (≥75%)
Is Sampling Area within Current Mapped Extent?		yes								
Collection (if not collected previously)?		no								
If yes:	Collector				Collection #					
	Museum/Herbarium									
II. SAMPLING AREA LOCATION & SITE PHOTOMONITORING										
GPS Accuracy: +/-	<1		accur. units:	meters		Datum:	NAD83			
coord. system	State Plane (ft)									
Coordin's at Center of Plot:	E:				N:					
Camera type:	Pentax Optio W90									
Locat. 1 Coord.--E, N	6265696.736		1920365.462		Direction facing	N, NE, E, SE		Height	1.1 m	
	Camera angle	10° down		Photo #	345-350		File location	S:MSCP		
Locat. 2 Coord.--E,N					Direction facing			Height		
	Camera angle			Photo #			File location			
III. ASSOCIATED SPECIES If need more room, record additional data and any notes on page 3.										
species/substrate	% Cover	Collection #, or NC if collected	not	species/substrate	% Cover	Collect.# or NC if not collected				
Dudleya brevifolia	1			Psilocarphus tenellus	1					
Adenostoma fasciculatum	10			Festuca myuros	2					
Eriogonum fasciculatum	2			Malosma laurina	2					
Xylococcus bicolor	5			Plantago erecta	1					
Salvia mellifera	3			Logfia gallica	1					
Acemispom glaber	1			Gnaphalium palustre	1					
Deinandra fasciculata	2									
Navarretia hamata	1									
Psilocarphus brevissimus	1									
Crassula connata	3									
Selaginella cinerascens	5									
Cardionema ramosissimum	1			bare ground	50					
Stylocline gnaphaloides	1			rock	3					
Chorizanthe polygonoides	1			litter	1					
COVER: Total % Cover:	45	%Herb:	23	%Shrub:	22	%Tree:	0			

IV. HABITAT ASSESSMENT IN SAMPLING AREA - Assess habitat covariates within **species-specific sampling area** (typically 10-m radius circle). Vegetation alliance/association can be assigned using San Diego vegetation key (AECOM 2012) in the office or field, using "Associated Species" data from page 1. See page 4 for definitions of habitat assessment categories.

SANDAG 2012 Vegetation Alliance/Association: Adenostoma fasciculatum-Xylococcus bicolor Alliance, Adenostoma fasciculatum-Xylococcus bicolor Association

Cover classes (1-6)

Cryptogamic Crust Cover: 2 (>0% to <1

Thatch Cover 1 (0%)

Thatch Depth Average (cm)

Thatch Depth max (cm)

Dead Standing Biomass

no

If yes, cover/species class

Average height (cm)

Mammal Species Activity (categ. 1-4)

Feral pig activity 1 = No feral pig activity (rooting, wallowing, vegetation destruction, tracks, scat, pig) detected.

ground squirr. activity 1 = No ground squirrel burrows detected.

gopher activity 1 = No pocket gopher mounds detected.

Sampling area representative of mapped occurrence? yes (If no, note differences on page 3)

VI. THREATS ASSESSMENT IN MAXIMUM EXTENT - Assess threats within the **occurrence's maximum extent** (cumulative extent over years of monitoring) **plus 10-m surrounding buffer**. See page 4 for definitions of threat assessment categories. Record notes on page 3. See Argentine Ant Protocol (USGS 2015) for setting up bait, etc.

Surrounding Land Use/Activity at, or Adjacent to, Site open space

Argentine ant abundance at bait station (1-4)

1 = No ants detected at bait station or in vicinity.

Time start 8:43 AM

Temp start

70F

Time end

9:42 AM

Temp end

77F

Ant sample collected? no

Ant sample #

Ant Station Photo #

3351

DISTURBANCES (Rank each as 1-6):

Non-native forbs 3 = Disturbance

feral pig activity 1 = No sign of

altered hydrology 1 = No sign of disturbance

Non-native grasses 3 = Disturbance

trampling 1 = No sign of

erosion 1 = No sign of disturbance

Non-native woody pl. 1 = No sign of

vandalism 1 = No sign of

urban runoff 1 = No sign of disturbance

competitive native pl. 1 = No sign of

current grazing 1 = No sign of

slope movement 1 = No sign of disturbance

dumping/trash 3 = Disturbance

historic grazing 1 = No sign of

soil compaction 1 = No sign of disturbance

encampments 1 = No sign of

historic agriculture 1 = No sign of

fuel modification zone/fire break 1 = No sign of

road construction/maintenance 1 = No sign of

if present, describe:

illegal vegetation clearing 1 = No sign of

if present, describe:

brush management/restoration 1 = No sign of disturbance within maximum extent or in adjacent 10 m buffer.

ORV activity

1 = No sign of

if present, describe:

Evidence of recent fire

1 = No sign of disturbance within maximum

If sign of recent fire, year burned?

Trails

5 = Disturbance occurs in 25% to <50% of area

If trails are present, are they authorized?

no

Type of trail use

hiking

no

biking

no

equestrian

no

dog

no

service vehicles

no

other

no

illegal trail use?

5 = Disturbance

describe:

trail closed and in process of restoration

Other disturbance?

1 = No sign of

describe:

MSP-Management Needs and Notes 2015

(top 2 rows auto-fill from page 1)

Scientific Name:

MSP Occur ID:

Date:

VI. MANAGEMENT RECOMMENDATIONS

Continue to maintain access control with fencing, and native plantings to rehabilitate trail

VII. MANAGEMENT ACTIONS IN LAST YEAR

Access controlled with fencing, brushing, and native plantings

VIII. CNDDDB SPECIES DETECTED (list any plant or animal species to add to the CNDDDB)

Northern harrier (male) flying overhead (no CNDDD record needed unless nesting is confirmed)

NOTES

Broken glass scattered at site, has been there for at least 1 year; disturbance not new

Dudleya brevifolia
(Short-Leaved Dudleya)
Carmel Mountain Subpopulation # 2



Panorama from Northeastern edge of population, North, Northeast, East, Southeast.
Panorama location is 6265696.74 1920365.46 NAD83 State Plane California Zone 6 (feet)
Photos merged using ArcSoft Panorama Maker 4.

Dudleya brevifolia - Carmel Mountain Subpop 2



Area 2015: 237.87 sq. m.

● Photopoint

□ Dudleya brevifolia

Pop. Area 2001 - 2015
Max Area: 249.35 sq. m.
Min Area: 26.54 sq. m.

0 10 20 Meters

Source: San GIS & City of San Diego Park & Rec
Created by: Annabelle Bernabe, 2015



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MSP - Rare Plant Occurrence Monitoring Form 2015						Page 1	
Scientific Name:		Dudleya brevifolia		Common Name:		Short-leaved dudleya	
Existing MSP Occurrence?		yes		MSP Occurr. ID:		DUBLB2_6CMPR001	
CNDDB Elem. Occur. #:		EO8		Translocated?		no	
Preserve:		Carmel Mountain Preserve				Mgmt Unit	
Land Owner:		City of San Diego		Land Mangr:		City of San Diego Park and Recreation Department	
Occurrence Name:		Carmel Mountain Preserve				Sample Point #: 3	
Surveyors:		Betsy Miller, Kim Roeland, Annabelle Bernabe, Melanie Fontana (1); Katherine Day (2)				Affiliation (1) City of San Diego; (2) SANDAG	
Date:		4/28/2015		Time Start:		9:55	
				Time Finish:		11:36	
I. OCCURRENCE STATUS - Assess # plants in both species-specific sampling area (typically 10-m radius circle) & in current mapped extent . See p. 4 for definitions of categories describing phenology & evidence of herbivory, disease & stunted growth within the sampling area. Record any notes on p. 3.							
# Plants/Current Mapped Extent:		18860		exact count or estimate?		estimate (extrapolate partial ct)	
						uncert. medium	
Area of Current Mapped Extent:		1203.7		units		square meters	
Species Found in Maximum Extent?		yes		if not found, known or suspected reason:		exact (GPS) or estim? exact (GPS ma	
# Plants/Sampling Area:		1254		exact count or estimate?		exact	
						uncert. low	
Sample Area Radius (m)		10					
Phenology In Sampling Area (1-6):		Vegetative 1 (0%)		Flowering 6 (≥75%)		Fruiting 1 (0%)	
		Dead 1 (0%)		Flowering & Fruiting 1 (0%)			
Evidence in Sampling Area (1-6):		Herbivory 1 (0%)		Disease 1 (0%)		Stunted Growth 1 (0%)	
Is Sampling Area within Current Mapped Extent?		yes					
Collection (if not collected previously)?		no					
If yes:		Collector		Collection #			
		Museum/Herbarium					
II. SAMPLING AREA LOCATION & SITE PHOTOMONITORING							
GPS Accuracy: +/- <1		accur. units: meters		Datum:		NAD83	
coord. system		State Plane (ft)					
Coordin's at Center of Plot:		E:		N:			
Camera type:		Pentax Optio W90					
Locat. 1 Coord.--E, N		6265588.551		1920725.098		Direction facing	
						SE, S, SW, W, NW+A1	
Camera angle		10° down		Photo #		352-362	
				File location		S:\MSCP	
Locat. 2 Coord.-- E,N						Direction facing	
						Height	
Camera angle				Photo #			
				File location			
III. ASSOCIATED SPECIES If need more room, record additional data and any notes on page 3.							
species/substrate		% Cover		Collection #, or NC if not collected		species/substrate	
						% Cover	
						Collect.# or NC if not collected	
Dudleya brevifolia		1				Ferocactus viridescens	
						1	
Eriogonum fasciculatum		2				Mimulus aurantiacus	
						1	
Xylococcus bicolor		2				Crassula connata	
						2	
Adenostoma fasciculatum		2				Calochortus splendens	
						1	
Malosma laurina		1				Toxicoscordion venenosum	
						1	
Salvia mellifera		2				Unk snapdragon (dead)	
						1	
Rhus integrifolia		5				Pentagramma triangularis	
						1	
Deinandra fasciculata		2					
Navarretia hamata		1					
Selaginella cinerascens		2					
Festuca myuros		5					
Bromus madritensis		2				bare ground	
						20	
Chorizanthe polygonoides		1				rock	
						30	
Stipa pulchra		1				litter	
						1	
COVER: Total % Cover:		37		%Herb:		21	
				%Shrub:		16	
				%Tree:		0	

IV. HABITAT ASSESSMENT IN SAMPLING AREA - Assess habitat covariates within **species-specific sampling area** (typically 10-m radius circle). Vegetation alliance/association can be assigned using San Diego vegetation key (AECOM 2012) in the office or field, using "Associated Species" data from page 1. See page 4 for definitions of habitat assessment categories.

SANDAG 2012 Vegetation Alliance/Association: Adenostoma fasciculatum Alliance, Adenostoma fasciculatum-(Eriogonum fasciculatum I Artemisia californica I Salvia mellifera) Association

Cover classes (1-6)

Cryptogamic Crust Cover: 2 (>0% to <1

Thatch Cover 1 (0%)

Thatch Depth Average (cm)

Thatch Depth max (cm)

Dead Standing Biomass

no

If yes, cover/species class

Average height (cm)

Mammal Species Activity (categ. 1-4)

Feral pig activity 1 = No feral pig activity (rooting, wallowing, vegetation destruction, tracks, scat, pig) detected.

ground squirr. activity 1 = No ground squirrel burrows detected.

gopher activity 1 = No pocket gopher mounds detected.

Sampling area representative of mapped occurrence? yes (If no, note differences on page 3)

VI. THREATS ASSESSMENT IN MAXIMUM EXTENT - Assess threats within the **occurrence's maximum extent** (cumulative extent over years of monitoring) **plus 10-m surrounding buffer**. See page 4 for definitions of threat assessment categories. Record notes on page 3. See Argentine Ant Protocol (USGS 2015) for setting up bait, etc.

Surrounding Land Use/Activity at, or Adjacent to, Site Open Space

Argentine ant abundance at bait station (1-4)

Time start

Temp start

Time end

Temp end

Ant sample collected?

Ant sample #

Ant Station Photo #

DISTURBANCES (Rank each as 1-6):

Non-native forbs 1 = No sign of

feral pig activity 1 = No sign of

altered hydrology 1 = No sign of disturbance

Non-native grasses 3 = Disturbance

trampling 1 = No sign of

erosion 1 = No sign of disturbance

Non-native woody pl. 1 = No sign of

vandalism 1 = No sign of

urban runoff 1 = No sign of disturbance

competitive native pl. 1 = No sign of

current grazing 1 = No sign of

slope movement 1 = No sign of disturbance

dumping/trash 1 = No sign of

historic grazing 1 = No sign of

soil compaction 1 = No sign of disturbance

encampments 1 = No sign of

historic agriculture 1 = No sign of

fuel modification zone/fire break 1 = No sign of

road construction/maintenance 1 = No sign of

if present, describe:

illegal vegetation clearing 1 = No sign of

if present, describe:

brush management/restoration 1 = No sign of disturbance within maximum extent or in adjacent 10 m buffer.

ORV activity

1 = No sign of

if present, describe:

Evidence of recent fire

1 = No sign of disturbance within maximum

If sign of recent fire, year burned?

Trails

5 = Disturbance occurs in 25% to <50% of area

If trails are present, are they authorized?

no

Type of trail use

hiking

no

biking

no

equestrian

no

dog

no

service vehicles

no

other

no

illegal trail use?

5 = Disturbance

describe:

trail closed and under rehabilitation

Other disturbance?

1 = No sign of

describe:

MSP-Management Needs and Notes 2015

(top 2 rows auto-fill from page 1)

Scientific Name:

MSP Occur ID:

Date:

VI. MANAGEMENT RECOMMENDATIONS

continue to maintain access control with fencing and other trail closure techniques

VII. MANAGEMENT ACTIONS IN LAST YEAR

access controlled with fencing, trail brushing, and native plantings

VIII. CNDDDB SPECIES DETECTED (list any plant or animal species to add to the CNDDDB)

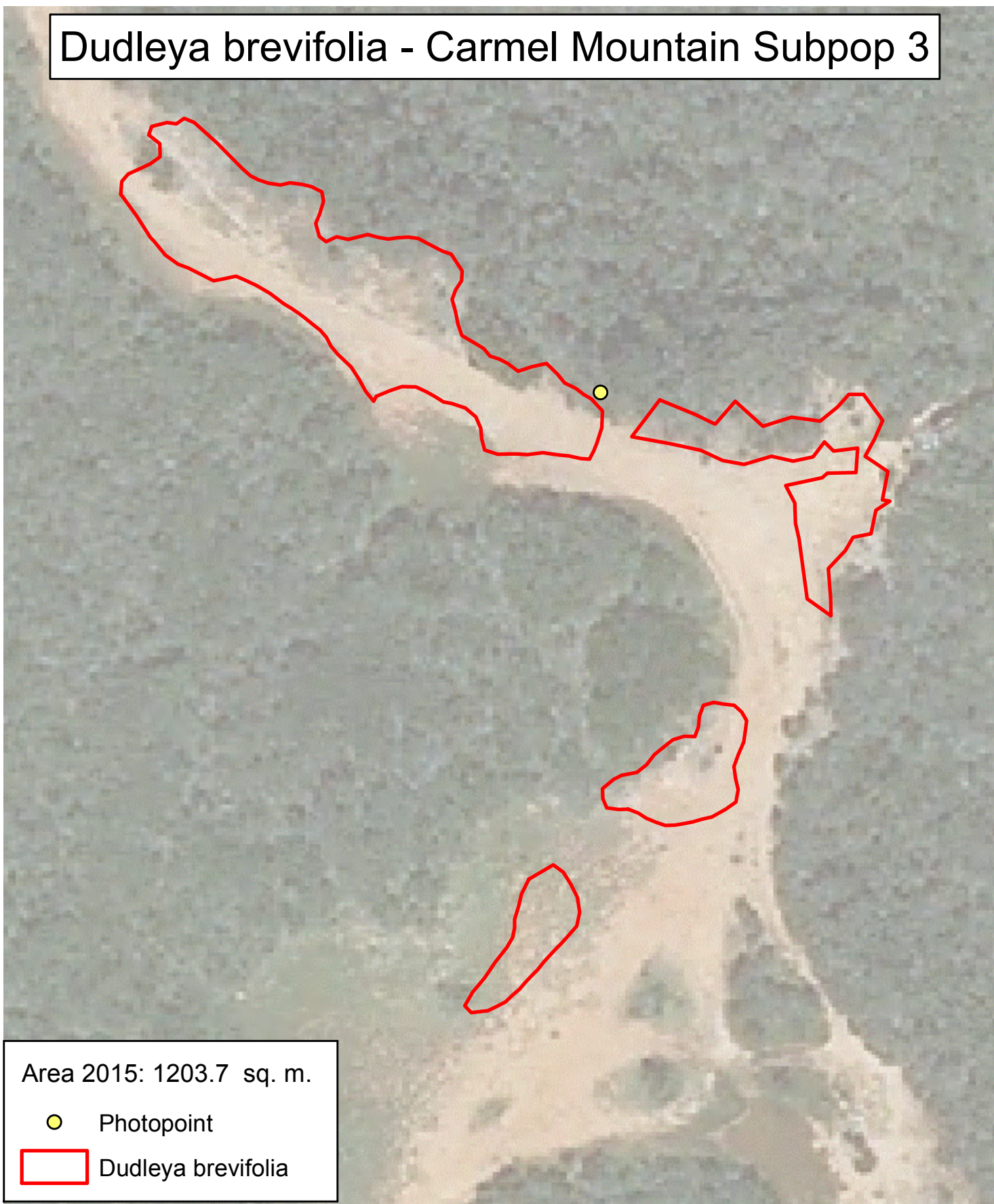
NOTES

Dudleya brevifolia
(Short-Leaved Dudleya)
Carmel Mountain Subpopulation # 3



Panorama from Southwestern edge of population, Southeast, South, Southwest, West, Northwest.
Panorama location is 6265588.551 1920725.098 NAD83 State Plane California Zone 6 (feet)
Photos merged using ArcSoft Panorama Maker 4.

Dudleya brevifolia - Carmel Mountain Subpop 3



Area 2015: 1203.7 sq. m.

● Photopoint

□ Dudleya brevifolia

Pop. Area 2001 - 2015
Max Area: 1487.37 sq. m.
Min Area: 321.50 sq. m.

0 5 10 20
Meters

Source: San GIS & City of San Diego Park & Rec
Created by: Annabelle Bernabe, 2015



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MSP - Rare Plant Occurrence Monitoring Form 2015										Page 1	
Scientific Name:		Dudleya brevifolia				Common Name:		Short-leaved dudleya			
		Existing MSP Occurrence? yes				MSP Occurr. ID:		DUBLB2_7CRCA003			
		CNDDB Elem. Occur. #: EO1				Translocated? no					
Preserve:		Crest Canyon Preserve						Mgmt Unit		MU7	
Land Owner:		City of San Diego				Land Mangr:		City of San Diego Park and Recreation Department			
Occurrence Name:		Crest Canyon North						Sample Point #:		1	
Surveyors:		Betsy Miller, Kim Roeland, Annabelle Bernabe, Joe DeWolf (1); Katherine Day (2)						Affiliation		(1) City of San Diego; (2) SANDAG	
Date:		4/28/2015				Time Start:		3:00		Time Finish: 3:51	
I. OCCURRENCE STATUS - Assess # plants in both species-specific sampling area (typically 10-m radius circle) & in current mapped extent . See p. 4 for definitions of categories describing phenology & evidence of herbivory, disease & stunted growth within the sampling area. Record any notes on p. 3.											
# Plants/Current Mapped Extent:		4480		exact count or estimate?		exact		uncert.		low	
		Area of Current Mapped Extent:		134.4		units		square meters		exact (GPS) or estim? exact (GPS ma	
		Species Found in Maximum Extent?		yes		if not found, known or suspected reason:					
# Plants/Sampling Area		999		exact count or estimate?		exact		uncert.		low	
		Sample Area Radius (m)		10							
		Phenology In Sampling Area (1-6):		Vegetative 6 (≥75%)		Flowering 2 (>0% to <10%)		Fruiting 1 (0%)			
				Dead 1 (0%)		Flowering & Fruiting 1 (0%)					
		Evidence in Sampling Area (1-6):		Herbivory 1 (0%)		Disease 1 (0%)		Stunted Growth 6 (≥75%)			
		Is Sampling Area within Current Mapped Extent?		yes							
		Collection (if not collected previously)?		no							
If yes:		Collector				Collection #					
		Museum/Herbarium									
II. SAMPLING AREA LOCATION & SITE PHOTOMONITORING											
GPS Accuracy: +/-		<1		accur. units:		meters		Datum:		NAD83	
coord. system		State Plane (ft)									
Coordin's at Center of Plot:		E:				N:					
Camera type:		Pentax Optio W90									
Locat. 1 Coord.--E, N		6253917.074		1928311.12		Direction facing		W, N, E		Height 1.1 m	
		Camera angle		10° down		Photo # 372-387		File location		S:\MSCP	
Locat. 2 Coord.-- E,N						Direction facing				Height	
		Camera angle				Photo #		File location			
III. ASSOCIATED SPECIES If need more room, record additional data and any notes on page 3.											
species/substrate		% Cover		Collection #, or NC if not collected		species/substrate		% Cover		Collect.# or NC if not collected	
Dudleya brevifolia		2				Crassula connata		7			
Eriogonum fasciculatum		10				Bromus madritensis		3			
Baccharis pilularis		1				Festuca myuros		4			
Rhus integrifolia		3				Logfia filaginoides		1			
Adenostoma fasciculatum		5				Navarretia hamata		1			
Carpobrotus spp.		7				Spergularia bocconi		1			
Artemisia californica		3				Stylocline gnaphaloides		1			
Xylococcus bicolor		1									
Mimulus aurantiacus		1									
Salvia mellifera		1									
Solanum xanti		1									
Gnaphalium palustre		1				bare ground		3			
Plantago erecta		7				rock		5			
Selaginella cinerascens		15				litter		3			
COVER: Total % Cover:		76		%Herb:		51		%Shrub:		25	
								%Tree:		0	

IV. HABITAT ASSESSMENT IN SAMPLING AREA - Assess habitat covariates within **species-specific sampling area** (typically 10-m radius circle). Vegetation alliance/association can be assigned using San Diego vegetation key (AECOM 2012) in the office or field, using "Associated Species" data from page 1. See page 4 for definitions of habitat assessment categories.

SANDAG 2012 Vegetation Alliance/Association: Adenostoma fasciculatum Alliance, Adenostoma fasciculatum-(Eriogonum fasciculatum I Artemisia californica I Salvia mellifera) Association

Cover classes (1-6)

Cryptogamic Crust Cover: 4 (25% to <5

Thatch Cover 1 (0%)

Thatch Depth Average (cm)

Thatch Depth max (cm)

Dead Standing Biomass

yes

If yes, cover/species class

Carpobrotus spp./3

Average height (cm)

4

Mammal Species Activity (categ. 1-4)

Feral pig activity 1 = No feral pig activity (rooting, wallowing, vegetation destruction, tracks, scat, pig) detected.

ground squirr. activity 1 = No ground squirrel burrows detected.

gopher activity 1 = No pocket gopher mounds detected.

Sampling area representative of mapped occurrence? yes (If no, note differences on page 3)

VI. THREATS ASSESSMENT IN MAXIMUM EXTENT - Assess threats within the **occurrence's maximum extent** (cumulative extent over years of monitoring) **plus 10-m surrounding buffer**. See page 4 for definitions of threat assessment categories. Record notes on page 3. See Argentine Ant Protocol (USGS 2015) for setting up bait, etc.

Surrounding Land Use/Activity at, or Adjacent to, Site open space, residential

Argentine ant abundance at bait station (1-4)

2 = 1-50 Argentine ants detected at bait station.

Time start 3:01 AM

Temp start

75F

Time end

3:45 AM

Temp end

75F

Ant sample collected?

yes

Ant sample #

2

Ant Station Photo #

3388

DISTURBANCES (Rank each as 1-6):

Non-native forbs 3 = Disturbance

feral pig activity 1 = No sign of

altered hydrology 1 = No sign of disturbance

Non-native grasses 3 = Disturbance

trampling 1 = No sign of

erosion 1 = No sign of disturbance

Non-native woody pl. 3 = Disturbance

vandalism 1 = No sign of

urban runoff 1 = No sign of disturbance

competitive native pl. 1 = No sign of

current grazing 1 = No sign of

slope movement 1 = No sign of disturbance

dumping/trash 1 = No sign of

historic grazing 1 = No sign of

soil compaction 1 = No sign of disturbance

encampments 1 = No sign of

historic agriculture 1 = No sign of

fuel modification zone/fire break 1 = No sign of

road construction/maintenance 1 = No sign of

if present, describe:

illegal vegetation clearing 1 = No sign of

if present, describe:

brush management/restoration

1 = No sign of disturbance within maximum extent or in adjacent 10 m buffer.

ORV activity

1 = No sign of

if present, describe:

Evidence of recent fire

1 = No sign of disturbance within maximum

If sign of recent fire, year burned?

Trails

1 = No sign of disturbance within maximum ex

If trails are present, are they authorized?

Type of trail use

hiking

biking

equestrian

dog

service vehicles

other

illegal trail use?

1 = No sign of

describe:

Other disturbance?

1 = No sign of

describe:

MSP-Management Needs and Notes 2015

(top 2 rows auto-fill from page 1)

Scientific Name:

MSP Occur ID.

Date:

VI. MANAGEMENT RECOMMENDATIONS

continue to manage access and monitor for trampling by adjacent homeowner

VII. MANAGEMENT ACTIONS IN LAST YEAR

none

VIII. CNDDDB SPECIES DETECTED (list any plant or animal species to add to the CNDDDB)

NOTES

Dudleya brevifolia
(Short-Leaved Dudleya)
Crest Canyon – Northern Subpopulation



Panorama from Northeastern edge of population, West, North, East.
Panorama location is 6253917.07 1928311.12 NAD83 State Plane California Zone 6 (feet)
Photos merged using ArcSoft Panorama Maker 4.

Dudleya brevifolia - Crest Canyon North



Area 2015: 134.4 sq. m.

● Photopoint

□ Dudleya brevifolia

Pop. Area 2001 - 2015
Max Area: 180.05 sq. m.
Min Area: 123.32 sq. m.

0 10 20 Meters

Source: San GIS & City of San Diego Park & Rec
Created by: Annabelle Bernabe, 2015



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MSP - Rare Plant Occurrence Monitoring Form 2015										Page 1	
Scientific Name:	Dudleya brevifolia				Common Name:	Short-leaved dudleya					
Existing MSP Occurrence?				yes	MSP Occurr. ID:	DUBLB2_7CRCA003					
CNDDB Elem. Occur. #:				EO1	Translocated?	no					
Preserve:	Crest Canyon Preserve				Mgmt Unit						MU7
Land Owner:	City of San Diego				Land Mangr:	City of San Diego Park and Recreation Department					
Occurrence Name:	Crest Canyon South				Sample Point #:						1
Surveyors:	Betsy Miller, Kim Roeland, Annabelle Bernabe (1); Katherine Day (2)				Affiliation						(1) City of San Diego; (2) SANDAG
Date:	4/28/2015		Time Start:	16:00		Time Finish:		16:27			
I. OCCURRENCE STATUS - Assess # plants in both species-specific sampling area (typically 10-m radius circle) & in current mapped extent . See p. 4 for definitions of categories describing phenology & evidence of herbivory, disease & stunted growth within the sampling area. Record any notes on p. 3.											
# Plants/Current Mapped Extent:	42		exact count or estimate?	exact		uncert.	very low				
Area of Current Mapped Extent:			9.92		units	square meters		exact (GPS) or estim?			exact (GPS ma
Species Found in Maximum Extent?			yes		if not found, known or suspected reason:						
# Plants/Sampling Area	42		exact count or estimate?	exact		uncert.	very low				
Sample Area Radius (m)			10								
Phenology In Sampling Area (1-6):			Vegetative		6 (≥75%)		Flowering	2 (>0% to <10%)		Fruiting	1 (0%)
			Dead		1 (0%)		Flowering & Fruiting		1 (0%)		
Evidence in Sampling Area (1-6):			Herbivory		1 (0%)		Disease	1 (0%)		Stunted Growth	6 (≥75%)
Is Sampling Area within Current Mapped Extent?			yes								
Collection (if not collected previously)?			yes								
If yes:			Collector					Collection #			
			Museum/Herbarium								
II. SAMPLING AREA LOCATION & SITE PHOTOMONITORING											
GPS Accuracy: +/-		<1		accur. units:		meters		Datum:		NAD83	
coord. system		State Plane (ft)									
Coordin's at Center of Plot:				E:				N:			
Camera type:		Pentax Optio W90									
Locat. 1 Coord.--E, N		6253843.223		1927609.02		Direction facing		NW, N, NE		Height	1.1 m
		Camera angle	5° down		Photo #	89-93		File location		S:\MSCP	
Locat. 2 Coord.-- E,N						Direction facing				Height	
		Camera angle			Photo #			File location			
III. ASSOCIATED SPECIES If need more room, record additional data and any notes on page 3.											
species/substrate	% Cover	Collection #, or NC if collected	species/substrate	% Cover	Collect.# or NC if not collected						
Dudleya brevifolia	1		Selaginella cinerascens	2							
Adenostoma fasciculatum	15		Stipa pulchra	1							
Eriogonum fasciculatum	5		Xylococcus bicolor	1							
Salvia mellifera	2		Ceanothus verrucosus	1							
Rhus integrifolia	2		Crassula connata	3							
Hesperoyucca whipplei	1		Festuca myuros	0.5							
Malosma laurina	2										
Deinandra fasciculata	3										
Dudleya lanceolata	2										
Cneoridium dumosum	2										
Chlorogalum parviflorum	3										
Mimulus aurantiacus	1		bare ground	20							
Gnaphalium palustre	1		rock	50							
Stylocline gnaphaloides	1		litter	1							
COVER: Total % Cover:	49.5	%Herb:	16.5	%Shrub:	31						
				%Tree:	0						

IV. HABITAT ASSESSMENT IN SAMPLING AREA - Assess habitat covariates within **species-specific sampling area** (typically 10-m radius circle). Vegetation alliance/association can be assigned using San Diego vegetation key (AECOM 2012) in the office or field, using "Associated Species" data from page 1. See page 4 for definitions of habitat assessment categories.

SANDAG 2012 Vegetation Alliance/Association: Adenostoma fasciculatum Alliance, Adenostoma fasciculatum Southern Maritime Association

Cover classes (1-6)

Cryptogamic Crust Cover: 3 (10% to <2

Thatch Cover

Thatch Depth Average (cm)

Thatch Depth max (cm)

Dead Standing Biomass

yes

If yes, cover/species class

Adenostoma fasciculata

Average height (cm)

50

Mammal Species Activity (categ. 1-4)

Feral pig activity 1 = No feral pig activity (rooting, wallowing, vegetation destruction, tracks, scat, pig) detected.

ground squirr. activity 1 = No ground squirrel burrows detected.

gopher activity 1 = No pocket gopher mounds detected.

Sampling area representative of mapped occurrence? yes (If no, note differences on page 3)

VI. THREATS ASSESSMENT IN MAXIMUM EXTENT - Assess threats within the **occurrence's maximum extent** (cumulative extent over years of monitoring) **plus 10-m surrounding buffer**. See page 4 for definitions of threat assessment categories. Record notes on page 3. See Argentine Ant Protocol (USGS 2015) for setting up bait, etc.

Surrounding Land Use/Activity at, or Adjacent to, Site Open Space

Argentine ant abundance at bait station (1-4)

Time start

Temp start

Time end

Temp end

Ant sample collected?

Ant sample #

Ant Station Photo #

DISTURBANCES (Rank each as 1-6):

Non-native forbs 1 = No sign of disturbance

feral pig activity 1 = No sign of disturbance

altered hydrology 1 = No sign of disturbance

Non-native grasses 1 = No sign of disturbance

trampling 1 = No sign of disturbance

erosion 1 = No sign of disturbance

Non-native woody pl. 1 = No sign of disturbance

vandalism 1 = No sign of disturbance

urban runoff 1 = No sign of disturbance

competitive native pl. 1 = No sign of disturbance

current grazing 1 = No sign of disturbance

slope movement 1 = No sign of disturbance

dumping/trash 1 = No sign of disturbance

historic grazing 1 = No sign of disturbance

soil compaction 1 = No sign of disturbance

encampments 1 = No sign of disturbance

historic agriculture 1 = No sign of disturbance

fuel modification zone/fire break 1 = No sign of disturbance

road construction/maintenance 1 = No sign of disturbance

if present, describe:

illegal vegetation clearing 1 = No sign of disturbance

if present, describe:

brush management/restoration 1 = No sign of disturbance within maximum extent or in adjacent 10 m buffer.

ORV activity

1 = No sign of disturbance

if present, describe:

Evidence of recent fire

1 = No sign of disturbance within maximum extent

If sign of recent fire, year burned?

Trails

2 = Disturbance does not occur within maximum extent

If trails are present, are they authorized?

yes

Type of trail use

hiking

yes

biking

no

equestrian

no

dog

yes

service vehicles

no

other

no

illegal trail use?

1 = No sign of disturbance

describe:

Other disturbance?

1 = No sign of disturbance

describe:

MSP-Management Needs and Notes 2015

(top 2 rows auto-fill from page 1)

Scientific Name:

MSP Occur ID.

Date:

VI. MANAGEMENT RECOMMENDATIONS

continue to direct traffic on trail with fencing to prevent trampling of population

VII. MANAGEMENT ACTIONS IN LAST YEAR

fencing used to control access and prevent trampling

VIII. CNDDDB SPECIES DETECTED (list any plant or animal species to add to the CNDDDB)

NOTES

Dudleya brevifolia
(Short-Leaved Dudleya)
Crest Canyon – Southern Subpopulation



Panorama from Northern edge of population, Northwest, North, Northeast.
Panorama location is 6253843.22 1927609.02 NAD83 State Plane California Zone 6 (feet)
Photos merged using ArcSoft Panorama Maker 4.

Dudleya brevifolia - Crest Canyon South



Area 2015: 9.92 sq. m.

● Photopoint

□ Dudleya brevifolia

Pop. Area 2005 - 2015
Max Area: 31.6 sq. m.
Min Area: 6.95 sq. m.

0 5 10
Meters

Source: San GIS & City of San Diego Park & Rec
Created by: Annabelle Bernabe, 2015



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Dudleya variegata
Variegated Dudleya



© City of San Diego, 2004

MSP - Rare Plant Occurrence Monitoring Form 2015										Page 1
Scientific Name:		Dudleya variegata			Common Name:		Variegated dudleya			
Existing MSP Occurrence?		yes			MSP Occurr. ID:		DUVA_6BMRA020			
CNDDB Elem. Occur. #:		EO51			Translocated?		no			
Preserve:		Black Mountain Open Space Park					Mgmt Unit			
Land Owner:		City of San Diego			Land Mangr:		City of San Diego			
Occurrence Name:		Black Mountain Ranch					Sample Point #:		1	
Surveyors:		Betsy Miller, Kim Roeland, Joe DeWolf					Affiliation		City of San Diego	
Date:		5/8/2015		Time Start:		13:39		Time Finish:		
								14:15		
I. OCCURRENCE STATUS - Assess # plants in both species-specific sampling area (typically 10-m radius circle) & in current mapped extent . See p. 4 for definitions of categories describing phenology & evidence of herbivory, disease & stunted growth within the sampling area. Record any notes on p. 3.										
# Plants/Current Mapped Extent:		0		exact count or estimate?		exact		uncert. very low		
Area of Current Mapped Extent:		0		units		square meters		exact (GPS) or estim? exact (GPS ma		
Species Found in Maximum Extent?		no		if not found, known or suspected reason:		not found since 2001				
# Plants/Sampling Area:		0		exact count or estimate?		exact		uncert. very low		
Sample Area Radius (m)		10								
Phenology In Sampling Area (1-6):		Vegetative		1 (0%)		Flowering		1 (0%)		
		Dead		1 (0%)		Flowering & Fruiting		1 (0%)		
Evidence in Sampling Area (1-6):		Herbivory		1 (0%)		Disease		1 (0%)		
		Is Sampling Area within Current Mapped Extent?		no		Stunted Growth		1 (0%)		
Collection (if not collected previously)?		no								
If yes:		Collector				Collection #				
		Museum/Herbarium								
II. SAMPLING AREA LOCATION & SITE PHOTOMONITORING										
GPS Accuracy: +/-		<1		accur. units:		meters		Datum: NAD83		
coord. system		State Plane (ft)								
Coord'n's at Center of Plot:		E:				N:				
Camera type:		Pentax Optio W90								
Locat. 1 Coord.--E, N		6291985.772		1939628.716		Direction facing		E, SE, S		
		Camera angle		10° up		Photo #		53-58		
						File location		S:WSCP		
Locat. 2 Coord.--E,N						Direction facing				
		Camera angle				Photo #				
						File location				
III. ASSOCIATED SPECIES If need more room, record additional data and any notes on page 3.										
species/substrate		% Cover		Collection #, or NC if collected		species/substrate		% Cover		
Salvia apiana		12				Stipa pulchra		40		
Artemisia californica		7				Bromus hordeaceus		2		
Baccharis pilularis		3				Brachypodium distachyon		50		
Eriogonum fasciculatum		1				Avena sp.		1		
Deinandra fasciculata		5				Brassica nigra		2		
Dichelostemma capitatum		2				Cynara cardunculus		2		
Isocoma menziesii		1								
Calystegia macrostegia		2								
Chlorogalum parviflorum		2								
Sisyrinchium bellum		1								
Calochortus splendens		1								
Sonchus asper		1				bare ground		5		
Bloomeria crocea		1				rock		3		
Pseudognaphalium californicum		1				litter		2		
COVER: Total % Cover:		137		%Herb:		113		%Shrub: 24		
								%Tree: 0		

IV. HABITAT ASSESSMENT IN SAMPLING AREA - Assess habitat covariates within **species-specific sampling area** (typically 10-m radius circle). Vegetation alliance/association can be assigned using San Diego vegetation key (AECOM 2012) in the office or field, using "Associated Species" data from page 1. See page 4 for definitions of habitat assessment categories.

SANDAG 2012 Vegetation Alliance/Association:	Salvia apiana Alliance, Salvia apiana-Artemisia californica Association			
Cover classes (1-6)	Cryptogamic Crust Cover:	1 (0%)	Thatch Cover	1 (0%)
	Thatch Depth Average (cm)		Thatch Depth max (cm)	
Dead Standing Biomass	yes			
If yes, cover/species class	Cynara cardunculus/2		Average height (cm)	15
Mammal Species Activity (categ. 1-4)				
Feral pig activity	1 = No feral pig activity (rooting, wallowing, vegetation destruction, tracks, scat, pig) detected.			
ground squirr. activity	1 = No ground squirrel burrows detected.			
gopher activity	1 = No pocket gopher mounds detected.			
Sampling area representative of mapped occurrence?	yes	(If no, note differences on page 3)		

VI. THREATS ASSESSMENT IN MAXIMUM EXTENT - Assess threats within the **occurrence's maximum extent** (cumulative extent over years of monitoring) **plus 10-m surrounding buffer**. See page 4 for definitions of threat assessment categories. Record notes on page 3. See Argentine Ant Protocol (USGS 2015) for setting up bait, etc.

Surrounding Land Use/Activity at, or Adjacent to, Site	open space				
Argentine ant abundance at bait station (1-4)					
Time start		Temp start		Time end	Temp end
Ant sample collected?		Ant sample #		Ant Station Photo #	
DISTURBANCES (Rank each as 1-6):					
Non-native forbs	3 = Disturbance	feral pig activity	1 = No sign of disturbance	altered hydrology	1 = No sign of disturbance
Non-native grasses	6 = Disturbance	trampling	1 = No sign of disturbance	erosion	1 = No sign of disturbance
Non-native woody pl.	1 = No sign of disturbance	vandalism	1 = No sign of disturbance	urban runoff	1 = No sign of disturbance
competitive native pl.	1 = No sign of disturbance	current grazing	1 = No sign of disturbance	slope movement	1 = No sign of disturbance
dumping/trash	1 = No sign of disturbance	historic grazing	7 = Disturbance	soil compaction	1 = No sign of disturbance
encampments	1 = No sign of disturbance	historic agriculture	1 = No sign of disturbance		
fuel modification zone/fire break	1 = No sign of disturbance				
road construction/maintenance	1 = No sign of disturbance	if present, describe:			
illegal vegetation clearing	1 = No sign of disturbance	if present, describe:			
brush management/restoration	1 = No sign of disturbance within maximum extent or in adjacent 10 m buffer.				
ORV activity	1 = No sign of disturbance	if present, describe:			
Evidence of recent fire	1 = No sign of disturbance within maximum extent				
If sign of recent fire, year burned?					
Trails	1 = No sign of disturbance within maximum extent		If trails are present, are they authorized?		
Type of trail use	hiking		biking		equestrian
					dog
service vehicles			other		
illegal trail use?	1 = No sign of disturbance	describe:			
Other disturbance?	1 = No sign of disturbance	describe:			

MSP-Management Needs and Notes 2015

(top 2 rows auto-fill from page 1)

Scientific Name:

MSP Occur ID.

Date:

VI. MANAGEMENT RECOMMENDATIONS

treat for BRDI; spot treat for CYCA

VII. MANAGEMENT ACTIONS IN LAST YEAR

none

VIII. CNDDDB SPECIES DETECTED (list any plant or animal species to add to the CNDDDB)

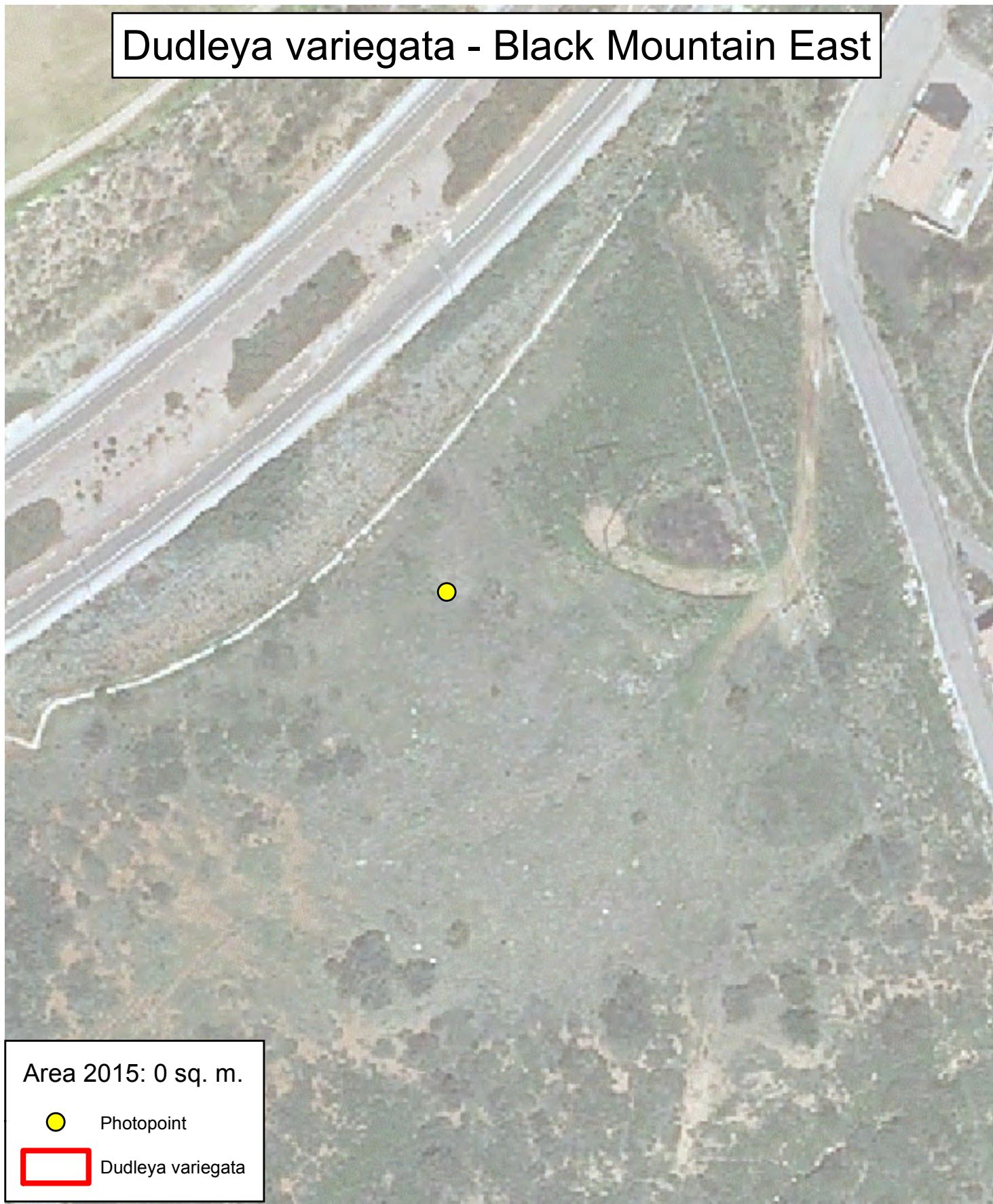
NOTES

***Dudleya variegata* (Variegated Dudleya) Black Mountain East**



Panorama from Southeastern edge of population, facing East, Southeast, South.
Panorama location is 6291985.772 1939628.716 NAD83 State Plane California Zone 6 (feet)
Photos merged using ArcSoft Panorama Maker 4.

