

Summary Results of Rare Plant Field Monitoring
City of San Diego MSCP

Species/Site	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
<i>Baseline Rare Plant Surveys</i> Citywide		27 spp./citywide Scott McMillan reconnaissance	27 spp./citywide Scott McMillan reconnaissance								
<i>Acanthomintha ilicifolia</i> / PO Cyn		1,053 Mike Kelly census	601 Mike Kelly census	0 Mike Kelly census	726 Mike Kelly census	501 Mike Kelly census	2,091 Mike Kelly census	147 Greer/Johnson/Kelly Census; HA/PM	43 Mike Kelly Census	0 Vaughan/Watts HA/PM	178 Miller/Greer Census/HA/PM
<i>Acanthomintha ilicifolia</i> / BMR		1,115 Mike Kelly census	777 Mike Kelly census	0 Mike Kelly census	486 Mike Kelly census	105 Mike Kelly census	120 Mike Kelly census	36 Johnson/Kelly Census; HA/PM		16 Vaughan/Watts HA/PM	3 Miller/Billett Census/HA/PM
<i>Acanthomintha ilicifolia</i> /Sabre Springs		3,858 Mike Kelly census	2,832 Mike Kelly census	250 Mike Kelly census	19,721 Mike Kelly census	17,085 Mike Kelly census	13 Mike Kelly census	303 Greer/Johnson/Kelly Census; HA/PM		750 Miller/Brogado HA/PM	950 Miller/Greer HA/PM
<i>Acanthomintha ilicifolia</i> / Otay Lakes			89 Scott McMillan census	0 Scott McMillan census	61 Holly Cheong census	0 Melanie Johnson census			0 Johnson/Miller HA/PA	0 Vaughan/Watts HA/PM	
<i>Acanthomintha ilicifolia</i> / MTRP			354 Holly Cheong census	0 Mike Kelly census	296 Mike Kelly census	21 Mike Kelly census	120 Mike Kelly census	107 Greer/Johnson Census; HA/PM	469 Mike Kelly Census	250 Miller/Boner HA/PM	150 Miller/Greer Census/HA/PM
<i>Acanthomintha ilicifolia</i> / Dennerly Ranch											500 Miller/Gaudette HA/PM
<i>Ambrosia pumila</i> /MTRP (Patch C6 only)	208,855 M. Sweezy quadrat	121,702 17.5/m ² Greer quadrat	178,624 24.23/m ² Greer quadrat		205,826 27.92/m ² Cheong/ Johnson quadrat			150,000 (est) - Johnson HA/PM		45,000 Miller/Boner HA/PM	7,000 - Miller HA/PM
<i>Arctostaphylos glandulosa</i> ssp. <i>crassifolia</i> /Carmel Mtn				96 Cheong/ Greer GPS census				10 (est) Johnson HA/PM		100 Forburger/Watts HA/PM	
<i>Arctostaphylos glandulosa</i> ssp. <i>crassifolia</i> /Crest Cyn				1,020 Holly Cheong GPS census				100 (est) Johnson HA/PM		110 Miller/Forburger/Watts HA/PM	
<i>Arctostaphylos glandulosa</i> ssp. <i>crassifolia</i> /DMM										120 Vaughan/Watts HA/PM	
<i>Arctostaphylos glandulosa</i> ssp. <i>crassifolia</i> /San Dieguito River Bluffs										100 Forburger/Watts HA/PM	
<i>Arctostaphylos glandulosa</i> ssp. <i>crassifolia</i> /PQ Canyon				94 Holly Cheong GPS census						10 Vaughan/Watts HA/PM	
<i>Brodiaea orcuttii</i> /General Dynamics			Est Pop = 10,000+	Pop = 0 Scott McMillan quadrat	Est Pop = 46,018 Density = 20.08/m ² Holly Cheong quadrat		Permanent Plot Density = 41.25 m ² Total Population Area = 7,022 m ² Greer/Johnson Perm Plots/GPS			2,750 Miller/Rodgriuez HA/PM	332 Miller/Balo Census/HA/PM
<i>Brodiaea orcuttii</i> /Alliant University			Est Pop = 11,000	0 Scott McMillan quadrat	Est Pop = 2,530 Density = 2.12/m ² Holly Cheong belt transect						
<i>Brodiaea orcuttii</i> /Nobel Drive			43 Scott McMillan census	0 Scott McMillan census	37 Holly Cheong census		23 plants Melanie Johnson census			10 Miller/Watts HA/PM	5 Miller/Balo Census/HA/PM
<i>Brodiaea orcuttii</i> /USIU										0 Miller/Watts HA/PM	0 Miller/Balo HA/PM