Dudleya variegata - Black Mountain East



Area 2015: 0 sq. m.

● Photopoint

□ Dudleya variegata

Pop. Area 2001 - 2015
Max Area: 1845.93 sq. m.
Min Area: 0.0 sq. m.

0 15 30
Meters

Source: San GIS & City of San Diego Park & Rec
Created by: Annabelle Bernabe, 2015



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MSP - Rare Plant Occurrence Monitoring Form 2015										Page 1	
Scientific Name:		Dudleya variegata				Common Name:		Variegated dudleya			
Existing MSP Occurrence?		yes		MSP Occurr. ID:		DUVA_4EAELO12					
CNDDB Elem. Occur. #:		EO22		Translocated?		no					
Preserve:		Mission Trails Regional Park				Mgmt Unit		MU4			
Land Owner:		City of San Diego			Land Mangr:		City of San Diego Park and Recreation Department				
Occurrence Name:		East Elliott - Creek				Sample Point #:		2			
Surveyors:		Kim Roeland, Betsy Miller, Daniel Schwartz				Affiliation		City of San Diego			
Date:		5/6/2015		Time Start:		9:51		Time Finish:		10:12	
I. OCCURRENCE STATUS - Assess # plants in both species-specific sampling area (typically 10-m radius circle) & in current mapped extent . See p. 4 for definitions of categories describing phenology & evidence of herbivory, disease & stunted growth within the sampling area. Record any notes on p. 3.											
# Plants/Current Mapped Extent:		0		exact count or estimate?		exact		uncert.		low	
Area of Current Mapped Extent:		0		units		square meters		exact (GPS) or estim?		exact (GPS ma	
Species Found in Maximum Extent?		yes		if not found, known or suspected reason:		low rainfall					
# Plants/Sampling Area		0		exact count or estimate?		exact		uncert.		low	
Sample Area Radius (m)		10		Phenology In Sampling Area (1-6):		Vegetative		1 (0%)		Flowering	
				Dead		1 (0%)		Flowering & Fruiting		1 (0%)	
Evidence in Sampling Area (1-6):		Herbivory		1 (0%)		Disease		1 (0%)		Stunted Growth	
Is Sampling Area within Current Mapped Extent?		yes									
Collection (if not collected previously)?		no									
If yes:		Collector				Collection #					
		Museum/Herbarium									
II. SAMPLING AREA LOCATION & SITE PHOTOMONITORING											
GPS Accuracy: +/-		<1		accur. units:		meters		Datum:		NAD83	
coord. system		State Plane (ft)									
Coord'n's at Center of Plot:		E:				N:					
Camera type:		Pentax Optio W90									
Locat. 1 Coord.--E, N		6316378.38		1897097.063		Direction facing		SW, W, NW, N		Height	
		Camera angle		10° up		Photo #		3402-3406		File location	
Locat. 2 Coord.-- E,N						Direction facing				Height	
		Camera angle				Photo #				File location	
III. ASSOCIATED SPECIES If need more room, record additional data and any notes on page 3.											
species/substrate		% Cover		Collection #, or NC if collected		species/substrate		% Cover		Collect.# or NC if not collected	
Eriogonum fasciculatum		7				Erodium sp.		10			
Isocoma menziesii		10				Bromus madritensis		12			
Rhamnus crocea		2				Festuca myuros		10			
Salvia mellifera		15				Bromus hordeaceus		3			
Rhus integrifolia		1				Gastridium phleoides		2			
Salvia apiana		3				Brachypodium distachyon		5			
Artemisia californica		1				Avena sp.		4			
Deinandra fasciculata		12				Bothriochloa barbinodis		1			
Stipa pulchra		20				Calystegia macrostegia		1			
Selaginella cinerascens		2									
Dichelostemma capitatum		1									
Acmispon glaber		1				bare ground		40			
Lepidium sp.		1				rock		25			
Logfia gallica		3				litter		1			
COVER: Total % Cover:		127		%Herb:		87		%Shrub:		40	
								%Tree:		0	

IV. HABITAT ASSESSMENT IN SAMPLING AREA - Assess habitat covariates within **species-specific sampling area** (typically 10-m radius circle). Vegetation alliance/association can be assigned using San Diego vegetation key (AECOM 2012) in the office or field, using "Associated Species" data from page 1. See page 4 for definitions of habitat assessment categories.

SANDAG 2012 Vegetation Alliance/Association:	Salvia mellifera Alliance, Salvia mellifera-Eriogonum fasciculatum Association			
Cover classes (1-6)	Cryptogamic Crust Cover:	2 (>0% to <1	Thatch Cover	1 (0%)
	Thatch Depth Average (cm)		Thatch Depth max (cm)	
Dead Standing Biomass	yes			
If yes, cover/species class	Acmispon glaber/2		Average height (cm)	20
Mammal Species Activity (categ. 1-4)				
Feral pig activity	1 = No feral pig activity (rooting, wallowing, vegetation destruction, tracks, scat, pig) detected.			
ground squirr. activity	1 = No ground squirrel burrows detected.			
gopher activity	1 = No pocket gopher mounds detected.			
Sampling area representative of mapped occurrence?	yes	(If no, note differences on page 3)		

VI. THREATS ASSESSMENT IN MAXIMUM EXTENT - Assess threats within the **occurrence's maximum extent** (cumulative extent over years of monitoring) **plus 10-m surrounding buffer**. See page 4 for definitions of threat assessment categories. Record notes on page 3. See Argentine Ant Protocol (USGS 2015) for setting up bait, etc.

Surrounding Land Use/Activity at, or Adjacent to, Site	open space		
Argentine ant abundance at bait station (1-4)			
Time start		Temp start	
Ant sample collected?		Ant sample #	
		Ant Station Photo #	

DISTURBANCES (Rank each as 1-6):

Non-native forbs	4 = Disturbance	feral pig activity	1 = No sign of disturbance	altered hydrology	1 = No sign of disturbance	
Non-native grasses	5 = Disturbance	trampling	1 = No sign of disturbance	erosion	1 = No sign of disturbance	
Non-native woody pl.	1 = No sign of disturbance	vandalism	1 = No sign of disturbance	urban runoff	1 = No sign of disturbance	
competitive native pl.	1 = No sign of disturbance	current grazing	1 = No sign of disturbance	slope movement	1 = No sign of disturbance	
dumping/trash	1 = No sign of disturbance	historic grazing	1 = No sign of disturbance	soil compaction	1 = No sign of disturbance	
encampments	1 = No sign of disturbance	historic agriculture	1 = No sign of disturbance			
fuel modification zone/fire break	1 = No sign of disturbance					
road construction/maintenance	1 = No sign of disturbance	if present, describe:				
illegal vegetation clearing	1 = No sign of disturbance	if present, describe:				
brush management/restoration	1 = No sign of disturbance within maximum extent or in adjacent 10 m buffer.					
ORV activity	1 = No sign of disturbance	if present, describe:				
Evidence of recent fire	7 = Disturbance occurs ≥75% of area with					
If sign of recent fire, year burned?	2003					
Trails	3 = Disturbance present in >0% to <10% of area	If trails are present, are they authorized?				
		no				
Type of trail use	hiking	yes	biking	yes	equestrian	no
	service vehicles	no	other	no	dog	yes
illegal trail use?	3 = Disturbance	describe:				
Other disturbance?	1 = No sign of disturbance	describe:				

MSP-Management Needs and Notes 2015

(top 2 rows auto-fill from page 1)

Scientific Name:

MSP Occur ID.

Date:

VI. MANAGEMENT RECOMMENDATIONS

Illegal trail will be closed as part of the on-going NRMP/Master Plan Update process.

VII. MANAGEMENT ACTIONS IN LAST YEAR

Increased enforcement in East Elliott.

VIII. CNDDDB SPECIES DETECTED (list any plant or animal species to add to the CNDDDB)

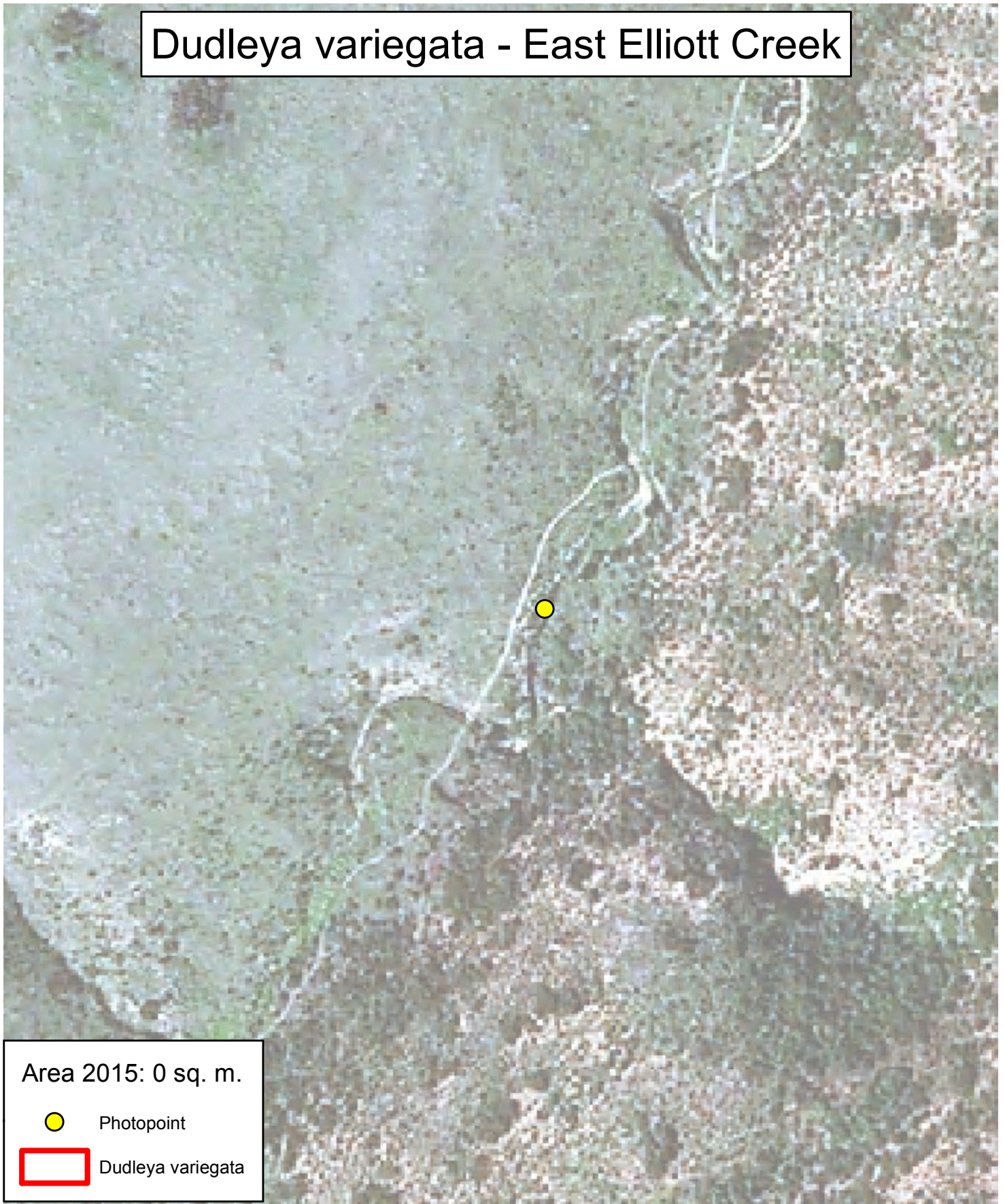
NOTES

***Dudleya variegata* (Variegated Dudleya)** **East Elliott - Creek**



Panorama from Northwestern edge of population, facing Southwest, West, Northwest, North.
Panorama location is 6316378.38 1897097.063 NAD83 State Plane California Zone 6 (feet)
Photos merged using ArcSoft Panorama Maker 4.

Dudleya variegata - East Elliott Creek



Area 2015: 0 sq. m.

● Photopoint

□ Dudleya variegata

Pop. Area 2004 - 2015
Max Area: 1725.22 sq. m.
Min Area: 0 sq. m.

0 10 20
Meters

Source: San GIS & City of San Diego Park & Rec
Created by: Annabelle Bernabe, 2015



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MSP - Rare Plant Occurrence Monitoring Form 2015										Page 1	
Scientific Name:		Dudleya variegata				Common Name:		Variegated dudleya			
Existing MSP Occurrence?		yes				MSP Occurr. ID:		DUVA_4EAELO12			
CNDDB Elem. Occur. #:		EO22				Translocated?		no			
Preserve:		Mission Trails Regional Park				Mgmt Unit		MU4			
Land Owner:		City of San Diego				Land Mangr:		City of San Diego Park and Recreation Department			
Occurrence Name:		East Elliott - Hilltop				Sample Point #:		1			
Surveyors:		Kim Roeland, Betsy Miller, Daniel Schwartz				Affiliation		City of San Diego			
Date:		5/6/2015		Time Start:		11:05		Time Finish:		11:46	
I. OCCURRENCE STATUS - Assess # plants in both species-specific sampling area (typically 10-m radius circle) & in current mapped extent . See p. 4 for definitions of categories describing phenology & evidence of herbivory, disease & stunted growth within the sampling area. Record any notes on p. 3.											
# Plants/Current Mapped Extent:		44		exact count or estimate?		exact		uncert.		low	
Area of Current Mapped Extent:		46.16		units		square meters		exact (GPS) or estim?		exact (GPS ma	
Species Found in Maximum Extent?		yes		if not found, known or suspected reason:							
# Plants/Sampling Area		7		exact count or estimate?		exact		uncert.		low	
Sample Area Radius (m)		10									
Phenology In Sampling Area (1-6):		Vegetative		1 (0%)		Flowering		6 (≥75%)		Fruiting	
		Dead		1 (0%)		Flowering & Fruiting		1 (0%)			
Evidence in Sampling Area (1-6):		Herbivory		1 (0%)		Disease		1 (0%)		Stunted Growth	
										1 (0%)	
Is Sampling Area within Current Mapped Extent?		yes									
Collection (if not collected previously)?		no									
If yes:		Collector				Collection #					
		Museum/Herbarium									
II. SAMPLING AREA LOCATION & SITE PHOTOMONITORING											
GPS Accuracy: +/-		<1		accur. units:		meters		Datum:		NAD83	
coord. system		State Plane (ft)									
Coord'n's at Center of Plot:		E:				N:					
Camera type:		Pentax Optio W90									
Locat. 1 Coord.--E, N		6316264.126		1897663.71		Direction facing		SE, S, SW		Height	
		Camera angle		10° up		Photo #		3411-3416		File location	
								S:WSCP			
Locat. 2 Coord.--E,N						Direction facing				Height	
		Camera angle				Photo #				File location	
III. ASSOCIATED SPECIES If need more room, record additional data and any notes on page 3.											
species/substrate		% Cover		Collection #, or NC if collected		not collected		species/substrate		% Cover	
Dudleya variegata		1						Stephanomeria diegensis		1	
Adenostoma fasciculatum		22						Stipa sp.		3	
Salvia mellifera		12						Festuca myuros		4	
Malosma laurina		7						Bromus madritensis		2	
Quercus berberidifolia		5						Navarretia hamata		2	
Rhus integrifolia		3						Daucus pusillus		1	
Deinandra fasciculata		7						Porophyllum gracile		1	
Opuntia sp.		1						Stylocline gnaphaloides		1	
Cryptantha sp.		2						Dichondra occidentalis		1	
Centaurea melitensis		2						Xylococcus bicolor		3	
Acmispon glaber		1						Brassica sp.		1	
Lepidium sp.		1						bare ground		55	
Crassula connata		1						rock		25	
Chlorogalum parviflorum		1						litter		5	
COVER: Total % Cover:		86		%Herb:		32		%Shrub:		54	
								%Tree:		0	

IV. HABITAT ASSESSMENT IN SAMPLING AREA - Assess habitat covariates within **species-specific sampling area** (typically 10-m radius circle). Vegetation alliance/association can be assigned using San Diego vegetation key (AECOM 2012) in the office or field, using "Associated Species" data from page 1. See page 4 for definitions of habitat assessment categories.

SANDAG 2012 Vegetation Alliance/Association: Adenostoma fasciculatum-Xylococcus bicolor Alliance, Adenostoma fasciculatum-Xylococcus bicolor-Quercus (berberidifolia l xacutidens) Association

Cover classes (1-6)

Cryptogamic Crust Cover:

1 (0%)

Thatch Cover

1 (0%)

Thatch Depth Average (cm)

Thatch Depth max (cm)

Dead Standing Biomass

yes

If yes, cover/species class

Eriogonum fasciculatum/2; Helianthem

Average height (cm)

25

Mammal Species Activity (categ. 1-4)

Feral pig activity

1 = No feral pig activity (rooting, wallowing, vegetation destruction, tracks, scat, pig) detected.

ground squirr. activity

1 = No ground squirrel burrows detected.

gopher activity

1 = No pocket gopher mounds detected.

Sampling area representative of mapped occurrence? yes

(If no, note differences on page 3)

VI. THREATS ASSESSMENT IN MAXIMUM EXTENT - Assess threats within the **occurrence's maximum extent** (cumulative extent over years of monitoring) **plus 10-m surrounding buffer**. See page 4 for definitions of threat assessment categories. Record notes on page 3. See Argentine Ant Protocol (USGS 2015) for setting up bait, etc.

Surrounding Land Use/Activity at, or Adjacent to, Site open space

Argentine ant abundance at bait station (1-4)

Time start

Temp start

Time end

Temp end

Ant sample collected?

Ant sample #

Ant Station Photo #

DISTURBANCES (Rank each as 1-6):

Non-native forbs

1 = No sign of

feral pig activity

1 = No sign of

altered hydrology

1 = No sign of disturbance

Non-native grasses

2 = Disturbance

trampling

1 = No sign of

erosion

1 = No sign of disturbance

Non-native woody pl.

1 = No sign of

vandalism

1 = No sign of

urban runoff

1 = No sign of disturbance

competitive native pl.

1 = No sign of

current grazing

1 = No sign of

slope movement

1 = No sign of disturbance

dumping/trash

1 = No sign of

historic grazing

1 = No sign of

soil compaction

1 = No sign of disturbance

encampments

1 = No sign of

historic agriculture

1 = No sign of

fuel modification zone/fire break

1 = No sign of

road construction/maintenance

1 = No sign of

if present, describe:

illegal vegetation clearing

1 = No sign of

if present, describe:

brush management/restoration

1 = No sign of disturbance within maximum extent or in adjacent 10 m buffer.

ORV activity

1 = No sign of

if present, describe:

Evidence of recent fire

7 = Disturbance occurs ≥75% of area with

If sign of recent fire, year burned?

2003

Trails

3 = Disturbance present in >0% to <10% of a

If trails are present, are they authorized?

no

Type of trail use

hiking

yes

biking

yes

equestrian

no

dog

yes

service vehicles

no

other

no

illegal trail use?

3 = Disturbance

describe:

Illegally created trail was closed in 2014, currently receiving little to no use

Other disturbance?

1 = No sign of

describe:

MSP-Management Needs and Notes 2015

(top 2 rows auto-fill from page 1)

Scientific Name:

MSP Occur ID.

Date:

VI. MANAGEMENT RECOMMENDATIONS

Maintain trail closure and increased enforcement

VII. MANAGEMENT ACTIONS IN LAST YEAR

Closed illegal trail, increased enforcement

VIII. CNDDDB SPECIES DETECTED (list any plant or animal species to add to the CNDDDB)

Black tailed jack rabbit @ clump of eucalyptus near Miramar border

NOTES

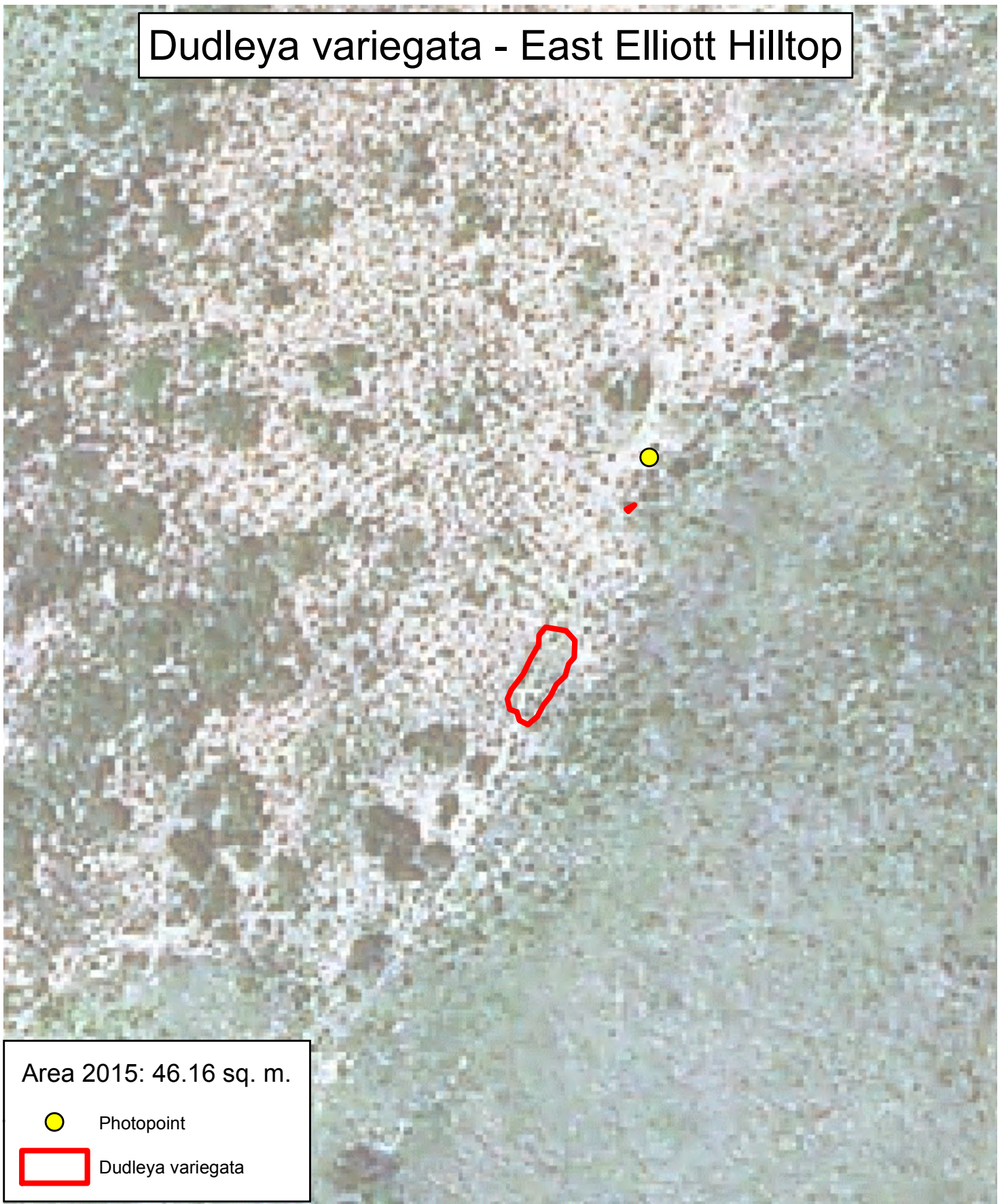
***Dudleya variegata* (Variegated Dudleya)**

East Elliott - Hilltop



Panorama from the Southwestern edge of population, facing Southeast, South, Southwest.
Panorama location is 6316264.13 1897663.71 NAD83 State Plane California Zone 6 (feet)
Photos merged using ArcSoft Panorama Maker 4.

Dudleya variegata - East Elliott Hilltop



Area 2015: 46.16 sq. m.



Photopoint



Dudleya variegata

Pop. Area 2004 - 2015
Max Area: 369.1 sq. m.
Min Area: 0.0 sq. m.

0 10 20 Meters

Source: San GIS & City of San Diego Park & Rec
Created by: Annabelle Bernabe, 2015



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MSP - Rare Plant Occurrence Monitoring Form 2015										Page 1	
Scientific Name:		Dudleya variegata				Common Name:		Variegated dudleya			
Existing MSP Occurrence?		yes				MSP Occurr. ID:		DUVA_4EAELO12			
CNDDB Elem. Occur. #:		EO22				Translocated?		no			
Preserve:		Mission Trails Regional Park				Mgmt Unit		MU4			
Land Owner:		City of San Diego				Land Mangr:		City of San Diego			
Occurrence Name:		East Elliott - Slope				Sample Point #:		3			
Surveyors:		Kim Roeland, Betsy Miller, Daniel Schwartz				Affiliation		City of San Diego			
Date:		5/6/2015		Time Start:		10:22		Time Finish:		10:43	
I. OCCURRENCE STATUS - Assess # plants in both species-specific sampling area (typically 10-m radius circle) & in current mapped extent . See p. 4 for definitions of categories describing phenology & evidence of herbivory, disease & stunted growth within the sampling area. Record any notes on p. 3.											
# Plants/Current Mapped Extent:		0		exact count or estimate?		exact		uncert.		low	
Area of Current Mapped Extent:		0		units		meters		exact (GPS) or estim?		exact (GPS ma	
Species Found in Maximum Extent?		no		if not found, known or suspected reason:		low rainfall year					
# Plants/Sampling Area:		0		exact count or estimate?		exact		uncert.		low	
Sample Area Radius (m)		10									
Phenology In Sampling Area (1-6):		Vegetative		1 (0%)		Flowering		1 (0%)		Fruiting	
		Dead		1 (0%)		Flowering & Fruiting		1 (0%)			
Evidence in Sampling Area (1-6):		Herbivory		1 (0%)		Disease		1 (0%)		Stunted Growth	
										1 (0%)	
Is Sampling Area within Current Mapped Extent?		yes									
Collection (if not collected previously)?		no									
If yes:		Collector				Collection #					
		Museum/Herbarium									
II. SAMPLING AREA LOCATION & SITE PHOTOMONITORING											
GPS Accuracy: +/-		<1		accur. units:		meters		Datum:		NAD83	
coord. system		State Plane (ft)									
Coord'n's at Center of Plot:		E:				N:					
Camera type:		Pentax Optio W90									
Locat. 1 Coord.--E, N		6345780.586		1896466.988		Direction facing		W, NW, N, NE		Height	
		Camera angle		10° up		Photo #		3407-3410		File location	
								S:WSCP			
Locat. 2 Coord.--E,N						Direction facing				Height	
		Camera angle				Photo #				File location	
III. ASSOCIATED SPECIES If need more room, record additional data and any notes on page 3.											
species/substrate		% Cover		Collection #, or NC if collected		not		species/substrate		% Cover	
										Collect.# or NC if not collected	
Eriogonum fasciculatum		17									
Acmispon glaber		10									
Isocoma menziesii		7									
Ferocactus viridescens		1									
Deinandra fasciculata		22									
Erodium sp.		12									
Stipa sp.		3									
Brachypodium distachyon		30									
Avena sp.		1									
Gastridium phleoides		1									
Bromus diandrus		3									
Lepidium sp.		1				bare ground				50	
						rock				20	
						litter				2	
COVER: Total % Cover:		108		%Herb:		73		%Shrub:		35	
								%Tree:		0	

IV. HABITAT ASSESSMENT IN SAMPLING AREA - Assess habitat covariates within **species-specific sampling area** (typically 10-m radius circle). Vegetation alliance/association can be assigned using San Diego vegetation key (AECOM 2012) in the office or field, using "Associated Species" data from page 1. See page 4 for definitions of habitat assessment categories.

SANDAG 2012 Vegetation Alliance/Association:	Eriogonum fasciculatum Alliance, Eriogonum fasciculatum Association			
Cover classes (1-6)	Cryptogamic Crust Cover:	1 (0%)	Thatch Cover	1 (0%)
	Thatch Depth Average (cm)	0	Thatch Depth max (cm)	0
Dead Standing Biomass	yes			
If yes, cover/species class	Acmispon glaber/3		Average height (cm)	20
Mammal Species Activity (categ. 1-4)				
Feral pig activity	1 = No feral pig activity (rooting, wallowing, vegetation destruction, tracks, scat, pig) detected.			
ground squirr. activity	1 = No ground squirrel burrows detected.			
gopher activity	1 = No pocket gopher mounds detected.			
Sampling area representative of mapped occurrence?	yes	(If no, note differences on page 3)		

VI. THREATS ASSESSMENT IN MAXIMUM EXTENT - Assess threats within the **occurrence's maximum extent** (cumulative extent over years of monitoring) **plus 10-m surrounding buffer**. See page 4 for definitions of threat assessment categories. Record notes on page 3. See Argentine Ant Protocol (USGS 2015) for setting up bait, etc.

Surrounding Land Use/Activity at, or Adjacent to, Site	open space		
Argentine ant abundance at bait station (1-4)			
Time start		Temp start	
Ant sample collected?		Ant sample #	
		Ant Station Photo #	

DISTURBANCES (Rank each as 1-6):

Non-native forbs	4 = Disturbance	feral pig activity	1 = No sign of disturbance	altered hydrology	1 = No sign of disturbance
Non-native grasses	5 = Disturbance	trampling	1 = No sign of disturbance	erosion	1 = No sign of disturbance
Non-native woody pl.	1 = No sign of disturbance	vandalism	1 = No sign of disturbance	urban runoff	1 = No sign of disturbance
competitive native pl.	1 = No sign of disturbance	current grazing	1 = No sign of disturbance	slope movement	1 = No sign of disturbance
dumping/trash	1 = No sign of disturbance	historic grazing	1 = No sign of disturbance	soil compaction	1 = No sign of disturbance
encampments	1 = No sign of disturbance	historic agriculture	1 = No sign of disturbance		
fuel modification zone/fire break	1 = No sign of disturbance				
road construction/maintenance	1 = No sign of disturbance	if present, describe:			
illegal vegetation clearing	1 = No sign of disturbance	if present, describe:			
brush management/restoration	1 = No sign of disturbance within maximum extent or in adjacent 10 m buffer.				
ORV activity	1 = No sign of disturbance	if present, describe:			
Evidence of recent fire	7 = Disturbance occurs ≥75% of area with				
If sign of recent fire, year burned?	2003				
Trails	1 = No sign of disturbance within maximum extent		If trails are present, are they authorized?		
Type of trail use	hiking		biking		equestrian
					dog
service vehicles			other		
illegal trail use?	1 = No sign of disturbance	describe:			
Other disturbance?	1 = No sign of disturbance	describe:			

MSP-Management Needs and Notes 2015

(top 2 rows auto-fill from page 1)

Scientific Name:

MSP Occur ID.

Date:

VI. MANAGEMENT RECOMMENDATIONS

None.

VII. MANAGEMENT ACTIONS IN LAST YEAR

None.

VIII. CNDDDB SPECIES DETECTED (list any plant or animal species to add to the CNDDDB)

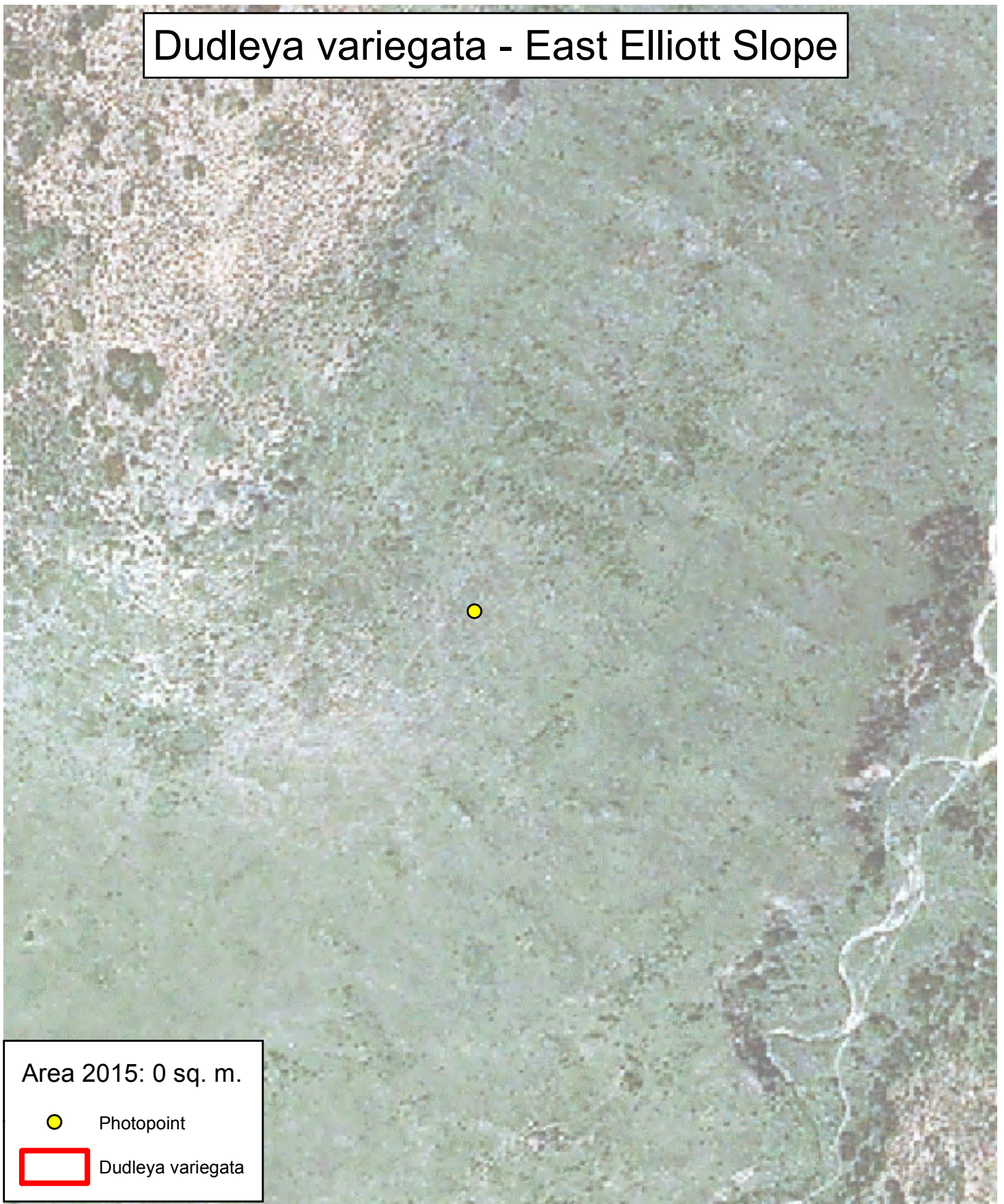
NOTES

***Dudleya variegata* (Variegated Dudleya)**
East Elliott - Slope



Panorama from the Southern edge of population, facing West, Northwest, North, Northeast.
Panorama location is 6315780.58 1896466.98 NAD83 State Plane California Zone 6 (feet)
Photos merged using ArcSoft Panorama Maker 4.

Dudleya variegata - East Elliott Slope



Area 2015: 0 sq. m.

● Photopoint

□ Dudleya variegata

Pop. Area 2004 - 2015
Max Area: 1155.2 sq. m.
Min Area: 0.0 sq. m.

0 25 50 Meters

Source: San GIS & City of San Diego Park & Rec
Created by: Annabelle Bernabe, 2015



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MSP - Rare Plant Occurrence Monitoring Form 2015										Page 1
Scientific Name:		Dudleya variegata			Common Name:		Variegated dudleya			
Existing MSP Occurrence?		yes			MSP Occurr. ID:		DUVA_3GOME003			
CNDDB Elem. Occur. #:		n/a			Translocated?		no			
Preserve:		Spring Canyon					Mgmt Unit MU3			
Land Owner:		City of San Diego			Land Mangr:		City of San Diego Public Utilities Department			
Occurrence Name:		Goat Mesa/Spring Canyon					Sample Point #:		1	
Surveyors:		Betsy Miller, Kim Roeland, Annabelle Bernabe					Affiliation		City of San Diego	
Date:		4/21/2015		Time Start:		9:25		Time Finish: 10:15		
I. OCCURRENCE STATUS - Assess # plants in both species-specific sampling area (typically 10-m radius circle) & in current mapped extent . See p. 4 for definitions of categories describing phenology & evidence of herbivory, disease & stunted growth within the sampling area. Record any notes on p. 3.										
# Plants/Current Mapped Extent:		68		exact count or estimate?		exact		uncert. low		
Area of Current Mapped Extent:		89.96		units		square meters		exact (GPS) or estim? exact (GPS ma		
Species Found in Maximum Extent?		yes		if not found, known or suspected reason:						
# Plants/Sampling Area		25		exact count or estimate?		exact		uncert. low		
Sample Area Radius (m)		10								
Phenology In Sampling Area (1-6):		Vegetative 2 (>0% to <1		Flowering 6 (≥75%)		Fruiting 1 (0%)				
		Dead 1 (0%)		Flowering & Fruiting 1 (0%)						
Evidence in Sampling Area (1-6):		Herbivory 1 (0%)		Disease 1 (0%)		Stunted Growth 1 (0%)				
Is Sampling Area within Current Mapped Extent?		yes								
Collection (if not collected previously)?		no								
If yes:		Collector		Collection #						
		Museum/Herbarium								
II. SAMPLING AREA LOCATION & SITE PHOTOMONITORING										
GPS Accuracy: +/- <1		accur. units:		meters		Datum:		NAD83		
coord. system		State Plane (ft)								
Coord'n's at Center of Plot:		E:		N:						
Camera type:		Pentax Optio W90								
Locat. 1 Coord.--E, N		6330814.789		1782236.114		Direction facing		SE, S, SW		
		Camera angle		Level		Photo #		3231-3241		
						File location		S:WSCP		
Locat. 2 Coord.--E, N						Direction facing		Height		
		Camera angle		Photo #		File location				
III. ASSOCIATED SPECIES If need more room, record additional data and any notes on page 3.										
species/substrate		% Cover		Collection #, or NC if not collected		species/substrate		% Cover		
Dudleya variegata		1				Lepidium nitidum		1		
Simmondsia chinensis		7				Erodium sp.		5 (dead)		
Artemisia californica		3				Lasthenia gracilis		1 (dead)		
Eriogonum fasciculatum		5				Bromus madritensis		1		
Ferocactus viridescens		2				Centaurea melitensis		1		
Cylindropuntia prolifera		1				Salsola tragus		1		
Ambrosia chenopodiifolia		1				Cryptantha sp.		1 (dead)		
Deinandra fasciculata		15				Plantago erecta		1		
Mirabilis laevis		1				Logfia gallica		1		
Stipa pulchra		1								
Selaginella cinerascens		2 (dead)								
Logfia filaginoides		1				bare ground		20		
Chlorogalum parviflorum		1				rock		5		
Crassula connata		7				litter		1		
COVER: Total % Cover:		61		%Herb:		42		%Shrub: 19		
								%Tree: 0		

IV. HABITAT ASSESSMENT IN SAMPLING AREA - Assess habitat covariates within **species-specific sampling area** (typically 10-m radius circle). Vegetation alliance/association can be assigned using San Diego vegetation key (AECOM 2012) in the office or field, using "Associated Species" data from page 1. See page 4 for definitions of habitat assessment categories.

SANDAG 2012 Vegetation Alliance/Association: Simmondsia chinensis Alliance, Simmondsia chinensis-Bahiopsis laciniata Association

Cover classes (1-6)

Cryptogamic Crust Cover: 2 (>0% to <1

Thatch Cover 1 (0%)

Thatch Depth Average (cm)

Thatch Depth max (cm)

Dead Standing Biomass

no

If yes, cover/species class

Average height (cm)

Mammal Species Activity (categ. 1-4)

Feral pig activity 1 = No feral pig activity (rooting, wallowing, vegetation destruction, tracks, scat, pig) detected.

ground squirr. activity 1 = No ground squirrel burrows detected.

gopher activity 1 = No pocket gopher mounds detected.

Sampling area representative of mapped occurrence? yes (If no, note differences on page 3)

VI. THREATS ASSESSMENT IN MAXIMUM EXTENT - Assess threats within the **occurrence's maximum extent** (cumulative extent over years of monitoring) **plus 10-m surrounding buffer**. See page 4 for definitions of threat assessment categories. Record notes on page 3. See Argentine Ant Protocol (USGS 2015) for setting up bait, etc.

Surrounding Land Use/Activity at, or Adjacent to, Site open space

Argentine ant abundance at bait station (1-4)

1 = No ants detected at bait station or in vicinity.

Time start 9:26 AM

Temp start

70F

Time end

10:13 AM

Temp end

68F

Ant sample collected? no

Ant sample #

Ant Station Photo #

3242

DISTURBANCES (Rank each as 1-6):

Non-native forbs 3 = Disturbance

feral pig activity 1 = No sign of

altered hydrology 1 = No sign of disturbance

Non-native grasses 3 = Disturbance

trampling 1 = No sign of

erosion 1 = No sign of disturbance

Non-native woody pl. 1 = No sign of

vandalism 1 = No sign of

urban runoff 1 = No sign of disturbance

competitive native pl. 1 = No sign of

current grazing 1 = No sign of

slope movement 1 = No sign of disturbance

dumping/trash 1 = No sign of

historic grazing 6 = Disturbance

soil compaction 1 = No sign of disturbance

encampments 1 = No sign of

historic agriculture 1 = No sign of

fuel modification zone/fire break 1 = No sign of

road construction/maintenance 1 = No sign of

if present, describe:

illegal vegetation clearing 1 = No sign of

if present, describe:

brush management/restoration 1 = No sign of disturbance within maximum extent or in adjacent 10 m buffer.