<i>Brodiaea orcuttii</i> /Carroll Canyon			Est Pop = 5,000	Est Pop = 0 Scott McMillan quadrat	Est Pop = 10,247 2.11/m ² Holly Cheong quadrat		Permanent Plot Density = 36.78 m ² Total Population Area = 18,006 m ² Greer/Johnson Perm Plots/GPS			100 Miller/Watts HA/PM	93 Miller/Balo Census/HA/PM
<i>Brodiaea orcuttii</i> /Del Mar Mesa			30 plants/m ² Scott McMillan quadrat	0 Scott McMillan quadrat	7,181 8.27/m ² Holly Cheong quadrat					1,500 Balo/Watts HA/PM	750 Miller/Greer HA/PM
<i>Cordylanthus orcuttianus</i> (Otay River Valley)			Est Pop = 1,000+	Pop = 166 Scott McMillan census	Est Pop = 84,727 Holly Cheong quadrat	35 populations Betsy Miller presence/absence	Permanent Plot Density = 18.83 m ² Total Population Area = 684 m ² Melanie Johnson Perm Plots/GPS	150 (est-at obs site only) Johnson HA/PM		1,500 Vaughan/Watts HA/PM	500 Vaughan/Watts HA/PM
<i>Cylindropuntia californica</i> var. <i>californica</i> /Otay Mesa				173 Greer/ Cheong census			Present Melanie Johnson presence/absence		Present Johnson/Greer HA/PM	15 Miller/Vaughan HA/PM	25 Balo/Gaudette Census/HA/PM
<i>Cylindropuntia californica</i> var. <i>californica</i> /Balboa Park				21 Greer/ Cheong census					1 Johnson HA/PM	3 Vaughan/Watts HA/PM	30 Miller/Jennings HA/PM
<i>Cylindropuntia californica</i> var. <i>californica</i> /Spring Canyon				47 Greer/ Cheong census			Present Melanie Johnson presence/absence		Present Johnson/Greer HA/PM	30 Miller/Vaughan HA/PM	30 Balo/Gaudette HA/PM
<i>Deinandra conjugens</i> Dennerly Ranch										1 Miller/Vaughan HA/PM	2001 Miller/Gaudette/Cass Census/HA/PM
<i>Deinandra conjugens</i> Proctor Valley					Est Pop = 45,737 Holly Cheong quadrat	Pop = 25 Holly Cheong census	Population Area = 3,347 m ² Melanie Johnson Belt Transects, GPS	150 (est) Johnson HA/PM		2,000 Miller/Vaughan HA/PM	150 Miller/Cass HA/PM
<i>Dudleya brevifolia</i> /Carmel Mountain	10,024 Holly Cheong	23,486 19.76/m ² Holly Cheong	66,573 77.32/m ² Holly Cheong	1,447 1.63/m ² Holly Cheong	111,313 90.18/m ² Holly Cheong	18,907 15.32/m ² Holly Cheong	123,200 * 99.81/m ² Greer/Johnson	260 (est) - Greer/Johnson		4,900 Miller/Greer	2,538 Miller/Washington

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	Monitoring Method:	quadrat	quadrat	quadrat	quadrat	quadrat	quadrat	quadrat	HA/PM		HA/PM	Census/HA/PM
<i>Dudleya brevifolia</i> /Skeleton Canyon	Population: Lead Monitor/s: Monitoring Method:			62 Holly Cheong census	0 Holly Cheong census	191 Holly Cheong census	1 Holly Cheong census		10 (est) Greer/Johnson HA/PM		30 Miller/Greer HA/PM	
<i>Dudleya brevifolia</i> /Crest Canyon	Results: Lead Monitor/s: Monitoring Method:			Est Pop = 2,629 Holly Cheong nearest neighbor	Pop = 0 Holly Cheong census	Pop = 12,945 Holly Cheong census	Pop = 10 Holly Cheong census	Pop Area (N SubPop) = 1,704 m2 Pop (S SubPop) = 31 plants Melanie Johnson Census/GPS	N Subpop=250 (est) S Subpop=10 (est) Greer/Johnson HA/PM	North Pop: 200 (est) South Pop: 0 Johnson/Crookston/Mai HA/PM	504 Miller/Greer HA/PM	1209 Miller Census/HA/PM
<i>Dudleya brevifolia</i> /Torrey Pines	Population area: Lead Monitor/s: Monitoring Method:					77,796 sq ft Holly Cheong GPS only						
<i>Dudleya variegata</i> /Spring Canyon	Population: Lead Monitor/s: Monitoring Method:			1,000+ Scott McMillan quadrat	0 Scott McMillan quadrat	3,004 Holly Cheong census	2,024 BM census	2,996 plants Melanie Johnson Censused and GPSd	500 (est) Johnson HA/PM		0 Miller/Vaughan HA/PM	0 Balo/Gaudette HA/PM
<i>Dudleya variegata</i> /Otay Lakes	Results: Lead Monitor/s: Monitoring Method:			10,000+ Scott McMillan quadrat	0 Scott McMillan quadrat	Est Pop = 24,921 0.127 plants/m ² Holly Cheong quadrat	Est Pop = 2,457 0.0338 plants/m ² MJ belt transect	Est Pop = 45,377 0.23 plants/m ² Melanie Johnson belt transect		200 (est) Johnson/Miller HA/PM	0 Vaughan/Watts HA/PM	500 Miller/Snapp-Cook HA/PM
<i>Dudleya variegata</i> /Otay Mesa (Ocean View Hills)	Results: Lead Monitor/s: Monitoring Method:										0 Miller/Watts Presence/Absence	
<i>Dudleya variegata</i> /Paradise Hills	Results: Lead Monitor/s: Monitoring Method:										100 Miller/Watts Presence/Absence	
<i>Dudleya variegata</i> /Lake Murray	Results: Lead Monitor/s: Monitoring Method:										0 Vaughan/Watts HA/PM	0 Miller/Gaudette HA/PM
<i>Dudleya variegata</i> /Margerum Ave/Navajo Mission Gorge	Population: Lead Monitor/s: Monitoring Method:			215 Scott McMillan census	0 Scott McMillan census	3,209 Holly Cheong census	566 HC census			400 (est) Johnson/Schmalbach HA/PM	500 Vaughan/Watts HA/PM	1500 Miller/Logan HA/PM
<i>Dudleya variegata</i> /Marron Valley	Population: Lead Monitor/s: Monitoring Method:							7,973 plants Melanie Johnson census	1,000 (est) Johnson HA/PM		800 Miller/Balo HA/PM	1200 Miller/Cass HA/PM
<i>Dudleya variegata</i> /MTRP	Population: Lead Monitor/s: Monitoring Method:			316 Scott McMillan census	0 Scott McMillan census	2,368 Holly Cheong census	1,129 Holly Cheong census	2,878 plants Mike Kelly census	1,400 (est) Greer/Johnson HA/PM		120 Vaughan/Watts HA/PM	200 Miller/Logan Census/HA/PM
<i>Dudleya variegata</i> /Mercy Road	Est Population: Lead Monitor/s: Monitoring Method:			1,000+ Scott McMillan quadrat	0 Scott McMillan quadrat	738 Holly Cheong census			0 Johnson HA/PM		30 Vaughan/Watts HA/PM	150 Miller/Billett Census/HA/PM
<i>Dudleya variegata</i> /BMR	Population: Lead Monitor/s: Monitoring Method:			114 Scott McMillan census	0 Scott McMillan census	22 Holly Cheong census			40 (est) Johnson HA/PM		0 Vaughan/Watts HA/PM	24 Miller/Billett Census/HA/PM
<i>Dudleya variegata</i> /East Elliot	Est Population: Lead Monitor/s: Monitoring Method:								450 (est) Johnson HA/PM		520 Vaughan/Watts HA/PM	0 Miller/Billett HA/PM
<i>Dudleya variegata</i> /Santa Luz	Est Population: Lead Monitor/s: Monitoring Method:										70 Vaughan/Watts HA/PM	142 Miller/Jennings Census/HA/PM
<i>Lessingia filaginifolia</i> /Torrey Highlands	Population: Lead Monitor/s: Monitoring Method:			200 Scott McMillan census	2 Scott McMillan census	120 Holly Cheong census		1,184 plants Melanie Johnson census			400 Miller/Vaughan HA/PM	750 Miller/Logan HA/PM
<i>Lessingia filaginifolia</i> /Carmel Mountain (E)	Results: Lead Monitor/s: Monitoring Method:			33 plants/10m ² Scott McMillan quadrat	5 Scott McMillan quadrat	181 Holly Cheong census		353 plants Melanie Johnson census			7 Miller/Vaughan HA/PM	100 Miller/Logan Census/HA/PM
<i>Lessingia filaginifolia</i> /Overlook Park	Results: Lead Monitor/s: Monitoring Method:			18 plants/10m ² Scott McMillan quadrat	125 Scott McMillan census	1,384 Holly Cheong census		1,173 Melanie Johnson Census			150 Miller/Vaughan HA/PM	1000 Miller/Logan HA/PM
<i>Lessingia filaginifolia</i> /Crest Canyon	Results: Lead Monitor/s: Monitoring Method:			21 plants/10m2 Scott McMillan quadrat	0 Scott McMillan census	451 Holly Cheong census		730 plants Melanie Johnson census			275 Miller/Vaughan HA/PM	530 Miller/Logan HA/PM