ORV activity

1 = No sign of

if present, describe:

Evidence of recent fire

1 = No sign of disturbance within maximum

If sign of recent fire, year burned?

Trails

2 = Disturbance does not occur within maximum

If trails are present, are they authorized?

yes

Type of trail use

hiking

no

biking

no

equestrian

no

dog

no

service vehicles

yes

other

no

illegal trail use?

1 = No sign of

describe:

Other disturbance?

1 = No sign of

describe:

MSP-Management Needs and Notes 2015

(top 2 rows auto-fill from page 1)

Scientific Name:

MSP Occur ID.

Date:

VI. MANAGEMENT RECOMMENDATIONS

Continue to maintain access control with fencing and locked gates

VII. MANAGEMENT ACTIONS IN LAST YEAR

PUD installed fencing along access road to control ORV

VIII. CNDDDB SPECIES DETECTED (list any plant or animal species to add to the CNDDDB)

NOTES

***Dudleya variegata* (Variegated Dudleya)** **Goat Mesa/Spring Canyon**



Panorama looking towards the Southwestern edge of the population, facing Southeast, South, Southwest.

Panorama location is 6330814.78 1782236.11 NAD83 State Plane California Zone 6 (feet)

Photos merged using ArcSoft Panorama Maker 4.

Dudleya variegata - Goat Mesa/Spring Canyon



Pop. Area 2003 - 2015
Max Area: 1065.54 sq. m.
Min Area: 37.0 sq. m.

0 10 20
Meters

Source: San GIS & City of San Diego Park & Rec
Created by: Annabelle Bernabe, 2015



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MSP - Rare Plant Occurrence Monitoring Form 2015										Page 1	
Scientific Name:		Dudleya variegata				Common Name:		Variegated dudleya			
		Existing MSP Occurrence?		yes		MSP Occurr. ID:		DUVA_3MAVA004			
		CNDDB Elem. Occur. #:		n/a		Translocated?		no			
Preserve:		Marron Valley Mitigation Bank						Mgmt Unit		MU3	
Land Owner:		City of San Diego				Land Mangr:		City of San Diego Public Utilities Department			
Occurrence Name:		Marron Valley						Sample Point #:		1	
Surveyors:		Kim Roeland, Betsy Miller, Annabelle Bernabe, Daniel Schwartz						Affiliation		City of San Diego	
Date:		4/1/2015		Time Start:		13:15		Time Finish:		14:13	
I. OCCURRENCE STATUS - Assess # plants in both species-specific sampling area (typically 10-m radius circle) & in current mapped extent . See p. 4 for definitions of categories describing phenology & evidence of herbivory, disease & stunted growth within the sampling area. Record any notes on p. 3.											
# Plants/Current Mapped Extent:		2801		exact count or estimate?		exact		uncert.		low	
		Area of Current Mapped Extent:		496.3		units		square meters		exact (GPS) or estim?	
		Species Found in Maximum Extent?		yes		if not found, known or suspected reason:					
# Plants/Sampling Area:		202		exact count or estimate?		exact		uncert.		low	
		Sample Area Radius (m)		10							
		Phenology In Sampling Area (1-6):		Vegetative		3 (10% to <2		Flowering		5 (50% to <75%)	
				Dead		1 (0%)		Flowering & Fruiting		1 (0%)	
		Evidence in Sampling Area (1-6):		Herbivory		1 (0%)		Disease		1 (0%)	
								Stunted Growth		1 (0%)	
		Is Sampling Area within Current Mapped Extent?		yes							
		Collection (if not collected previously)?		yes							
If yes:		Collector						Collection #			
		Museum/Herbarium									
II. SAMPLING AREA LOCATION & SITE PHOTOMONITORING											
GPS Accuracy: +/-		<1		accur. units:		meters		Datum:		NAD83	
coord. system		State Plane (ft)									
Coord'n's at Center of Plot:		E:				N:					
Camera type:		Pentax Optio W90									
Locat. 1 Coord.--E, N		6407136.242		1787954.48		Direction facing		SE, S, SW		Height	
		Camera angle		Level		Photo #		3016-3020		File location	
Locat. 2 Coord.-- E,N						Direction facing				Height	
		Camera angle				Photo #				File location	
III. ASSOCIATED SPECIES If need more room, record additional data and any notes on page 3.											
species/substrate		% Cover		Collection #, or NC if collected		not collected		species/substrate		% Cover	
										Collect.# or NC if not collected	
Dudleya variegata		2						Calochortus splendens		1	
Crassula connata		6						Hypochaeris glabra		3	
Selaginella cinerascens		7						Lasthenia coronaria		1	
Plantago erecta		4						Osmadenia tenella		2	
Lepidium nitidum		2						Melica sp.		1	
Silene gallica		3						Cryptantha sp.		1	
Erodium botrys		20						Gastidium phleoides		1	
Lamarckia aurea		1									
Bromus madritensis ssp. rubens		30									
Bromus hordeaceus		4									
Allium sp.		1									
Bloomeria clevelandii		3						bare ground		10	
Festuca myuros		4						rock		5	
Avena sp.		7						litter		3	
COVER: Total % Cover:		104		%Herb:		104		%Shrub:		0	
										%Tree:	
										0	

IV. HABITAT ASSESSMENT IN SAMPLING AREA - Assess habitat covariates within **species-specific sampling area** (typically 10-m radius circle). Vegetation alliance/association can be assigned using San Diego vegetation key (AECOM 2012) in the office or field, using "Associated Species" data from page 1. See page 4 for definitions of habitat assessment categories.

SANDAG 2012 Vegetation Alliance/Association:

Mediterranean California Naturalized Annual and Perennial Grassland Semi-Natural Stands

Cover classes (1-6)

Cryptogamic Crust Cover:

4 (25% to <5

Thatch Cover

3 (10% to <25%)

Thatch Depth Average (cm)

3

Thatch Depth max (cm)

7

Dead Standing Biomass

yes

If yes, cover/species class

Bromus madritensis/3

Average height (cm)

10

Mammal Species Activity (categ. 1-4)

Feral pig activity

1 = No feral pig activity (rooting, wallowing, vegetation destruction, tracks, scat, pig) detected.

ground squirr. activity

1 = No ground squirrel burrows detected.

gopher activity

3 = <10 mounds observed within sampling area.

Sampling area representative of mapped occurrence? yes

(If no, note differences on page 3)

VI. THREATS ASSESSMENT IN MAXIMUM EXTENT - Assess threats within the **occurrence's maximum extent** (cumulative extent over years of monitoring) **plus 10-m surrounding buffer**. See page 4 for definitions of threat assessment categories. Record notes on page 3. See Argentine Ant Protocol (USGS 2015) for setting up bait, etc.

Surrounding Land Use/Activity at, or Adjacent to, Site

open spce

Argentine ant abundance at bait station (1-4)

Time start

Temp start

Time end

Temp end

Ant sample collected?

Ant sample #

Ant Station Photo #

DISTURBANCES (Rank each as 1-6):

Non-native forbs

5 = Disturbance

feral pig activity

1 = No sign of

altered hydrology

1 = No sign of disturbance

Non-native grasses

5 = Disturbance

trampling

1 = No sign of

erosion

1 = No sign of disturbance

Non-native woody pl.

1 = No sign of

vandalism

1 = No sign of

urban runoff

1 = No sign of disturbance

competitive native pl.

1 = No sign of

current grazing

1 = No sign of

slope movement

1 = No sign of disturbance

dumping/trash

1 = No sign of

historic grazing

7 = Disturbance

soil compaction

1 = No sign of disturbance

encampments

1 = No sign of

historic agriculture

1 = No sign of

fuel modification zone/fire break

1 = No sign of

road construction/maintenance

2 = Disturbance

if present, describe:

illegal vegetation clearing

1 = No sign of

if present, describe:

brush management/restoration

1 = No sign of disturbance within maximum extent or in adjacent 10 m buffer.

ORV activity

1 = No sign of

if present, describe:

Evidence of recent fire

7 = Disturbance occurs ≥75% of area with

If sign of recent fire, year burned?

2003

Trails

1 = No sign of disturbance within maximum extent

If trails are present, are they authorized?

Type of trail use

hiking

biking

equestrian

dog

service vehicles

other

illegal trail use?

1 = No sign of

describe:

Other disturbance?

1 = No sign of

describe:

MSP-Management Needs and Notes 2015

(top 2 rows auto-fill from page 1)

Scientific Name: MSP Occur ID: Date: **VI. MANAGEMENT RECOMMENDATIONS**

control of non-native grasses and forbs around areas of high density; protect soil crust when possible; continue to maintain access control via signs and gate

VII. MANAGEMENT ACTIONS IN LAST YEAR

None

VIII. CNDDDB SPECIES DETECTED (list any plant or animal species to add to the CNDDDB)**NOTES**

Gopher activity was not recent.

2,801 is the exact count for the drainage that is monitored every year.

Total for additional drainages (estimate) is 3,530.

Mediterranean California Naturalized Annual and Perennial Grasslands Semi-Natural Stands is best result using the veg key. This site doesn't meet the criteria for Selaginella bigelovii Alliance but the description very closely fits with this site.

***Dudleya variegata* (Variegated Dudleya) Marron Valley**



Panorama from Northern edge of population, facing Southeast, South, Southwest.
Panorama location is 6407136.24 1787954.48 NAD83 State Plane California Zone 6 (feet)
Photos merged using ArcSoft Panorama Maker 4.

Dudleya variegata - Marron Valley



Area 2015: 496.3 sq. m.

● Photopoint

□ Dudleya variegata

Pop. Area 2005 - 2015
Max Area: 496.3 sq. m.
Min Area: 33.6 sq. m.

0 15 30
Meters

Source: San GIS & City of San Diego Park & Rec
Created by: Annabelle Bernabe, 2015



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MSP - Rare Plant Occurrence Monitoring Form 2015										Page 1
Scientific Name:		Dudleya variegata			Common Name:		Variegated dudleya			
Existing MSP Occurrence?		yes			MSP Occurr. ID:		DUVA_4MERO014			
CNDDB Elem. Occur. #:		n/a			Translocated?		no			
Preserve:		Los Penasquitos Canyon Preserve					Mgmt Unit			
Land Owner:		City of San Diego			Land Mangr:		City of San Diego			
Occurrence Name:		Mercy Road					Sample Point #:		1	
Surveyors:		Betsy Miller, Kim Roeland, Joe DeWolf					Affiliation		City of San Diego	
Date:		5/8/2015		Time Start:		15:00		Time Finish: 15:25		
I. OCCURRENCE STATUS - Assess # plants in both species-specific sampling area (typically 10-m radius circle) & in current mapped extent . See p. 4 for definitions of categories describing phenology & evidence of herbivory, disease & stunted growth within the sampling area. Record any notes on p. 3.										
# Plants/Current Mapped Extent:		53		exact count or estimate?		exact		uncert. low		
Area of Current Mapped Extent:		129.5		units		square meters		exact (GPS) or estim? exact (GPS ma		
Species Found in Maximum Extent?		yes		if not found, known or suspected reason:						
# Plants/Sampling Area:		48		exact count or estimate?		exact		uncert. low		
Sample Area Radius (m)		10								
Phenology In Sampling Area (1-6):		Vegetative 1 (0%)		Flowering 6 (≥75%)		Fruiting 1 (0%)				
		Dead 1 (0%)		Flowering & Fruiting 1 (0%)						
Evidence in Sampling Area (1-6):		Herbivory 1 (0%)		Disease 1 (0%)		Stunted Growth 1 (0%)				
Is Sampling Area within Current Mapped Extent?		1 (0%)								
Collection (if not collected previously)?		no								
If yes:		Collector		Collection #						
		Museum/Herbarium								
II. SAMPLING AREA LOCATION & SITE PHOTOMONITORING										
GPS Accuracy: +/-		<1		accur. units:		meters		Datum: NAD83		
coord. system		State Plane (ft)								
Coordin's at Center of Plot: E:				N:						
Camera type:		Pentax Optio W90								
Locat. 1 Coord.--E, N		6294507.443		1984420.89		Direction facing		SW, W, NW		
		Camera angle		10 ° up		Photo #		59-63		
						File location		S:WSCP		
Locat. 2 Coord.--E,N						Direction facing		Height		
		Camera angle				Photo #		File location		
III. ASSOCIATED SPECIES If need more room, record additional data and any notes on page 3.										
species/substrate		% Cover		Collection #, or NC if collected		species/substrate		% Cover		
Dudleya variegata		2				Selaginella cinerascens		10		
Eriogonum fasciculatum		3				Brachypodium distachyon		20		
Isocoma menziesii		7				Logfia gallica		1		
Adolphia californica		2				Erodium botrys		2		
Rhus integrifolia		3				Centaurea melitensis		1		
Corethrogyne filaginifolia		2				Bromus madritensis		1		
Acmispon glaber		3				Plantago erecta		1		
Chlorogalum parviflorum		3				Sisyrinchium bellum		1		
Deinandra fasciculata		4				Ferocactus viridescens		1		
Hypochaeris glabra		2								
Stipa pulchra		27								
Peritoma arborea		1				bare ground		25		
Lomatium dasycarpum		15				rock		40		
Daucus pusillus		1				litter		2		
COVER: Total % Cover:		113		%Herb:		93		%Shrub: 20		
								%Tree: 0		

IV. HABITAT ASSESSMENT IN SAMPLING AREA - Assess habitat covariates within **species-specific sampling area** (typically 10-m radius circle). Vegetation alliance/association can be assigned using San Diego vegetation key (AECOM 2012) in the office or field, using "Associated Species" data from page 1. See page 4 for definitions of habitat assessment categories.

SANDAG 2012 Vegetation Alliance/Association: Artemisia californica - Eriogonum fasciculatum Alliance, Artemisia californica - Eriogonum fasciculatum - Opuntia littoralis/Dudleya (edulis) Association

Cover classes (1-6)

Cryptogamic Crust Cover: 4 (25% to <5

Thatch Cover 1 (0%)

Thatch Depth Average (cm)

Thatch Depth max (cm)

Dead Standing Biomass

no

If yes, cover/species class

Average height (cm)

Mammal Species Activity (categ. 1-4)

Feral pig activity 1 = No feral pig activity (rooting, wallowing, vegetation destruction, tracks, scat, pig) detected.

ground squirr. activity 1 = No ground squirrel burrows detected.

gopher activity 1 = No pocket gopher mounds detected.

Sampling area representative of mapped occurrence? yes (If no, note differences on page 3)

VI. THREATS ASSESSMENT IN MAXIMUM EXTENT - Assess threats within the **occurrence's maximum extent** (cumulative extent over years of monitoring) **plus 10-m surrounding buffer**. See page 4 for definitions of threat assessment categories. Record notes on page 3. See Argentine Ant Protocol (USGS 2015) for setting up bait, etc.

Surrounding Land Use/Activity at, or Adjacent to, Site open space

Argentine ant abundance at bait station (1-4)

Time start

Temp start

Time end

Temp end

Ant sample collected?

Ant sample #

Ant Station Photo #

DISTURBANCES (Rank each as 1-6):

Non-native forbs 3 = Disturbance

feral pig activity 1 = No sign of

altered hydrology 1 = No sign of disturbance

Non-native grasses 4 = Disturbance

trampling 1 = No sign of

erosion 1 = No sign of disturbance

Non-native woody pl. 1 = No sign of

vandalism 1 = No sign of

urban runoff 1 = No sign of disturbance

competitive native pl. 1 = No sign of

current grazing 1 = No sign of

slope movement 1 = No sign of disturbance

dumping/trash 1 = No sign of

historic grazing 7 = Disturbance

soil compaction 1 = No sign of disturbance

encampments 1 = No sign of

historic agriculture 1 = No sign of

fuel modification zone/fire break 1 = No sign of

road construction/maintenance 1 = No sign of

if present, describe:

illegal vegetation clearing 1 = No sign of

if present, describe:

brush management/restoration 1 = No sign of disturbance within maximum extent or in adjacent 10 m buffer.

ORV activity

1 = No sign of

if present, describe:

Evidence of recent fire

1 = No sign of disturbance within maximum

If sign of recent fire, year burned?

Trails

1 = No sign of disturbance within maximum extent

If trails are present, are they authorized?

Type of trail use

hiking

biking

equestrian

dog

service vehicles

other

illegal trail use?

1 = No sign of

describe:

Other disturbance?

1 = No sign of

describe:

MSP-Management Needs and Notes 2015

(top 2 rows auto-fill from page 1)

Scientific Name:

MSP Occur ID.

Date:

VI. MANAGEMENT RECOMMENDATIONS

none

VII. MANAGEMENT ACTIONS IN LAST YEAR

none

VIII. CNDDDB SPECIES DETECTED (list any plant or animal species to add to the CNDDDB)

CAGN calling upslope

NOTES

Originally the veg keyed out to Isocoma menziesii Alliance, Isocoma menziesii Provisional Association but this didn't fit the site well because the site lacks the proximity to salt marsh which is noted in the description for Iso-men Alliance, Association

***Dudleya variegata* (Variegated Dudleya) Mercy Road**



Panorama from Northwestern edge of population, facing Southwest, West, Northwest.
Panorama location is 6294507.443 1924420.89 NAD83 State Plane California Zone 6 (feet)
Photos merged using ArcSoft Panorama Maker 4.

Dudleya variegata - Mercy Road



Area 2015: 129.5 sq. m.

● Photopoint

□ Dudleya variegata

Pop. Area 2003 - 2015
Max Area: 494.99 sq. m.
Min Area: 66.0 sq. m.

0 10 20 Meters

Source: San GIS & City of San Diego Park & Rec
Created by: Annabelle Bernabe, 2015



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MSP - Rare Plant Occurrence Monitoring Form 2015										Page 1
Scientific Name:		Dudleya variegata			Common Name:		Variegated dudleya			
Existing MSP Occurrence?		yes			MSP Occurr. ID:		DUVA_4MTRP015			
CNDDB Elem. Occur. #:		n/a			Translocated?		no			
Preserve:		Mission Trails Regional Park					Mgmt Unit			
Land Owner:		City of San Diego			Land Mangr:		City of San Diego			
Occurrence Name:		Mission Trails Regional Park					Sample Point #:		1	
Surveyors:		Kim Roeland, Betsy Miller, Daniel Schwartz					Affiliation		City of San Diego	
Date:		5/6/2015		Time Start:		14:50		Time Finish: 15:04		
I. OCCURRENCE STATUS - Assess # plants in both species-specific sampling area (typically 10-m radius circle) & in current mapped extent . See p. 4 for definitions of categories describing phenology & evidence of herbivory, disease & stunted growth within the sampling area. Record any notes on p. 3.										
# Plants/Current Mapped Extent:		7		exact count or estimate?		exact		uncert. low		
Area of Current Mapped Extent:		2.78		units		square meters		exact (GPS) or estim? exact (GPS ma		
Species Found in Maximum Extent?		yes		if not found, known or suspected reason:						
# Plants/Sampling Area		7		exact count or estimate?		exact		uncert. low		
Sample Area Radius (m)		10								
Phenology In Sampling Area (1-6):		Vegetative 1 (0%)		Flowering 6 (≥75%)		Fruiting 1 (0%)				
		Dead 1 (0%)		Flowering & Fruiting 1 (0%)						
Evidence in Sampling Area (1-6):		Herbivory 1 (0%)		Disease 1 (0%)		Stunted Growth 1 (0%)				
Is Sampling Area within Current Mapped Extent?		yes								
Collection (if not collected previously)?		no								
If yes:		Collector		Collection #						
		Museum/Herbarium								
II. SAMPLING AREA LOCATION & SITE PHOTOMONITORING										
GPS Accuracy: +/-		<1		accur. units:		meters		Datum: NAD83		
coord. system		State Plane (ft)								
Coord'n's at Center of Plot:		E:		N:						
Camera type:		Pentax Optio W90								
Locat. 1 Coord.--E, N		6309627.305		1879705.912		Direction facing		NW, N, NE		
		Camera angle		10 ° up		Photo #		435-438		
						File location		S:WSCP		
Locat. 2 Coord.--E,N						Direction facing		Height		
		Camera angle				Photo #		File location		
III. ASSOCIATED SPECIES If need more room, record additional data and any notes on page 3.										
species/substrate		% Cover		Collection #, or NC if collected		species/substrate		% Cover		
Dudleya variegata		1				Erodium sp.		10		
Eriogonum fasciculatum		8				Bromus madritensis		1		
Artemisia californica		2				Centaurea melitensis		1		
Peritoma arborea		2				Chlorogalum parviflorum		1		
Bahiopsis laciniata		1								
Ferocactus viridescens		1								
Deinandra fasciculata		9								
Stipa sp.		2								
Selaginella cinerascens		10								
Logifa gallica		2								
Avena sp.		1								
Brachypodium distachyon		9				bare ground		60		
Lepidium sp.		1				rock		30		
Crassula connata		1				litter		1		
COVER: Total % Cover:		63		%Herb:		49		%Shrub: 14		
								%Tree: 0		

IV. HABITAT ASSESSMENT IN SAMPLING AREA - Assess habitat covariates within **species-specific sampling area** (typically 10-m radius circle). Vegetation alliance/association can be assigned using San Diego vegetation key (AECOM 2012) in the office or field, using "Associated Species" data from page 1. See page 4 for definitions of habitat assessment categories.

SANDAG 2012 Vegetation Alliance/Association: Bahiopsis laciniata Alliance, Bahiopsis laciniata-Artemisia californica-Eriogonum fasciculatum Association

Cover classes (1-6)

Cryptogamic Crust Cover: 3 (10% to <2

Thatch Cover 1 (0%)

Thatch Depth Average (cm)

Thatch Depth max (cm)

Dead Standing Biomass

yes

If yes, cover/species class

Acmispon glaber/2

Average height (cm)

12

Mammal Species Activity (categ. 1-4)

Feral pig activity 1 = No feral pig activity (rooting, wallowing, vegetation destruction, tracks, scat, pig) detected.

ground squirr. activity 1 = No ground squirrel burrows detected.

gopher activity 1 = No pocket gopher mounds detected.

Sampling area representative of mapped occurrence? yes (If no, note differences on page 3)

VI. THREATS ASSESSMENT IN MAXIMUM EXTENT - Assess threats within the **occurrence's maximum extent** (cumulative extent over years of monitoring) **plus 10-m surrounding buffer**. See page 4 for definitions of threat assessment categories. Record notes on page 3. See Argentine Ant Protocol (USGS 2015) for setting up bait, etc.

Surrounding Land Use/Activity at, or Adjacent to, Site open space

Argentine ant abundance at bait station (1-4)

Time start

Temp start

Time end

Temp end

Ant sample collected?

Ant sample #

Ant Station Photo #

DISTURBANCES (Rank each as 1-6):

Non-native forbs 2 = Disturbance

feral pig activity 1 = No sign of

altered hydrology 1 = No sign of disturbance

Non-native grasses 2 = Disturbance

trampling 1 = No sign of

erosion 1 = No sign of disturbance

Non-native woody pl. 1 = No sign of

vandalism 1 = No sign of

urban runoff 1 = No sign of disturbance

competitive native pl. 1 = No sign of

current grazing 1 = No sign of

slope movement 1 = No sign of disturbance

dumping/trash 1 = No sign of

historic grazing 1 = No sign of

soil compaction 1 = No sign of disturbance

encampments 1 = No sign of

historic agriculture 1 = No sign of

fuel modification zone/fire break 1 = No sign of

road construction/maintenance 1 = No sign of

if present, describe:

illegal vegetation clearing 1 = No sign of

if present, describe:

brush management/restoration

1 = No sign of disturbance within maximum extent or in adjacent 10 m buffer.

ORV activity

1 = No sign of if present, describe:

Evidence of recent fire

7 = Disturbance occurs ≥75% of area with

If sign of recent fire, year burned?

unknown

Trails

2 = Disturbance does not occur within maximum

If trails are present, are they authorized?

Type of trail use

hiking

yes

biking

yes

equestrian

no

dog yes

service vehicles

yes

other

no

illegal trail use?

1 = No sign of

describe:

Other disturbance?

1 = No sign of

describe:

MSP-Management Needs and Notes 2015

(top 2 rows auto-fill from page 1)

Scientific Name:

MSP Occur ID.

Date:

VI. MANAGEMENT RECOMMENDATIONS

None.

VII. MANAGEMENT ACTIONS IN LAST YEAR

None.

VIII. CNDDDB SPECIES DETECTED (list any plant or animal species to add to the CNDDDB)

NOTES

***Dudleya variegata* (Variegated Dudleya)**
Mission Trails Regional Park Subpopulation # 1



Panorama from the Southern edge of population, facing Northwest, North, Northeast.
Panorama location is 6309627.30 1879705.91 NAD83 State Plane California Zone 6 (feet)
Photos merged using ArcSoft Panorama Maker 4.

Dudleya variegata - Mission Trails Regional Park Pt. 1



Area 2015: 2.78 sq. m.

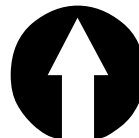
● Photopoint

□ Dudleya variegata

Pop. Area 2004 - 2015
Max Area: 386.4 sq. m.
Min Area: 2.78 sq. m.

0 5 10 Meters

Source: San GIS & City of San Diego Park & Rec
Created by: Annabelle Bernabe, 2015



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MSP - Rare Plant Occurrence Monitoring Form 2015										Page 1
Scientific Name:		Dudleya variegata			Common Name:		Variegated dudleya			
Existing MSP Occurrence?		yes			MSP Occurr. ID:		DUVA_4MTRP015			
CNDDB Elem. Occur. #:		n/a			Translocated?		no			
Preserve:	Mission Trails Regional Park						Mgmt Unit		MU4	
Land Owner:	City of San Diego				Land Mangr:	City of San Diego				
Occurrence Name:	Mission Trails Regional Park						Sample Point #:	2		
Surveyors:	Kim Roeland, Betsy Miller, Daniel Schwartz						Affiliation	City of San Diego		
Date:	5/6/2015			Time Start:	13:40		Time Finish:	14:15		
I. OCCURRENCE STATUS - Assess # plants in both species-specific sampling area (typically 10-m radius circle) & in current mapped extent . See p. 4 for definitions of categories describing phenology & evidence of herbivory, disease & stunted growth within the sampling area. Record any notes on p. 3.										
# Plants/Current Mapped Extent:	343		exact count or estimate?		exact		uncert.	low		
Area of Current Mapped Extent:		232		units	square meters	exact (GPS) or estim?		exact (GPS ma		
Species Found in Maximum Extent?		yes		if not found, known or suspected reason:						
# Plants/Sampling Area:	59		exact count or estimate?		exact		uncert.	low		
Sample Area Radius (m)		10								
Phenology In Sampling Area (1-6):		Vegetative 1 (0%)		Flowering 6 (≥75%)		Fruiting 1 (0%)				
		Dead 1 (0%)		Flowering & Fruiting 1 (0%)						
Evidence in Sampling Area (1-6):		Herbivory 1 (0%)		Disease 1 (0%)		Stunted Growth 1 (0%)				
Is Sampling Area within Current Mapped Extent?		yes								
Collection (if not collected previously)?		no								
If yes:		Collector				Collection #				
		Museum/Herbarium								
II. SAMPLING AREA LOCATION & SITE PHOTOMONITORING										
GPS Accuracy: +/-		<1		accur. units:		meters		Datum:	NAD83	
coord. system		State Plane (ft)								
Coord'n's at Center of Plot:		E:				N:				
Camera type:	Pentax Optio W90									
Locat. 1 Coord.--E, N	6309229.821			1880126.563		Direction facing	W, NW, N		Height	1.1 m
	Camera angle	10 ° up		Photo #	3418-3422	File location	S:WSCP			
Locat. 2 Coord.--E,N						Direction facing			Height	
	Camera angle			Photo #		File location				
III. ASSOCIATED SPECIES If need more room, record additional data and any notes on page 3.										
species/substrate	% Cover	Collection #, or NC if collected		not collected		species/substrate	% Cover	Collect.# or NC if not collected		
Dudleya variegata	1					Bromus madritensis	3			
Eriogonum fasciculatum	7					Osmaadenia tenella	1			
Rhus integrifolia	1					Dichelostemma capitatum	1			
Ferocactus viridescens	1					Avena sp.	2			
Acmispon glaber	2					Chlorogalum parviflorum	1			
Malosma laurina	5									
Artemisia californica	2									
Stipa sp.	3									
Deinandra fasciculata	3									
Logfia gallica	3									
Erodium sp.	10									
Selaginella cinerascens	7					bare ground	20			
Brassica nigra	2					rock	20			
Brachypodium distachyon	20					litter	2			
COVER: Total % Cover:	75	%Herb:	57	%Shrub:	18	%Tree:	0			

IV. HABITAT ASSESSMENT IN SAMPLING AREA - Assess habitat covariates within **species-specific sampling area** (typically 10-m radius circle). Vegetation alliance/association can be assigned using San Diego vegetation key (AECOM 2012) in the office or field, using "Associated Species" data from page 1. See page 4 for definitions of habitat assessment categories.

SANDAG 2012 Vegetation Alliance/Association: Artemisia californica-Eriogonum fasciculatum Alliance, Artemisia californica-Eriogonum fasciculatum-Opuntia littoralis/Dudleya (edulis) Association

Cover classes (1-6)

Cryptogamic Crust Cover: 3 (10% to <20%)

Thatch Cover 1 (0%)

Thatch Depth Average (cm) 0

Thatch Depth max (cm) 0

Dead Standing Biomass yes

If yes, cover/species class Acmispon glaber/3

Average height (cm) 15

Mammal Species Activity (categ. 1-4)

Feral pig activity 1 = No feral pig activity (rooting, wallowing, vegetation destruction, tracks, scat, pig) detected.

ground squirr. activity 1 = No ground squirrel burrows detected.

gopher activity 2 = Mounds or gophers observed adjacent to sampling area but not within sampling area

Sampling area representative of mapped occurrence? yes (If no, note differences on page 3)

VI. THREATS ASSESSMENT IN MAXIMUM EXTENT - Assess threats within the **occurrence's maximum extent** (cumulative extent over years of monitoring) **plus 10-m surrounding buffer**. See page 4 for definitions of threat assessment categories. Record notes on page 3. See Argentine Ant Protocol (USGS 2015) for setting up bait, etc.

Surrounding Land Use/Activity at, or Adjacent to, Site open space

Argentine ant abundance at bait station (1-4)

Time start

Temp start

Time end

Temp end

Ant sample collected?

Ant sample #

Ant Station Photo #

DISTURBANCES (Rank each as 1-6):

Non-native forbs 3 = Disturbance

feral pig activity 1 = No sign of disturbance

altered hydrology 1 = No sign of disturbance

Non-native grasses 4 = Disturbance

trampling 1 = No sign of disturbance

erosion 1 = No sign of disturbance

Non-native woody pl. 1 = No sign of disturbance

vandalism 1 = No sign of disturbance

urban runoff 1 = No sign of disturbance

competitive native pl. 1 = No sign of disturbance

current grazing 1 = No sign of disturbance

slope movement 1 = No sign of disturbance

dumping/trash 1 = No sign of disturbance

historic grazing 1 = No sign of disturbance

soil compaction 1 = No sign of disturbance

encampments 1 = No sign of disturbance

historic agriculture 1 = No sign of disturbance

fuel modification zone/fire break 1 = No sign of disturbance

road construction/maintenance 1 = No sign of disturbance

if present, describe:

illegal vegetation clearing 1 = No sign of disturbance

if present, describe:

brush management/restoration 1 = No sign of disturbance within maximum extent or in adjacent 10 m buffer.

ORV activity

1 = No sign of disturbance

if present, describe:

Evidence of recent fire 7 = Disturbance occurs ≥75% of area within maximum extent

If sign of recent fire, year burned? unknown

Trails 1 = No sign of disturbance within maximum extent

If trails are present, are they authorized?

Type of trail use

hiking

biking

equestrian

dog

service vehicles

other

illegal trail use?

1 = No sign of disturbance

describe:

Other disturbance?

1 = No sign of disturbance

describe:

MSP-Management Needs and Notes 2015

(top 2 rows auto-fill from page 1)

Scientific Name:

MSP Occur ID.

Date:

VI. MANAGEMENT RECOMMENDATIONS

None.

VII. MANAGEMENT ACTIONS IN LAST YEAR

None.

VIII. CNDDDB SPECIES DETECTED (list any plant or animal species to add to the CNDDDB)

NOTES

***Dudleya variegata* (Variegated Dudleya)**

Mission Trails Regional Park Subpopulation # 2



Panorama from Northeastern edge of population, facing West, Northwest, North.
Panorama location is 6309229.821 1880126.564 NAD83 State Plane California Zone 6 (feet)
Photos merged using ArcSoft Panorama Maker 4.

Dudleya variegata - Mission Trail Regional Park Pt 2



Area 2015: 232 sq. m.

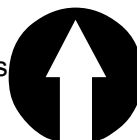
● Photopoint

□ Dudleya variegata

Pop. Area 2004 - 2015
Max Area: 241.36 sq. m.
Min Area: 36.16 sq. m.

0 10 20 Meters

Source: San GIS & City of San Diego Park & Rec
Created by: Annabelle Bernabe, 2015



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MSP - Rare Plant Occurrence Monitoring Form 2015										Page 1	
Scientific Name:		Dudleya variegata				Common Name:		Variegated dudleya			
		Existing MSP Occurrence?		yes		MSP Occurr. ID:		DUVA_4MTRP015			
		CNDDB Elem. Occur. #:		n/a		Translocated?		no			
Preserve:		Mission Trails Regional Park						Mgmt Unit MU4			
Land Owner:		City of San Diego				Land Mangr:		City of San Diego Park and Recreation Department			
Occurrence Name:		Mission Trails Regional Park						Sample Point #:		3	
Surveyors:		Kim Roeland, Betsy Miller, Daniel Schwartz						Affiliation		City of San Dieog	
Date:		5/6/2015		Time Start:		14:20		Time Finish:		14:42	
I. OCCURRENCE STATUS - Assess # plants in both species-specific sampling area (typically 10-m radius circle) & in current mapped extent . See p. 4 for definitions of categories describing phenology & evidence of herbivory, disease & stunted growth within the sampling area. Record any notes on p. 3.											
# Plants/Current Mapped Extent:		100		exact count or estimate?		exact		uncert.		low	
		Area of Current Mapped Extent:		44.7		units		square meters		exact (GPS) or estim?	
		Species Found in Maximum Extent?		yes		if not found, known or suspected reason:					
# Plants/Sampling Area:		100				exact count or estimate?		exact		uncert. low	
		Sample Area Radius (m)		10							
		Phenology In Sampling Area (1-6):		Vegetative 1 (0%)		Flowering 6 (≥75%)		Fruiting 1 (0%)			
				Dead 1 (0%)		Flowering & Fruiting 1 (0%)					
		Evidence in Sampling Area (1-6):		Herbivory 1 (0%)		Disease 1 (0%)		Stunted Growth 1 (0%)			
		Is Sampling Area within Current Mapped Extent?		yes							
		Collection (if not collected previously)?		no							
If yes:		Collector				Collection #					
		Museum/Herbarium									
II. SAMPLING AREA LOCATION & SITE PHOTOMONITORING											
GPS Accuracy: +/-		<1		accur. units:		meters		Datum:		NAD83	
coord. system		State Plane (ft)									
Coord'n's at Center of Plot:		E:				N:					
Camera type:		Pentax Optio W90									
Locat. 1 Coord.--E, N		6309578.773		1880426.963		Direction facing		SE, S, SW		Height 1.1 m	
		Camera angle		10 ° up		Photo #		423-434		File location S:WSCP	
Locat. 2 Coord.-- E,N						Direction facing				Height	
		Camera angle				Photo #				File location	
III. ASSOCIATED SPECIES If need more room, record additional data and any notes on page 3.											
species/substrate		% Cover		Collection #, or NC if collected		not collected		species/substrate		% Cover	
Dudleya variegata		2						Selaginella cinerascens		10	
Malosma laurina		5						Festuca myuros		7	
Artemisia californica		2						Avena sp.		2	
Acmispon glaber		3						Bromus diandrus		1	
Eriogonum fasciculatum		4						Lepidium sp.		1	
Opuntia sp.		1						Bromus madritensis		1	
Galium angustifolium		2						Pseudognaphalium californicum		1	
Dichelostemma capitatum		1									
Chlorogalum parviflorum		1									
Crassula connata		2									
Stipa sp.		2									
Brachypodium distachyon		25						bare ground		15	
Erodium sp.		7						rock		20	
Logfia gallica		2						litter		1	
COVER: Total % Cover:		82		%Herb:		65		%Shrub:		17	
								%Tree:		0	

IV. HABITAT ASSESSMENT IN SAMPLING AREA - Assess habitat covariates within **species-specific sampling area** (typically 10-m radius circle). Vegetation alliance/association can be assigned using San Diego vegetation key (AECOM 2012) in the office or field, using "Associated Species" data from page 1. See page 4 for definitions of habitat assessment categories.

SANDAG 2012 Vegetation Alliance/Association: Artemisia californica-Eriogonum fasciculatum Alliance, Artemisia californica-Eriogonum fasciculatum-Opuntia littoralis/Dudleya (edulis) Association

Cover classes (1-6)

Cryptogamic Crust Cover: 3 (10% to <20%)

Thatch Cover 1 (0%)

Thatch Depth Average (cm)

Thatch Depth max (cm)

Dead Standing Biomass

yes

If yes, cover/species class

Acmispon glaber/3

Average height (cm)

20

Mammal Species Activity (categ. 1-4)

Feral pig activity 1 = No feral pig activity (rooting, wallowing, vegetation destruction, tracks, scat, pig) detected.

ground squirr. activity 1 = No ground squirrel burrows detected.

gopher activity 1 = No pocket gopher mounds detected.

Sampling area representative of mapped occurrence? yes (If no, note differences on page 3)

VI. THREATS ASSESSMENT IN MAXIMUM EXTENT - Assess threats within the **occurrence's maximum extent** (cumulative extent over years of monitoring) **plus 10-m surrounding buffer**. See page 4 for definitions of threat assessment categories. Record notes on page 3. See Argentine Ant Protocol (USGS 2015) for setting up bait, etc.

Surrounding Land Use/Activity at, or Adjacent to, Site open space

Argentine ant abundance at bait station (1-4)

Time start

Temp start

Time end

Temp end

Ant sample collected?

Ant sample #

Ant Station Photo #

DISTURBANCES (Rank each as 1-6):

Non-native forbs 3 = Disturbance

feral pig activity 1 = No sign of disturbance

altered hydrology 1 = No sign of disturbance

Non-native grasses 4 = Disturbance

trampling 1 = No sign of disturbance

erosion 1 = No sign of disturbance

Non-native woody pl. 1 = No sign of disturbance

vandalism 1 = No sign of disturbance

urban runoff 1 = No sign of disturbance

competitive native pl. 1 = No sign of disturbance

current grazing 1 = No sign of disturbance

slope movement 1 = No sign of disturbance

dumping/trash 1 = No sign of disturbance

historic grazing 1 = No sign of disturbance

soil compaction 1 = No sign of disturbance

encampments 1 = No sign of disturbance

historic agriculture 1 = No sign of disturbance

fuel modification zone/fire break 1 = No sign of disturbance

road construction/maintenance 1 = No sign of disturbance

if present, describe:

illegal vegetation clearing 1 = No sign of disturbance

if present, describe:

brush management/restoration 1 = No sign of disturbance within maximum extent or in adjacent 10 m buffer.

ORV activity

1 = No sign of disturbance

if present, describe:

Evidence of recent fire 7 = Disturbance occurs ≥75% of area within maximum extent or in adjacent 10 m buffer.

If sign of recent fire, year burned?

2003

Trails

2 = Disturbance does not occur within maximum extent or in adjacent 10 m buffer.

If trails are present, are they authorized?

Type of trail use

hiking

yes

biking

yes

equestrian

yes

dog

yes

service vehicles

yes

other

no

illegal trail use?

1 = No sign of disturbance

describe:

Other disturbance?

1 = No sign of disturbance

describe:

MSP-Management Needs and Notes 2015

(top 2 rows auto-fill from page 1)

Scientific Name:

MSP Occur ID.

Date:

VI. MANAGEMENT RECOMMENDATIONS

None.

VII. MANAGEMENT ACTIONS IN LAST YEAR

None.

VIII. CNDDDB SPECIES DETECTED (list any plant or animal species to add to the CNDDDB)

NOTES

***Dudleya variegata* (Variegated Dudleya)**

Mission Trails Regional Park Subpopulation # 3



Panorama from Southwestern edge of population, facing Southeast, South, Southwest.
Panorama location is 6309578.77 1880426.96 NAD83 State Plane California Zone 6 (feet)
Photos merged using ArcSoft Panorama Maker 4.

Dudleya variegata - Mission Trail Regional Park Pt 3



Area 2015: 44.7 sq. m.

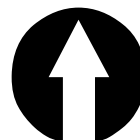
● Photopoint

□ Dudleya variegata

Pop. Area 2004 - 2015
Max Area: 44.7 sq. m.
Min Area: 0.038 sq. m.

0 5 10 Meters

Source: San GIS & City of San Diego Park & Rec
Created by: Annabelle Bernabe, 2015



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MSP - Rare Plant Occurrence Monitoring Form 2015										Page 1
Scientific Name:		Dudleya variegata			Common Name:		Variegated dudleya			
Existing MSP Occurrence?		yes			MSP Occurr. ID:		DUVA_4MTRP015			
CNDDB Elem. Occur. #:		n/a			Translocated?		no			
Preserve:		Rancho Mission Park					Mgmt Unit MU4			
Land Owner:		City of San Diego			Land Mangr:		City of San Diego Park and Recreation Department			
Occurrence Name:		Navajo/Mission Gorge (Margerum Ave)			Sample Point #:		1			
Surveyors:		Betsy Miller, Kim Roeland, Annabelle Bernabe, Jason Allen			Affiliation		City of San Diego			
Date:		5/19/2015		Time Start:		2:08pm		Time Finish: 2:55pm		
I. OCCURRENCE STATUS - Assess # plants in both species-specific sampling area (typically 10-m radius circle) & in current mapped extent . See p. 4 for definitions of categories describing phenology & evidence of herbivory, disease & stunted growth within the sampling area. Record any notes on p. 3.										
# Plants/Current Mapped Extent:		1007		exact count or estimate?		exact		uncert. low		
Area of Current Mapped Extent:		322.76		units		square meters		exact (GPS) or estim? exact (GPS ma		
Species Found in Maximum Extent?		yes		if not found, known or suspected reason:						
# Plants/Sampling Area		251		exact count or estimate?		exact		uncert. low		
Sample Area Radius (m)		10								
Phenology In Sampling Area (1-6):		Vegetative 1 (0%)		Flowering 6 (≥75%)		Fruiting 1 (0%)				
		Dead 1 (0%)		Flowering & Fruiting 1 (0%)						
Evidence in Sampling Area (1-6):		Herbivory 1 (0%)		Disease 1 (0%)		Stunted Growth 1 (0%)				
Is Sampling Area within Current Mapped Extent?		yes								
Collection (if not collected previously)?		no								
If yes:		Collector		Collection #						
		Museum/Herbarium								
II. SAMPLING AREA LOCATION & SITE PHOTOMONITORING										
GPS Accuracy: +/- <1		accur. units:		meters		Datum:		NAD83		
coord. system		State Plane (ft)								
Coord'n's at Center of Plot:		E:		N:						
Camera type:		Pentax Optio W90								
Locat. 1 Coord.--E, N		6316074.804		1873618.075		Direction facing		NE, E, SE		
		Camera angle		10 ° up		Photo #		3524-3531		
						File location		S:WSCP		
Locat. 2 Coord.--E,N						Direction facing		Height		
		Camera angle				Photo #		File location		
III. ASSOCIATED SPECIES If need more room, record additional data and any notes on page 3.										
species/substrate		% Cover		Collection #, or NC if collected		species/substrate		% Cover		
Dudleya variegata		1				Festuca myuros		1		
Rhus integrifolia		2				Baccharis pilularis		1		
Mimulus aurantiacus		20				Brachypodium distachyon		50		
Baccharis sarothroides		20				Unk grass (Phalaris or Elymus)		1		
Artemisia californica		1								
Eriogonum fasciculatum		2								
Salvia mellifera		1								
Isocoma menziesii		1								
Sisyrinchium bellum		2								
Anagallis arvensis		2								
Bromus madritensis		1								
Brassica nigra		1				bare ground		1		
Stipa pulchra		2				rock		1		
Deinandra fasciculata		1				litter		0		
COVER: Total % Cover:		110		%Herb:		62		%Shrub: 48		
								%Tree: 0		

IV. HABITAT ASSESSMENT IN SAMPLING AREA - Assess habitat covariates within **species-specific sampling area** (typically 10-m radius circle). Vegetation alliance/association can be assigned using San Diego vegetation key (AECOM 2012) in the office or field, using "Associated Species" data from page 1. See page 4 for definitions of habitat assessment categories.