<i>Lotus nuttallianus</i> /Mission Bay	Results: Lead Monitor/s: Monitoring Method:		592 Greer/ Cheong census	3,388 Holly Cheong census	3,301 Holly Cheong census	5,393 Holly Cheong census/transect	375 Melanie Johnson census/transect	14,557 Melanie Johnson line intercept (sites 1,6); census	450 (est) Johnson HA/PM		1,120 Miller/Vaughan/Watts HA/PM	2,150 Miller/Gaudette HA/PM
<i>Monardella viminea</i> /Lopez Canyon	Results: Lead Monitor/s: Monitoring Method:		5 points/ 22 plants Greer/ Cheong census	8 points Greer/ Cheong census	8 points/44 plants Greer/ Cheong census	8 points/ 82 plants Holly Cheong census	82 points RR census	7 points + 900 plantings** Melanie Johnson census	5 points Johnson HA/PM	7 + 93 transplants Mike Kelly Census	8 Miller/Vaughan HA/PM	9 Balo/Gaudette Census/HA/PM
<i>Monardella viminea</i> /Marron Valley	Results: Lead Monitor/s: Monitoring Method:		42 clumps Greer/ Cheong census	66 points Greer/ Cheong census	86 points/103 plants Greer/ Cheong census	83 points/ 192 plants Holly Cheong census	113 points Holly Cheong census	82 points/102 plants Greer/Johnson census	95 points Johnson census		95 Miller/Vaughan HA/PM	95 Miller/Cass HA/PM
<i>Monardella viminea</i> /Sycamore Canyon	Results: Lead Monitor/s: Monitoring Method:		262 clumps Greer/ Cheong census	77 points/170 plants Greer/ Cheong census	89 points/153 plants Greer/ Cheong census	85 points/390 plants Holly Cheong census	99 points/354 plants Holly Cheong census	51 points/99 plants Greer/Miller census	22 points Greer/Miller census	8 plants Greer/Miller HA/PM	29 Miller/Watts HA/PM	43 Miller/Balo Census/HA/PM
<i>Monardella viminea</i> / Otay Lakes	Results: Lead Monitor/s: Monitoring Method:		2 points Greer/ Cheong census	2 points Greer/ Cheong census	2 points Greer/ Cheong census	2 points Holly Cheong census	2 points Holly Cheong census		1 point Johnson HA/PM		0 Miller/Vaughan HA/PM	0 Miller/Cass HA/PM
<i>Bloomeria clevelandii</i> (Muilla clevelandii) /Marron Valley	Results: Lead Monitor/s: Monitoring Method:		Pop = 1,515 Gordon-Reedy census		Pop = 0 Scott McMillan census		Est Pop = 27,281 Density = 0.55/m ² Holly Cheong belt transect				75,000 Vaughan/Balo HA/PM	47,000 Miller/Cass HA/PM
<i>Bloomeria clevelandii</i> /Otay Lakes	Results: Lead Monitor/s: Monitoring Method:			Est Pop = 10,000+ Scott McMillan quadrat	Pop = 0 Scott McMillan census		Est Pop = 40,936 Density = 0.12/m ² Holly Cheong belt transect	Est Pop = 3,904,505 Density = 11.59/m ² Greer/Johnson belt transect		200-300 (est) Johnson/Miller HA/PM	6,000 Miller/Watts HA/PM	1,750 Miller/Snapp-Cook HA/PM
<i>Bloomeria clevelandii</i> /Lopez Ridge	Population: Lead Monitor/s:											37 Miller/Greer

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<i>Bloomeria clevelandii</i> /MTRP	Population: Lead Monitor/s: Monitoring Method:			12 Scott McMillan census	0 Scott McMillan census	6 Scott McMillan census					0 Miller/Vaughan HA/PM	0 Miller/Jennings/Alexander HA/PM
<i>Bloomeria clevelandii</i> /Del Mar Mesa	Results: Lead Monitor/s: Monitoring Method:			Density = 19 plants/m Scott McMillan quadrat	0 Scott McMillan census	312 Holly Cheong census					56 Balo/Watts HA/PM	21 Miller/Greer Census/HA/PM
<i>Bloomeria clevelandii</i> /East Elliot	Results: Lead Monitor/s: Monitoring Method:										13,755 Miller/Balo HA/PM	160 Miller/Jennings/Alexander HA/PM
<i>Navarretia fossalis</i> /Carroll Canyon	Est Population: Lead Monitor/s: Monitoring Method:								0 Johnson HA/PM		0 Miller/Watts HA/PM	110 Miller/Balo Census/HA/PM