SANDAG 2012 Vegetation Alliance/Association: Baccharis sarothroides Provisional Alliance, Baccharis sarothroides Association

Cover classes (1-6)

Cryptogamic Crust Cover: 1 (0%)

Thatch Cover 1 (0%)

Thatch Depth Average (cm)

Thatch Depth max (cm)

Dead Standing Biomass

yes

If yes, cover/species class

Baccharis sp./2; Artemisia californica/2

Average height (cm)

80

Mammal Species Activity (categ. 1-4)

Feral pig activity

1 = No feral pig activity (rooting, wallowing, vegetation destruction, tracks, scat, pig) detected.

ground squirr. activity

1 = No ground squirrel burrows detected.

gopher activity

1 = No pocket gopher mounds detected.

Sampling area representative of mapped occurrence? yes

(If no, note differences on page 3)

VI. THREATS ASSESSMENT IN MAXIMUM EXTENT - Assess threats within the **occurrence's maximum extent** (cumulative extent over years of monitoring) **plus 10-m surrounding buffer**. See page 4 for definitions of threat assessment categories. Record notes on page 3. See Argentine Ant Protocol (USGS 2015) for setting up bait, etc.

Surrounding Land Use/Activity at, or Adjacent to, Site open space

Argentine ant abundance at bait station (1-4)

1 = No ants detected at bait station or in vicinity.

Time start

2:10 AM

Temp start

70F

Time end

2:52 AM

Temp end

70F

Ant sample collected? no

Ant sample #

Ant Station Photo #

3532

DISTURBANCES (Rank each as 1-6):

Non-native forbs 3 = Disturbance

feral pig activity 1 = No sign of disturbance

altered hydrology 1 = No sign of disturbance

Non-native grasses 6 = Disturbance

trampling 1 = No sign of disturbance

erosion 1 = No sign of disturbance

Non-native woody pl. 1 = No sign of disturbance

vandalism 1 = No sign of disturbance

urban runoff 1 = No sign of disturbance

competitive native pl. 1 = No sign of disturbance

current grazing 1 = No sign of disturbance

slope movement 1 = No sign of disturbance

dumping/trash 1 = No sign of disturbance

historic grazing 1 = No sign of disturbance

soil compaction 1 = No sign of disturbance

encampments 1 = No sign of disturbance

historic agriculture 1 = No sign of disturbance

fuel modification zone/fire break 1 = No sign of disturbance

road construction/maintenance 1 = No sign of disturbance

if present, describe:

illegal vegetation clearing 1 = No sign of disturbance

if present, describe:

brush management/restoration 1 = No sign of disturbance within maximum extent

Brush piled up near brow ditch within BMZ but not within maximum extent

ORV activity

1 = No sign of disturbance

if present, describe:

Evidence of recent fire

1 = No sign of disturbance within maximum extent

If sign of recent fire, year burned?

Trails

1 = No sign of disturbance within maximum extent

If trails are present, are they authorized?

Type of trail use

hiking

biking

equestrian

dog

service vehicles

other

illegal trail use?

1 = No sign of disturbance

describe:

Other disturbance?

1 = No sign of disturbance

describe:

MSP-Management Needs and Notes 2015

(top 2 rows auto-fill from page 1)

Scientific Name:

MSP Occur ID.

Date:

VI. MANAGEMENT RECOMMENDATIONS

Treat non-natives occurring along the edge of the maximum extent (e.g. fennel). Use fusilade to treat non-native grasses within current mapped extent.

VII. MANAGEMENT ACTIONS IN LAST YEAR

None

VIII. CNDDDB SPECIES DETECTED (list any plant or animal species to add to the CNDDDB)

NOTES

***Dudleya variegata* (Variegated Dudleya) Navajo/Mission Gorge**



Panorama from Northwestern edge of population, facing Northeast, East, Southeast.
Panorama location is 6313074.339 1873618.051 NAD83 State Plane California Zone 6 (feet)
Photos merged using ArcSoft Panorama Maker 4.

Dudleya variegata - Navajo/Mission Gorge (Rancho Mission Canyon)



Area 2015: 322.76 sq. m.

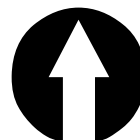
● Photopoint

□ Dudleya variegata

Pop. Area 2003 - 2015
Max Area: 451.44 sq. m.
Min Area: 26.2 sq. m.

0 10 20 Meters

Source: San GIS & City of San Diego Park & Rec
Created by: Annabelle Bernabe, 2015



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MSP - Rare Plant Occurrence Monitoring Form 2015										Page 1
Scientific Name:		Dudleya variegata			Common Name:		Variegated dudleya			
Existing MSP Occurrence?		yes			MSP Occurr. ID:		DUVA_3OTLA005			
CNDDB Elem. Occur. #:		n/a			Translocated?		no			
Preserve:		Otay Lakes Cornerstone Lands					Mgmt Unit			
Land Owner:		City of San Diego			Land Mangr:		City of San Diego Public Utilities Department			
Occurrence Name:		Otay Lakes					Sample Point #:		1	
Surveyors:		Besy Miller, Kim Roeland, Annabelle Bernabe					Affiliation		City of San Diego	
Date:		4/16/2015		Time Start:		11:30		Time Finish: 11:44		
I. OCCURRENCE STATUS - Assess # plants in both species-specific sampling area (typically 10-m radius circle) & in current mapped extent . See p. 4 for definitions of categories describing phenology & evidence of herbivory, disease & stunted growth within the sampling area. Record any notes on p. 3.										
# Plants/Current Mapped Extent:		0		exact count or estimate?		exact		uncert. very low		
Area of Current Mapped Extent:		0		units		square meters		exact (GPS) or estim? exact (GPS ma		
Species Found in Maximum Extent?		no		if not found, known or suspected reason:						
# Plants/Sampling Area:		0		exact count or estimate?		exact		uncert. very low		
Sample Area Radius (m)		10								
Phenology In Sampling Area (1-6):		Vegetative 1 (0%)		Flowering 1 (0%)		Fruiting 1 (0%)				
		Dead 1 (0%)		Flowering & Fruiting 1 (0%)						
Evidence in Sampling Area (1-6):		Herbivory 1 (0%)		Disease 1 (0%)		Stunted Growth 1 (0%)				
Is Sampling Area within Current Mapped Extent?		no								
Collection (if not collected previously)?		no								
If yes:		Collector		Collection #						
		Museum/Herbarium								
II. SAMPLING AREA LOCATION & SITE PHOTOMONITORING										
GPS Accuracy: +/-		<1		accur. units:		meters		Datum: NAD83		
coord. system		State Plane (ft)								
Coordin's at Center of Plot:		E:		N:						
Camera type:		Pentax Optio W90								
Locat. 1 Coord.--E, N		6356396.908		1807139.545		Direction facing		N, NE, E, SE		
		Camera angle		10 ° up		Photo #		3186-3196		
						File location		S:WSCP		
Locat. 2 Coord.--E,N						Direction facing		Height		
		Camera angle				Photo #		File location		
III. ASSOCIATED SPECIES If need more room, record additional data and any notes on page 3.										
species/substrate		% Cover		Collection #, or NC if collected		species/substrate		% Cover		
Eriogonum fasciculatum		5				Hypochaeris glabra		2		
Bloomeria clevelandii		1				Sonchus oleraceus		1		
Isocoma menziesii		2								
Acmispon glaber		1								
Deinandra fasciculata		25								
Chlorogalum parviflorum		3								
Cuscuta occidentalis		3								
Lasthenia coronaria		1								
Crassula connata		15								
Lepidium nitidum		5								
Calochortus splendens		1								
Erodium botrys		7				bare ground		30		
Zeltnera venusta		1				rock		1		
Bromus hordeaceus		1				litter		1		
COVER: Total % Cover:		74		%Herb:		66		%Shrub: 8		
								%Tree: 0		

IV. HABITAT ASSESSMENT IN SAMPLING AREA - Assess habitat covariates within **species-specific sampling area** (typically 10-m radius circle). Vegetation alliance/association can be assigned using San Diego vegetation key (AECOM 2012) in the office or field, using "Associated Species" data from page 1. See page 4 for definitions of habitat assessment categories.

SANDAG 2012 Vegetation Alliance/Association:	Deinandra fasciculata Provisional Alliance, Deinandra fasciculata Association			
Cover classes (1-6)	Cryptogamic Crust Cover:	1 (0%)	Thatch Cover	1 (0%)
	Thatch Depth Average (cm)		Thatch Depth max (cm)	
Dead Standing Biomass	yes			
If yes, cover/species class	Acmispon/2		Average height (cm)	30
Mammal Species Activity (categ. 1-4)				
Feral pig activity	1 = No feral pig activity (rooting, wallowing, vegetation destruction, tracks, scat, pig) detected.			
ground squirr. activity	1 = No ground squirrel burrows detected.			
gopher activity	1 = No pocket gopher mounds detected.			
Sampling area representative of mapped occurrence?	yes	(If no, note differences on page 3)		

VI. THREATS ASSESSMENT IN MAXIMUM EXTENT - Assess threats within the **occurrence's maximum extent** (cumulative extent over years of monitoring) **plus 10-m surrounding buffer**. See page 4 for definitions of threat assessment categories. Record notes on page 3. See Argentine Ant Protocol (USGS 2015) for setting up bait, etc.

Surrounding Land Use/Activity at, or Adjacent to, Site	open space				
Argentine ant abundance at bait station (1-4)					
Time start		Temp start		Time end	Temp end
Ant sample collected?		Ant sample #		Ant Station Photo #	
DISTURBANCES (Rank each as 1-6):					
Non-native forbs	3 = Disturbance	feral pig activity	1 = No sign of disturbance	altered hydrology	1 = No sign of disturbance
Non-native grasses	3 = Disturbance	trampling	1 = No sign of disturbance	erosion	1 = No sign of disturbance
Non-native woody pl.	1 = No sign of disturbance	vandalism	1 = No sign of disturbance	urban runoff	1 = No sign of disturbance
competitive native pl.	4 = Disturbance	current grazing	1 = No sign of disturbance	slope movement	1 = No sign of disturbance
dumping/trash	1 = No sign of disturbance	historic grazing	7 = Disturbance	soil compaction	1 = No sign of disturbance
encampments	1 = No sign of disturbance	historic agriculture	1 = No sign of disturbance		
fuel modification zone/fire break	1 = No sign of disturbance				
road construction/maintenance	1 = No sign of disturbance	if present, describe:			
illegal vegetation clearing	1 = No sign of disturbance	if present, describe:			
brush management/restoration	1 = No sign of disturbance within maximum extent or in adjacent 10 m buffer.				
ORV activity	1 = No sign of disturbance	if present, describe:			
Evidence of recent fire	1 = No sign of disturbance within maximum extent				
If sign of recent fire, year burned?					
Trails	1 = No sign of disturbance within maximum extent		If trails are present, are they authorized?		
Type of trail use	hiking		biking		equestrian
					dog
service vehicles			other		
illegal trail use?	1 = No sign of disturbance	describe:			
Other disturbance?	1 = No sign of disturbance	describe:			

MSP-Management Needs and Notes 2015

(top 2 rows auto-fill from page 1)

Scientific Name:

MSP Occur ID.

Date:

VI. MANAGEMENT RECOMMENDATIONS

Maintain access control with locked gate and fencing/signs

VII. MANAGEMENT ACTIONS IN LAST YEAR

New sign installed near Otay Lakes Road

VIII. CNDDDB SPECIES DETECTED (list any plant or animal species to add to the CNDDDB)

Horned larks seen and heard near the photopoint

NOTES

***Dudleya variegata* (Variegated Dudleya)** **Otay Lakes**



Panorama from Northeastern edge of the population, facing North, Northeast, East, Southeast.
Panorama location is 6356396.91 1807139.55 NAD83 State Plane California Zone 6 (feet)
Photos merged using ArcSoft Panorama Maker 4.

Dudleya variegata - Otay Lakes



Area 2015: 0 sq. m.

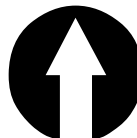
● Photopoint

□ Dudleya variegata

Pop. Area 2003 - 2015
Max Area: 196313.44 sq. m.
Min Area: 0 sq. m.

0 50 100 Meters

Source: San GIS & City of San Diego Park & Rec
Created by: Annabelle Bernabe, 2015



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MSP - Rare Plant Occurrence Monitoring Form 2015										Page 1
Scientific Name:	Dudleya variegata				Common Name:	Variegated dudleya				
Existing MSP Occurrence?				yes	MSP Occurr. ID:	DUVA_6SALU024				
CNDDB Elem. Occur. #:				n/a	Translocated?	yes				
Preserve:	Black Mountain Open Space Park						Mgmt Unit	MU6		
Land Owner:	City of San Diego				Land Mangr:	City of San Diego Park and Recreation Department				
Occurrence Name:	Santa Luz						Sample Point #:	1		
Surveyors:	Betsy Miller, Kim Roeland						Affiliation	City of San Diego		
Date:	5/8/2015		Time Start:	10:40		Time Finish:	11:02			
I. OCCURRENCE STATUS - Assess # plants in both species-specific sampling area (typically 10-m radius circle) & in current mapped extent . See p. 4 for definitions of categories describing phenology & evidence of herbivory, disease & stunted growth within the sampling area. Record any notes on p. 3.										
# Plants/Current Mapped Extent:	0		exact count or estimate?	exact		uncert.	very low			
Area of Current Mapped Extent:			0		units	square meters	exact (GPS) or estim?		exact (GPS ma	
Species Found in Maximum Extent?			no		if not found, known or suspected reason: urn in May 2014, but not seen in recent years before fire					
# Plants/Sampling Area	0		exact count or estimate?	exact		uncert.	very low			
Sample Area Radius (m)			10							
Phenology In Sampling Area (1-6):			Vegetative 1 (0%)		Flowering 1 (0%)	Fruiting 1 (0%)				
			Dead 1 (0%)		Flowering & Fruiting 1 (0%)					
Evidence in Sampling Area (1-6):			Herbivory 1 (0%)		Disease 1 (0%)	Stunted Growth 1 (0%)				
Is Sampling Area within Current Mapped Extent?			no							
Collection (if not collected previously)?			no							
If yes:			Collector			Collection #				
			Museum/Herbarium							
II. SAMPLING AREA LOCATION & SITE PHOTOMONITORING										
GPS Accuracy: +/-		<1		accur. units:	meters	Datum:	NAD83			
coord. system		State Plane (ft)								
Coord'n's at Center of Plot: E:						N:				
Camera type:	Pentax Optio W90									
Locat. 1 Coord.--E, N	6289735.966		1940293.565		Direction facing	SW, W, NW		Height	1.1 m	
	Camera angle	10 ° up		Photo #	448-452		File location	S:MSCP		
Locat. 2 Coord.--E, N	6289735.966		1940293.565		Direction facing	East		Height		
	Camera angle	10 ° up		Photo #	439-447		File location			
III. ASSOCIATED SPECIES If need more room, record additional data and any notes on page 3.										
species/substrate	% Cover	Collection #, or NC if collected	not	species/substrate	% Cover	Collect.# or NC if not collected				
Deinandra fasciculata	35			Malacothamnus sp.	1					
Stipa pulchra	5			Calystegia macrostegia	2					
Brassica nigra	20									
Erodium botrys	20									
Erodium cicutarium	5									
Logfia gallica	2									
Brachypodium distachyon	25									
Bromus madritensis	2									
Hordeum murinum	1									
Festuca myuros	1									
Bromus hordeaceus	2									
Malosma laurina	1			bare ground	35					
Artemisia californica	1			rock	17					
Chlorogalum parviflorum	3			litter	1					
COVER: Total % Cover:	126	%Herb:	123	%Shrub:	3	%Tree:	0			

IV. HABITAT ASSESSMENT IN SAMPLING AREA - Assess habitat covariates within **species-specific sampling area** (typically 10-m radius circle). Vegetation alliance/association can be assigned using San Diego vegetation key (AECOM 2012) in the office or field, using "Associated Species" data from page 1. See page 4 for definitions of habitat assessment categories.

SANDAG 2012 Vegetation Alliance/Association: Nasella pulchra Alliance, Nasella pulchra Association

Cover classes (1-6)

Cryptogamic Crust Cover: 1 (0%)

Thatch Cover 1 (0%)

Thatch Depth Average (cm)

Thatch Depth max (cm)

Dead Standing Biomass

yes

If yes, cover/species class

burned unknown shrub/2

Average height (cm)

17

Mammal Species Activity (categ. 1-4)

Feral pig activity

1 = No feral pig activity (rooting, wallowing, vegetation destruction, tracks, scat, pig) detected.

ground squirr. activity

1 = No ground squirrel burrows detected.

gopher activity

1 = No pocket gopher mounds detected.

Sampling area representative of mapped occurrence? yes

(If no, note differences on page 3)

VI. THREATS ASSESSMENT IN MAXIMUM EXTENT - Assess threats within the **occurrence's maximum extent** (cumulative extent over years of monitoring) **plus 10-m surrounding buffer**. See page 4 for definitions of threat assessment categories. Record notes on page 3. See Argentine Ant Protocol (USGS 2015) for setting up bait, etc.

Surrounding Land Use/Activity at, or Adjacent to, Site open space

Argentine ant abundance at bait station (1-4)

Time start

Temp start

Time end

Temp end

Ant sample collected?

Ant sample #

Ant Station Photo #

DISTURBANCES (Rank each as 1-6):

Non-native forbs 5 = Disturbance

feral pig activity 1 = No sign of disturbance

altered hydrology 1 = No sign of disturbance

Non-native grasses 5 = Disturbance

trampling 1 = No sign of disturbance

erosion 1 = No sign of disturbance

Non-native woody pl. 1 = No sign of disturbance

vandalism 1 = No sign of disturbance

urban runoff 1 = No sign of disturbance

competitive native pl. 1 = No sign of disturbance

current grazing 1 = No sign of disturbance

slope movement 1 = No sign of disturbance

dumping/trash 1 = No sign of disturbance

historic grazing 7 = Disturbance

soil compaction 1 = No sign of disturbance

encampments 1 = No sign of disturbance

historic agriculture 1 = No sign of disturbance

fuel modification zone/fire break 1 = No sign of disturbance

road construction/maintenance 1 = No sign of disturbance

if present, describe:

illegal vegetation clearing 1 = No sign of disturbance

if present, describe:

brush management/restoration

1 = No sign of disturbance within maximum extent or in adjacent 10 m buffer.

ORV activity

1 = No sign of disturbance if present, describe:

Evidence of recent fire

7 = Disturbance occurs ≥75% of area with

If sign of recent fire, year burned?

2014

Trails

1 = No sign of disturbance within maximum extent

If trails are present, are they authorized?

Type of trail use

hiking

biking

equestrian

dog

service vehicles

other

illegal trail use?

1 = No sign of disturbance describe:

Other disturbance?

1 = No sign of disturbance

describe:

MSP-Management Needs and Notes 2015

(top 2 rows auto-fill from page 1)

Scientific Name:

MSP Occur ID.

Date:

VI. MANAGEMENT RECOMMENDATIONS

none

VII. MANAGEMENT ACTIONS IN LAST YEAR

none

VIII. CNDDDB SPECIES DETECTED (list any plant or animal species to add to the CNDDDB)

NOTES

Veg key: recently burned so the recovering habitat may be different than the original habitat. Shrub layer underrepresented because of slower recovery from fire. 2014 pre-fire it was Artemisia californica Alliance, Artemisia californica Association.

***Dudleya variegata* (Variegated Dudleya)**
Santa Luz East



Panorama from Northeastern edge of population, facing Southeast, East, Northeast.
Panorama location is 6289735.96 1940293.56 NAD83 State Plane California Zone 6 (feet)
Photos merged using ArcSoft Panorama Maker 4.

***Dudleya variegata* (Variegated Dudleya)**

Santa Luz West



Panorama from Northeastern edge of population, facing Southwest, West, Northwest.
Panorama location is 6289735.96 1940293.56 NAD83 State Plane California Zone 6 (feet)
Photos merged using ArcSoft Panorama Maker 4.

Dudleya variegata - Santa Luz



Area 2014: 0 sq. m.

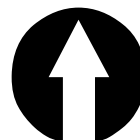
● Photopoint

□ Dudleya variegata

Pop. Area 2001 - 2015
Max Area: 617.05 sq. m.
Min Area: 0 sq. m.

0 10 20 Meters

Source: San GIS & City of San Diego Park & Rec
Created by: Annabelle Bernabe, 2015



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Eryngium aristulatum var. *parishii*
San Diego Button Celery



© City of San Diego, 2005

MSP - Rare Plant Occurrence Monitoring Form 2015										Page 1			
Scientific Name:		Eryngium aristulatum var. parishii				Common Name:		San Diego button celery					
Existing MSP Occurrence?				no		MSP Occurr. ID:							
CNDDB Elem. Occur. #:				n/a		Translocated?		no					
Preserve:		Spring Canyon Open Space					Mgmt Unit		MU3				
Land Owner:		City of San Diego				Land Mangr:		City of San Diego Public Utilities Department					
Occurrence Name:		Goat Mesa/Spring Canyon					Sample Point #:		1				
Surveyors:		Betsy Miller, Kim Roeland, Annabelle Bernabe					Affiliation		City of San Diego				
Date:		4/21/2015		Time Start:		10:30am		Time Finish:		10:53am			
I. OCCURRENCE STATUS - Assess # plants in both species-specific sampling area (typically 10-m radius circle) & in current mapped extent . See p. 4 for definitions of categories describing phenology & evidence of herbivory, disease & stunted growth within the sampling area. Record any notes on p. 3.													
# Plants/Current Mapped Extent:		488		exact count or estimate?		exact		uncert.		low			
Area of Current Mapped Extent:				84.6		units		square meters		exact (GPS) or estim? exact (GPS ma			
Species Found in Maximum Extent?				yes		if not found, known or suspected reason:							
# Plants/Sampling Area		101		exact count or estimate?		exact		uncert.		low			
Sample Area Radius (m)				10									
Phenology In Sampling Area (1-6):				Vegetative 6 (≥75%)		Flowering 2 (>0% to <10%)		Fruiting 1 (0%)					
				Dead 1 (0%)		Flowering & Fruiting 1 (0%)							
Evidence in Sampling Area (1-6):				Herbivory 1 (0%)		Disease 1 (0%)		Stunted Growth 1 (0%)					
Is Sampling Area within Current Mapped Extent?				yes									
Collection (if not collected previously)?				no									
If yes:		Collector				Collection #							
		Museum/Herbarium											
II. SAMPLING AREA LOCATION & SITE PHOTOMONITORING													
GPS Accuracy: +/-		<1		accur. units:		meters		Datum:		NAD83			
coord. system		State Plane (ft)											
Coord'n's at Center of Plot: E:								N:					
Camera type:		Pentax Optio W90											
Locat. 1 Coord.--E, N		6330499.213		1781402.689		Direction facing		N, E, A1S		Height 1.1 m			
		Camera angle		10 ° up		Photo # 3243-3248		File location S:\MSCP					
Locat. 2 Coord.--E,N						Direction facing				Height			
		Camera angle				Photo #		File location					
III. ASSOCIATED SPECIES If need more room, record additional data and any notes on page 3.													
species/substrate		% Cover		Collection #, or NC if collected		not collected		species/substrate		% Cover		Collect.# or NC if not collected	
Eryngium aristulatum		2											
Simmondsia chinensis		5											
Deinandra fasciculata		10											
Erodium botrys		15											
Bromus madritensis		1											
Centaurea melitensis		1											
Lepidium nitidum		2											
Festuca sp.		1											
Psilocarphus brevissimus		1											

IV. HABITAT ASSESSMENT IN SAMPLING AREA - Assess habitat covariates within **species-specific sampling area** (typically 10-m radius circle). Vegetation alliance/association can be assigned using San Diego vegetation key (AECOM 2012) in the office or field, using "Associated Species" data from page 1. See page 4 for definitions of habitat assessment categories.

SANDAG 2012 Vegetation Alliance/Association: vernal pool; Simmondsia chinensis Alliance, Simmondsia chinensis-Bahiopsis laciniata Association

Cover classes (1-6)

Cryptogamic Crust Cover: 1 (0%)

Thatch Cover 1 (0%)

Thatch Depth Average (cm)

Thatch Depth max (cm)

Dead Standing Biomass

no

If yes, cover/species class

Average height (cm)

Mammal Species Activity (categ. 1-4)

Feral pig activity 1 = No feral pig activity (rooting, wallowing, vegetation destruction, tracks, scat, pig) detected.

ground squirr. activity 1 = No ground squirrel burrows detected.

gopher activity 1 = No pocket gopher mounds detected.

Sampling area representative of mapped occurrence? yes (If no, note differences on page 3)

VI. THREATS ASSESSMENT IN MAXIMUM EXTENT - Assess threats within the **occurrence's maximum extent** (cumulative extent over years of monitoring) **plus 10-m surrounding buffer**. See page 4 for definitions of threat assessment categories. Record notes on page 3. See Argentine Ant Protocol (USGS 2015) for setting up bait, etc.

Surrounding Land Use/Activity at, or Adjacent to, Site open space

Argentine ant abundance at bait station (1-4)

Time start

Temp start

Time end

Temp end

Ant sample collected?

Ant sample #

Ant Station Photo #

DISTURBANCES (Rank each as 1-6):

Non-native forbs 4 = Disturbance

feral pig activity 1 = No sign of disturbance

altered hydrology 1 = No sign of disturbance

Non-native grasses 3 = Disturbance

trampling 1 = No sign of disturbance

erosion 1 = No sign of disturbance

Non-native woody pl. 1 = No sign of disturbance

vandalism 1 = No sign of disturbance

urban runoff 1 = No sign of disturbance

competitive native pl. 1 = No sign of disturbance

current grazing 1 = No sign of disturbance

slope movement 1 = No sign of disturbance

dumping/trash 1 = No sign of disturbance

historic grazing 7 = Disturbance

soil compaction 1 = No sign of disturbance

encampments 1 = No sign of disturbance

historic agriculture 1 = No sign of disturbance

fuel modification zone/fire break 1 = No sign of disturbance

road construction/maintenance 1 = No sign of disturbance

if present, describe:

illegal vegetation clearing 1 = No sign of disturbance

if present, describe:

brush management/restoration 1 = No sign of disturbance within maximum extent or in adjacent 10 m buffer.

ORV activity

1 = No sign of disturbance

if present, describe:

Evidence of recent fire

1 = No sign of disturbance within maximum extent

If sign of recent fire, year burned?

Trails

1 = No sign of disturbance within maximum extent

If trails are present, are they authorized?

Type of trail use

hiking

biking

equestrian

dog

service vehicles

other

illegal trail use?

1 = No sign of disturbance

describe:

Other disturbance?

1 = No sign of disturbance

describe:

MSP-Management Needs and Notes 2015

(top 2 rows auto-fill from page 1)

Scientific Name: Eryngium aristulatum var. parishii

MSP Occur ID. 0

Date: 4/21/2015

VI. MANAGEMENT RECOMMENDATIONS

Continue to control access with fencing and locked gates

VII. MANAGEMENT ACTIONS IN LAST YEAR

PUD installed fencing along access/service road to control ORV activity

VIII. CNDDDB SPECIES DETECTED (list any plant or animal species to add to the CNDDDB)

BUOW burrows at site look unoccupied; old pellet seen near photopoint

NOTES

Eryngium aristulatum* var. *parishii
(San Diego Button Celery)
Goat Mesa/Spring Canyon Observation # 1



Panorama from Eastern edge of population, facing North, East, South.
Panorama location is 6330499.21 1781402.689 NAD83 State Plane California Zone 6 (feet)
Photos merged using ArcSoft Panorama Maker 4.

Eryngium aristulatum - Goat Mesa/Spring Cyn Obs. 1



MSP - Rare Plant Occurrence Monitoring Form 2015										Page 1			
Scientific Name:		Eryngium aristulatum var. parishii				Common Name:		San Diego button celery					
Existing MSP Occurrence?				no		MSP Occurr. ID:							
CNDDB Elem. Occur. #:				n/a		Translocated?		no					
Preserve:		Spring Canyon Open Space					Mgmt Unit		MU3				
Land Owner:		City of San Diego				Land Mangr:		City of San Diego Public Utilities Department					
Occurrence Name:		Goat Mesa/Spring Canyon					Sample Point #:		2				
Surveyors:		Betsy Miller, Kim Roeland, Annabelle Bernabe					Affiliation		City of San Diego				
Date:		4/21/2015		Time Start:		11:05		Time Finish:		11:30			
I. OCCURRENCE STATUS - Assess # plants in both species-specific sampling area (typically 10-m radius circle) & in current mapped extent . See p. 4 for definitions of categories describing phenology & evidence of herbivory, disease & stunted growth within the sampling area. Record any notes on p. 3.													
# Plants/Current Mapped Extent:		760		exact count or estimate?		exact		uncert.		low			
Area of Current Mapped Extent:				496.4		units		square meters		exact (GPS) or estim?			
Species Found in Maximum Extent?				yes		if not found, known or suspected reason:							
# Plants/Sampling Area		46		exact count or estimate?		exact		uncert.		low			
Sample Area Radius (m)				10									
Phenology In Sampling Area (1-6):				Vegetative 5 (50% to <7)		Flowering 3 (10% to <25%)		Fruiting 1 (0%)					
				Dead 1 (0%)		Flowering & Fruiting 1 (0%)							
Evidence in Sampling Area (1-6):				Herbivory 1 (0%)		Disease 1 (0%)		Stunted Growth 1 (0%)					
Is Sampling Area within Current Mapped Extent?				yes									
Collection (if not collected previously)?				no									
If yes:		Collector				Collection #							
		Museum/Herbarium											
II. SAMPLING AREA LOCATION & SITE PHOTOMONITORING													
GPS Accuracy: +/-		<1		accur. units:		meters		Datum:		NAD83			
coord. system		State Plane (ft)											
Coord'n's at Center of Plot: E:								N:					
Camera type:		Pentax Optio W90											
Locat. 1 Coord.--E, N		632984.64		1781861.518		Direction facing		S, W, N		Height 1.1 m			
		Camera angle		10 ° down		Photo # 3249-3256		File location S:MSCP					
Locat. 2 Coord.--E,N						Direction facing				Height			
		Camera angle				Photo #		File location					
III. ASSOCIATED SPECIES If need more room, record additional data and any notes on page 3.													
species/substrate		% Cover		Collection #, or NC if collected		not collected		species/substrate		% Cover		Collect.# or NC if not collected	
Eryngium aristulatum		2											
Simmondsia chinensis		20											
Cylindropuntia prolifera		2											
Artemisia californica		5											
Deinandra fasciculata		5											
Ambrosia chenopodiifolia		1											
Bahioopsis laciniata		1											
Centaura melitensis		1											
Erodium sp.		20 (dead)											
Bromus madritensis		20											
Bromus hordeaceus		1											
Avena sp.		1				bare ground				15			
Erodium botrys		2 (alive)				rock				1			
Festuca perennis		1				litter				1			
COVER: Total % Cover:		82		%Herb:		53		%Shrub:		29		%Tree: 0	

IV. HABITAT ASSESSMENT IN SAMPLING AREA - Assess habitat covariates within **species-specific sampling area** (typically 10-m radius circle). Vegetation alliance/association can be assigned using San Diego vegetation key (AECOM 2012) in the office or field, using "Associated Species" data from page 1. See page 4 for definitions of habitat assessment categories.

SANDAG 2012 Vegetation Alliance/Association: Simmondsia chinensis Alliance, Simmondsia chinensis-Bahiopsis laciniata Association

Cover classes (1-6)

Cryptogamic Crust Cover:

1 (0%)

Thatch Cover

3 (10% to <25%)

Thatch Depth Average (cm)

3

Thatch Depth max (cm)

5

Dead Standing Biomass

no

If yes, cover/species class

Average height (cm)

Mammal Species Activity (categ. 1-4)

Feral pig activity

1 = No feral pig activity (rooting, wallowing, vegetation destruction, tracks, scat, pig) detected.

ground squirr. activity

1 = No ground squirrel burrows detected.

gopher activity

1 = No pocket gopher mounds detected.

Sampling area representative of mapped occurrence? yes

(If no, note differences on page 3)

VI. THREATS ASSESSMENT IN MAXIMUM EXTENT - Assess threats within the **occurrence's maximum extent** (cumulative extent over years of monitoring) **plus 10-m surrounding buffer**. See page 4 for definitions of threat assessment categories. Record notes on page 3. See Argentine Ant Protocol (USGS 2015) for setting up bait, etc.

Surrounding Land Use/Activity at, or Adjacent to, Site open space

Argentine ant abundance at bait station (1-4)

Time start

Temp start

Time end

Temp end

Ant sample collected?

Ant sample #

Ant Station Photo #

DISTURBANCES (Rank each as 1-6):

Non-native forbs

4 = Disturbance

feral pig activity

1 = No sign of

altered hydrology

1 = No sign of disturbance

Non-native grasses

4 = Disturbance

trampling

1 = No sign of

erosion

1 = No sign of disturbance

Non-native woody pl.

1 = No sign of

vandalism

1 = No sign of

urban runoff

1 = No sign of disturbance

competitive native pl.

1 = No sign of

current grazing

1 = No sign of

slope movement

1 = No sign of disturbance

dumping/trash

1 = No sign of

historic grazing

7 = Disturbance

soil compaction

1 = No sign of disturbance

encampments

1 = No sign of

historic agriculture

1 = No sign of

fuel modification zone/fire break

1 = No sign of

road construction/maintenance

1 = No sign of

if present, describe:

illegal vegetation clearing

1 = No sign of

if present, describe:

brush management/restoration

1 = No sign of disturbance within maximum extent or in adjacent 10 m buffer.

ORV activity

1 = No sign of

if present, describe:

Evidence of recent fire

1 = No sign of disturbance within maximum

If sign of recent fire, year burned?

Trails

1 = No sign of disturbance within maximum extent

If trails are present, are they authorized?

Type of trail use

hiking

biking

equestrian

dog

service vehicles

other

illegal trail use?

describe:

Other disturbance?

1 = No sign of

describe:

MSP-Management Needs and Notes 2015

(top 2 rows auto-fill from page 1)

Scientific Name: Eryngium aristulatum var. parishii

MSP Occur ID. 0

Date: 4/21/2015

VI. MANAGEMENT RECOMMENDATIONS

Continue to control access with fencing

VII. MANAGEMENT ACTIONS IN LAST YEAR

PUD installed fencing along access/service road to control ORV activity

VIII. CNDDDB SPECIES DETECTED (list any plant or animal species to add to the CNDDDB)

NOTES

Eryngium aristulatum* var. *parishii
(San Diego Button Celery)
Goat Mesa/Spring Canyon Observation # 2



Panorama from Northern edge of population, facing South, West, North.
Panorama location is 6329894.69 1781861.52 NAD83 State Plane California Zone 6 (feet)
Photos merged using ArcSoft Panorama Maker 4.

Eryngium aristulatum - Goat Mesa/Spring Cyn Obs. 2



MSP - Rare Plant Occurrence Monitoring Form 2015										Page 1	
Scientific Name:		Eryngium aristulatum var. parishii				Common Name:		San Diego button celery			
		Existing MSP Occurrence? <i>no</i>				MSP Occurr. ID:					
		CNDDB Elem. Occur. #: <i>n/a</i>				Translocated? <i>no</i>					
Preserve:		Otay Lakes						Mgmt Unit <i>MU3</i>			
Land Owner:		City of San Diego				Land Mangr:		City of San Diego Public Utilities Department			
Occurrence Name:		Otay Lakes						Sample Point #:		1	
Surveyors:		Betsy Miller, Kim Roeland, Annabelle Bernabe						Affiliation		City of San Diego	
Date:		4/16/2015		Time Start:		11:50		Time Finish:		12:32	
I. OCCURRENCE STATUS - Assess # plants in both species-specific sampling area (typically 10-m radius circle) & in current mapped extent . See p. 4 for definitions of categories describing phenology & evidence of herbivory, disease & stunted growth within the sampling area. Record any notes on p. 3.											
# Plants/Current Mapped Extent:		5055		exact count or estimate?		estimate (extrapolate partial ct)		uncert.		low	
		Area of Current Mapped Extent:		9075.87		units		square meters		exact (GPS) or estim?	
		Species Found in Maximum Extent?		yes		if not found, known or suspected reason:					
# Plants/Sampling Area:		111				exact count or estimate?		exact		uncert.	
		Sample Area Radius (m)		10							
		Phenology In Sampling Area (1-6):		Vegetative		4 (25% to <5)		Flowering		3 (10% to <25%)	
				Dead		1 (0%)		Flowering & Fruiting		1 (0%)	
		Evidence in Sampling Area (1-6):		Herbivory		1 (0%)		Disease		1 (0%)	
								Stunted Growth		1 (0%)	
		Is Sampling Area within Current Mapped Extent?		yes							
		Collection (if not collected previously)?		no							
If yes:		Collector				Collection #					
		Museum/Herbarium									
II. SAMPLING AREA LOCATION & SITE PHOTOMONITORING											
GPS Accuracy: +/-		<1		accur. units:		meters		Datum:		NAD83	
coord. system		State Plane (ft)									
Coord'n's at Center of Plot:		E:				N:					
Camera type:		Pentax Optio W90									
Locat. 1 Coord.--E, N		6356775.9		1807379.03		Direction facing		N, E, SE		Height	
		Camera angle		10 ° up		Photo #		3197-3209		File location	
Locat. 2 Coord.--E,N						Direction facing				Height	
		Camera angle				Photo #				File location	
III. ASSOCIATED SPECIES <i>If need more room, record additional data and any notes on page 3.</i>											
species/substrate		% Cover		Collection #, or NC if collected		not collected		species/substrate		% Cover	
Eryngium aristulatum		5						Acmispon glaber		1	
Deinandra fasciculata		30									
Cressa truxillensis		3									
Salsola tragus		2									
Erodium botrys		10									
Chlorogalum parviflorum		3									
Bromus madritensis		1									
Hypochaeris glabra		1									
Bloomeria clevelandii		1									
Crassula connata		7									
Hordeum murinum		1									
Unk grass		1						bare ground		30	
Bromus hordeaceus		1						rock		1	
Eriogonum fasciculatum		1						litter		2	
COVER: Total % Cover:		68		%Herb:		66		%Shrub:		2	
								%Tree:		0	

IV. HABITAT ASSESSMENT IN SAMPLING AREA - Assess habitat covariates within **species-specific sampling area** (typically 10-m radius circle). Vegetation alliance/association can be assigned using San Diego vegetation key (AECOM 2012) in the office or field, using "Associated Species" data from page 1. See page 4 for definitions of habitat assessment categories.

SANDAG 2012 Vegetation Alliance/Association: Deinandra fasciculata Provisional Alliance, Deinandra fasciculata Association

Cover classes (1-6)

Cryptogamic Crust Cover: 1 (0%)

Thatch Cover 1 (0%)

Thatch Depth Average (cm)

Thatch Depth max (cm)

Dead Standing Biomass

yes

If yes, cover/species class

Acmispon glaber/2

Average height (cm)

10

Mammal Species Activity (categ. 1-4)

Feral pig activity

1 = No feral pig activity (rooting, wallowing, vegetation destruction, tracks, scat, pig) detected.

ground squirr. activity

1 = No ground squirrel burrows detected.

gopher activity

3 = <10 mounds observed within sampling area.

Sampling area representative of mapped occurrence? yes

(If no, note differences on page 3)

VI. THREATS ASSESSMENT IN MAXIMUM EXTENT - Assess threats within the **occurrence's maximum extent** (cumulative extent over years of monitoring) **plus 10-m surrounding buffer**. See page 4 for definitions of threat assessment categories. Record notes on page 3. See Argentine Ant Protocol (USGS 2015) for setting up bait, etc.

Surrounding Land Use/Activity at, or Adjacent to, Site

Open Space

Argentine ant abundance at bait station (1-4)

1 = No ants detected at bait station or in vicinity.

Time start

11:50 AM

Temp start

75F

Time end

12:31 PM

Temp end

73F

Ant sample collected? no

Ant sample #

Ant Station Photo #

3210

DISTURBANCES (Rank each as 1-6):

Non-native forbs

4 = Disturbance

feral pig activity

1 = No sign of

altered hydrology

1 = No sign of disturbance

Non-native grasses

3 = Disturbance

trampling

1 = No sign of

erosion

1 = No sign of disturbance

Non-native woody pl.

1 = No sign of

vandalism

1 = No sign of

urban runoff

1 = No sign of disturbance

competitive native pl.

1 = No sign of

current grazing

1 = No sign of

slope movement

1 = No sign of disturbance

dumping/trash

1 = No sign of

historic grazing

7 = Disturbance

soil compaction

1 = No sign of disturbance

encampments

1 = No sign of

historic agriculture

1 = No sign of

fuel modification zone/fire break

1 = No sign of

road construction/maintenance

1 = No sign of

if present, describe:

illegal vegetation clearing

1 = No sign of

if present, describe:

brush management/restoration

1 = No sign of disturbance within maximum extent or in adjacent 10 m buffer.

ORV activity

1 = No sign of

if present, describe:

Evidence of recent fire

1 = No sign of disturbance within maximum

If sign of recent fire, year burned?

Trails

1 = No sign of disturbance within maximum extent

If trails are present, are they authorized?

Type of trail use

hiking

biking

equestrian

dog

service vehicles

other

illegal trail use?

1 = No sign of

describe:

Other disturbance?

1 = No sign of

describe:

MSP-Management Needs and Notes 2015

(top 2 rows auto-fill from page 1)

Scientific Name:

MSP Occur ID.

Date:

VI. MANAGEMENT RECOMMENDATIONS

Maintain access control with locked gate and fencing and signs

VII. MANAGEMENT ACTIONS IN LAST YEAR

New sign installed at Otay Lakes Road; access controlled with locked gate and fencing and signs

VIII. CNDDDB SPECIES DETECTED (list any plant or animal species to add to the CNDDDB)

HOLA singing near photopoint

NOTES

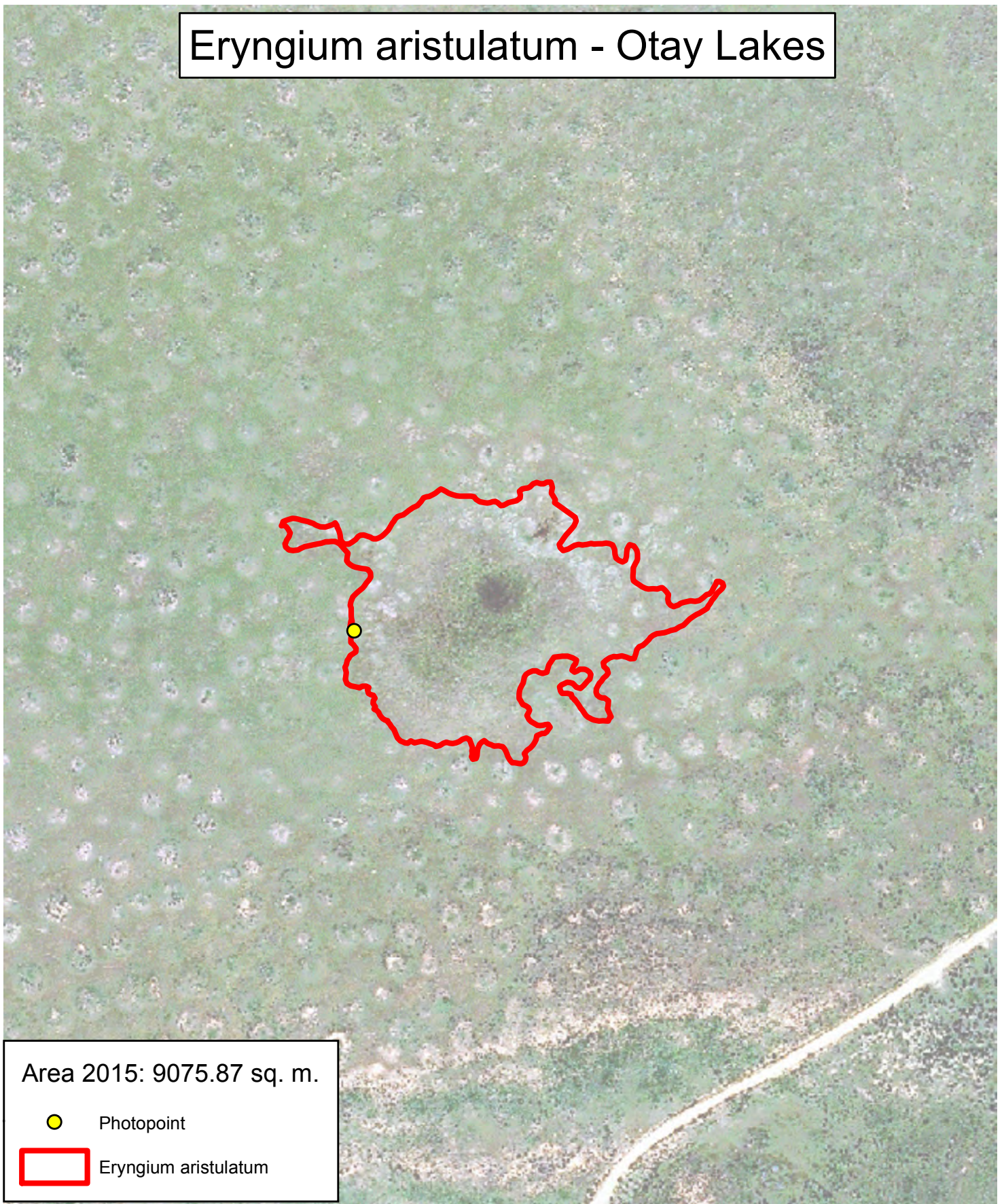
Used density: 175 plants / $\pi \cdot r^2$ or 175 plant/314 m² to calculate number of plants in current mapped extent

Eryngium aristulatum* var. *parishii
(San Diego Button Celery)
Otay Lakes



Panorama from Northern edge of population, facing Northeast, East, Southeast.
Panorama location is 6356775.9 1807379.03 NAD83 State Plane California Zone 6 (feet)
Photos merged using ArcSoft Panorama Maker 4.

Eryngium aristulatum - Otay Lakes



Area 2015: 9075.87 sq. m.

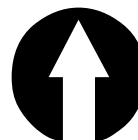
● Photopoint

□ Eryngium aristulatum

Pop. Area 2013-2015
Max Area: 14081.55 sq. m.
Min Area: 1875.0 sq. m.

0 25 50
Meters

Source: San GIS & City of San Diego Park & Rec
Created by: Annabelle Bernabe, 2015



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Erysimum ammophilum
Coast wallflower



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MSP - Rare Plant Occurrence Monitoring Form 2015										Page 1
Scientific Name:		Erysimum ammophilum			Common Name:		Coast wallflower			
Existing MSP Occurrence?		yes			MSP Occurr. ID:		ERAM4_7CRCA002			
CNDDB Elem. Occur. #:		n/a			Translocated?		no			
Preserve:		Crest Canyon Preserve					Mgmt Unit			
Land Owner:		City of San Diego			Land Mangr:		City of San Diego Park and Recreation Department			
Occurrence Name:		Crest Canyon					Sample Point #:		1	
Surveyors:		Betsy Miller, Kim Roeland					Affiliation		City of San Diego	
Date:		3/11/2015		Time Start:		9:10		Time Finish: 10:50		
I. OCCURRENCE STATUS - Assess # plants in both species-specific sampling area (typically 10-m radius circle) & in current mapped extent . See p. 4 for definitions of categories describing phenology & evidence of herbivory, disease & stunted growth within the sampling area. Record any notes on p. 3.										
# Plants/Current Mapped Extent:		42		exact count or estimate?		exact		uncert. low		
Area of Current Mapped Extent:		204.54		units		square meters		exact (GPS) or estim? exact (GPS ma		
Species Found in Maximum Extent?		yes		if not found, known or suspected reason:						
# Plants/Sampling Area		24		exact count or estimate?		exact		uncert. low		
Sample Area Radius (m)		10								
Phenology In Sampling Area (1-6):		Vegetative 1 (0%)		Flowering 5 (50% to <75%)		Fruiting 5 (50% to <75%)				
		Dead 1 (0%)		Flowering & Fruiting 1 (0%)						
Evidence in Sampling Area (1-6):		Herbivory 1 (0%)		Disease 1 (0%)		Stunted Growth 1 (0%)				
Is Sampling Area within Current Mapped Extent?		yes								
Collection (if not collected previously)?		no								
If yes:		Collector		Collection #						
		Museum/Herbarium								
II. SAMPLING AREA LOCATION & SITE PHOTOMONITORING										
GPS Accuracy: +/- <1		accur. units:		meters		Datum:		NAD83		
coord. system		State Plane (ft)								
Coord'n's at Center of Plot:		E:		N:						
Camera type:		Pentax Optio W90								
Locat. 1 Coord.--E, N				Direction facing		SW, W, NW		Height 1.1 m		
Camera angle				Photo # 734-739		File location S:MSCP				
Locat. 2 Coord.--E,N				Direction facing				Height		
Camera angle				Photo #		File location				
III. ASSOCIATED SPECIES If need more room, record additional data and any notes on page 3.										
species/substrate	% Cover	Collection #, or NC if collected	not	species/substrate	% Cover	Collect.# or NC if not collected				
Erysimum ammophilum	2			Ehrharta calycina	1					
Eschscholzia californica	2			Bromus madritensis	3					
Pinus torreyana	3			Dichelostemma capitatum	1					
Eriogonum fasciculatum	5			Acemispson strigosus	1					
Malosma laurina	3			Stylocline gnaphaloides	1					
Rhamnus crocea	1			Selaginella bigelovii	2					
Artemisia californica	25			Polypodium californicum	3					
Encelia californica	1			Plantago erecta	1					
Marah macrocarpus	1			Dudleya lanceolata	1					
Mirabilis laevis	4			Linanthus dianthiflorus	1					
Corethrogyne filaginifolia	1			Galium angustifolium	1					
Phacelia minor	3			Dodecatheon clevelandii	1					
Senecio californicus	2			Dudleya edulis	1					
Crypthantha sp.	3			Crassula conata	1					
Caulanthus heterophyllus	1			bare ground	20					
Camissoniopsis bistorta	1			rock	0					
Lupinus truncatus	1			litter	7					
COVER: Total % Cover:	78	%Herb:	35	%Shrub:	40	%Tree:	3			

IV. HABITAT ASSESSMENT IN SAMPLING AREA - Assess habitat covariates within **species-specific sampling area** (typically 10-m radius circle). Vegetation alliance/association can be assigned using San Diego vegetation key (AECOM 2012) in the office or field, using "Associated Species" data from page 1. See page 4 for definitions of habitat assessment categories.

SANDAG 2012 Vegetation Alliance/Association:	Artemisia californica - Eriogonum fasciculatum Alliance, Artemisia californica - Eriogonum fasciculatum - Opuntia littoralis/Dudleya (edulis) Association			
Cover classes (1-6)	Cryptogamic Crust Cover:	1 (0%)	Thatch Cover	2 (>0% to <10%)
	Thatch Depth Average (cm)	7	Thatch Depth max (cm)	15
Dead Standing Biomass	yes			
If yes, cover/species class	unk shrub/2; Ehrharta calicina dead from		Average height (cm)	20
Mammal Species Activity (categ. 1-4)				

Feral pig activity 1 = No feral pig activity (rooting, wallowing, vegetation destruction, tracks, scat, pig) detected.

ground squirr. activity 1 = No ground squirrel burrows detected.

gopher activity 1 = No pocket gopher mounds detected.

Sampling area representative of mapped occurrence? yes (If no, note differences on page 3)

VI. THREATS ASSESSMENT IN MAXIMUM EXTENT - Assess threats within the **occurrence's maximum extent** (cumulative extent over years of monitoring) **plus 10-m surrounding buffer**. See page 4 for definitions of threat assessment categories. Record notes on page 3. See Argentine Ant Protocol (USGS 2015) for setting up bait, etc.

Surrounding Land Use/Activity at, or Adjacent to, Site open space; residential

Argentine ant abundance at bait station (1-4)

Time start

Temp start

Time end

Temp end

Ant sample collected?

Ant sample #

Ant Station Photo #

DISTURBANCES (Rank each as 1-6):

Non-native forbs 1 = No sign of disturbance

feral pig activity 1 = No sign of disturbance

altered hydrology 1 = No sign of disturbance

Non-native grasses 3 = Disturbance

trampling 1 = No sign of disturbance

erosion 2 = Disturbance does not

Non-native woody pl. 1 = No sign of disturbance

vandalism 1 = No sign of disturbance

urban runoff 1 = No sign of disturbance

competitive native pl. 1 = No sign of disturbance

current grazing 1 = No sign of disturbance

slope movement 1 = No sign of disturbance

dumping/trash 1 = No sign of disturbance

historic grazing 1 = No sign of disturbance

soil compaction 1 = No sign of disturbance

encampments 1 = No sign of disturbance

historic agriculture 1 = No sign of disturbance

fuel modification zone/fire break 1 = No sign of disturbance

road construction/maintenance 1 = No sign of disturbance

if present, describe:

illegal vegetation clearing 1 = No sign of disturbance

if present, describe:

brush management/restoration 4 = Disturbance occurs in 10% to <25% of area within maximum extent.

ORV activity

1 = No sign of disturbance

if present, describe:

Evidence of recent fire 1 = No sign of disturbance within maximum extent

If sign of recent fire, year burned?

Trails 1 = No sign of disturbance within maximum extent

If trails are present, are they authorized?

Type of trail use

hiking

biking

equestrian

dog

service vehicles

other

illegal trail use?

3 = Disturbance

describe:

very slight foot paths beginning to form

Other disturbance?

1 = No sign of disturbance

describe:

MSP-Management Needs and Notes 2015

(top 2 rows auto-fill from page 1)

Scientific Name:

MSP Occur ID.

Date:

VI. MANAGEMENT RECOMMENDATIONS

1. Continue to treat Ehrharta with herbicide - last treatment very successful

VII. MANAGEMENT ACTIONS IN LAST YEAR

Herbicide treatment of Ehrharta and other invasives from 2013 - present under SANDAG contract/grant

VIII. CNDDDB SPECIES DETECTED (list any plant or animal species to add to the CNDDDB)

NOTES

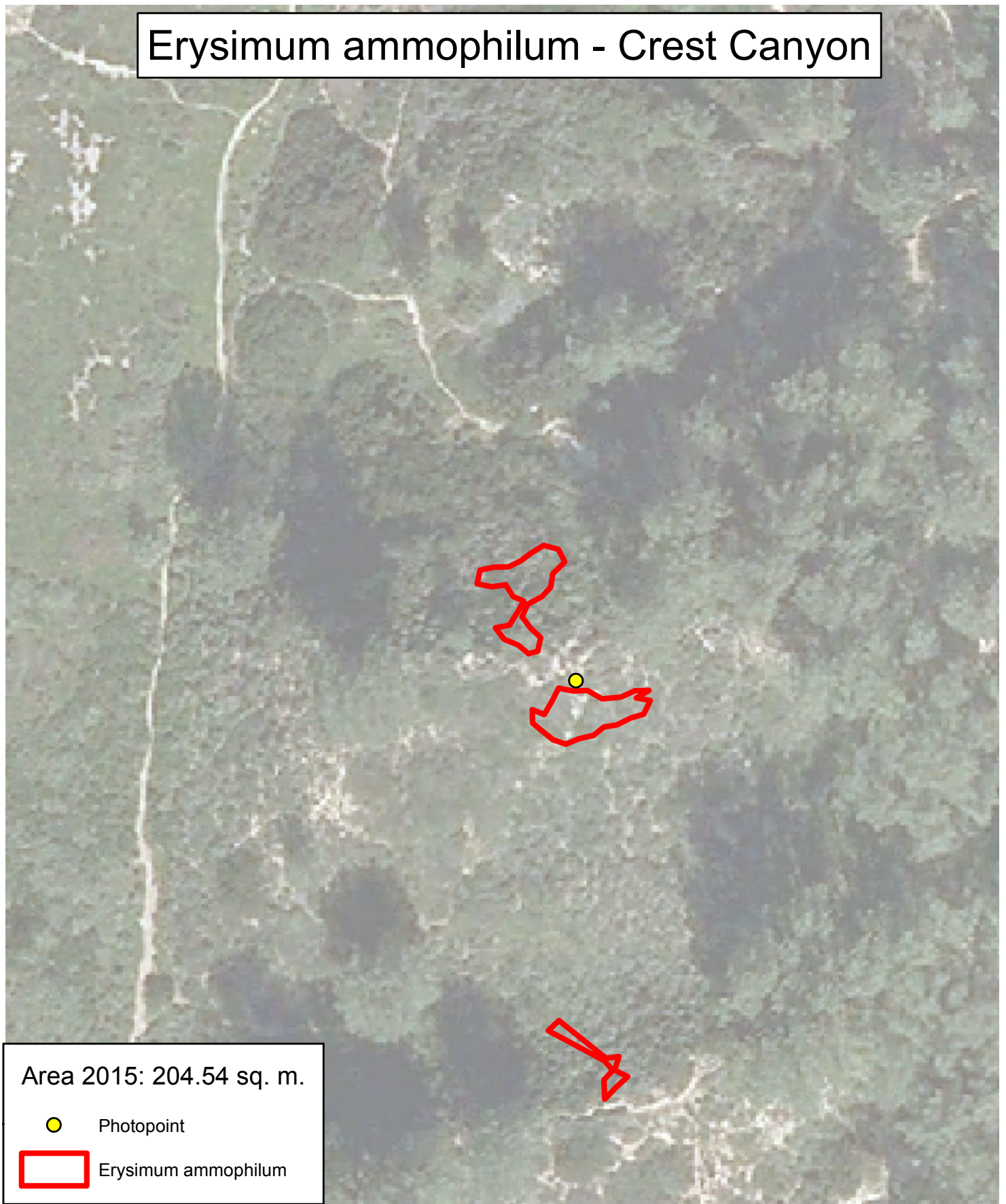
Threats Assessment: Erosion = natural; Restoration = herbicide treatment of Ehrharta

Erysimum ammophilum
(Coast Wallflower)
Crest Canyon



Panorama from Northern edge of population, facing Southwest, West, Northwest.
Panorama location is 6253583.239 1932214.379 NAD83 State Plane California Zone 6 (feet)
Photos merged using ArcSoft Panorama Maker 4.

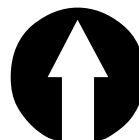
Erysimum ammophilum - Crest Canyon



Pop. Area: 2015
Max Area: 204.54 sq. m.
Min Area: 204.54 sq. m.

0 15 30
Meters

Source: San GIS & City of San Diego Park & Rec
Map Created By: Annabelle Bernabe, 2015



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MSP - Rare Plant Occurrence Monitoring Form 2015										Page 1	
Scientific Name:		Erysimum ammophilum				Common Name:		Coast wallflower			
Existing MSP Occurrence?		yes		MSP Occurr. ID:		ERAM4_6DEMA001					
CNDDB Elem. Occur. #:		n/a		Translocated?		no					
Preserve:		North City West Open Space				Mgmt Unit		MU6			
Land Owner:		City of San Diego			Land Mangr:		City of San Diego Park and Recreation Department				
Occurrence Name:		Overlook Park - Gully				Sample Point #:		3			
Surveyors:		Kim Roeland, Betsy Miller				Affiliation		City of San Diego			
Date:		3/16/2015		Time Start:		8:20		Time Finish:		9:30	
I. OCCURRENCE STATUS - Assess # plants in both species-specific sampling area (typically 10-m radius circle) & in current mapped extent . See p. 4 for definitions of categories describing phenology & evidence of herbivory, disease & stunted growth within the sampling area. Record any notes on p. 3.											
# Plants/Current Mapped Extent:		218		exact count or estimate?		exact		uncert.		medium	
Area of Current Mapped Extent:		222.2		units		square meters		exact (GPS) or estim?		exact (GPS ma	
Species Found in Maximum Extent?		yes		if not found, known or suspected reason:							
# Plants/Sampling Area:		36		exact count or estimate?		exact		uncert.		low	
Sample Area Radius (m)		10									
Phenology In Sampling Area (1-6):		Vegetative		1 (0%)		Flowering		1 (0%)		Fruiting	
		Dead		1 (0%)		Flowering & Fruiting		6 (≥75%)			
Evidence in Sampling Area (1-6):		Herbivory		1 (0%)		Disease		1 (0%)		Stunted Growth	
										1 (0%)	
Is Sampling Area within Current Mapped Extent?		yes									
Collection (if not collected previously)?		no									
If yes:		Collector				Collection #					
		Museum/Herbarium									
II. SAMPLING AREA LOCATION & SITE PHOTOMONITORING											
GPS Accuracy: +/-		<1		accur. units:		meters		Datum:		NAD83	
coord. system		State Plane (ft)									
Coord'n's at Center of Plot:		E:				N:					
Camera type:		Pentax Optio W90									
Locat. 1 Coord.--E, N		6258825.981		19317194.94		Direction facing		W, SW, S		Height	
		Camera angle		up 5 degrees		Photo #		784-786		File location	
Locat. 2 Coord.-- E,N						Direction facing				Height	
		Camera angle				Photo #				File location	
III. ASSOCIATED SPECIES If need more room, record additional data and any notes on page 3.											
species/substrate		% Cover		Collection #, or NC if collected		not		species/substrate		% Cover	
										Collect.# or NC if not collected	
Erysimum ammophilum		10				Scrophularia californica				1	
Artemisia californica		50				Pterostegia drymarioides				1	
Malosma laurina		5				Agoseris retrorsa				1	
Baccharis pilularis		5				Cryptantha sp.				3	
Marah marocarpus		30				unk green carpet				3	
Croton californicus		3									
Salvia apiana		3									
Ambrosia psilostachya		3									
Rhus integrifolia		1									
Eucrypta chrysanthemifolia		3									
Chenopodium californicum		2									
Mirabilis laevis		1				bare ground				5	
Bromus madritensis		1				rock				0	
Opuntia littoralis		1				litter				1	
COVER: Total % Cover:		127		%Herb:		62		%Shrub:		65	
										%Tree:	
										0	

IV. HABITAT ASSESSMENT IN SAMPLING AREA - Assess habitat covariates within **species-specific sampling area** (typically 10-m radius circle). Vegetation alliance/association can be assigned using San Diego vegetation key (AECOM 2012) in the office or field, using "Associated Species" data from page 1. See page 4 for definitions of habitat assessment categories.

SANDAG 2012 Vegetation Alliance/Association:	Salvia apiana Alliance, Salvia apiana-Artemisia californica Association			
Cover classes (1-6)	Cryptogamic Crust Cover:	1 (0%)	Thatch Cover	1 (0%)
	Thatch Depth Average (cm)		Thatch Depth max (cm)	
Dead Standing Biomass	yes			
If yes, cover/species class	Art cal/3		Average height (cm)	40
Mammal Species Activity (categ. 1-4)				
Feral pig activity	1 = No feral pig activity (rooting, wallowing, vegetation destruction, tracks, scat, pig) detected.			
ground squirr. activity	1 = No ground squirrel burrows detected.			
gopher activity	1 = No pocket gopher mounds detected.			
Sampling area representative of mapped occurrence?	yes	(If no, note differences on page 3)		

VI. THREATS ASSESSMENT IN MAXIMUM EXTENT - Assess threats within the **occurrence's maximum extent** (cumulative extent over years of monitoring) **plus 10-m surrounding buffer**. See page 4 for definitions of threat assessment categories. Record notes on page 3. See Argentine Ant Protocol (USGS 2015) for setting up bait, etc.

Surrounding Land Use/Activity at, or Adjacent to, Site	Residential; open space					
Argentine ant abundance at bait station (1-4)						
Time start		Temp start		Time end	Temp end	
Ant sample collected?		Ant sample #		Ant Station Photo #		
DISTURBANCES (Rank each as 1-6):						
Non-native forbs	1 = No sign of disturbance	feral pig activity	1 = No sign of disturbance	altered hydrology	1 = No sign of disturbance	
Non-native grasses	3 = Disturbance	trampling	1 = No sign of disturbance	erosion	1 = No sign of disturbance	
Non-native woody pl.	1 = No sign of disturbance	vandalism	1 = No sign of disturbance	urban runoff	2 = Disturbance does not occur within maximum extent but is detected within the surrounding 10 m	
competitive native pl.	1 = No sign of disturbance	current grazing	1 = No sign of disturbance	slope movement	1 = No sign of disturbance	
dumping/trash	1 = No sign of disturbance	historic grazing	1 = No sign of disturbance	soil compaction	1 = No sign of disturbance	
encampments	1 = No sign of disturbance	historic agriculture	1 = No sign of disturbance			
fuel modification zone/fire break	1 = No sign of disturbance					
road construction/maintenance	1 = No sign of disturbance	if present, describe:				
illegal vegetation clearing	1 = No sign of disturbance	if present, describe:				
brush management/restoration	2 = Disturbance does not occur within maximum extent but is detected within the surrounding 10 m					
ORV activity	1 = No sign of disturbance	if present, describe:				
Evidence of recent fire	1 = No sign of disturbance within maximum extent					
If sign of recent fire, year burned?						
Trails	2 = Disturbance does not occur within maximum extent		If trails are present, are they authorized?		unknown	
Type of trail use	hiking	yes	biking	no	equestrian	no
	service vehicles	no	other	no	dog	yes
illegal trail use?	2 = Disturbance		describe: some social trails throughout open space			
Other disturbance?	1 = No sign of disturbance					

MSP-Management Needs and Notes 2015

(top 2 rows auto-fill from page 1)

Scientific Name:

MSP Occur ID.

Date:

VI. MANAGEMENT RECOMMENDATIONS

Be careful in return visits to avoid cutting trail. Consider doing this point only in high rainfall or alternate years to minimize damage to habitat.

VII. MANAGEMENT ACTIONS IN LAST YEAR

VIII. CNDDDB SPECIES DETECTED (list any plant or animal species to add to the CNDDDB)

NOTES

Erysimum ammophilum
(Coast Wallflower)
North City West Observation #3



Panorama from Northern edge of population, facing West, Southwest, South.
Panorama location is 6258825.981 19317194.938 NAD83 State Plane California Zone 6 (feet)
Photos merged using ArcSoft Panorama Maker 4.

Erysimum ammophilum - North City West Open Space Site 3



Area 2015: 222.2 sq. m.

● Photopoint

□ Erysimum ammophilum

Pop. Area 2015:
Max Area: 222.2 sq. m.
Min Area: 222.2 sq. m.

0 2.5 5 10
Meters

Source: San GIS & City of San Diego Park & Rec
Created by: Kim Roeland, 2015



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Monardella stoneana
Jennifer's Monardella



© City of San Diego, 2005

MSP - Rare Plant Occurrence Monitoring Form 2015										Page 1
Scientific Name:		Monardella stoneana			Common Name:		Jennifer's monardella			
Existing MSP Occurrence?		yes			MSP Occurr. ID:		MOST_3MAVA002			
CNDDB Elem. Occur. #:		EO6			Translocated?		no			
Preserve:		Marron Valley Mitigation Bank					Mgmt Unit		MU3	
Land Owner:		City of San Diego			Land Mangr:		City of San Diego Public Utilities Department			
Occurrence Name:		Marron Valley					Sample Point #:		1	
Surveyors:		Betsy Miller, Kim Roeland, Annabelle Bernabe					Affiliation		City of San Diego	
Date:		6/2/2015		Time Start:		10:10		Time Finish: 11:00		
I. OCCURRENCE STATUS - Assess # plants in both species-specific sampling area (typically 10-m radius circle) & in current mapped extent . See p. 4 for definitions of categories describing phenology & evidence of herbivory, disease & stunted growth within the sampling area. Record any notes on p. 3.										
# Plants/Current Mapped Extent:		4		exact count or estimate?		exact		uncert. very low		
Area of Current Mapped Extent:		53		units		square meters		exact (GPS) or estim? exact (GPS ma		
Species Found in Maximum Extent?		yes		if not found, known or suspected reason:						
# Plants/Sampling Area		3		exact count or estimate?		exact		uncert. very low		
Sample Area Radius (m)		10								
Phenology In Sampling Area (1-6):		Vegetative 2 (>0% to <1		Flowering 6 (≥75%)		Fruiting 1 (0%)				
		Dead 1 (0%)		Flowering & Fruiting 1 (0%)						
Evidence in Sampling Area (1-6):		Herbivory 1 (0%)		Disease 1 (0%)		Stunted Growth 1 (0%)				
Is Sampling Area within Current Mapped Extent?		yes								
Collection (if not collected previously)?		no								
If yes:		Collector		Collection #						
		Museum/Herbarium								
II. SAMPLING AREA LOCATION & SITE PHOTOMONITORING										
GPS Accuracy: +/- <1		accur. units:		meters		Datum:		NAD83		
coord. system		State Plane (ft)								
Coord'n's at Center of Plot:		E:		N:						
Camera type:		Pentax Optio W90								
Locat. 1 Coord.--E, N		6409398.72		1790116.116		Direction facing		SE, S, SW		
		Camera angle		5° up		Photo #		3980-3989		
						File location		S:WSCP		
Locat. 2 Coord.-- E,N						Direction facing		Height		
		Camera angle				Photo #		File location		
III. ASSOCIATED SPECIES If need more room, record additional data and any notes on page 3.										
species/substrate		% Cover		Collection #, or NC if collected		species/substrate		% Cover		
Collect.# or NC if not collected										
Monardella stoneana		1				Galium angustifolium		1		
Baccharis sarothroides		7				Bahioopsis laciniata		1		
Artemisia californica		3				Hedynopsis cretica		1		
Quercus cedrosensis		10				Brassica tournefortii		3 yes		
Eriogonum fasciculatum		5				Lepidium sp.		3		
Hesperoyucca whipplei		1				Brassica nigra		2		
Malosma laurina		2				Bromus madritensis		5		
Mirabilis laevis		3				Avena sp.		5		
Brickellia californica		2				Bromus diandrus		7		
Salvia apiana		1				Festuca perennis		1		
Gutierrezia californica		1				Brachypodium distachyon		1		
Ephedra sp.		2				Pterostegia drymarioides		1		
Pellaea mucronata		1				Cirsium occidentale		1		
Selaginella bigelovii		3				Pentagramma triangularis		1		
Pseudognaphalium bicolor		2				Aspidotis californica		1		
Erodium cicutarium		1				bare ground		5		
Erodium botrys		2				rock		20		
Eriophyllum confertiflorum		1				litter		2		
COVER: Total % Cover:		82		%Herb:		44		%Shrub: 38		
								%Tree: 0		

IV. HABITAT ASSESSMENT IN SAMPLING AREA - Assess habitat covariates within **species-specific sampling area** (typically 10-m radius circle). Vegetation alliance/association can be assigned using San Diego vegetation key (AECOM 2012) in the office or field, using "Associated Species" data from page 1. See page 4 for definitions of habitat assessment categories.

SANDAG 2012 Vegetation Alliance/Association:	seasonal stream bed		
Cover classes (1-6)	Cryptogamic Crust Cover:	1 (0%)	Thatch Cover
	Thatch Depth Average (cm)		4 (25% to <50%)
Dead Standing Biomass	yes		Thatch Depth max (cm)
If yes, cover/species class	Unknown/2; Pseudognaphalium/2		Average height (cm)
			30
Mammal Species Activity (categ. 1-4)			
Feral pig activity	1 = No feral pig activity (rooting, wallowing, vegetation destruction, tracks, scat, pig) detected.		
ground squirr. activity	1 = No ground squirrel burrows detected.		
gopher activity	1 = No pocket gopher mounds detected.		
Sampling area representative of mapped occurrence?	yes	(If no, note differences on page 3)	

VI. THREATS ASSESSMENT IN MAXIMUM EXTENT - Assess threats within the **occurrence's maximum extent** (cumulative extent over years of monitoring) **plus 10-m surrounding buffer**. See page 4 for definitions of threat assessment categories. Record notes on page 3. See Argentine Ant Protocol (USGS 2015) for setting up bait, etc.

Surrounding Land Use/Activity at, or Adjacent to, Site	open space		
Argentine ant abundance at bait station (1-4)			
Time start		Temp start	
Ant sample collected?		Ant sample #	
		Ant Station Photo #	

DISTURBANCES (Rank each as 1-6):

Non-native forbs	3 = Disturbance	feral pig activity	1 = No sign of disturbance	altered hydrology	1 = No sign of disturbance
Non-native grasses	4 = Disturbance	trampling	1 = No sign of disturbance	erosion	1 = No sign of disturbance
Non-native woody pl.	1 = No sign of disturbance	vandalism	1 = No sign of disturbance	urban runoff	1 = No sign of disturbance
competitive native pl.	1 = No sign of disturbance	current grazing	1 = No sign of disturbance	slope movement	1 = No sign of disturbance
dumping/trash	3 = Disturbance	historic grazing	1 = No sign of disturbance	soil compaction	1 = No sign of disturbance
encampments	1 = No sign of disturbance	historic agriculture	1 = No sign of disturbance		
fuel modification zone/fire break	1 = No sign of disturbance				
road construction/maintenance	1 = No sign of disturbance	if present, describe:			
illegal vegetation clearing	1 = No sign of disturbance	if present, describe:			
brush management/restoration	1 = No sign of disturbance within maximum extent or in adjacent 10 m buffer.				
ORV activity	1 = No sign of disturbance	if present, describe:			
Evidence of recent fire	1 = No sign of disturbance within maximum extent				
If sign of recent fire, year burned?	2003				
Trails	1 = No sign of disturbance within maximum extent		If trails are present, are they authorized?		
Type of trail use	hiking		biking		equestrian
					dog
service vehicles			other		
illegal trail use?	1 = No sign of disturbance	describe:			
Other disturbance?	1 = No sign of disturbance	describe:			

MSP-Management Needs and Notes 2015

(top 2 rows auto-fill from page 1)

Scientific Name: Monardella stoneana

MSP Occur ID: MOST_3MAVA002

Date: 6/2/2015

VI. MANAGEMENT RECOMMENDATIONS

none

VII. MANAGEMENT ACTIONS IN LAST YEAR

none

VIII. CNDDDB SPECIES DETECTED (list any plant or animal species to add to the CNDDDB)

NOTES

Survey up the canyon not performed because we did not have Border Patrol for security. Surveyed just around the photopoint.

***Monardella stoneana* (Jennifer's Monardella) Marron Valley**



Panorama from Northern edge of population, facing Southeast, South, Southwest
Panorama location is 6409398.728 1790116.116 NAD83 State Plane California Zone 6 (feet)
Photos merged using ArcSoft Panorama Maker 4.

Monardella stoneana - Marron Valley




Area 2015: 53 sq. m.

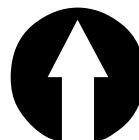
 Monardella stoneana

• Photopoint

Pop. Area 2003 - 2015
Max Area: 13,959.5 sq. m.
Min Area: 26 sq. m

0 5 10 20
 Meters

Source: San GIS & City of San Diego Park & Rec
Created by: Kim Roeland, 2015



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MSP - Rare Plant Occurrence Monitoring Form 2015										Page 1	
Scientific Name:		Monardella stoneana				Common Name:		Jennifer's monardella			
		Existing MSP Occurrence?		yes		MSP Occurr. ID:		MOST_3OTLA005			
		CNDDB Elem. Occur. #:		EO5		Translocated?		no			
Preserve:		Otay Lakes Cornerstone Lands						Mgmt Unit MU3			
Land Owner:		City of San Diego				Land Mangr:		City of San Diego Public Utilities Department			
Occurrence Name:		Otay Lakes						Sample Point #:		1	
Surveyors:		Betsy Miller, Kim Roeland, Annabelle Bernabe						Affiliation		City of San Diego	
Date:		6/2/2015		Time Start:		13:00		Time Finish:		13:20	
I. OCCURRENCE STATUS - Assess # plants in both species-specific sampling area (typically 10-m radius circle) & in current mapped extent . See p. 4 for definitions of categories describing phenology & evidence of herbivory, disease & stunted growth within the sampling area. Record any notes on p. 3.											
# Plants/Current Mapped Extent:		0		exact count or estimate?		exact		uncert.		very low	
		Area of Current Mapped Extent:		0		units		square meters		exact (GPS) or estim?	
		Species Found in Maximum Extent?		no		if not found, known or suspected reason:		declining for many years			
# Plants/Sampling Area:		0				exact count or estimate?		exact		uncert. very low	
		Sample Area Radius (m)									
		Phenology In Sampling Area (1-6):		Vegetative 1 (0%)		Flowering 1 (0%)		Fruiting 1 (0%)			
				Dead 1 (0%)		Flowering & Fruiting 1 (0%)					
		Evidence in Sampling Area (1-6):		Herbivory 1 (0%)		Disease 1 (0%)		Stunted Growth 1 (0%)			
		Is Sampling Area within Current Mapped Extent?		no							
		Collection (if not collected previously)?		no							
If yes:		Collector				Collection #					
		Museum/Herbarium									
II. SAMPLING AREA LOCATION & SITE PHOTOMONITORING											
GPS Accuracy: +/-		<1		accur. units:		meters		Datum:		NAD83	
coord. system		State Plane (ft)									
Coord'n's at Center of Plot:		E:				N:					
Camera type:		Pentax Optio W90									
Locat. 1 Coord.--E, N		6357735.58		1805911.58		Direction facing		NE, E, SE		Height 1.1 m	
		Camera angle		1° down		Photo # 4009-4016		File location S:MSCP			
Locat. 2 Coord.-- E,N						Direction facing				Height	
		Camera angle				Photo #		File location			
III. ASSOCIATED SPECIES If need more room, record additional data and any notes on page 3.											
species/substrate		% Cover		Collection #, or NC if not collected		species/substrate		% Cover		Collect.# or NC if not collected	
Malosma laurina		1				Melilotus sp.		1			
Iva hayesiana		30				Lonicera subspicata		1			
Eriogonum fasciculatum		3				Acmispon glaber		1			
Bahioopsis laciniata		3				Antirrhinum nuttallianum		1			
Artemisia californica		1				Silene gallica		1			
Tamarix sp.		1				Avena sp.		10			
Heteromeles arbutifolia		1				Phalaris minor		1			
Foeniculum vulgare		1				Bromus madritensis		10			
Centaurea melitensis		1				Bromus diandrus		3			
Sonchus sp.		1				Brachypodium distachyon		3			
Deinandra fasciculata		1				Festuca perennis		2			
Pseudognaphalium californicum		1									
Brassica nigra		10				bare ground		2			
Anagallis arvensis		1				rock		20			
Stephanomeria diegensis		1				litter		1			
COVER: Total % Cover:		91		%Herb:		49		%Shrub:		41	
								%Tree:		1	

IV. HABITAT ASSESSMENT IN SAMPLING AREA - Assess habitat covariates within **species-specific sampling area** (typically 10-m radius circle). Vegetation alliance/association can be assigned using San Diego vegetation key (AECOM 2012) in the office or field, using "Associated Species" data from page 1. See page 4 for definitions of habitat assessment categories.

SANDAG 2012 Vegetation Alliance/Association:	seasonal stream bed			
Cover classes (1-6)	Cryptogamic Crust Cover:	1 (0%)	Thatch Cover	1 (0%)
	Thatch Depth Average (cm)		Thatch Depth max (cm)	
Dead Standing Biomass	yes			
If yes, cover/species class	unknown/2		Average height (cm)	20
Mammal Species Activity (categ. 1-4)				
Feral pig activity	1 = No feral pig activity (rooting, wallowing, vegetation destruction, tracks, scat, pig) detected.			
ground squirr. activity	1 = No ground squirrel burrows detected.			
gopher activity	1 = No pocket gopher mounds detected.			
Sampling area representative of mapped occurrence?	yes	(If no, note differences on page 3)		

VI. THREATS ASSESSMENT IN MAXIMUM EXTENT - Assess threats within the **occurrence's maximum extent** (cumulative extent over years of monitoring) **plus 10-m surrounding buffer**. See page 4 for definitions of threat assessment categories. Record notes on page 3. See Argentine Ant Protocol (USGS 2015) for setting up bait, etc.

Surrounding Land Use/Activity at, or Adjacent to, Site	open space				
Argentine ant abundance at bait station (1-4)					
Time start		Temp start		Time end	Temp end
Ant sample collected?		Ant sample #		Ant Station Photo #	
DISTURBANCES (Rank each as 1-6):					
Non-native forbs	4 = Disturbance	feral pig activity	1 = No sign of disturbance	altered hydrology	1 = No sign of disturbance
Non-native grasses	5 = Disturbance	trampling	1 = No sign of disturbance	erosion	1 = No sign of disturbance
Non-native woody pl.	3 = Disturbance	vandalism	1 = No sign of disturbance	urban runoff	1 = No sign of disturbance
competitive native pl.	1 = No sign of disturbance	current grazing	1 = No sign of disturbance	slope movement	1 = No sign of disturbance
dumping/trash	1 = No sign of disturbance	historic grazing	1 = No sign of disturbance	soil compaction	1 = No sign of disturbance
encampments	1 = No sign of disturbance	historic agriculture	1 = No sign of disturbance		
fuel modification zone/fire break	1 = No sign of disturbance				
road construction/maintenance	1 = No sign of disturbance	if present, describe:			
illegal vegetation clearing	1 = No sign of disturbance	if present, describe:			
brush management/restoration	1 = No sign of disturbance within maximum extent or in adjacent 10 m buffer.				
ORV activity	1 = No sign of disturbance	if present, describe:			
Evidence of recent fire	7 = Disturbance occurs ≥75% of area with				
If sign of recent fire, year burned?	2003				
Trails	1 = No sign of disturbance within maximum extent		If trails are present, are they authorized?		
Type of trail use	hiking		biking		equestrian
					dog
service vehicles			other		
illegal trail use?		describe:			
Other disturbance?	1 = No sign of disturbance	describe:			

MSP-Management Needs and Notes 2015

(top 2 rows auto-fill from page 1)

Scientific Name: Monardella stoneana

MSP Occur ID.

MOST_3OTLA005

Date: 6/2/2015

VI. MANAGEMENT RECOMMENDATIONS

None.

VII. MANAGEMENT ACTIONS IN LAST YEAR

None.

VIII. CNDDDB SPECIES DETECTED (list any plant or animal species to add to the CNDDDB)

NOTES

***Monardella stoneana* (Jennifer's Monardella) Otay Lakes**



Panorama from Northern edge of population, facing Northeast, East, Southeast.
Panorama location is 6357735.58 1805911.58 NAD83 State Plane California Zone 6 (feet)
Photos merged using ArcSoft Panorama Maker 4.

Monardella stoneana - Otay Lake



Area 2015: 0 sq. m.

 Monardella stoneana

• Photopoint

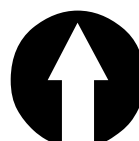
Pop. Area 2003 - 2015

Max Area: 7.98 sq. m.