<i>Navarretia fossalis</i> /Goat Mesa/Spring Canyon	Est Population: Lead Monitor/s: Monitoring Method:										0 Miller/Vaughan HA/PM	87 Miller/Balo Census/HA/PM
<i>Navarretia fossalis</i> /Nobel Dr	Est Population: Lead Monitor/s: Monitoring Method:								20 (est) Johnson HA/PM		100 Miller/Watts HA/PM	50 Miller/Gaudette Census/HA/PM
<i>Navarretia fossalis</i> /Robinhood Ridge	Est Population: Lead Monitor/s: Monitoring Method:								0 Johnson HA/PM		0 Miller/Vaughan HA/PM	53 Miller/Snapp-Cook Census/HA/PM
<i>Navarretia fossalis</i> /Otay Lakes	Est Population: Lead Monitor/s: Monitoring Method:										32 Miller/Balo HA/PM	0 Balo/Gaudette HA/PM
<i>Orcuttia californica</i> /Robinhood Ridge	Est Population: Lead Monitor/s: Monitoring Method:								0 Johnson HA/PM			
<i>Pinus torreyana</i> spp. /Torreyana (Crest Canyon	Est Population: Lead Monitor/s: Monitoring Method:										15 Vaughan/Watts HA/PM	
<i>Pogogyne abramsii</i> /Del Mar Mesa	Est Population: Lead Monitor/s: Monitoring Method:										1,050 Balo/Watts HA/PM	1300 Miller/Greer HA/PM
<i>Pogogyne abramsii</i> /General Dynamics	Est Population: Lead Monitor/s: Monitoring Method:										250 Miller/Rodgruez HA/PM	300 Miller/Balo HA/PM
<i>Pogogyne abramsii</i> /Carroll Canyon	Est Population: Lead Monitor/s: Monitoring Method:										500 Miller/Watts HA/PM	250 Miller/Balo HA/PM
<i>Pogogyne abramsii</i> /Lopez Ridge	Est Population: Lead Monitor/s: Monitoring Method:											5000 Mmiller/Greer HA/PM
<i>Pogogyne nudiscula</i> /Robinhood Ridge	Est Population: Lead Monitor/s: Monitoring Method:										10 Miller/Vaughan HA/PM	120 Miller/Gaudette HA/PM
<i>Eryngium aristulatum</i> /Otay Lakes	Est Population: Lead Monitor/s: Monitoring Method:										100 Miller/Watts HA/PM	
<i>Eryngium aristulatum</i> /Goat Mesa/Spring Canyon	Est Population: Lead Monitor/s: Monitoring Method:										450 Miller/Vaughan HA/PM	850 Balo/Gaudette HA/PM
<i>Eryngium aristulatum</i> /General Dynamics	Est Population: Lead Monitor/s: Monitoring Method:										2,500 Miller/Rodgruez HA/PM	950 Miller/Balo HA/PM
<i>Eryngium aristulatum</i> /Del Mar Mesa	Est Population: Lead Monitor/s: Monitoring Method:										1,800 Balo/Watts HA/PM	1300 Miller/Greer HA/PM
<i>Ceanothus verrocusis</i> /Carmel Mountain	Est Population: Lead Monitor/s: Monitoring Method:										200 Vaughan/Watts HA/PM	
<i>Ceanothus verrocusis</i> /Crest Canyon	Est Population: Lead Monitor/s: Monitoring Method:										1 Vaughan/Watts HA/PM	
<i>Rosa Munitifolia</i> /Dennery Ranch	Est Population: Lead Monitor/s: Monitoring Method:										1 Miller/Vaughan HA/PM	13 Miller/Cass Census/HA/PM

HA/PM = Habitat Assessment/Photomonitoring. This revised methodology, implemented by the City beginning in 2006, is based on 2004/2005 outside review of the MSCP rare plant monitoring program. The advisor's report is available online at <http://www.sandiego.gov/planning/mscp/rareplantmonitor.shtml>.

*Note: Carmel Mountain *Dudleya brevifolia* population estimates for 2005 were calculated using 2003 population area (1999 population area could not be located). Note potential statistical problem as transects were established based on 1999 population area. The same issue appears to apply to 2000-2004 calculations.

**Lopez Canyon Willowy Monardella plantings were installed by California Native Plant Society (CNPS) volunteers; seeds were collected and grown by Recon Consulting pursuant to a federal grant to CNPS.

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