Min Area: 0 sq. m

0 5 10 20
 Meters

Source: San GIS & City of San Diego Park & Rec
Created by: Kim Roeland, 2015



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Monardella viminea
Willowy Monardella



© City of San Diego, 2014

MSP - Rare Plant Occurrence Monitoring Form 2015										Page 1		
Scientific Name:	Monardella viminea				Common Name:	Willow monardella						
Existing MSP Occurrence?				no		MSP Occurr. ID:						
CNDDB Elem. Occur. #:				n/a		Translocated?		yes				
Preserve:	Mira Mesa Open Space					Mgmt Unit					MU6	
Land Owner:	City of San Diego				Land Mangr:	City of San Diego Park and Recreation Department						
Occurrence Name:	Flanders Canyon					Sample Point #:						
Surveyors:	Betsy Miller, Kim Roeland (1); Kris Preston (2)					Affiliation					(1) City of San Diego. (2) S	
Date:	6/11/2015			Time Start:	13:40			Time Finish:	14:26			
I. OCCURRENCE STATUS - Assess # plants in both species-specific sampling area (typically 10-m radius circle) & in current mapped extent . See p. 4 for definitions of categories describing phenology & evidence of herbivory, disease & stunted growth within the sampling area. Record any notes on p. 3.												
# Plants/Current Mapped Extent:	86		exact count or estimate?	exact		uncert.	low					
Area of Current Mapped Extent:		361.5		units	square meters		exact (GPS) or estim?		exact (GPS ma			
Species Found in Maximum Extent?		yes		if not found, known or suspected reason:								
# Plants/Sampling Area	41		exact count or estimate?	exact		uncert.	low					
Sample Area Radius (m)		10										
Phenology In Sampling Area (1-6):		Vegetative		5 (50% to <75%)		Flowering		5 (50% to <75%)		Fruiting	1 (0%)	
		Dead		1 (0%)		Flowering & Fruiting		1 (0%)				
Evidence in Sampling Area (1-6):		Herbivory		1 (0%)		Disease		1 (0%)		Stunted Growth		1 (0%)
Is Sampling Area within Current Mapped Extent?		yes										
Collection (if not collected previously)?		no										
If yes:	Collector				Collection #							
	Museum/Herbarium											
II. SAMPLING AREA LOCATION & SITE PHOTOMONITORING												
GPS Accuracy: +/-		<1		accur. units:	meters		Datum:	NAD83				
coord. system		State Plane (ft)										
Coordin's at Center of Plot:		E:		N:								
Camera type:		Pentax Optio W90										
Locat. 1 Coord.--E, N	6278683.235		1908449.893		Direction facing	W-NW-N		Height	1.1 m			
	Camera angle	5° down		Photo #	72-76		File location	S:MSCP				
Locat. 2 Coord.-- E,N					Direction facing			Height				
	Camera angle			Photo #			File location					
III. ASSOCIATED SPECIES If need more room, record additional data and any notes on page 3.												
species/substrate	% Cover	Collection #, or NC if collected	not	species/substrate	% Cover	Collect.# or NC if not collected						
Monardella viminea	5											
Eriogonum fasciculatum	35											
Baccharis sarothroides	17											
Acmispon glaber	7											
Pseudognaphalium beneolens	3											
Lepidium sp.	1											
Brachypodium distachyon	1											
Festuca myuros	2											
Bromus madritensis	2											
Foeniculum vulgare	2											
Artemisia californica	1											
Brassica sp.	1											
Salvia mellifera	2											
				bare ground	10							
				rock	50							
				litter	2							
COVER: Total % Cover:	79	%Herb:	12	%Shrub:	67	%Tree:	0					

IV. HABITAT ASSESSMENT IN SAMPLING AREA - Assess habitat covariates within **species-specific sampling area** (typically 10-m radius circle). Vegetation alliance/association can be assigned using San Diego vegetation key (AECOM 2012) in the office or field, using "Associated Species" data from page 1. See page 4 for definitions of habitat assessment categories.

SANDAG 2012 Vegetation Alliance/Association:	Salvia mellifera Alliance, Salvia mellifera-Eriogonum fasciculatum Association			
Cover classes (1-6)	Cryptogamic Crust Cover:	1 (0%)	Thatch Cover	2 (>0% to <10%)
	Thatch Depth Average (cm)	1	Thatch Depth max (cm)	2
Dead Standing Biomass	yes			
If yes, cover/species class	Baccharis sarothroides/2		Average height (cm)	30
Mammal Species Activity (categ. 1-4)				
Feral pig activity	1 = No feral pig activity (rooting, wallowing, vegetation destruction, tracks, scat, pig) detected.			
ground squirr. activity	1 = No ground squirrel burrows detected.			
gopher activity	1 = No pocket gopher mounds detected.			
Sampling area representative of mapped occurrence?	yes	(If no, note differences on page 3)		

VI. THREATS ASSESSMENT IN MAXIMUM EXTENT - Assess threats within the **occurrence's maximum extent** (cumulative extent over years of monitoring) **plus 10-m surrounding buffer**. See page 4 for definitions of threat assessment categories. Record notes on page 3. See Argentine Ant Protocol (USGS 2015) for setting up bait, etc.

Surrounding Land Use/Activity at, or Adjacent to, Site	open space, transportation, industrial			
Argentine ant abundance at bait station (1-4)				
Time start		Temp start		
			Time end	Temp end
Ant sample collected?		Ant sample #		Ant Station Photo #

DISTURBANCES (Rank each as 1-6):

Non-native forbs	3 = Disturbance	feral pig activity	1 = No sign of disturbance	altered hydrology	4 = Disturbance occurs in
Non-native grasses	3 = Disturbance	trampling	1 = No sign of disturbance	erosion	1 = No sign of disturbance
Non-native woody pl.	1 = No sign of disturbance	vandalism	1 = No sign of disturbance	urban runoff	1 = No sign of disturbance
competitive native pl.	1 = No sign of disturbance	current grazing	1 = No sign of disturbance	slope movement	1 = No sign of disturbance
dumping/trash	1 = No sign of disturbance	historic grazing	1 = No sign of disturbance	soil compaction	1 = No sign of disturbance
encampments	1 = No sign of disturbance	historic agriculture	1 = No sign of disturbance		
fuel modification zone/fire break	1 = No sign of disturbance				
road construction/maintenance	1 = No sign of disturbance	if present, describe:			
illegal vegetation clearing	1 = No sign of disturbance	if present, describe:			
brush management/restoration	1 = No sign of disturbance within maximum extent or in adjacent 10 m buffer.				
ORV activity	1 = No sign of disturbance	if present, describe:			
Evidence of recent fire	1 = No sign of disturbance within maximum extent				
If sign of recent fire, year burned?					
Trails	1 = No sign of disturbance within maximum extent		If trails are present, are they authorized?		
Type of trail use	hiking		biking		equestrian
					dog
service vehicles			other		
illegal trail use?	1 = No sign of disturbance	describe:			
Other disturbance?	2 = Disturbance	small fire outside max extent burned north slope; reported homeless encampments under bridge			

MSP-Management Needs and Notes 2015

(top 2 rows auto-fill from page 1)

Scientific Name:

MSP Occur ID.

Date:

VI. MANAGEMENT RECOMMENDATIONS

none

VII. MANAGEMENT ACTIONS IN LAST YEAR

none

VIII. CNDDDB SPECIES DETECTED (list any plant or animal species to add to the CNDDDB)

NOTES

many seedlings observed; pollinators detected: fiery skipper

***Monardella viminea* (Willowy Monardella) Flanders Canyon**



Panorama from Southern edge of population, facing West, Northwest, North.
Panorama location is 6278683.235 1908449.893 NAD83 State Plane California Zone 6 (feet)
Photos merged using ArcSoft Panorama Maker 4.

Monardella viminea - Flanders Canyon



Area 2015: 361.5 sq. m.

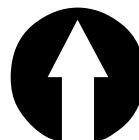
• Photopoint

Monardella viminea

Pop. Area 2015
Max Area: 361.5 sq. m.
Min Area: 361.5 sq. m

0 2.5 5 10
Meters

Source: San GIS & City of San Diego Park & Rec
Created by: Kim Roeland, 2015



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MSP - Rare Plant Occurrence Monitoring Form 2015										Page 1	
Scientific Name:		Monardella viminea			Common Name:		Willow monardella				
Existing MSP Occurrence?		yes			MSP Occurr. ID:		MOLIV_6LOCA004				
CNDDB Elem. Occur. #:		EO1			Translocated?		no				
Preserve:		Los Penasquitos Canyon Preserve					Mgmt Unit MU6				
Land Owner:		City of San Diego			Land Mangr:		City of San Diego Park and Recreation Department				
Occurrence Name:		Lopez Canyon - West Terrace					Sample Point #:		1		
Surveyors:		Betsy Miller, Kim Roeland, Daniel Schwartz (1); Kris Preston (2)					Affiliation		(1) City of San Diego, (2) SDMMP		
Date:		6/11/2015		Time Start:		11:45		Time Finish:		12:09	
I. OCCURRENCE STATUS - Assess # plants in both species-specific sampling area (typically 10-m radius circle) & in current mapped extent . See p. 4 for definitions of categories describing phenology & evidence of herbivory, disease & stunted growth within the sampling area. Record any notes on p. 3.											
# Plants/Current Mapped Extent:		0		exact count or estimate?		exact		uncert.		very low	
Area of Current Mapped Extent:		0		units		square meters		exact (GPS) or estim?		exact (GPS ma	
Species Found in Maximum Extent?		no		if not found, known or suspected reason:							
# Plants/Sampling Area:		0		exact count or estimate?		exact		uncert.		very low	
Sample Area Radius (m)		10									
Phenology In Sampling Area (1-6):		Vegetative		1 (0%)		Flowering		1 (0%)		Fruiting	
		Dead		1 (0%)		Flowering & Fruiting		1 (0%)			
Evidence in Sampling Area (1-6):		Herbivory		1 (0%)		Disease		1 (0%)		Stunted Growth	
Is Sampling Area within Current Mapped Extent?		yes									
Collection (if not collected previously)?		no									
If yes:		Collector					Collection #				
		Museum/Herbarium									
II. SAMPLING AREA LOCATION & SITE PHOTOMONITORING											
GPS Accuracy: +/-		<1		accur. units:		meters		Datum:		NAD83	
coord. system		State Plane (ft)									
Coordin's at Center of Plot:		E:					N:				
Camera type:		Pentax Optio W90									
Locat. 1 Coord.--E, N		6275731.67		1913221.28		Direction facing		S, SW, W		Height	
		Camera angle		5° down		Photo #		4060-4066		File location	
						Direction facing				Height	
Locat. 2 Coord.-- E,N						Photo #				File location	
		Camera angle									
III. ASSOCIATED SPECIES If need more room, record additional data and any notes on page 3.											
species/substrate		% Cover		Collection #, or NC if not collected		species/substrate		% Cover		Collect.# or NC if not collected	
Eriogonum fasciculatum		7				Erodium sp.		3		(dead)	
Baccharis sarothroides		5				Centaurea melitensis		1			
Brickellia californica		2				Erodium cicutarium		1			
Prunus ilicifolia		10				Brachypodium distachyon		3			
Cercocarpus minutiflorus		2				Phalaris aquatica		1			
Lonocera subspicata		1				Avena sp.		1			
Artemisia palmeri		1				Phacelia sp.		2		(dead)	
Rhamnus crocea		1				Salvia apiana		1			
Toxicodendron diversilobum		1				Cyperus eragrostis		1			
Opuntia littoralis		2				Foeniculum vulgare		1			
Hirschfeldia incana		7				Bromus hordeaceus		5			
Glebionis coronaria		2				bare ground		2			
Bromus madritensis		10				rock		2			
Bromus diandrus		30				litter		5			
COVER: Total % Cover:		101		%Herb:		69		%Shrub:		32	
								%Tree:		0	

IV. HABITAT ASSESSMENT IN SAMPLING AREA - Assess habitat covariates within **species-specific sampling area** (typically 10-m radius circle). Vegetation alliance/association can be assigned using San Diego vegetation key (AECOM 2012) in the office or field, using "Associated Species" data from page 1. See page 4 for definitions of habitat assessment categories.

SANDAG 2012 Vegetation Alliance/Association: Artemisia californica-Eriogonum fasciculatum Alliance, Artemisia californica-Eriogonum fasciculatum-Opuntia littoralis/Dudleya (edulis) Association

Cover classes (1-6)

Cryptogamic Crust Cover:

1 (0%)

Thatch Cover

3 (10% to <25%)

Thatch Depth Average (cm)

4

Thatch Depth max (cm)

4

Dead Standing Biomass

yes

If yes, cover/species class

unknown/2

Average height (cm)

20

Mammal Species Activity (categ. 1-4)

Feral pig activity

1 = No feral pig activity (rooting, wallowing, vegetation destruction, tracks, scat, pig) detected.

ground squirr. activity

1 = No ground squirrel burrows detected.

gopher activity

1 = No pocket gopher mounds detected.

Sampling area representative of mapped occurrence? yes

(If no, note differences on page 3)

VI. THREATS ASSESSMENT IN MAXIMUM EXTENT - Assess threats within the **occurrence's maximum extent** (cumulative extent over years of monitoring) **plus 10-m surrounding buffer**. See page 4 for definitions of threat assessment categories. Record notes on page 3. See Argentine Ant Protocol (USGS 2015) for setting up bait, etc.

Surrounding Land Use/Activity at, or Adjacent to, Site open space

Argentine ant abundance at bait station (1-4)

3 = 51-100 Argentine ants detected at bait station.

Time start

11:45 AM

Temp start

68F

Time end

12:07 PM

Temp end

68F

Ant sample collected? yes

Ant sample #

7

Ant Station Photo #

4071

DISTURBANCES (Rank each as 1-6):

Non-native forbs

4 = Disturbance

feral pig activity

1 = No sign of

altered hydrology

5 = Disturbance occurs in

Non-native grasses

5 = Disturbance

trampling

1 = No sign of

erosion

1 = No sign of disturbance

Non-native woody pl.

1 = No sign of

vandalism

1 = No sign of

urban runoff

7 = Disturbance occurs

competitive native pl.

1 = No sign of

current grazing

1 = No sign of

slope movement

1 = No sign of disturbance

dumping/trash

1 = No sign of

historic grazing

1 = No sign of

soil compaction

1 = No sign of disturbance

encampments

1 = No sign of

historic agriculture

1 = No sign of

fuel modification zone/fire break

1 = No sign of

road construction/maintenance

1 = No sign of

if present, describe:

illegal vegetation clearing

1 = No sign of

if present, describe:

brush management/restoration

1 = No sign of disturbance within maximum extent or in adjacent 10 m buffer.

ORV activity

1 = No sign of

if present, describe:

Evidence of recent fire

1 = No sign of disturbance within maximum

If sign of recent fire, year burned?

Trails

1 = No sign of disturbance within maximum extent

If trails are present, are they authorized?

Type of trail use

hiking

biking

equestrian

dog

service vehicles

other

illegal trail use?

describe:

Other disturbance?

1 = No sign of

describe:

MSP-Management Needs and Notes 2015

(top 2 rows auto-fill from page 1)

Scientific Name: Monardella viminea

MSP Occur ID: MOLIV_6LOCA004

Date: 6/11/2015

VI. MANAGEMENT RECOMMENDATIONS

Treat non-native grasses and forbs; consider managing for urban runoff based on results from hydrology study pending.

VII. MANAGEMENT ACTIONS IN LAST YEAR

None

VIII. CNDDDB SPECIES DETECTED (list any plant or animal species to add to the CNDDDB)

NOTES

Altered Hydrology = 6 for the Ajax installed within the sampling area. Ajax was installed with grant funding in 2004 to slow erosion around Monardella population.

***Monardella viminea* (Willowy Monardella)**
Lopez Canyon – West Terrace Observation # 1



Panorama from Southern edge of population, facing South, Southwest, West.
Panorama location is 6275731.67 1913221.28 NAD83 State Plane California Zone 6 (feet)
Photos merged using ArcSoft Panorama Maker 4.

Monardella viminea - Lopez Cyn West Terrace #1



Area 2015: 0 sq. m.

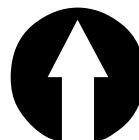
● Photopoint

□ Monardella viminea

Pop. Area 2004 - 2015
Max Area: 1459.15 sq. m.
Min Area: 0 sq. m

0 12.5 25 50
Meters

Source: San GIS & City of San Diego Park & Rec
Created by: Kim Roeland, 2015



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MSP - Rare Plant Occurrence Monitoring Form 2015										Page 1	
Scientific Name:	Monardella viminea				Common Name:	Willow monardella					
Existing MSP Occurrence?				yes	MSP Occurr. ID:	MOLIV_6LOCA004					
CNDDB Elem. Occur. #:				EO1	Translocated?	no					
Preserve:	Los Penasquitos Canyon Preserve						Mgmt Unit	MU6			
Land Owner:	City of San Diego				Land Mangr:	City of San Diego Park and Recreation Department					
Occurrence Name:	Lopez Canyon - East of Bridge Site 2						Sample Point #:	2			
Surveyors:	Betsy Miller, Kim Roeland, Daniel Schwartz (1); Kris Preston (2)						Affiliation	(1) City of San Diego, (2) SDMMP			
Date:	6/11/2015			Time Start:	10:45		Time Finish:	11:20			
I. OCCURRENCE STATUS - Assess # plants in both species-specific sampling area (typically 10-m radius circle) & in current mapped extent . See p. 4 for definitions of categories describing phenology & evidence of herbivory, disease & stunted growth within the sampling area. Record any notes on p. 3.											
# Plants/Current Mapped Extent:	9			exact count or estimate?	exact		uncert.	very low			
Area of Current Mapped Extent:				131.4	units	square meters	exact (GPS) or estim?		exact (GPS ma		
Species Found in Maximum Extent?				yes	if not found, known or suspected reason:						
# Plants/Sampling Area	6			exact count or estimate?	exact		uncert.	very low			
Sample Area Radius (m)				10							
Phenology In Sampling Area (1-6):				Vegetative	1 (0%)		Flowering	6 (≥75%)		Fruiting	1 (0%)
				Dead	1 (0%)		Flowering & Fruiting				
Evidence in Sampling Area (1-6):				Herbivory	1 (0%)		Disease	1 (0%)		Stunted Growth	1 (0%)
Is Sampling Area within Current Mapped Extent?				yes							
Collection (if not collected previously)?				no							
If yes:				Collector			Collection #				
				Museum/Herbarium							
II. SAMPLING AREA LOCATION & SITE PHOTOMONITORING											
GPS Accuracy: +/-	<1			accur. units:	meters		Datum:	NAD83			
coord. system	State Plane (ft)										
Coordin's at Center of Plot:	E:					N:					
Camera type:	Pentax Optio W90										
Locat. 1 Coord.--E, N	6278255.527			1913718.712+A1		Direction facing	NE, E, SE		Height	1.1 m	
	Camera angle	5° down		Photo #	4050-5054		File location	S:\MSCP			
Locat. 2 Coord.-- E,N						Direction facing			Height		
	Camera angle			Photo #			File location				
III. ASSOCIATED SPECIES If need more room, record additional data and any notes on page 3.											
species/substrate	% Cover	Collection #, or NC if collected	not	species/substrate	% Cover	Collect.# or NC if not collected					
Monardella viminea	2			Hirschfeldia incana	20						
Baccharis sarothroides	7			Festuca myuros	2						
Eriogonum fasciculatum	10			Heterotheca grandiflora	1						
Opuntia littoralis	2			Erodium cicutarium	1						
Cercocarpus minutiflorus	2 (edge)			Sonchus asper	1						
Brickellia californica	2 (edge)			Lactuca serriola	1						
Artemisia palmeri	2 (edge)			Centaurea melitensis	1						
Artemisia californica	1			Bromus diandrus	2						
Salvia mellifera	1			Phacelia distans	1						
Prunus ilicifolia	1			Erigeron canadensis	1						
Pseudognaphalium stramineum	1			Deinandra fasciculata	1						
Pseudognaphalium beneolens	1			Hypochaeris glabra	1						
Pseudognaphalium californicum	1			Salvia apiana	1						
Schismus barbatus	3										
Cryptantha or Phacelia sp.	15 (dead)			bare ground	5						
Bromus madritensis	2			rock	2						
Glebionis coronaria	2			litter	2						
COVER: Total % Cover:	89	%Herb:	57	%Shrub:	31	%Tree:	0				

IV. HABITAT ASSESSMENT IN SAMPLING AREA - Assess habitat covariates within **species-specific sampling area** (typically 10-m radius circle). Vegetation alliance/association can be assigned using San Diego vegetation key (AECOM 2012) in the office or field, using "Associated Species" data from page 1. See page 4 for definitions of habitat assessment categories.

SANDAG 2012 Vegetation Alliance/Association: Artemisia californica-Eriogonum fasciculatum Alliance, Artemisia californica-Eriogonum fasciculatum-Opuntia littoralis/Dudleya (edulis) Association

Cover classes (1-6)

Cryptogamic Crust Cover: 1 (0%)

Thatch Cover 1 (0%)

Thatch Depth Average (cm)

Thatch Depth max (cm)

Dead Standing Biomass

yes

If yes, cover/species class

unknown/2

Average height (cm)

10

Mammal Species Activity (categ. 1-4)

Feral pig activity 1 = No feral pig activity (rooting, wallowing, vegetation destruction, tracks, scat, pig) detected.

ground squirr. activity 1 = No ground squirrel burrows detected.

gopher activity 1 = No pocket gopher mounds detected.

Sampling area representative of mapped occurrence? yes (If no, note differences on page 3)

VI. THREATS ASSESSMENT IN MAXIMUM EXTENT - Assess threats within the **occurrence's maximum extent** (cumulative extent over years of monitoring) **plus 10-m surrounding buffer**. See page 4 for definitions of threat assessment categories. Record notes on page 3. See Argentine Ant Protocol (USGS 2015) for setting up bait, etc.

Surrounding Land Use/Activity at, or Adjacent to, Site open space

Argentine ant abundance at bait station (1-4)

Time start

Temp start

Time end

Temp end

Ant sample collected?

Ant sample #

Ant Station Photo #

DISTURBANCES (Rank each as 1-6):

Non-native forbs 5 = Disturbance

feral pig activity 1 = No sign of disturbance

altered hydrology 1 = No sign of disturbance

Non-native grasses 4 = Disturbance

trampling 1 = No sign of disturbance

erosion 1 = No sign of disturbance

Non-native woody pl. 1 = No sign of disturbance

vandalism 1 = No sign of disturbance

urban runoff 7 = Disturbance occurs ≥ 1 time

competitive native pl. 1 = No sign of disturbance

current grazing 1 = No sign of disturbance

slope movement 1 = No sign of disturbance

dumping/trash 1 = No sign of disturbance

historic grazing 1 = No sign of disturbance

soil compaction 1 = No sign of disturbance

encampments 1 = No sign of disturbance

historic agriculture 1 = No sign of disturbance

fuel modification zone/fire break 1 = No sign of disturbance

road construction/maintenance 1 = No sign of disturbance

if present, describe:

illegal vegetation clearing 1 = No sign of disturbance

if present, describe:

brush management/restoration 1 = No sign of disturbance within maximum extent or in adjacent 10 m buffer.

ORV activity

1 = No sign of disturbance

if present, describe:

Evidence of recent fire

1 = No sign of disturbance within maximum extent

If sign of recent fire, year burned?

Trails

1 = No sign of disturbance within maximum extent

If trails are present, are they authorized?

Type of trail use

hiking

biking

equestrian

dog

service vehicles

other

illegal trail use?

describe:

Other disturbance?

1 = No sign of disturbance

describe:

MSP-Management Needs and Notes 2015

(top 2 rows auto-fill from page 1)

Scientific Name: Monardella viminea

MSP Occur ID: MOLIV_6LOCA004

Date: 6/11/2015

VI. MANAGEMENT RECOMMENDATIONS

Treat non-native grasses and forbs; consider implementing strategies to address urban runoff following pending hydrology study

VII. MANAGEMENT ACTIONS IN LAST YEAR

VIII. CNDDDB SPECIES DETECTED (list any plant or animal species to add to the CNDDDB)

CAGN loud scolding chasing another bird, fledglings seen

NOTES

***Monardella viminea* (Willowy Monardella)**
Lopez Canyon – East of Bridge Observation # 2



Panorama from Southeastern edge of population, facing Northeast, East, Southeast.
Panorama location is 6278255.527 1913718.712 NAD83 State Plane California Zone 6 (feet)
Photos merged using ArcSoft Panorama Maker 4.

Monardella viminea - Lopez Cyn East Terrace #2



Area 2015: 131.4 sq. m.

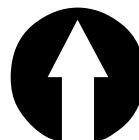
• Photopoint

 Monardella viminea

Pop. Area 2003 - 2015
Max Area: 435.77 sq. m.
Min Area: 1 sq. m

0 5 10 20
 Meters

Source: San GIS & City of San Diego Park & Rec
Created by: Kim Roeland, 2015



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MSP - Rare Plant Occurrence Monitoring Form 2015										Page 1		
Scientific Name:		Monardella viminea			Common Name:		Willow monardella					
Existing MSP Occurrence?		yes			MSP Occurr. ID:		MOLIV_6LOCA004					
CNDDB Elem. Occur. #:		EO1			Translocated?		no					
Preserve:		Los Penasquitos Canyon Preserve					Mgmt Unit		MU6			
Land Owner:		City of San Diego			Land Mangr:		City of San Diego Park and Recreation Department					
Occurrence Name:		Lopez Canyon - East of Bridge Site 3					Sample Point #:		3			
Surveyors:		Betsy Miller, Kim Roeland, Daniel Schwartz (1); Kris Preston (2)					Affiliation		(1) City of San Diego. (2) SDMMP			
Date:		6/11/2015			Time Start:		10:00		Time Finish:		10:28	
I. OCCURRENCE STATUS - Assess # plants in both species-specific sampling area (typically 10-m radius circle) & in current mapped extent . See p. 4 for definitions of categories describing phenology & evidence of herbivory, disease & stunted growth within the sampling area. Record any notes on p. 3.												
# Plants/Current Mapped Extent:		4		exact count or estimate?		exact		uncert.		very low		
Area of Current Mapped Extent:		9.9		units		square meters		exact (GPS) or estim?		exact (GPS ma		
Species Found in Maximum Extent?		yes		if not found, known or suspected reason:								
# Plants/Sampling Area:		4		exact count or estimate?		exact		uncert.		very low		
Sample Area Radius (m)		10										
Phenology In Sampling Area (1-6):		Vegetative		1 (0%)		Flowering		6 (≥75%)		Fruiting		
		Dead		1 (0%)		Flowering & Fruiting		1 (0%)				
Evidence in Sampling Area (1-6):		Herbivory		1 (0%)		Disease		1 (0%)		Stunted Growth		
										1 (0%)		
II. SAMPLING AREA LOCATION & SITE PHOTOMONITORING												
GPS Accuracy: +/-		<1		accur. units:		meters		Datum:		NAD83		
coord. system		State Plane (ft)										
Coordin's at Center of Plot:		E:				N:						
Camera type:		Pentax Optio W90										
Locat. 1 Coord.--E, N		6279603.64		1914641.49		Direction facing		SW, W, NW		Height		
		Camera angle		5° down		Photo #		4038-4041		File location		
Locat. 2 Coord.-- E,N						Direction facing				Height		
		Camera angle				Photo #				File location		
III. ASSOCIATED SPECIES If need more room, record additional data and any notes on page 3.												
species/substrate		% Cover		Collection #, or NC if not collected		species/substrate		% Cover		Collect.# or NC if not collected		
Monardella viminea		2				Hedypnois cretica		1				
Cercocarpus minutiflorus		20				Bromus madritensis		1				
Baccharis sarothroides		15				Bromus diandrus		1				
Artemisia californica		1				Avena sp.		2				
Eriogonum fasciculatum		1				Bromus hordeaceus		1				
Toxicodendron diversilobum		10				Glebionis coronaria		1				
Salvia mellifera		1				Sonchus asper		1				
Solanum parishii		1				Pseudognaphalium stramineum		1				
Rhus integrifolia		1				Xanthium strumarium		1				
Galium angustifolium		1				Carduus pycnocephalus		1				
Acmispon glaber		1				Festuca perennis		1				
Foeniculum vulgare		1				Iva hayesiana		1				
Calystegia macrostegia		2				Lactuca serriola		1				
Ricinus communis		1				Pseudognaphalium californicum		1				
Pseudognaphalium beneolens		2										
Euphorbia peplus		1				bare ground		2				
Brassica nigra		3				rock		40				
Brachypodium distachyon		15				litter		2				
COVER: Total % Cover:		94		%Herb:		40		%Shrub:		54		
								%Tree:		0		

IV. HABITAT ASSESSMENT IN SAMPLING AREA - Assess habitat covariates within **species-specific sampling area** (typically 10-m radius circle). Vegetation alliance/association can be assigned using San Diego vegetation key (AECOM 2012) in the office or field, using "Associated Species" data from page 1. See page 4 for definitions of habitat assessment categories.

SANDAG 2012 Vegetation Alliance/Association:	seasonal stream bed		
Cover classes (1-6)	Cryptogamic Crust Cover:	1 (0%)	Thatch Cover
	Thatch Depth Average (cm)	1	Thatch Depth max (cm)
Dead Standing Biomass	no		2 (>0% to <10%)
If yes, cover/species class			Average height (cm)
Mammal Species Activity (categ. 1-4)			
Feral pig activity	1 = No feral pig activity (rooting, wallowing, vegetation destruction, tracks, scat, pig) detected.		
ground squirr. activity	1 = No ground squirrel burrows detected.		
gopher activity	1 = No pocket gopher mounds detected.		
Sampling area representative of mapped occurrence?	yes	(If no, note differences on page 3)	

VI. THREATS ASSESSMENT IN MAXIMUM EXTENT - Assess threats within the **occurrence's maximum extent** (cumulative extent over years of monitoring) **plus 10-m surrounding buffer**. See page 4 for definitions of threat assessment categories. Record notes on page 3. See Argentine Ant Protocol (USGS 2015) for setting up bait, etc.

Surrounding Land Use/Activity at, or Adjacent to, Site	open space		
Argentine ant abundance at bait station (1-4)			
Time start		Temp start	
Ant sample collected?		Ant sample #	Ant Station Photo #
DISTURBANCES (Rank each as 1-6):			
Non-native forbs	3 = Disturbance	feral pig activity	1 = No sign of disturbance
Non-native grasses	4 = Disturbance	trampling	1 = No sign of disturbance
Non-native woody pl.	1 = No sign of disturbance	vandalism	1 = No sign of disturbance
competitive native pl.	1 = No sign of disturbance	current grazing	1 = No sign of disturbance
dumping/trash	1 = No sign of disturbance	historic grazing	1 = No sign of disturbance
encampments	1 = No sign of disturbance	historic agriculture	1 = No sign of disturbance
fuel modification zone/fire break	1 = No sign of disturbance	altered hydrology	4 = Disturbance occurs in
road construction/maintenance	1 = No sign of disturbance	erosion	1 = No sign of disturbance
illegal vegetation clearing	1 = No sign of disturbance	urban runoff	7 = Disturbance occurs ≥
brush management/restoration	1 = No sign of disturbance within maximum extent or in adjacent 10 m buffer.	slope movement	1 = No sign of disturbance
ORV activity	1 = No sign of disturbance	soil compaction	1 = No sign of disturbance
Evidence of recent fire	1 = No sign of disturbance within maximum extent		
If sign of recent fire, year burned?			
Trails	1 = No sign of disturbance within maximum extent	If trails are present, are they authorized?	
Type of trail use	hiking	biking	equestrian
		other	dog
service vehicles			
illegal trail use?		describe:	
Other disturbance?	1 = No sign of disturbance	describe:	

MSP-Management Needs and Notes 2015

(top 2 rows auto-fill from page 1)

Scientific Name: Monardella viminea

MSP Occur ID: MOLIV_6LOCA004

Date: 6/11/2015

VI. MANAGEMENT RECOMMENDATIONS

Treat non-native grasses and forbs; consider implementing strategies to address urban runoff following pending hydrology study

VII. MANAGEMENT ACTIONS IN LAST YEAR

VIII. CNDDDB SPECIES DETECTED (list any plant or animal species to add to the CNDDDB)

CAGN heard calling: 10:03 - 10:15 am

NOTES

Ehrharta grass found outside 10 m radius - working with experts to confirm ID

***Monardella viminea* (Willowy Monardella)**
Lopez Canyon – East of Bridge Observation # 3



Panorama from Southwestern edge of population, facing Southwest, West, Northwest.
Panorama location is 6279603.64 1914641.49 NAD83 State Plane California Zone 6 (feet)
Photos merged using ArcSoft Panorama Maker 4.

Monardella viminea - Lopez Cyn East Terrace # 3



Area 2015: 9.9 sq. m.

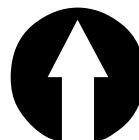
 Monardella viminea

• Photopoint

Pop. Area 2004-2015
Max Area: 290 sq. m.
Min Area: 1 sq. m

0 5 10 20 Meters

Source: San GIS & City of San Diego Park & Rec
Created by: Kim Roeland, 2015



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MSP - Rare Plant Occurrence Monitoring Form 2015										Page 1	
Scientific Name:		Monardella viminea			Common Name:		Willow monardella				
Existing MSP Occurrence?		yes			MSP Occurr. ID:		MOLIV_4SYCA001				
CNDDB Elem. Occur. #:		EO21			Translocated?		no				
Preserve:		Sycamore Canyon			Mgmt Unit		MU4				
Land Owner:		City of San Diego			Land Mangr:		City of San Diego Park and Recreation Department				
Occurrence Name:		Sycamore Canyon			Sample Point #:		1				
Surveyors:		Betsy Miller, Kim Roeland, Annabelle Bernabe (1); Carol Crafts, Victoria Marshall (2)			Affiliation		(1) City of San Diego, (2) Sycamore Canyon Goodan Ranch				
Date:		6/4/2015			Time Start:		9:50		Time Finish: 10:50		
I. OCCURRENCE STATUS - Assess # plants in both species-specific sampling area (typically 10-m radius circle) & in current mapped extent . See p. 4 for definitions of categories describing phenology & evidence of herbivory, disease & stunted growth within the sampling area. Record any notes on p. 3.											
# Plants/Current Mapped Extent:		90		exact count or estimate?		exact		uncert.		very low	
Area of Current Mapped Extent:		170.8		units		square meters		exact (GPS) or estim?		exact (GPS ma	
Species Found in Maximum Extent?		yes		if not found, known or suspected reason:							
# Plants/Sampling Area		2		exact count or estimate?		exact		uncert.		very low	
Sample Area Radius (m)		10									
Phenology In Sampling Area (1-6):		Vegetative		6 (≥75%)		Flowering		1 (0%)		Fruiting 1 (0%)	
		Dead		1 (0%)		Flowering & Fruiting		1 (0%)			
Evidence in Sampling Area (1-6):		Herbivory		1 (0%)		Disease		1 (0%)		Stunted Growth 1 (0%)	
Is Sampling Area within Current Mapped Extent?		yes									
II. SAMPLING AREA LOCATION & SITE PHOTOMONITORING											
GPS Accuracy: +/-		<1		accur. units:		meters		Datum:		NAD83	
coord. system		State Plane (ft)									
Coord in's at Center of Plot:		E:				N:					
Camera type:		Pentax Optio W90									
Locat. 1 Coord.--E, N		6334282.342		1916610.357		Direction facing		SE, S, SW		Height 1.1 m	
		Camera angle		5° down		Photo #		4029-4035		File location S:\MSCP	
Locat. 2 Coord.--E,N						Direction facing				Height	
		Camera angle				Photo #				File location	
III. ASSOCIATED SPECIES If need more room, record additional data and any notes on page 3.											
species/substrate		% Cover		Collection #, or NC if collected		not collected		species/substrate		% Cover Collect.# or NC if not collected	
Monardella viminea		1						Centaurea melitensis		1	
Eriogonum fasciculatum		10						Erodium cicutarium		2	
Salvia apiana		5						Erodium botrys		2	
Artemisia californica		3						Deinandra fasciculata		1	
Galium angustifolium		1						Festuca myuros		3	
Selaginella bigelovii		2						Malosma laurina		2	
Stephanomeria diegensis		1						Avena sp.		2	
Eschscholzia californica		1						Bromus diandrus		5 (edge)	
Logfia sp.		1						Bromus hordeaceus		1	
Prunus ilicifolia		10						Sisymbrium irio		3	
Lepidium sp.		5						Selaginella cinerascens		2	
Oxalis californica		1						Festuca perennis		1	
Salvia mellifera		1						Hypochaeris glabra		1	
Chamaesyce albomarginata		1						Heteromeles arbutifolia		1	
Stipa pulchra		1									
Calystegia macrostegia		1						bare ground		20	
Brassica nigra		5						rock		5	
Bromus madritensis		2						litter		1	
COVER: Total % Cover:		79		%Herb:		45		%Shrub:		34	
										%Tree: 0	

IV. HABITAT ASSESSMENT IN SAMPLING AREA - Assess habitat covariates within **species-specific sampling area** (typically 10-m radius circle). Vegetation alliance/association can be assigned using San Diego vegetation key (AECOM 2012) in the office or field, using "Associated Species" data from page 1. See page 4 for definitions of habitat assessment categories.

SANDAG 2012 Vegetation Alliance/Association:	seasonal stream bed; Salvia mellifera Alliance, Salvia mellifera-Eriogonum fasciculatum Association			
Cover classes (1-6)	Cryptogamic Crust Cover:	2 (>0% to <10%)	Thatch Cover	2 (>0% to <10%)
	Thatch Depth Average (cm)	2	Thatch Depth max (cm)	5
Dead Standing Biomass	yes			
If yes, cover/species class	Unknown/2		Average height (cm)	10
Mammal Species Activity (categ. 1-4)				
Feral pig activity	1 = No feral pig activity (rooting, wallowing, vegetation destruction, tracks, scat, pig) detected.			
ground squirr. activity	1 = No ground squirrel burrows detected.			
gopher activity	1 = No pocket gopher mounds detected.			
Sampling area representative of mapped occurrence?	yes	(If no, note differences on page 3)		

VI. THREATS ASSESSMENT IN MAXIMUM EXTENT - Assess threats within the **occurrence's maximum extent** (cumulative extent over years of monitoring) **plus 10-m surrounding buffer**. See page 4 for definitions of threat assessment categories. Record notes on page 3. See Argentine Ant Protocol (USGS 2015) for setting up bait, etc.

Surrounding Land Use/Activity at, or Adjacent to, Site	open space			
Argentine ant abundance at bait station (1-4)	2 = 1-50 Argentine ants detected at bait station.			
Time start	10:20 AM	Temp start	65F	
Time end	10:48 AM	Temp end	65F	
Ant sample collected?	yes	Ant sample #	6	Ant Station Photo #
				4036

DISTURBANCES (Rank each as 1-6):

Non-native forbs	4 = Disturbance	feral pig activity	1 = No sign of disturbance	altered hydrology	1 = No sign of disturbance
Non-native grasses	4 = Disturbance	trampling	1 = No sign of disturbance	erosion	1 = No sign of disturbance
Non-native woody pl.	1 = No sign of disturbance	vandalism	1 = No sign of disturbance	urban runoff	1 = No sign of disturbance
competitive native pl.	1 = No sign of disturbance	current grazing	1 = No sign of disturbance	slope movement	1 = No sign of disturbance
dumping/trash	1 = No sign of disturbance	historic grazing	7 = Disturbance	soil compaction	1 = No sign of disturbance
encampments	1 = No sign of disturbance	historic agriculture	1 = No sign of disturbance		
fuel modification zone/fire break	1 = No sign of disturbance				
road construction/maintenance	1 = No sign of disturbance	if present, describe:			
illegal vegetation clearing	1 = No sign of disturbance	if present, describe:			
brush management/restoration	1 = No sign of disturbance within maximum extent or in adjacent 10 m buffer.				
ORV activity	1 = No sign of disturbance	if present, describe:			
Evidence of recent fire	7 = Disturbance occurs ≥75% of area with				
If sign of recent fire, year burned?	2003				
Trails	1 = No sign of disturbance within maximum extent		If trails are present, are they authorized?		
Type of trail use	hiking		biking		equestrian
					dog
service vehicles			other		
illegal trail use?	1 = No sign of disturbance				
Other disturbance?	1 = No sign of disturbance				

MSP-Management Needs and Notes 2015

(top 2 rows auto-fill from page 1)

Scientific Name: Monardella viminea

MSP Occur ID: MOLIV_4SYCA001

Date: 6/4/2015

VI. MANAGEMENT RECOMMENDATIONS

None

VII. MANAGEMENT ACTIONS IN LAST YEAR

None

VIII. CNDDDB SPECIES DETECTED (list any plant or animal species to add to the CNDDDB)

NOTES

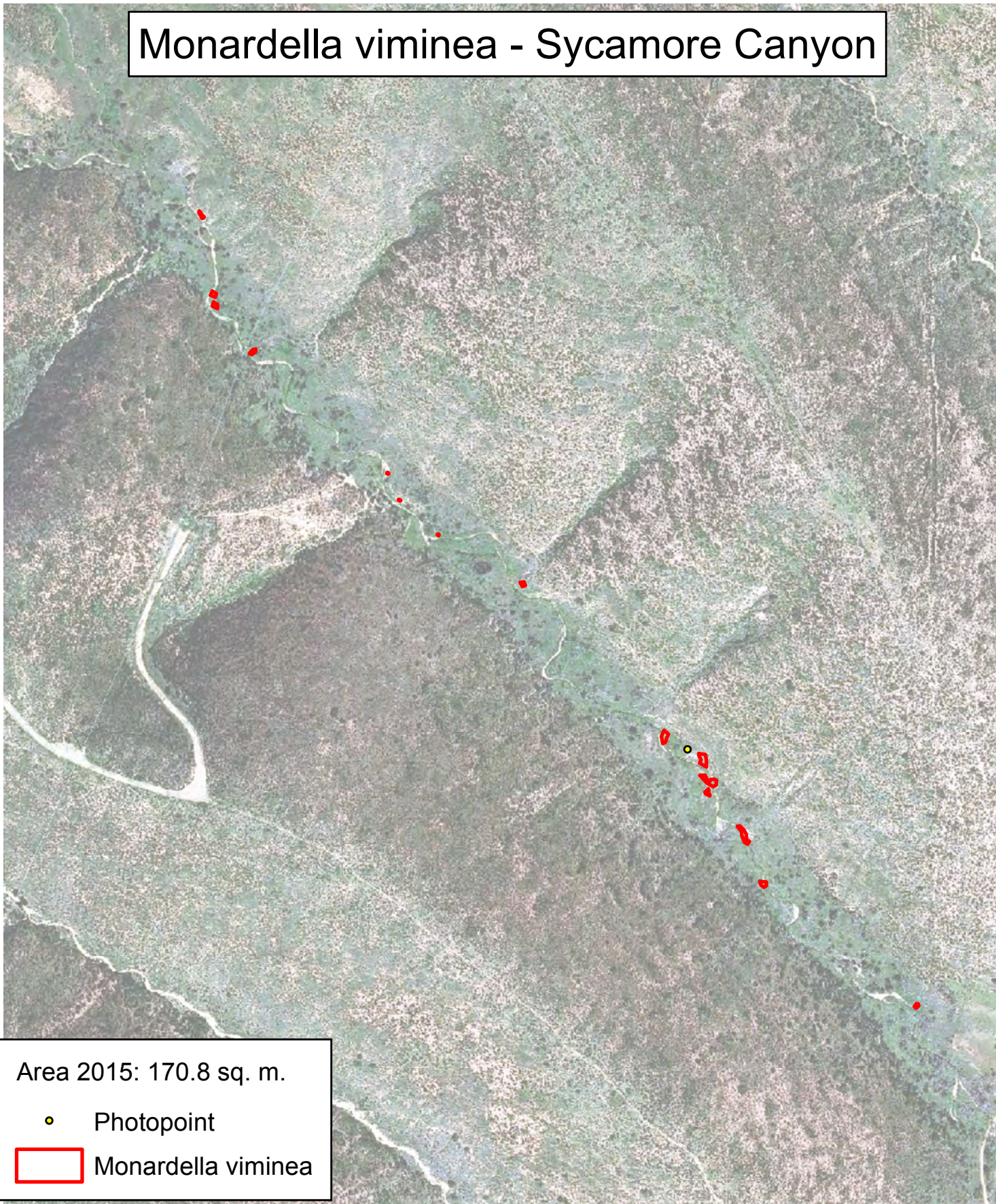
***Monardella viminea* (Willowy Monardella)**

Sycamore Canyon



Panorama from Southern end of population, facing Southeast, South, Southwest.
Panorama location is 6334282.342 1916610.357 NAD83 State Plane California Zone 6 (feet)
Photos merged using ArcSoft Panorama Maker 4.

Monardella viminea - Sycamore Canyon



Area 2015: 170.8 sq. m.

• Photopoint

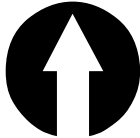


Monardella viminea

Pop. Area 2001-2015
Max Area: 15,970.4 sq. m.
Min Area: 15.6 sq. m



Source: San GIS & City of San Diego Park & Rec
Created by: Kim Roeland, 2015



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Navarretia fossalis
Spreading Navarretia



© City of San Diego, 2013

MSP - Rare Plant Occurrence Monitoring Form 2015										Page 1	
Scientific Name:		Navarretia fossalis			Common Name:		Spreading navarretia				
Existing MSP Occurrence?				no		MSP Occurr. ID:					
CNDDB Elem. Occur. #:						Translocated?		no			
Preserve:		Carroll Canyon					Mgmt Unit			MU6	
Land Owner:		City of San Diego			Land Mangr:		City of San Diego Park and Recreation Department				
Occurrence Name:		Carroll Canyon					Sample Point #:		1		
Surveyors:		Kim Roeland, Betsy Miller, Annabelle Bernabe					Affiliation		City of San Diego		
Date:		4/2/2015		Time Start:		14:45		Time Finish:		15:07	
I. OCCURRENCE STATUS - Assess # plants in both species-specific sampling area (typically 10-m radius circle) & in current mapped extent . See p. 4 for definitions of categories describing phenology & evidence of herbivory, disease & stunted growth within the sampling area. Record any notes on p. 3.											
# Plants/Current Mapped Extent:		0		exact count or estimate?		exact		uncert.		low	
Area of Current Mapped Extent:		0		units		square meters		exact (GPS) or estim?		exact (GPS ma	
Species Found in Maximum Extent?		no		if not found, known or suspected reason:		low rainfall, not detected in majority of recent years					
# Plants/Sampling Area:		0		exact count or estimate?		exact		uncert.		low	
Sample Area Radius (m)		10									
Phenology In Sampling Area (1-6):		Vegetative		1 (0%)		Flowering		1 (0%)		Fruiting	1 (0%)
		Dead		1 (0%)		Flowering & Fruiting		1 (0%)			
Evidence in Sampling Area (1-6):		Herbivory		1 (0%)		Disease		1 (0%)		Stunted Growth	1 (0%)
Is Sampling Area within Current Mapped Extent?		yes									
Collection (if not collected previously)?		no									
If yes:		Collector				Collection #					
		Museum/Herbarium									
II. SAMPLING AREA LOCATION & SITE PHOTOMONITORING											
GPS Accuracy: +/-		<1		accur. units:		meters		Datum:		NAD83	
coord. system		State Plane (ft)									
Coord'n's at Center of Plot:		E:				N:					
Camera type:		Pentax Optio W90									
Locat. 1 Coord.--E, N		6282852.217		1907450.732+A1		Direction facing		S, SW, W, NW		Height	1.1 m
		Camera angle		15° down		Photo #		3071-3079		File location	S:MSCP
Locat. 2 Coord.--E,N						Direction facing				Height	
		Camera angle				Photo #				File location	
III. ASSOCIATED SPECIES If need more room, record additional data and any notes on page 3.											
species/substrate		% Cover		Collection #, or NC if collected		not collected		species/substrate		% Cover	
Pogogyne abramsii		3						Apiastrum angustifolium		1	
Eryngium aristulatum		6						Festuca myuros		1	
Brodiaea orcuttii		1						Bromus madritensis ssp. rubens		1	
Navarretia hamata		1									
Deinandra fasciculata		17									
Cuscuta occidentalis		2									
Crassula connata		2									
Chlorogalum parviflorum		1									
Psilocarphus tenellus		1									
Sonchus oleraceus		1									
Deschampsia danthonioides		1									
Psilocarphus brevissimus		1						bare ground		50	
Adenostoma fasciculatum		25						rock		7	
Antirrhinum nuttallianum		1						litter		3	
COVER: Total % Cover:		66		%Herb:		41		%Shrub:		25	
								%Tree:		0	

IV. HABITAT ASSESSMENT IN SAMPLING AREA - Assess habitat covariates within **species-specific sampling area** (typically 10-m radius circle). Vegetation alliance/association can be assigned using San Diego vegetation key (AECOM 2012) in the office or field, using "Associated Species" data from page 1. See page 4 for definitions of habitat assessment categories.

SANDAG 2012 Vegetation Alliance/Association:	Adenostoma fasciculata Alliance; vernal pool				
Cover classes (1-6)	Cryptogamic Crust Cover:	2 (>0% to <1	Thatch Cover	1 (0%)	
	Thatch Depth Average (cm)		Thatch Depth max (cm)		
Dead Standing Biomass	no				
If yes, cover/species class				Average height (cm)	0
Mammal Species Activity (categ. 1-4)					

Feral pig activity 1 = No feral pig activity (rooting, wallowing, vegetation destruction, tracks, scat, pig) detected.

ground squirr. activity 1 = No ground squirrel burrows detected.

gopher activity 1 = No pocket gopher mounds detected.

Sampling area representative of mapped occurrence? yes (If no, note differences on page 3)

VI. THREATS ASSESSMENT IN MAXIMUM EXTENT - Assess threats within the **occurrence's maximum extent** (cumulative extent over years of monitoring) **plus 10-m surrounding buffer**. See page 4 for definitions of threat assessment categories. Record notes on page 3. See Argentine Ant Protocol (USGS 2015) for setting up bait, etc.

Surrounding Land Use/Activity at, or Adjacent to, Site open space, residential, mining

Argentine ant abundance at bait station (1-4)

Time start

Temp start

Time end

Temp end

Ant sample collected?

Ant sample #

Ant Station Photo #

DISTURBANCES (Rank each as 1-6):

Non-native forbs 3 = Disturbance

feral pig activity 1 = No sign of disturbance

altered hydrology 1 = No sign of disturbance

Non-native grasses 3 = Disturbance

trampling 1 = No sign of disturbance

erosion 1 = No sign of disturbance

Non-native woody pl. 1 = No sign of disturbance

vandalism 1 = No sign of disturbance

urban runoff 1 = No sign of disturbance

competitive native pl. 1 = No sign of disturbance

current grazing 1 = No sign of disturbance

slope movement 1 = No sign of disturbance

dumping/trash 1 = No sign of disturbance

historic grazing 7 = Disturbance

soil compaction 1 = No sign of disturbance

encampments 1 = No sign of disturbance

historic agriculture 1 = No sign of disturbance

fuel modification zone/fire break 1 = No sign of disturbance

road construction/maintenance 1 = No sign of disturbance

if present, describe:

illegal vegetation clearing 1 = No sign of disturbance

if present, describe:

brush management/restoration

1 = No sign of disturbance within maximum extent or in adjacent 10 m buffer.

ORV activity

1 = No sign of disturbance within maximum extent or in adjacent 10 m buffer. if present, describe: single set of vehicle tracks in grass; report to ranger station

Evidence of recent fire

1 = No sign of disturbance within maximum extent or in adjacent 10 m buffer.

If sign of recent fire, year burned?

Trails

1 = No sign of disturbance within maximum extent or in adjacent 10 m buffer.

If trails are present, are they authorized?

Type of trail use

hiking

biking

equestrian

dog

service vehicles

other

illegal trail use?

1 = No sign of disturbance within maximum extent or in adjacent 10 m buffer. describe:

Other disturbance?

1 = No sign of disturbance within maximum extent or in adjacent 10 m buffer. describe:

MSP-Management Needs and Notes 2015

(top 2 rows auto-fill from page 1)

Scientific Name: Navarretia fossalis

MSP Occur ID.

0

Date: 4/2/2015

VI. MANAGEMENT RECOMMENDATIONS

None.

VII. MANAGEMENT ACTIONS IN LAST YEAR

None.

VIII. CNDDDB SPECIES DETECTED (list any plant or animal species to add to the CNDDDB)

NOTES

***Navarretia fossalis* (Spreading Navarretia) Carroll Canyon**




Panorama from Northern edge of population, facing South, Southwest, West, Northwest.
Panorama location is 6282852.217 1907450.732 NAD83 State Plane California Zone 6 (feet)
Photos merged using ArcSoft Panorama Maker 4.

Navarretia fossalis - Carroll Canyon



Area 2015: 0 sq. m.

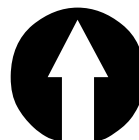
 Photopoint

 Navarretia fossalis

Pop. Area 2012-2015
Max Area: 4.37 sq. m.
Min Area: 0 sq. m

0 5 10
 Meters

Source: San GIS & City of San Diego Park & Rec
Created by: Annabelle Bernabe, 2015



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MSP - Rare Plant Occurrence Monitoring Form 2015								Page 1	
Scientific Name:		Navarretia fossalis			Common Name:		Spreading navarretia		
		Existing MSP Occurrence?		no		MSP Occurr. ID:			
		CNDDDB Elem. Occur. #:		n/a		Translocated?		no	
Preserve:		Spring Canyon Open Space						Mgmt Unit	MU3
Land Owner:		City of San Diego			Land Mangr:		City of San Diego Public Utilities Department		
Occurrence Name:		Goat Mesa/Spring Canyon						Sample Point #:	1
Surveyors:		Betsy Miller, Kim Roeland, Annabelle Bernabe						Affiliation	City of San Diego
Date:		4/21/2015		Time Start:		10:30am		Time Finish: 10:53am	
I. OCCURRENCE STATUS - Assess # plants in both species-specific sampling area (typically 10-m radius circle) & in current mapped extent . See p. 4 for definitions of categories describing phenology & evidence of herbivory, disease & stunted growth within the sampling area. Record any notes on p. 3.									
# Plants/Current Mapped Extent:		0		exact count or estimate?		exact		uncert.	low
		Area of Current Mapped Extent:		0		units	square meters	exact (GPS) or estim? exact (GPS ma	
		Species Found in Maximum Extent?		yes		if not found, known or suspected reason: found only in above-average rainfall years 2002-2014			
# Plants/Sampling Area		0				exact count or estimate?		exact	uncert. low
		Sample Area Radius (m)		10					
		Phenology In Sampling Area (1-6):		Vegetative 1 (0%)		Flowering 1 (0%)		Fruiting 1 (0%)	
				Dead 1 (0%)		Flowering & Fruiting 1 (0%)			
		Evidence in Sampling Area (1-6):		Herbivory 1 (0%)		Disease 1 (0%)		Stunted Growth 1 (0%)	
		Is Sampling Area within Current Mapped Extent?		yes					
		Collection (if not collected previously)?		no					
If yes:		Collector				Collection #			
		Museum/Herbarium							
II. SAMPLING AREA LOCATION & SITE PHOTOMONITORING									
GPS Accuracy: +/-		<1		accur. units:		meters		Datum:	NAD83
coord. system		State Plane (ft)							
Coordin's at Center of Plot:		E:				N:			
Camera type:		Pentax Optio W90							
Locat. 1 Coord.--E, N		6330499.713		1781402.49		Direction facing		S, W, N	Height 1.1 m
		Camera angle		10 ° up		Photo # 3243-3248		File location S:\MSCP	
Locat. 2 Coord.-- E,N						Direction facing			Height
		Camera angle				Photo #		File location	
III. ASSOCIATED SPECIES If need more room, record additional data and any notes on page 3.									
species/substrate		% Cover	Collection #, or NC if not collected		species/substrate		% Cover	Collect.# or NC if not collected	
Eryngium aristulatum		2							
Simmondsia chinensis		5							
Deinandra fasciculata		10							
Erodium botrys		15							
Bromus madritensis		1							
Centaurea melitensis		1							
Lepidium nitidum		2							
Festuca sp.		1							
Psilocarphus brevissimus		1							
					bare ground		20		
					rock		1		
					litter		1		
COVER: Total % Cover:		38	%Herb:	33	%Shrub:	5	%Tree:	0	

IV. HABITAT ASSESSMENT IN SAMPLING AREA - Assess habitat covariates within **species-specific sampling area** (typically 10-m radius circle). Vegetation alliance/association can be assigned using San Diego vegetation key (AECOM 2012) in the office or field, using "Associated Species" data from page 1. See page 4 for definitions of habitat assessment categories.

SANDAG 2012 Vegetation Alliance/Association: vernal pool; Simmondsia chinensis Alliance, Simmondsia chinensis-Bahiopsis lacinata Association

Cover classes (1-6)

Cryptogamic Crust Cover: 1 (0%)

Thatch Cover 1 (0%)

Thatch Depth Average (cm)

Thatch Depth max (cm)

Dead Standing Biomass

no

If yes, cover/species class

Average height (cm)

Mammal Species Activity (categ. 1-4)

Feral pig activity 1 = No feral pig activity (rooting, wallowing, vegetation destruction, tracks, scat, pig) detected.

ground squirr. activity 1 = No ground squirrel burrows detected.

gopher activity 1 = No pocket gopher mounds detected.

Sampling area representative of mapped occurrence? yes (If no, note differences on page 3)

VI. THREATS ASSESSMENT IN MAXIMUM EXTENT - Assess threats within the **occurrence's maximum extent** (cumulative extent over years of monitoring) **plus 10-m surrounding buffer**. See page 4 for definitions of threat assessment categories. Record notes on page 3. See Argentine Ant Protocol (USGS 2015) for setting up bait, etc.

Surrounding Land Use/Activity at, or Adjacent to, Site open space

Argentine ant abundance at bait station (1-4)

Time start

Temp start

Time end

Temp end

Ant sample collected?

Ant sample #

Ant Station Photo #

DISTURBANCES (Rank each as 1-6):

Non-native forbs 4 = Disturbance

feral pig activity 1 = No sign of disturbance

altered hydrology 1 = No sign of disturbance

Non-native grasses 3 = Disturbance

trampling 1 = No sign of disturbance

erosion 1 = No sign of disturbance

Non-native woody pl. 1 = No sign of disturbance

vandalism 1 = No sign of disturbance

urban runoff 1 = No sign of disturbance

competitive native pl. 1 = No sign of disturbance

current grazing 1 = No sign of disturbance

slope movement 1 = No sign of disturbance

dumping/trash 1 = No sign of disturbance

historic grazing 7 = Disturbance

soil compaction 1 = No sign of disturbance

encampments 1 = No sign of disturbance

historic agriculture 1 = No sign of disturbance

fuel modification zone/fire break 1 = No sign of disturbance

road construction/maintenance 1 = No sign of disturbance

if present, describe:

illegal vegetation clearing 1 = No sign of disturbance

if present, describe:

brush management/restoration 1 = No sign of disturbance within maximum extent or in adjacent 10 m buffer.

ORV activity

1 = No sign of disturbance

if present, describe:

Evidence of recent fire

1 = No sign of disturbance within maximum extent

If sign of recent fire, year burned?

Trails

1 = No sign of disturbance within maximum extent

If trails are present, are they authorized?

Type of trail use

hiking

biking

equestrian

dog

service vehicles

other

illegal trail use?

1 = No sign of disturbance

describe:

Other disturbance?

1 = No sign of disturbance

describe:

MSP-Management Needs and Notes 2015

(top 2 rows auto-fill from page 1)

Scientific Name: Navarretia fossalis

MSP Occur ID.

0

Date: 4/21/2015

VI. MANAGEMENT RECOMMENDATIONS

Continue to control access with fencing and locked gates

VII. MANAGEMENT ACTIONS IN LAST YEAR

PUD installed fencing along access/service road to control ORV activity

VIII. CNDDDB SPECIES DETECTED (list any plant or animal species to add to the CNDDDB)

BUOW burrows at site look unoccupied; old pellet seen near photopoint

NOTES

***Navarretia fossalis* (Spreading Navarretia) Goat Mesa/Spring Canyon**



Panorama from Southeastern edge of population, facing South, West, North.
Panorama location is 6330499.71 1781402.49 NAD83 State Plane California Zone 6 (feet)
Photos merged using ArcSoft Panorama Maker 4.

Navarretia fossalis - Goat Mesa/Spring Canyon



Area 2015: 0 sq. m.

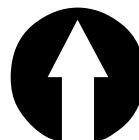
● Photopoint

□ Navarretia fossalis

Pop. Area 2003-2015
Max Area: 1930.4 sq. m.
Min Area: 0 sq. m

0 25 50 Meters

Source: San GIS & City of San Diego Park & Rec
Created by: Annabelle Bernabe, 2015



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MSP - Rare Plant Occurrence Monitoring Form 2015										Page 1		
Scientific Name:	Navarretia fossalis				Common Name:	Spreading navarretia						
Existing MSP Occurrence?				no		MSP Occurr. ID:						
CNDDB Elem. Occur. #:				n/a		Translocated?		yes				
Preserve:	Rose Canyon Open Space					Mgmt Unit					MU2	
Land Owner:	City of San Diego				Land Mangr:	City of San Diego Park and Recreation Department						
Occurrence Name:	Nobel Drive					Sample Point #:						
Surveyors:	Kim Roeland, Betsy Miller					Affiliation					City of San Diego	
Date:	4/17/2015 and 5/27/2015			Time Start:	10:50		Time Finish:	11:30				
I. OCCURRENCE STATUS - Assess # plants in both species-specific sampling area (typically 10-m radius circle) & in current mapped extent . See p. 4 for definitions of categories describing phenology & evidence of herbivory, disease & stunted growth within the sampling area. Record any notes on p. 3.												
# Plants/Current Mapped Extent:	8		exact count or estimate?		exact		uncert.		low			
Area of Current Mapped Extent:		8.72		units	square meters		exact (GPS) or estim?		exact (GPS ma			
Species Found in Maximum Extent?		yes		if not found, known or suspected reason: storation did not succeed? Not detected for many years.								
# Plants/Sampling Area:	2		exact count or estimate?		exact		uncert.		low			
Sample Area Radius (m)		10										
Phenology In Sampling Area (1-6):		Vegetative		1 (0%)		Flowering		5 (50% to <75%)		Fruiting		1 (0%)
		Dead		1 (0%)		Flowering & Fruiting		1 (0%)				
Evidence in Sampling Area (1-6):		Herbivory		1 (0%)		Disease		1 (0%)		Stunted Growth		1 (0%)
Is Sampling Area within Current Mapped Extent?		yes										
Collection (if not collected previously)?		no										
If yes:		Collector				Collection #						
		Museum/Herbarium										
II. SAMPLING AREA LOCATION & SITE PHOTOMONITORING												
GPS Accuracy: +/-		<1		accur. units:		meters		Datum:		NAD83		
coord. system		State Plane (ft)										
Coord'n's at Center of Plot:		E:				N:						
Camera type:		Pentax Optio W90										
Locat. 1 Coord.--E, N		6271105.47		1896367.536		Direction facing		SW, S, SE		Height		1.1 m
		Camera angle		level		Photo #		226-230		File location		S:MSCP
Locat. 2 Coord.-- E,N						Direction facing				Height		
		Camera angle				Photo #		221-225		File location		
III. ASSOCIATED SPECIES If need more room, record additional data and any notes on page 3.												
species/substrate	% Cover	Collection #, or NC if not collected	species/substrate	% Cover	Collect.# or NC if not collected							
Navarretia fossalis	1		Gastidium phleoides	1								
Eriogonum fasciculatum	5		Festuca myuros	2								
Deinandra fasciculata	10		Bromus hordeaceus	1								
Psilocarphus brevissimus	5		Sanicula arguta	1								
Croton setigerus	2		Castilleja exserta	1	(dead)							
Lythrum hyssopifolia	2											
Crassula connata	3											
Deschampsia danthonoides	2											
Holocarpha virgata elongata	2											
Brodiaea orcuttii	1											
Logfia gallica	1											
Erodium botrys	1											
Stipa pulchra	2		bare ground	35								
Bromus madritensis	5		rock	1								
Avena sp.	10		litter	0								
COVER: Total % Cover:	58	%Herb:	53	%Shrub:	5							
				%Tree:	0							

IV. HABITAT ASSESSMENT IN SAMPLING AREA - Assess habitat covariates within **species-specific sampling area** (typically 10-m radius circle). Vegetation alliance/association can be assigned using San Diego vegetation key (AECOM 2012) in the office or field, using "Associated Species" data from page 1. See page 4 for definitions of habitat assessment categories.

SANDAG 2012 Vegetation Alliance/Association:	vernal pool			
Cover classes (1-6)	Cryptogamic Crust Cover:	1 (0%)	Thatch Cover*	1 (0%)
	Thatch Depth Average (cm)		Thatch Depth max (cm)	
Dead Standing Biomass	yes			
If yes, cover/species class	Eriogonum fasciculatum/2		Average height (cm)	30
Mammal Species Activity (categ. 1-4)				
Feral pig activity	1 = No feral pig activity (rooting, wallowing, vegetation destruction, tracks, scat, pig) detected.			
ground squirr. activity	1 = No ground squirrel burrows detected.			
gopher activity	1 = No pocket gopher mounds detected.			
Sampling area representative of mapped occurrence?	yes	(If no, note differences on page 3)		

VI. THREATS ASSESSMENT IN MAXIMUM EXTENT - Assess threats within the **occurrence's maximum extent** (cumulative extent over years of monitoring) **plus 10-m surrounding buffer**. See page 4 for definitions of threat assessment categories. Record notes on page 3. See Argentine Ant Protocol (USGS 2015) for setting up bait, etc.

Surrounding Land Use/Activity at, or Adjacent to, Site	open space				
Argentine ant abundance at bait station (1-4)					
Time start		Temp start		Time end	Temp end
Ant sample collected?		Ant sample #		Ant Station Photo #	

DISTURBANCES (Rank each as 1-6):

Non-native forbs	3 = Disturbance	feral pig activity	1 = No sign of disturbance	altered hydrology	1 = No sign of disturbance
Non-native grasses	3 = Disturbance	trampling	1 = No sign of disturbance	erosion	1 = No sign of disturbance
Non-native woody pl.	1 = No sign of disturbance	vandalism	1 = No sign of disturbance	urban runoff	1 = No sign of disturbance
competitive native pl.	1 = No sign of disturbance	current grazing	1 = No sign of disturbance	slope movement	1 = No sign of disturbance
dumping/trash	1 = No sign of disturbance	historic grazing	1 = No sign of disturbance	soil compaction	1 = No sign of disturbance
encampments	1 = No sign of disturbance	historic agriculture	1 = No sign of disturbance		
fuel modification zone/fire break	1 = No sign of disturbance				
road construction/maintenance	1 = No sign of disturbance	if present, describe:			
illegal vegetation clearing	1 = No sign of disturbance	if present, describe:			
brush management/restoration	1 = No sign of disturbance within maximum extent or in adjacent 10 m buffer.				
ORV activity	1 = No sign of disturbance	if present, describe:			
Evidence of recent fire	1 = No sign of disturbance within maximum extent or in adjacent 10 m buffer.				
If sign of recent fire, year burned?					
Trails	1 = No sign of disturbance within maximum extent or in adjacent 10 m buffer.		If trails are present, are they authorized?		
Type of trail use	hiking		biking		equestrian
					dog
service vehicles			other		
illegal trail use?	1 = No sign of disturbance	describe:			
Other disturbance?	1 = No sign of disturbance	describe:			

MSP-Management Needs and Notes 2015

(top 2 rows auto-fill from page 1)

Scientific Name:

MSP Occur ID.

Date:

VI. MANAGEMENT RECOMMENDATIONS

Continue current management by Caltrans

VII. MANAGEMENT ACTIONS IN LAST YEAR

Weeding by Caltrans

VIII. CNDDDB SPECIES DETECTED (list any plant or animal species to add to the CNDDDB)

NOTES

Flowering Navarretia appeared dry - possibly not going to produce fruit before the plant is dead.

*Active management of vernal pools extends to 5-m buffer around vernal pool fenced area; some of the sampling area extends out of the buffer but the form has been filled out focusing on the actively managed area.

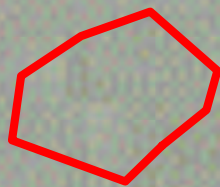
2 plants seen on 4/17/15 but when the site was revisited on 5/27/15, 8 individuals were counted.

***Navarretia fossalis* (Spreading Navarretia) Nobel Drive**



Panorama from Northern edge of population, facing Southwest, South, Southeast.
Panorama location is 6271105.47 1896367.536 NAD83 State Plane California Zone 6 (feet)
Photos merged using ArcSoft Panorama Maker 4.

Navarretia fossalis - Nobel Drive



Area 2015: 8.72 sq. m.

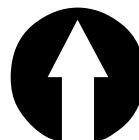
● Photopoint

□ Navarretia fossalis

Pop. Area 2012 - 2015
Max Area: 11.262 sq. m.
Min Area: 0 sq. m

0 2.5 5 Meters

Source: San GIS & City of San Diego Park & Rec
Created by: Annabelle Bernabe, 2015



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MSP - Rare Plant Occurrence Monitoring Form 2015										Page 1	
Scientific Name:		Navarretia fossalis			Common Name:		Spreading navarretia				
Existing MSP Occurrence?				no		MSP Occurr. ID:					
CNDDB Elem. Occur. #:				n/a		Translocated?		no			
Preserve:		Otay Lakes Cornerstone Lands					Mgmt Unit			MU3	
Land Owner:		City of San Diego			Land Mangr:		City of San Diego Park and Recreation Department				
Occurrence Name:		Otay Lakes Cornerstone Lands					Sample Point #:				
Surveyors:		Kim Roeland, Betsy Miller, Annabelle Bernabe					Affiliation		City of San Diego		
Date:		4/16/2015		Time Start:		10:30		Time Finish:		11:20	
I. OCCURRENCE STATUS - Assess # plants in both species-specific sampling area (typically 10-m radius circle) & in current mapped extent . See p. 4 for definitions of categories describing phenology & evidence of herbivory, disease & stunted growth within the sampling area. Record any notes on p. 3.											
# Plants/Current Mapped Extent:		0		exact count or estimate?		exact		uncert.		low	
Area of Current Mapped Extent:		0		units		square meters		exact (GPS) or estim?		exact (GPS ma	
Species Found in Maximum Extent?		no		if not found, known or suspected reason: storation did not succeed? Not detected for many years.							
# Plants/Sampling Area:		0		exact count or estimate?		exact		uncert.		low	
Sample Area Radius (m)		10									
Phenology In Sampling Area (1-6):		Vegetative		1 (0%)		Flowering		1 (0%)		Fruiting	1 (0%)
		Dead		1 (0%)		Flowering & Fruiting		1 (0%)			
Evidence in Sampling Area (1-6):		Herbivory		1 (0%)		Disease		1 (0%)		Stunted Growth	1 (0%)
Is Sampling Area within Current Mapped Extent?		yes									
Collection (if not collected previously)?		no									
If yes:		Collector				Collection #					
		Museum/Herbarium									
II. SAMPLING AREA LOCATION & SITE PHOTOMONITORING											
GPS Accuracy: +/-		<1		accur. units:		meters		Datum:		NAD83	
coord. system		State Plane (ft)									
Coord'n's at Center of Plot:		E:				N:					
Camera type:		Pentax Optio W90									
Locat. 1 Coord.--E, N		6355504.7		1807021.28		Direction facing		NW, W		Height	1.1 m
		Camera angle		level		Photo #		3175-3183		File location	
Locat. 2 Coord.-- E,N						Direction facing				Height	
		Camera angle				Photo #				File location	
III. ASSOCIATED SPECIES If need more room, record additional data and any notes on page 3.											
species/substrate		% Cover		Collection #, or NC if not collected		species/substrate		% Cover		Collect.# or NC if not collected	
Eriogonum fasciculatum		5				Bromus hordeaceus		2			
Malosma laurina		2				Bromus madritensis		2			
Deinandra fasciculata		25				Festuca myuros		10			
Eryngium aristulatum		5				Gastridium phleoides		1			
Brodiaea terrestris		2				Crassula connata		10			
Deschampsia danthonoides		2				Selaginella cinerascens		2		dry	
Cryptantha sp.		3				Trichostema lanceolatum		1			
Microseris douglasii		1				Artemisia californica		2			
Acmispon glaber		1				Crypsis schoenoides		2			
Bloomeria clevelandii		1				Salsola tragus		1			
Cuscuta occidentalis		1				Sonchus oleraceus		1			
Lasthenia coronaria		3				Plantago erecta		1			
Lepidium nitidum		2				Psilocarphus brevissimus		1			
Calochortus splendens		1				Anagallis arvensis		1			
Stipa pulchra		1				bare ground		35			
Hypochaeris glabra		3				rock		5			
Erodium botrys		15				litter		25			
COVER: Total % Cover:		110		%Herb:		103		%Shrub:		7	
								%Tree:		0	

IV. HABITAT ASSESSMENT IN SAMPLING AREA - Assess habitat covariates within **species-specific sampling area** (typically 10-m radius circle). Vegetation alliance/association can be assigned using San Diego vegetation key (AECOM 2012) in the office or field, using "Associated Species" data from page 1. See page 4 for definitions of habitat assessment categories.

SANDAG 2012 Vegetation Alliance/Association: Artemisia californica-Eriogonum fasciculatum Alliance, Artemisia californica-Eriogonum fasciculatum-Malosma laurina Association

Cover classes (1-6)

Cryptogamic Crust Cover: 2 (>0% to <1

Thatch Cover 1 (0%)

Thatch Depth Average (cm)

Thatch Depth max (cm)

Dead Standing Biomass

yes

If yes, cover/species class

Acmispon glaber/2

Average height (cm)

30

Mammal Species Activity (categ. 1-4)

Feral pig activity 1 = No feral pig activity (rooting, wallowing, vegetation destruction, tracks, scat, pig) detected.

ground squirr. activity 1 = No ground squirrel burrows detected.

gopher activity 1 = No pocket gopher mounds detected.

Sampling area representative of mapped occurrence? yes (If no, note differences on page 3)

VI. THREATS ASSESSMENT IN MAXIMUM EXTENT - Assess threats within the **occurrence's maximum extent** (cumulative extent over years of monitoring) **plus 10-m surrounding buffer**. See page 4 for definitions of threat assessment categories. Record notes on page 3. See Argentine Ant Protocol (USGS 2015) for setting up bait, etc.

Surrounding Land Use/Activity at, or Adjacent to, Site open space

Argentine ant abundance at bait station (1-4)

1 = No ants detected at bait station or in vicinity.

Time start 10:30 AM

Temp start

70F

Time end

11:15 AM

Temp end

73F

Ant sample collected? no

Ant sample #

Ant Station Photo #

3185

DISTURBANCES (Rank each as 1-6):

Non-native forbs 4 = Disturbance

feral pig activity 1 = No sign of

altered hydrology 1 = No sign of disturbance

Non-native grasses 4 = Disturbance

trampling 1 = No sign of

erosion 1 = No sign of disturbance

Non-native woody pl. 1 = No sign of

vandalism 1 = No sign of

urban runoff 1 = No sign of disturbance

competitive native pl. 1 = No sign of

current grazing 1 = No sign of

slope movement 1 = No sign of disturbance

dumping/trash 1 = No sign of

historic grazing 1 = No sign of

soil compaction 1 = No sign of disturbance

encampments 1 = No sign of

historic agriculture 1 = No sign of

fuel modification zone/fire break 1 = No sign of

road construction/maintenance 1 = No sign of

if present, describe:

illegal vegetation clearing 1 = No sign of

if present, describe:

brush management/restoration 1 = No sign of disturbance within maximum extent or in adjacent 10 m buffer.

ORV activity

1 = No sign of

if present, describe:

Evidence of recent fire

1 = No sign of disturbance within maximum

If sign of recent fire, year burned?

Trails

1 = No sign of disturbance within maximum ex

If trails are present, are they authorized?

Type of trail use

hiking

biking

equestrian

dog

service vehicles

other

illegal trail use?

1 = No sign of

describe:

Other disturbance?

1 = No sign of

describe:

MSP-Management Needs and Notes 2015

(top 2 rows auto-fill from page 1)

Scientific Name: Navarretia fossalis

MSP Occur ID. 0

Date: 4/16/2015

VI. MANAGEMENT RECOMMENDATIONS

Continue to maintain access control with fencing, locked gate, and signs

VII. MANAGEMENT ACTIONS IN LAST YEAR

New sign installed near Otay Lakes Road

VIII. CNDDDB SPECIES DETECTED (list any plant or animal species to add to the CNDDDB)

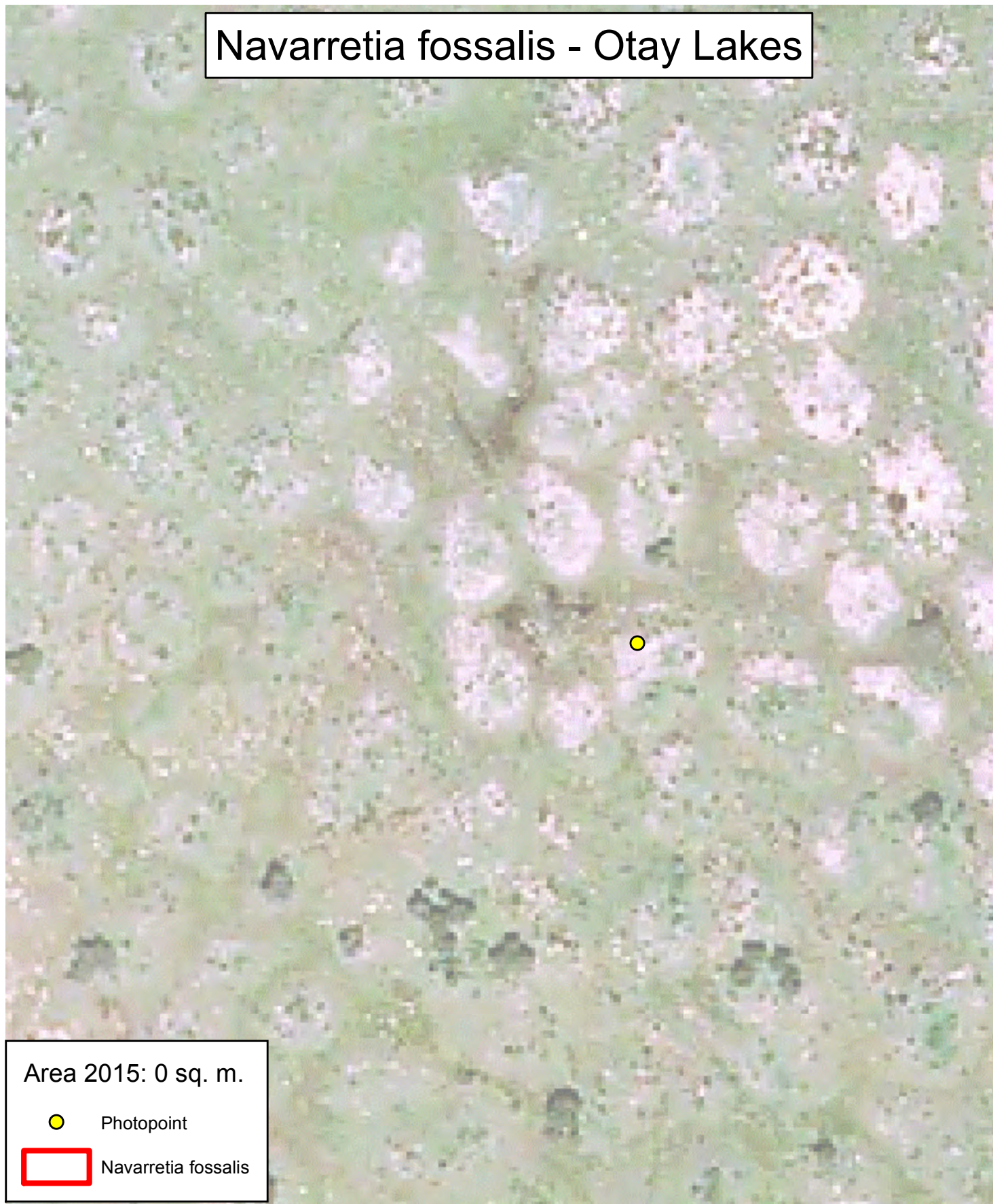
NOTES

***Navarretia fossalis* (Spreading Navarretia) Otay Lakes**



Panorama from Northwestern edge of population, facing Northwest, West.
Panorama location is 6355504.70 1807021.28 NAD83 State Plane California Zone 6 (feet)
Photos merged using ArcSoft Panorama Maker 4.

Navarretia fossalis - Otay Lakes



Area 2015: 0 sq. m.

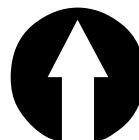
● Photopoint

▭ Navarretia fossalis

Pop. Area 2008-2015
Max Area: 3.04 sq. m.
Min Area: 0 sq. m

0 10 20 Meters

Source: San GIS & City of San Diego Park & Rec
Created by: Annabelle Bernabe, 2015



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MSP - Rare Plant Occurrence Monitoring Form 2015										Page 1			
Scientific Name:		Navarretia fossalis			Common Name:		Spreading navarretia						
Existing MSP Occurrence?				no		MSP Occurr. ID:							
CNDDB Elem. Occur. #:						Translocated?		yes					
Preserve:		Dennery Canyon Open Space					Mgmt Unit			MU3			
Land Owner:		City of San Diego			Land Mangr:		City of San Diego Park and Recreation Department						
Occurrence Name:		Ribinhood Ridge					Sample Point #:		1				
Surveyors:		Kim Roeland, Betsy Miller, Annabelle Bernabe					Affiliation		City of San Diego				
Date:		4/7/2015		Time Start:		9:35		Time Finish:		10:00			
I. OCCURRENCE STATUS - Assess # plants in both species-specific sampling area (typically 10-m radius circle) & in current mapped extent . See p. 4 for definitions of categories describing phenology & evidence of herbivory, disease & stunted growth within the sampling area. Record any notes on p. 3.													
# Plants/Current Mapped Extent:		0		exact count or estimate?		exact		uncert.		low			
Area of Current Mapped Extent:		0		units		square meters		exact (GPS) or estim?		exact (GPS ma			
Species Found in Maximum Extent?		no		if not found, known or suspected reason: storation did not succeed? Not detected for many years.									
# Plants/Sampling Area		0		exact count or estimate?		exact		uncert.		low			
Sample Area Radius (m)		10											
Phenology In Sampling Area (1-6):		Vegetative		1 (0%)		Flowering		1 (0%)		Fruiting	1 (0%)		
		Dead		1 (0%)		Flowering & Fruiting		1 (0%)					
Evidence in Sampling Area (1-6):		Herbivory		1 (0%)		Disease		1 (0%)		Stunted Growth	1 (0%)		
Is Sampling Area within Current Mapped Extent?		yes											
Collection (if not collected previously)?		no											
If yes:		Collector				Collection #							
		Museum/Herbarium											
II. SAMPLING AREA LOCATION & SITE PHOTOMONITORING													
GPS Accuracy: +/-		<1		accur. units:		meters		Datum:		NAD83			
coord. system		State Plane (ft)											
Coord'n's at Center of Plot:		E:				N:							
Camera type:		Pentax Optio W90											
Locat. 1 Coord.--E, N		6329438.23		1790979.82		Direction facing		S, SW, W		Height	1.1 m		
		Camera angle		level		Photo #		3091-3104		File location		S:WSCP	
Locat. 2 Coord.--E,N						Direction facing				Height			
		Camera angle				Photo #				File location			
III. ASSOCIATED SPECIES If need more room, record additional data and any notes on page 3.													
species/substrate		% Cover		Collection #, or NC if collected		not collected		species/substrate		% Cover		Collect.# or NC if not collected	
Eryngium aristulatum		15						Chenopodium album		4			
Pogogyne nudiuscula		4						Sonchus asper		2			
Psilocarphus brevissimus		4						Bromus hordeaceus		2			
Deschampsia danthonioides		1						Matricaria discoidea		1			
Artemisia californica		20						Anagallis arvensis		1			
Cylindropuntia prolifera		3						Festuca perennis		1			
Ferocactus viridescens		2						Mesembryanthemum nodiflorum		2			
Deinandra fasciculata		15						Centaurea melitensis		1			
Bahioopsis laciniata		2											
Eriogonum fasciculatum		5											
Bromus madritensis		7											
Phalaris minor		3						bare ground		35			
Erodium cicutarium		10						rock		25			
Festuca myuros		1						litter		5			
COVER: Total % Cover:		106		%Herb:		74		%Shrub:		32		%Tree:	0

IV. HABITAT ASSESSMENT IN SAMPLING AREA - Assess habitat covariates within **species-specific sampling area** (typically 10-m radius circle). Vegetation alliance/association can be assigned using San Diego vegetation key (AECOM 2012) in the office or field, using "Associated Species" data from page 1. See page 4 for definitions of habitat assessment categories.

SANDAG 2012 Vegetation Alliance/Association: Bahiopsis laciniata Alliance, Bahiopsis laciniata - Artemisia californica - Eriogonum fasciculatum Association, vernal pool

Cover classes (1-6)

Cryptogamic Crust Cover: 1 (0%)

Thatch Cover 1 (0%)

Thatch Depth Average (cm)

Thatch Depth max (cm)

Dead Standing Biomass

no

If yes, cover/species class

Average height (cm)

Mammal Species Activity (categ. 1-4)

Feral pig activity 1 = No feral pig activity (rooting, wallowing, vegetation destruction, tracks, scat, pig) detected.

ground squirr. activity 1 = No ground squirrel burrows detected.

gopher activity 1 = No pocket gopher mounds detected.

Sampling area representative of mapped occurrence? yes (If no, note differences on page 3)

VI. THREATS ASSESSMENT IN MAXIMUM EXTENT - Assess threats within the **occurrence's maximum extent** (cumulative extent over years of monitoring) **plus 10-m surrounding buffer**. See page 4 for definitions of threat assessment categories. Record notes on page 3. See Argentine Ant Protocol (USGS 2015) for setting up bait, etc.

Surrounding Land Use/Activity at, or Adjacent to, Site Open Space

Argentine ant abundance at bait station (1-4)

Time start

Temp start

Time end

Temp end

Ant sample collected?

Ant sample #

Ant Station Photo #

DISTURBANCES (Rank each as 1-6):

Non-native forbs 4 = Disturbance

feral pig activity 1 = No sign of disturbance

altered hydrology 1 = No sign of disturbance

Non-native grasses 4 = Disturbance

trampling 1 = No sign of disturbance

erosion 1 = No sign of disturbance

Non-native woody pl. 1 = No sign of disturbance

vandalism 1 = No sign of disturbance

urban runoff 1 = No sign of disturbance

competitive native pl. 1 = No sign of disturbance

current grazing 1 = No sign of disturbance

slope movement 1 = No sign of disturbance

dumping/trash 1 = No sign of disturbance

historic grazing 1 = No sign of disturbance

soil compaction 1 = No sign of disturbance

encampments 2 = Disturbance

historic agriculture 1 = No sign of disturbance

fuel modification zone/fire break 1 = No sign of disturbance

road construction/maintenance 1 = No sign of disturbance

if present, describe:

illegal vegetation clearing 1 = No sign of disturbance

if present, describe:

brush management/restoration 1 = No sign of disturbance within maximum extent or in adjacent 10 m buffer.

ORV activity

1 = No sign of disturbance

if present, describe:

Evidence of recent fire

1 = No sign of disturbance within maximum extent

If sign of recent fire, year burned?

Trails

1 = No sign of disturbance within maximum extent

If trails are present, are they authorized?

Type of trail use

hiking

biking

equestrian

dog

service vehicles

other

illegal trail use?

1 = No sign of disturbance

describe:

Other disturbance?

1 = No sign of disturbance

describe:

MSP-Management Needs and Notes 2015

(top 2 rows auto-fill from page 1)

Scientific Name:

MSP Occur ID.

Date:

VI. MANAGEMENT RECOMMENDATIONS

Fix gate and replace lock; post and remove encampment.

VII. MANAGEMENT ACTIONS IN LAST YEAR

None.

VIII. CNDDDB SPECIES DETECTED (list any plant or animal species to add to the CNDDDB)

NOTES

***Navarretia fossalis* (Spreading Navarretia) Robinhood Ridge**



Panorama from Northwestern edge of population, facing South, Southwest, West
Panorama location is 6329438.23 1790979.82 NAD83 State Plane California Zone 6 (feet)
Photos merged using ArcSoft Panorama Maker 4.

Navarretia fossalis - Robinhood Ridge

Photopoint for PONU also.

Area 2015: 0 sq. m.

● Photopoint

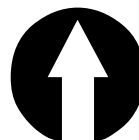
Pop. Area 2011-2015

Max Area: 0 sq. m.

Min Area: 0 sq. m.

0 25 50 Meters

Source: San GIS & City of San Diego Park & Rec
Map Created By: Annabelle Bernabe, 2015



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Pogogyne abramsii
San Diego Mesa Mint



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MSP - Rare Plant Occurrence Monitoring Form 2015

Page 1

Scientific Name:	Pogogyne abramsii		Common Name:	San Diego mesa mint	
Existing MSP Occurrence?	no	MSP Occurr. ID:			
CNDDDB Elem. Occur. #:	EO6	Translocated?	no		
Preserve:	Carroll Canyon Vernal Pool Preserve			Mgmt Unit:	
Land Owner:	City of San Diego		Land Mngrr:	City of San Diego Park and Recreation Department	
Occurrence Name:	Carroll Canyon Vernal Pool Preserve			Sample Point #:	1
Surveyors:	Kim Roeland, Betsy Miller, Annabelle Bernabe			Affiliation:	City of San Diego
Date:	4/2/2015	Time Start:	15:09	Time Finish:	15:40

I. OCCURRENCE STATUS - Assess # plants in both species-specific **sampling area** (typically 10-m radius circle) & in **current mapped extent**. See p. 4 for definitions of categories describing phenology & evidence of herbivory, disease & stunted growth within the sampling area. Record any notes on p. 3.

# Plants/Current Mapped Extent:	1966	exact count or estimate?	exact	uncert.	medium
Area of Current Mapped Extent:	165.89	units	square meters	exact (GPS) or estim?	exact (GPS)
Species Found in Maximum Extent?	yes	if not found, known or suspected reason:			
# Plants/Sampling Area	1966	exact count or estimate?	exact	uncert.	medium
Sample Area Radius (m)	10				
Phenology In Sampling Area (1-6):	Vegetative 2 (>0% to <1)	Flowering 5 (50% to <75%)	Fruiting 1 (0%)		
	Dead 1 (0%)	Flowering & Fruiting 1 (0%)			
Evidence in Sampling Area (1-6):	Herbivory 1 (0%)	Disease 1 (0%)	Stunted Growth 1 (0%)		
Is Sampling Area within Current Mapped Extent?	yes				
Collection (if not collected previously)?	no				
If yes:	Collector	Collection #			
	Museum/Herbarium				

II. SAMPLING AREA LOCATION & SITE PHOTOMONITORING

GPS Accuracy: +/-	<1	accur. units:	meters	Datum:	NAD83
coord. system	State Plane (ft)				
Coordin's at Center of Plot:	E:	N:			
Camera type:	Pentax Optio W90				
Locat. 1 Coord.--E, N	6282860.426	1907341.599	Direction facing	N, NE, E	Height 1.1 m
	Camera angle	15° down	Photo #	3080-3088	File location S:\MSCP
Locat. 2 Coord.-- E,N			Direction facing		Height
	Camera angle		Photo #		File location

III. ASSOCIATED SPECIES If need more room, record additional data and any notes on page 3.

species/substrate	Cover	Collection # (if collected)	species/substrate	Cover	Collect.# (if collected)
Pogogyne abramsii	12		Hypochaeris glabra	2	
Eryngium aristulatum	2		Chlorogalum parviflorum	1	
Lasthenia gracilis	1		Apiastrum angustifolium	1	
Crassula connata	2		Eriophyllum confertiflorum	1	
Logfia filaginoides	2		Salvia mellifera	2	
Deinandra fasciculata	17				
Navarretia hamata	2				
Plantago erecta	1				
Cuscuta occidentalis	4				
Adenostoma fasciculatum	10				
Antirrhinum nuttallianum	2				
Sonchus oleraceus	1		bare ground	40	
Brodiaea orcuttii	1		rock	17	
Festuca myuros	2		litter	3	
COVER: Total % Cover:	66	%Herb:	53	%Shrub:	13
				%Tree:	0

IV. HABITAT ASSESSMENT IN SAMPLING AREA - Assess habitat covariates within **species-specific sampling area** (typically 10-m radius circle). Vegetation alliance/association can be assigned using San Diego vegetation key (AECOM 2012) in the office or field, using "Associated Species" data from page 1. See page 4 for definitions of habitat assessment categories.

SANDAG 2012 Vegetation Alliance/Association:	Adenostoma fasciculata Alliance; vernal pool				
Cover classes (1-4)	Cryptogamic Crust Cover:	2 (>0% to <1	Thatch Cover	1 (0%)	
	Thatch Depth Average (cm)		Thatch Depth max (cm)		
Dead Standing Biomass	yes				
If yes, cover/species class	Adenostoma fasciculatum/2			Average height (cm)	15
Mammal Species Activity (categ. 1-4)					
Feral pig activity	1 = No feral pig activity (rooting, wallowing, vegetation destruction, tracks, scat, pig) detected.				
ground squirr. activity	1 = No ground squirrel burrows detected.				
gopher activity	1 = No pocket gopher mounds detected.				
Sampling area representative of mapped occurrence?	yes	(If no, note differences on page 3)			

VI. THREATS ASSESSMENT IN MAXIMUM EXTENT - Assess threats within the **occurrence's maximum extent** (cumulative extent over years of monitoring) **plus 10-m surrounding buffer**. See page 4 for definitions of threat assessment categories & page 5 for Overall Site Quality Scale. Record notes on page 3.

Surrounding Land Use/Activity	at, or open space, residential, mining		
Adjacent to, Site			
Argentine ant abundance at bait station (1-4)			
Time start		Temp start	
Ant sample collected?		Ant sample #	Ant Station Photo #
DISTURBANCES (Rank each as 1-6):			
Non-native forbs	3 = Disturbance	feral pig activity	1 = No sign of disturbance
Non-native grasses	3 = Disturbance	trampling	1 = No sign of disturbance
Non-native woody pl.	1 = No sign of disturbance	vandalism	1 = No sign of disturbance
competitive native pl.	1 = No sign of disturbance	current grazing	1 = No sign of disturbance
dumping/trash	1 = No sign of disturbance	historic grazing	1 = No sign of disturbance
encampments	1 = No sign of disturbance	historic agriculture	1 = No sign of disturbance
altered hydrology	1 = No sign of disturbance	erosion	1 = No sign of disturbance
urban runoff	1 = No sign of disturbance	slope movement	1 = No sign of disturbance
soil compaction	1 = No sign of disturbance		
fuel modification zone/fire break	3 = Disturbance		
road construction/maintenance	3 = Disturbance	if present, describe:	
illegal vegetation clearing	1 = No sign of disturbance	if present, describe:	
brush management/restoration	1 = No sign of disturbance within mapped occurrence perimeter or in adjacent 10 m buffer.		
ORV activity	1 = No sign of disturbance	if present, describe:	
Evidence of recent fire	1 = No sign of disturbance within mapped occurrence perimeter or in adjacent 10 m buffer.		
If sign of recent fire, year burned?			
Trails	1 = No sign of disturbance within mapped occurrence perimeter or in adjacent 10 m buffer.	If trails are present, are they authorized?	
Type of trail use	hiking	biking	equestrian
		other	dog
service vehicles			
illegal trail use?	1 = No sign of disturbance	describe:	
Other disturbance?	1 = No sign of disturbance	describe:	

MSP-Management Needs and Notes 2015

(top 2 rows auto-fill from page 1)

Scientific Name: Pogogyne abramsii

MSP Occur ID.

0

Date: 4/2/2015

VI. MANAGEMENT RECOMMENDATIONS

none

VII. MANAGEMENT ACTIONS IN LAST YEAR

none

VIII. CNDDDB SPECIES DETECTED (list any plant or animal species to add to the CNDDDB)

NOTES

***Pogogyne abramsii* (San Diego Mesa Mint) Carroll Canyon**



Panorama from Northern edge of population, facing North, Northeast, East.
Panorama location is 6282860.43 1907341.59 NAD83 State Plane California Zone 6 (feet)
Photos merged using ArcSoft Panorama Maker 4.

Pogogyne abramsii - Carroll Canyon



Area 2015: 165.849 sq. m.

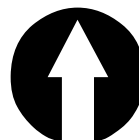
● Photopoint

□ Pogogyne abramsii

Pop. Area 2012-2015
Max Area: 387.36 sq. m.
Min Area: 107 sq. m.

0 5 10
Meters

Source: San GIS & City of San Diego Park & Rec
Created by: Annabelle Bernabe, 2015



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MSP - Rare Plant Occurrence Monitoring Form 2015										Page 1	
Scientific Name:		Pogogyne abramsii			Common Name:		San Diego mesa mint				
Existing MSP Occurrence?				no		MSP Occurr. ID:					
CNDDB Elem. Occur. #:				EO6		Translocated?		no			
Preserve:		Los Penasquitos Canyon Preserve					Mgmt Unit		MU6		
Land Owner:		City of San Diego			Land Manger:		City of San Diego Park and Recreation Department				
Occurrence Name:		Lopez Ridge					Sample Point #:		1		
Surveyors:		Betsy Miller, Kim Roeland, Annabelle Bernabe					Affiliation		City of San Diego		
Date:		4/2/2015		Time Start:		10:00		Time Finish:		11:45	
I. OCCURRENCE STATUS - Assess # plants in both species-specific sampling area (typically 10-m radius circle) & in current mapped extent . See p. 4 for definitions of categories describing phenology & evidence of herbivory, disease & stunted growth within the sampling area. Record any notes on p. 3.											
# Plants/Current Mapped Extent:		4500		exact count or estimate?		estimate (extrapolate partial ct)		uncert.		medium	
Area of Current Mapped Extent:		394		units		square meters		exact (GPS) or estim?		exact (GPS ma	
Species Found in Maximum Extent?		yes		if not found, known or suspected reason:							
# Plants/Sampling Area		2466		exact count or estimate?		exact		uncert.		medium	
Sample Area Radius (m)		10									
Phenology In Sampling Area (1-6):		Vegetative		1 (0%)		Flowering		6 (≥75%)		Fruiting	
		Dead		1 (0%)		Flowering & Fruiting		1 (0%)			
Evidence in Sampling Area (1-6):		Herbivory		1 (0%)		Disease		1 (0%)		Stunted Growth	
										1 (0%)	
Is Sampling Area within Current Mapped Extent?		yes									
Collection (if not collected previously)?		no									
If yes:		Collector				Collection #					
		Museum/Herbarium									
II. SAMPLING AREA LOCATION & SITE PHOTOMONITORING											
GPS Accuracy: +/-		<1		accur. units:		meters		Datum:		NAD83	
coord. system		State Plane (ft)									
Coord'n's at Center of Plot:		E:				N:					
Camera type:		Pentax Optio W90									
Locat. 1 Coord.--E, N		6278246.403		1915522.734		Direction facing		SW, W, NW		Height	
		Camera angle		10° down		Photo #		3030-3038		File location	
Locat. 2 Coord.-- E,N						Direction facing				Height	
		Camera angle				Photo #				File location	
III. ASSOCIATED SPECIES If need more room, record additional data and any notes on page 3.											
species/substrate		Cover		Collection # (if collected)		species/substrate		Cover		Collect.# (if collected)	
Adenostoma fasciculatum		30				Antirrhinum nuttallianum		1		(dead)	
Pogogyne abramsii		5				Plantago erecta		1			
Crassula connata		5				Logfia filaginoides		1			
Navarretia hamata		5				Dichelostemma capitatum		1			
Osmadenia tenella		1				Erodium botrys		2			
Deinandra fasciculata		7				Hypochaeris glabra		5			
Zeltnera venusta		1				Festuca myuros		20			
Castilleja exserta		1				Bromus madritensis		5			
Allium haematochiton		2		old		Juncus bufonius		1			
Deschampsia danthonioides		1				Bromus hordeaceus		1			
Bloomeria clevelandii		1				Hordeum murinum		1			
Brodiaea orcuttii		1				Lepidium nitidum		1			
Psilocarphus brevissimus		1									
Muilla maritima		1									
Selaginella cinerascens		20		(dead, see a		bare ground		2			
Chlorogalum parviflorum		1				rock		2			
Helianthemum scoparium		1				litter		1			
COVER: Total % Cover:		124		%Herb:		94		%Shrub:		30	
								%Tree:		0	

IV. HABITAT ASSESSMENT IN SAMPLING AREA - Assess habitat covariates within **species-specific sampling area** (typically 10-m radius circle). Vegetation alliance/association can be assigned using San Diego vegetation key (AECOM 2012) in the office or field, using "Associated Species" data from page 1. See page 4 for definitions of habitat assessment categories.

SANDAG 2012 Vegetation Alliance/Association:	Adenostoma fasciculatum Alliance, Alliance level only; vernal pool				
Cover classes (1-4)	Cryptogamic Crust Cover:	3 (10% to <2	Thatch Cover	1 (0%)	
	Thatch Depth Average (cm)		Thatch Depth max (cm)		
Dead Standing Biomass	yes				
If yes, cover/species class	Adenostoma/2			Average height (cm)	40
Mammal Species Activity (categ. 1-4)					
Feral pig activity	1 = No feral pig activity (rooting, wallowing, vegetation destruction, tracks, scat, pig) detected.				
ground squirr. activity	1 = No ground squirrel burrows detected.				
gopher activity	1 = No pocket gopher mounds detected.				
Sampling area representative of mapped occurrence?	yes	(If no, note differences on page 3)			

VI. THREATS ASSESSMENT IN MAXIMUM EXTENT - Assess threats within the **occurrence's maximum extent** (cumulative extent over years of monitoring) **plus 10-m surrounding buffer**. See page 4 for definitions of threat assessment categories & page 5 for Overall Site Quality Scale. Record notes on page 3.

Surrounding Land Use/Activity	at, or	Open Space					
Adjacent to, Site							
Argentine ant abundance at bait station (1-4)	1 = No ants detected at bait station or in vicinity.						
Time start	10:05 AM	Temp start	68F	Time end	11:30 AM	Temp end	73F
Ant sample collected?	no	Ant sample #		Ant Station Photo #	3061		

DISTURBANCES (Rank each as 1-6):

Non-native forbs	3 = Disturbance	feral pig activity	1 = No sign of disturbance	altered hydrology	1 = No sign of disturbance	
Non-native grasses	5 = Disturbance	trampling	1 = No sign of disturbance	erosion	1 = No sign of disturbance	
Non-native woody pl.	1 = No sign of disturbance	vandalism	1 = No sign of disturbance	urban runoff	1 = No sign of disturbance	
competitive native pl.	1 = No sign of disturbance	current grazing	1 = No sign of disturbance	slope movement	1 = No sign of disturbance	
dumping/trash	1 = No sign of disturbance	historic grazing	1 = No sign of disturbance	soil compaction	1 = No sign of disturbance	
encampments	1 = No sign of disturbance	historic agriculture	1 = No sign of disturbance			
fuel modification zone/fire break	1 = No sign of disturbance					
road construction/maintenance	1 = No sign of disturbance	if present, describe:				
illegal vegetation clearing	1 = No sign of disturbance	if present, describe:				
brush management/restoration	1 = No sign of disturbance within mapped occurrence perimeter or in adjacent 10 m buffer.					
ORV activity	1 = No sign of disturbance	if present, describe:				
Evidence of recent fire	1 = No sign of disturbance within mapped occurrence perimeter or in adjacent 10 m buffer.					
If sign of recent fire, year burned?						
Trails	1 = No sign of disturbance within mapped occurrence perimeter or in adjacent 10 m buffer.		If trails are present, are they authorized?			
Type of trail use	hiking		biking		equestrian	dog
service vehicles			other			
illegal trail use?	1 = No sign of disturbance	describe:				
Other disturbance?	1 = No sign of disturbance	describe:				

MSP-Management Needs and Notes 2015

(top 2 rows auto-fill from page 1)

Scientific Name: Pogogyne abramsii

MSP Occur ID.

0

Date: 4/2/2015

VI. MANAGEMENT RECOMMENDATIONS

Continue to control access using fence and locked gate

VII. MANAGEMENT ACTIONS IN LAST YEAR

Access controlled with fence and locked gate

VIII. CNDDDB SPECIES DETECTED (list any plant or animal species to add to the CNDDDB)

NOTES

***Pogogyne abramsii* (San Diego Mesa Mint) Lopez Ridge**



Panorama from Eastern edge of population, facing Southwest, West, Northwest.
Panorama location is 6278246.405 1915522.734 NAD83 State Plane California Zone 6 (feet)
Photos merged using ArcSoft Panorama Maker 4.

Pogogyne abramsii - Lopez Ridge



Also photopoint for Bloomeria clevelandii
and Brodiaea orcuttii

Area 2015: 394 sq. m.

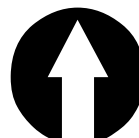
 Pogogyne abramsii

 Photopoint

Pop. Area 2012 - 2015
Max Area: 452.6 sq. m.
Min Area: 265 sq. m.

0 2.5 5 10
 Meters

Source: San GIS & City of San Diego Park & Rec
Created by: Kim Roeland 2015



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Pogogyne nudiuscula
Otay Mesa Mint



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MSP - Rare Plant Occurrence Monitoring Form 2015										Page 1	
Scientific Name:		Pogogyne nudiuscula				Common Name:		Otay mesa mint			
Existing MSP Occurrence?		no				MSP Occurr. ID:					
CNDDB Elem. Occur. #:		N/A				Translocated?		yes			
Preserve:		Dennery Canyon Open Space				Mgmt Unit		MU3			
Land Owner:		City of San Diego				Land Mangr:		City of San Diego Park and Recreation Department			
Occurrence Name:		Robinhood Ridge				Sample Point #:		1			
Surveyors:		Kim Roeland, Betsy Miller, Annabelle Bernabe				Affiliation		City of San Diego			
Date:		4/7/2015		Time Start:		9:35		Time Finish:		10:00	
I. OCCURRENCE STATUS - Assess # plants in both species-specific sampling area (typically 10-m radius circle) & in current mapped extent . See p. 4 for definitions of categories describing phenology & evidence of herbivory, disease & stunted growth within the sampling area. Record any notes on p. 3.											
# Plants/Current Mapped Extent:		44		exact count or estimate?		exact		uncert.		low	
Area of Current Mapped Extent:		61.13		units		square meters		exact (GPS) or estim?		exact (GPS ma	
Species Found in Maximum Extent?		yes		if not found, known or suspected reason:							
# Plants/Sampling Area		44		exact count or estimate?		exact		uncert.		low	
Sample Area Radius (m)		10									
Phenology In Sampling Area (1-6):		Vegetative		1 (0%)		Flowering		6 (≥75%)		Fruiting	
		Dead		1 (0%)		Flowering & Fruiting		1 (0%)			
Evidence in Sampling Area (1-6):		Herbivory		1 (0%)		Disease		1 (0%)		Stunted Growth	
										1 (0%)	
Is Sampling Area within Current Mapped Extent?		yes									
Collection (if not collected previously)?		no									
If yes:		Collector				Collection #					
		Museum/Herbarium									
II. SAMPLING AREA LOCATION & SITE PHOTOMONITORING											
GPS Accuracy: +/-		<1		accur. units:		meters		Datum:		NAD83	
coord. system		State Plane (ft)									
Coord'n's at Center of Plot:		E:				N:					
Camera type:		Pentax Optio W90									
Locat. 1 Coord.--E, N		6329438.23		1790979.82		Direction facing		S, SW, W		Height	
		Camera angle		level		Photo #		3091-3104		File location	
Locat. 2 Coord.--E, N						Direction facing				Height	
		Camera angle				Photo #				File location	
III. ASSOCIATED SPECIES If need more room, record additional data and any notes on page 3.											
species/substrate		% Cover		Collection #, or NC if collected		not collected		species/substrate		% Cover	
										Collect.# or NC if not collected	
Eryngium aristulatum		15				Chenopodium album				4	
Pogogyne nudiuscula		4				Sonchus asper				2	
Psilocarphus brevissimus		4				Bromus hordeaceus				2	
Deschampsia danthonioides		1				Matricaria discoidea				1	
Artemisia californica		20				Anagallis arvensis				1	
Cylindropuntia prolifera		3				Festuca perennis				1	
Ferocactus viridescens		2				Mesembryanthemum nodiflorum				2	
Deinandra fasciculata		15				Centaurea melitensis				1	
Bahioopsis laciniata		2									
Eriogonum fasciculatum		5									
Bromus madritensis		7									
Phalaris minor		3				bare ground				35	
Erodium cicutarium		10				rock				25	
Festuca myuros		1				litter				5	
COVER: Total % Cover:		106		%Herb:		74		%Shrub:		32	
								%Tree:		0	

IV. HABITAT ASSESSMENT IN SAMPLING AREA - Assess habitat covariates within **species-specific sampling area** (typically 10-m radius circle). Vegetation alliance/association can be assigned using San Diego vegetation key (AECOM 2012) in the office or field, using "Associated Species" data from page 1. See page 4 for definitions of habitat assessment categories.

SANDAG 2012 Vegetation Alliance/Association: Bahiopsis laciniata Alliance, Bahiopsis laciniata - Artemisia californica - Eriogonum fasciculatum Association; vernal pool

Cover classes (1-6)

Cryptogamic Crust Cover: 1 (0%)

Thatch Cover 1 (0%)

Thatch Depth Average (cm)

Thatch Depth max (cm)

Dead Standing Biomass

no

If yes, cover/species class

Average height (cm)

Mammal Species Activity (categ. 1-4)

Feral pig activity 1 = No feral pig activity (rooting, wallowing, vegetation destruction, tracks, scat, pig) detected.

ground squirr. activity 1 = No ground squirrel burrows detected.

gopher activity 1 = No pocket gopher mounds detected.

Sampling area representative of mapped occurrence? yes (If no, note differences on page 3)

VI. THREATS ASSESSMENT IN MAXIMUM EXTENT - Assess threats within the **occurrence's maximum extent** (cumulative extent over years of monitoring) **plus 10-m surrounding buffer**. See page 4 for definitions of threat assessment categories. Record notes on page 3. See Argentine Ant Protocol (USGS 2015) for setting up bait, etc.

Surrounding Land Use/Activity at, or Adjacent to, Site Open space

Argentine ant abundance at bait station (1-4)

Time start

Temp start

Time end

Temp end

Ant sample collected?

Ant sample #

Ant Station Photo #

DISTURBANCES (Rank each as 1-6):

Non-native forbs 4 = Disturbance

feral pig activity 1 = No sign of disturbance

altered hydrology 1 = No sign of disturbance

Non-native grasses 4 = Disturbance

trampling 1 = No sign of disturbance

erosion 1 = No sign of disturbance

Non-native woody pl. 1 = No sign of disturbance

vandalism 1 = No sign of disturbance

urban runoff 1 = No sign of disturbance

competitive native pl. 1 = No sign of disturbance

current grazing 1 = No sign of disturbance

slope movement 1 = No sign of disturbance

dumping/trash 1 = No sign of disturbance

historic grazing 1 = No sign of disturbance

soil compaction 1 = No sign of disturbance

encampments 2 = Disturbance

historic agriculture 1 = No sign of disturbance

fuel modification zone/fire break 1 = No sign of disturbance

road construction/maintenance 1 = No sign of disturbance

if present, describe:

illegal vegetation clearing 1 = No sign of disturbance

if present, describe:

brush management/restoration 1 = No sign of disturbance within maximum extent or in adjacent 10 m buffer.

ORV activity

1 = No sign of disturbance

if present, describe:

Evidence of recent fire

1 = No sign of disturbance within maximum extent

If sign of recent fire, year burned?

Trails

1 = No sign of disturbance within maximum extent

If trails are present, are they authorized?

Type of trail use

hiking

biking

equestrian

dog

service vehicles

other

illegal trail use?

1 = No sign of disturbance

describe:

Other disturbance?

1 = No sign of disturbance

describe:

MSP-Management Needs and Notes 2015

(top 2 rows auto-fill from page 1)

Scientific Name: Pogogyne nudiuscula

MSP Occur ID.

0

Date: 4/7/2015

VI. MANAGEMENT RECOMMENDATIONS

Fix gate and replace lock; post and remove encampment.

VII. MANAGEMENT ACTIONS IN LAST YEAR

None.

VIII. CNDDDB SPECIES DETECTED (list any plant or animal species to add to the CNDDDB)

NOTES

***Pogogyne nudiuscula* (Otay Mesa Mint) Robinhood Ridge**



Panorama from Southwestern edge of population, facing South, Southwest, West.
Panorama location is 632938.23 1790979.82 NAD83 State Plane California Zone 6 (feet)
Photos merged using ArcSoft Panorama Maker 4.

Pogogyne nudiuscula - Robinhood Ridge



Area 2015: 61.13 sq. m.

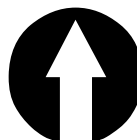
● Photopoint

□ Pogogyne nudiuscula

Pop. Area 2012-2015
Max Area: 61.13 sq. m.
Min Area: 13.0 sq. m.

0 10 20 Meters

Source: San GIS & City of San Diego Park & Rec
Created by: Annabelle Bernabe, 2015



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Rosa minutifolia
Baja Rose



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MSP - Rare Plant Occurrence Monitoring Form 2015										Page 1
Scientific Name:		Rosa minutifolia			Common Name:		Small-leaved rose			
Existing MSP Occurrence?		yes			MSP Occurr. ID:		ROMI80_3DENC001			
CNDDB Elem. Occur. #:		n/a			Translocated?		no			
Preserve:		Dennery Ranch					Mgmt Unit MU3			
Land Owner:		City of San Diego			Land Mangr:		City of San Diego Park and Recreation Department			
Occurrence Name:		Dennery Ranch					Sample Point #:		1	
Surveyors:		Betsy Miller, Kim Roeland, Annabelle Bernabe					Affiliation		City of San Diego	
Date:		4/7/2015		Time Start:		2:18		Time Finish: 2:55		
I. OCCURRENCE STATUS - Assess # plants in both species-specific sampling area (typically 10-m radius circle) & in current mapped extent . See p. 4 for definitions of categories describing phenology & evidence of herbivory, disease & stunted growth within the sampling area. Record any notes on p. 3.										
# Plants/Current Mapped Extent:		9		exact count or estimate?		exact		uncert. low		
Area of Current Mapped Extent:		134.49		units		square meters		exact (GPS) or estim? exact (GPS ma		
Species Found in Maximum Extent?		yes		if not found, known or suspected reason:						
# Plants/Sampling Area		4		exact count or estimate?		exact		uncert. low		
Sample Area Radius (m)		10								
Phenology In Sampling Area (1-6):		Vegetative 1 (0%)		Flowering 1 (0%)		Fruiting 6 (≥75%)				
		Dead 1 (0%)		Flowering & Fruiting 1 (0%)						
Evidence in Sampling Area (1-6):		Herbivory 1 (0%)		Disease 1 (0%)		Stunted Growth 1 (0%)				
Is Sampling Area within Current Mapped Extent?		yes								
Collection (if not collected previously)?		no								
If yes:		Collector		Collection #						
		Museum/Herbarium								
II. SAMPLING AREA LOCATION & SITE PHOTOMONITORING										
GPS Accuracy: +/-		<1		accur. units:		meters		Datum: NAD83		
coord. system		State Plane (ft)								
Coord'n's at Center of Plot:		E:		N:						
Camera type:		Pentax Optio W90								
Locat. 1 Coord.--E, N		6321424.15		1791627.975		Direction facing		S, SE, E		
		Camera angle		5° up		Photo #		3015-3112		
						File location		S:WSCP		
Locat. 2 Coord.--E,N						Direction facing		Height		
		Camera angle				Photo #		File location		
III. ASSOCIATED SPECIES If need more room, record additional data and any notes on page 3.										
species/substrate		% Cover		Collection #, or NC if collected		species/substrate		% Cover		
Deinandra conjugens		0.5				Eriogonum fasciculatum		1		
Bahiopsis laciniata		5				Bromus hordeaceus		1		
Rosa minutifolia		3				Melilotus albus		2		
Artemisia californica		7				Anagallis arvensis		1		
Encelia californica		5				Medicago polymorpha		1		
Deinandra fasciculata		10				Gutierrezia californica		1		
Rhus integrifolia		3								
Simmondsia chinensis		3								
Glebionis coronaria		3								
Centaurea melitensis		2								
Festuca myuros		20								
Bromus madritensis		5				bare ground		1		
Convolvulus simulans		3		dead		rock		3		
Cylindropuntia prolifera		1				litter		7		
COVER: Total % Cover:		%Herb:		49.5		%Shrub:		28		
						%Tree:		0		

IV. HABITAT ASSESSMENT IN SAMPLING AREA - Assess habitat covariates within **species-specific sampling area** (typically 10-m radius circle). Vegetation alliance/association can be assigned using San Diego vegetation key (AECOM 2012) in the office or field, using "Associated Species" data from page 1. See page 4 for definitions of habitat assessment categories.

SANDAG 2012 Vegetation Alliance/Association:	Simmondsia chinensis Alliance, Simmondsia chinensis-Bahiopsis laciniata Association			
Cover classes (1-6)	Cryptogamic Crust Cover:	1 (0%)	Thatch Cover	1 (0%)
	Thatch Depth Average (cm)		Thatch Depth max (cm)	
Dead Standing Biomass	yes			
If yes, cover/species class	Artemisia/2		Average height (cm)	100
Mammal Species Activity (categ. 1-4)				
Feral pig activity	1 = No feral pig activity (rooting, wallowing, vegetation destruction, tracks, scat, pig) detected.			
ground squirr. activity	1 = No ground squirrel burrows detected.			
gopher activity	1 = No pocket gopher mounds detected.			
Sampling area representative of mapped occurrence?	yes	(If no, note differences on page 3)		

VI. THREATS ASSESSMENT IN MAXIMUM EXTENT - Assess threats within the **occurrence's maximum extent** (cumulative extent over years of monitoring) **plus 10-m surrounding buffer**. See page 4 for definitions of threat assessment categories. Record notes on page 3. See Argentine Ant Protocol (USGS 2015) for setting up bait, etc.

Surrounding Land Use/Activity at, or Adjacent to, Site	open space; residential				
Argentine ant abundance at bait station (1-4)					
Time start		Temp start		Time end	Temp end
Ant sample collected?		Ant sample #		Ant Station Photo #	
DISTURBANCES (Rank each as 1-6):					
Non-native forbs	3 = Disturbance	feral pig activity	1 = No sign of disturbance	altered hydrology	1 = No sign of disturbance
Non-native grasses	5 = Disturbance	trampling	1 = No sign of disturbance	erosion	1 = No sign of disturbance
Non-native woody pl.	1 = No sign of disturbance	vandalism	1 = No sign of disturbance	urban runoff	1 = No sign of disturbance
competitive native pl.	1 = No sign of disturbance	current grazing	1 = No sign of disturbance	slope movement	1 = No sign of disturbance
dumping/trash	3 = Disturbance	historic grazing	1 = No sign of disturbance	soil compaction	1 = No sign of disturbance
encampments	1 = No sign of disturbance	historic agriculture	1 = No sign of disturbance		
fuel modification zone/fire break	1 = No sign of disturbance				
road construction/maintenance	1 = No sign of disturbance	if present, describe:			
illegal vegetation clearing	1 = No sign of disturbance	if present, describe:			
brush management/restoration	6 = Disturbance occurs 50% to < 75% of area within maximum extent.				
ORV activity	1 = No sign of disturbance	if present, describe:			
Evidence of recent fire	1 = No sign of disturbance within maximum extent.				
If sign of recent fire, year burned?					
Trails	1 = No sign of disturbance within maximum extent.		If trails are present, are they authorized?		
Type of trail use	hiking		biking		equestrian
					dog
service vehicles			other		
illegal trail use?	1 = No sign of disturbance	describe:			
Other disturbance?	1 = No sign of disturbance	describe:			

MSP-Management Needs and Notes 2015

(top 2 rows auto-fill from page 1)

Scientific Name: Rosa minutifolia

MSP Occur ID: ROMI80_3DENC001

Date: 4/7/2015

VI. MANAGEMENT RECOMMENDATIONS

None

VII. MANAGEMENT ACTIONS IN LAST YEAR

None

VIII. CNDDDB SPECIES DETECTED (list any plant or animal species to add to the CNDDDB)

NOTES

Translocation is partial

***Rosa minutifolia* (Baja Rose) Dennery Ranch**



Panorama from Southern edge of population, facing South, Southeast, East.
Panorama location is 6321424.15 1791627.98 NAD83 State Plane California Zone 6 (feet)
Photos merged using ArcSoft Panorama Maker 4.

Rosa minutifolia - Dennery Ranch



Area 2015: 134.49 sq. m.

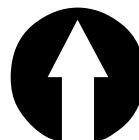
● Photopoint

□ Rosa minutifolia

Pop. Area 2000 - 2015
Max Area: 249.7 sq. m.
Min Area: 3.1 sq. m.

0 15 30
Meters

Source: San GIS & City of San Diego Park & Rec
Created by: Annabelle Bernabe, 2015



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Acknowledgments

The following staff assisted in the preparation of this report:

Betsy Miller, Senior Planner

Kim Roeland, Biologist III

Annabelle Bernabe, Open Space Intern

Daniel Schwartz, Open Space Intern

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APPENDIX A

CITY OF SAN DIEGO RARE PLANT MONITORING: 2015 MONITORING DATES AND STAFF

**City of San Diego MSCP Plant Monitoring:
Priorities, Sites and Survey Dates**

Species	Risk Group (SDSU '06)	Risk Group (Ogden '96)	Site	Survey Date	Staff	Methodology
<i>Acanthomintha ilicifolia</i> (San Diego Thorn-mint)	First	Second	Blk Mtn Park West	17-Mar	BYM, KR, DS	GPS, Photo, Habitat Assessment
			Denner Canyon East	30-Mar	KR, DS	GPS, Photo, Habitat Assessment
			Mission Trails Regional Park	10-Mar	BYM, KR, DS, AB	GPS, Photo, Habitat Assessment
			Otay Lakes	24-Mar	KR, AB	GPS, Photo, Habitat Assessment
			Penasquitos Canyon	10-Mar	BYM, KR, AB	GPS, Photo, Habitat Assessment
			Sabre Springs/Poway	20-Mar	BYM, KR, MF	GPS, Photo, Habitat Assessment
<i>Acemispn prostratus</i> (Nuttall's lotus)	First	First	Dune Triangle	21-May	BYM, KR, AB	GPS, Photo, Habitat Assessment
			Hospitality Point (Site 2)	21-May	BYM, KR, AB, KD	GPS, Photo, Habitat Assessment
			Mariner's Point (Site 4)	22-May	BYM, KR	Presence/Absence, Photo
			No Man's Land (Site 1)	21-May	BYM, KR, AB, KG, KD, RS	GPS, Photo, Habitat Assessment
			Rip Rap (Site 3)	3-Jun	AB, RG	GPS, Photo, Habitat Assessment
			South Shores (Site 6)	21-May	BYM, KR, AB, KG, KD, RS	GPS, Photo, Habitat Assessment
<i>Ambrosia pumila</i> (San Diego Ambrosia)	First	Second	Mission Trails Regional Park	19-May	BYM, KR, AB, JA	GPS, Photo, Habitat Assessment
<i>Bloomeria clevelandii</i> (San Diego Goldenstar)	Second	Second	East Elliott	14-Apr	BYM, KR, AB	GPS, Photo, Habitat Assessment
			Lopez Ridge	2-Apr	BYM, KR, AB	GPS, Photo, Habitat Assessment
			Marron Valley	1-Apr	BYM, KR, DS, AB	Photo, Habitat Assessment
			Mission Trails Regional Park	23-Apr	BYM, KR	GPS, Photo, Habitat Assessment
			Otay Lakes	24-Mar	KR, AB	GPS, Photo, Habitat Assessment
<i>Brodiaea filifolia</i> (Thread-leaved Brodiaea)	Fourth	None	Black Mountain	24-Apr	BYM, KR, CG, JD	GPS, Photo, Habitat Assessment
<i>Brodiaea orcuttii</i> (Orcutt's Brodiaea)	Third	Second	Carroll Canyon	2-Apr	BYM, KR, AB	GPS, Photo, Habitat Assessment
			Lopez Ridge	2-Apr	BYM, KR, AB	GPS, Photo, Habitat Assessment
			Nobel Drive	17-Apr	BYM, KR	GPS, Photo, Habitat Assessment

**City of San Diego MSCP Plant Monitoring:
Priorities, Sites and Survey Dates**

Species	Risk Group (SDSU '06)	Risk Group (Ogden '96)	Site	Survey Date	Staff	Methodology
<i>Brodiaea orcuttii</i> (Orcutt's Brodiaea)			Oak Creek	23-Apr	BYM, KR	GPS, Photo, Habitat Assessment
<i>Chloropyron maritimum</i> ssp. <i>maritimum</i> (Salt-marsh Bird's Beak)	Second	First	Dog Beach	22-May	BYM, KR	GPS, Photo, Habitat Assessment
<i>Cylindropuntia californica</i> (Snake Cholla)	Second	Third	Otay Mesa	21-Apr	BYM, KR, AB	GPS, Photo, Habitat Assessment
			Spring Canyon	21-Apr	BYM, KR, AB	GPS, Photo, Habitat Assessment
			Balboa Golf Course	12-May	BYM, KR, AB	GPS, Photo, Habitat Assessment
<i>Deinandra conjugens</i> (Otay Tarplant)	First	First	Dennery Ranch	7-Apr	BYM, KR, AB	GPS, Photo, Habitat Assessment
			Dennery Ranch East	7-Apr	BYM, KR, AB	GPS, Photo, Habitat Assessment
			Proctor Valley	16-Apr	BYM, KR, AB	GPS, Photo, Habitat Assessment
<i>Dicranostegia orcuttiana</i> (Orcutt's Bird's Beak)	First	First	Otay River Valley	12-May	BYM, KR, AB	GPS, Photo, Habitat Assessment
<i>Dudley brevifolia</i> (Short Leaf Dudleya)	First	First	Carmel Mountain	28-Apr	BYM, KR, AB, MF, KD	GPS, Photo, Habitat Assessment
			Crest Canyon	28-Apr	BYM, KR, AB, JD, KD	GPS, Photo, Habitat Assessment
<i>Dudleya variegata</i> (Variegated Dudleya)	Second	First	Blk Mtn Park East	8-May	BYM, KR, JD	GPS, Photo, Habitat Assessment
			East Elliott	6-May	BYM, KR, DS	GPS, Photo, Habitat Assessment
			Goat Mesa/ Spring Canyon	21-Apr	BYM, KR, AB	GPS, Photo, Habitat Assessment
			Marron Valley	1-Apr	BYM, KR, DS, AB	GPS, Photo, Habitat Assessment
			Mercy Road	8-May	BYM, KR, JD	GPS, Photo, Habitat Assessment
			Mission Trails Regional Park	6-May	BYM, KR, DS	GPS, Photo, Habitat Assessment
			Navajo/Margarum/ Mission Gorge	19-May	BYM, KR, AB, JA	GPS, Photo, Habitat Assessment
			Otay Lakes	16-Apr	BYM, KR, AB	GPS, Photo, Habitat Assessment
			Santa Luz	8-May	BYM, KR	GPS, Photo, Habitat Assessment
			Goat Mesa/Spring Canyon (J16-18)	21-Apr	BYM, KR, AB	GPS, Photo, Habitat Assessment
<i>Eryngium aristulatum</i> var. <i>parishii</i> (San Diego Button Celery)	Second	None	Otay Lakes	16-Apr	BYM, KR, AB	GPS, Photo, Habitat Assessment

City of San Diego MSCP Plant Monitoring: Priorities, Sites and Survey Dates

Species	Risk Group (SDSU '06)	Risk Group (Ogden '96)	Site	Survey Date	Staff	Methodology
<i>Erysimum ammosilum</i> (Coast Wallflower)	Fourth	None	Crest Canyon	11-Mar	BYM, KR	GPS, Photo, Habitat Assessment
			North City West OS	16-Mar	BYM, KR	GPS, Photo, Habitat Assessment
<i>Monardella stoneana</i> (Jennifer's Monardella)	Second	First	Marron Valley	2-Jun	BYM, KR, AB	GPS, Photo, Habitat Assessment
			Otay Lakes	2-Jun	BYM, KR, AB	GPS, Photo, Habitat Assessment
<i>Monardella viminea</i> (Willow Monardella)			Lopez Canyon	11-Jun	BYM, KR, DS, KP	GPS, Photo, Habitat Assessment
			Sycamore Canyon	4-Jun	BYM, KR, AB, CC, VM	GPS, Photo, Habitat Assessment
			Flanders Canyon	11-Jun	BYM, KR, KP	GPS, Photo, Habitat Assessment
<i>Navarretia fossalis</i> (Spreading Navarretia)	First	None	Carroll Canyon	2-Apr	BYM, KR, AB	GPS, Photo, Habitat Assessment
			Goat Mesa/Spring Canyon (J16-18)	21-Apr	BYM, KR, AB	GPS, Photo, Habitat Assessment
			Nobel Drive	4/17/2015 & 5/21/2015	BYM, KR	GPS, Photo, Habitat Assessment
			Otay Lakes	16-Apr	BYM, KR, AB	GPS, Photo, Habitat Assessment
			Robinhood Ridge	7-Apr	BYM, KR, AB	GPS, Photo, Habitat Assessment
<i>Pogogyne abramsii</i> (San Diego Mesa Mint)	Second	None	Carroll Canyon	2-Apr	BYM, KR, AB	GPS, Photo, Habitat Assessment
			Lopez Ridge	2-Apr	BYM, KR, AB	GPS, Photo, Habitat Assessment
<i>Pogogyne nudiuscula</i> (Otay Mesa Mint)	First	None	Robinhood Ridge	7-Apr	BYM, KR, AB	GPS, Photo, Habitat Assessment
<i>Rosa minutifolia</i> (Baja Rose)	First	Third	Dennery Ranch	7-Apr	BYM, KR, AB	GPS, Photo, Habitat Assessment

Survey Staff

BYM = Betsy Miller, Senior Planner

KR = Kim Roeland, Biologist III

DS = Daniel Schwartz, Management Intern

AB = Annabelle Bernabe, Management Intern

RG = Robin Gilson, Principal Drafting Aide

MF = Melanie Fontana, Park Ranger Aide

JD = Joe DeWolf, Park Ranger Aide

JA = Jason Allen, Senior Park Ranger

CG = Carey Goldstein, Park Ranger

KD = Katherine Day, Environmental Planning Intern (SANDAG)

KG = Keith Greer, Senior Regional Planner (SANDAG)

RSC = Rebecca Schwartz, Conservation Program Manager (San Diego Audubon)

KP = Kris Preston, SDMMMP

CC = Carol Crafts, Sycamore Canyon Goodan Ranch

VM = Victoria Marshall, Sycamore Canyon Goodan Ranch

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