

City of San Diego MSCP Rare Plant Monitoring: 2006 Summary Results

Species	Site Name	Population				Native		Non-Native		Management Recommendation	Field Data Sht (pg. #)	Photo (pg. #)
		Area (m ²) ¹	Area (ft ²) ¹	# Individuals	% Cover	Number of Species ²	Percent Cover ^{2,3}	Number of Species	% Cover ³			
<i>Dudleya variegata</i> (Variegated Dudleya)	Black Mtn Ranch - East	NA	NA	not found	NA	9	24%	4	38%	Control mustard & artichoke thistle	49	50
	Black Mtn Ranch - West	3	32	40 (Est)	~ 2%	7	16%	5	40%	Control invasives (de-thatching?)	51	52
	East Elliot - 1 / Hilltop	345	3,718	150 (Est)	~ 1%	15	26%	4	9%	Control invasives	53	54
	East Elliot - Slope	1,155	12,434	200 (Est)	1%	5	5%	6	38%	Control invasives (NNG & Tocolote)	55	56
	East Elliot - Creek	1,725	18,570	100 (Est)	1%	9	11%	7	22%	Control invasives	57	58
	Goat Mesa (Spring Canyon)	803	8,639	500 (Est)	1%	9	59%	5	11%	Exclude/remove goats, Control off-road activity; Control invasives	59	60
	Marron Valley	150	1,610	1,000 (Est)	2%	5	12%	6	15%	Control of invasives (herbicidal to avoid impacts to cryptogamic soils)	61	62
	Mercy Road	NA	NA	not found	NA	11	18%	5	46%	Control invasives; Maintain access control	63	64
	Mission Trails - 1	124	1,340	500 (Est)	~2%	9	11%	8	34%	Control invasives	65	66
	Mission Trails - 2	241	2,598	800 (Est)	5%	11	12%	6	26%	Control invasives	67	68
	Mission Trails - 3	44	477	100 (Est)	2%	6	4%	8	16%	Control invasives	69	70
	Otay Lakes	712	7,661	not provided	1%	10	25%	9	13%	Control invasive annual grasses	71	72
Santa Luz (BLM)	NA	NA	not found	NA	10	31%	3	4%	Control invasives	73	74	

Photo 23. *Dudleya variegata* (Variegated Dudleya)
Northeastern Black Mountain Park
(site formerly referred to as 'Black Mountain Ranch')



Panorama from northwestern edge of site, facing east, southeast, south (photos merged using Canon PhotoStitch, v. 3.1).

Multiple Species Conservation Program (MSCP) Rare Plant Field Survey Form



Scientific Name: *Dudleya variegata* **Common Name:** Variegated Dudleya
Site Name: Black Mtn Park - West **Management Unit #:** TBD
Date: May 19, 2006 **Management Regime:** TBD
Surveyors and Affiliation/Agency: Melanie Johnson, City of SD ; Mike Kelly - Kelly & Associates, (Volunteer)

Species Found? Yes No If not, why (if reason known or suspected)?

Total No. Individuals: 40 Exact Estimate (use orders of 10, 100 and 1000 for estimates)

Population/Subpopulation Area: _____ Units Exact (based on GPS mapping) Estimate

Collection (if not collected previously)? Yes No

If yes: _____ Collector _____ Collection Number _____ Museum/Herbarium

I. OBSERVATION AREA/MANAGEMENT UNIT LOCATION

Accuracy of Coordinates/GPS Error: +/- _____ meters feet
 Observation Location: _____ State Plane (feet) UTM

II. GENERAL HABITAT DESCRIPTION AND THREATS ASSESSMENT

Vegetation Community: _____
 Landowner/Manager: _____
 Overall Site Quality** Very Good-Excellent Fair to Good Poor Very Poor
 Surrounding land use: _____

Disturbances and/or threats (be specific, include extent of disturbance or percent cover of disturbance if possible):
 Some invasives

Management Recommendation/s:
 Non-Native
 Possible De-Thatching

III. ASSOCIATED SPECIES

List dominant, subdominant and invasive species in/near target species observation area/management unit.

Form: Tree=T, Shrub=S, Herb/Graminoid=H; 'Cover' = % cover of species; Note if collected by checking 'Coll.' column; if submitted to herbarium, note collection number (submit to SDNHM unless otherwise noted); Use * to indicate non-native species

Form	Species	Cover	Coll.	Form	Species	Cover	Coll.
H	Horsetail (c.f. <i>Brachypodium distachyon</i>) *	35		H	Allium sp.	1	
H	<i>Nasella lepida</i>	10		H	<i>Zoium</i> sp. *	1	
S	<i>Artemisia californica</i>	1		H	<i>Hypochaeris (distachyon)</i>		
S	<i>Isocoma menziesii</i>	1		H	<i>Avena fatua</i> *	1	
H	<i>Brassica nigra</i> *	1		H	<i>Sisyrinchium bellum</i>	1	
H	<i>Centauria melitensis</i> *	1		H	<i>Dichelostemma capitatum</i>	1	
H	<i>Calochortus splendens</i>	1		H	<i>Dudleya variegata</i>	22	

IV. SITE PHOTOMONITORING

Camera type: Canon Powershot A75

Location [State Plane (ft)] _____ Direction (facing) NE E SE Height (Use Tripod) 42" Camera Angle _____ File location/s _____
 Location [State Plane (ft)] _____ Direction (facing) _____ Height (Use Tripod) _____ Camera Angle _____ File location/s _____

V. ADAPTIVE MANAGEMENT RECOMMENDATIONS/FIELD NOTES

Adaptive Management Experiment Recommendations: _____

Other Field Notes/Comments: Should get key to Olivenheim Water District lake (tank overlooking Lizardi Creek)

Photo 24. *Dudleya variegata* (Variegated Dudleya)
Western Black Mountain Park
(site formerly referred to as 'Black Mountain Ranch')



Panorama from western edge of population, facing northeast, east and southeast (photos merged using Canon PhotoStitch, v. 3.1).

Multiple Species Conservation Program (MSCP) Rare Plant Field Survey Form

Scientific Name: *Dudleya variegata* **Common Name:** Variegated Dudleya
Site Name: May 26 2006 **Management Unit #:** TB 8/PP1 on tape marker
Date: East Elliot Pop / Hilltop **Management Regime:**
Surveyors and Affiliation/Agency: Keith Greer, Melanie Johnson-Roos, Betty Miller; City of SD MSCP

Species Found? Yes No If not, why (if reason known or suspected)?
Total No. Individuals: 100-200 Exact Estimate (use orders of 10, 100 and 1000 for estimates)
Population/Subpopulation Area: _____ Exact (based on GPS mapping) Estimate
 Units _____
Collection (if not collected previously)? Yes No Collected Previously
 If yes: _____
 Collector _____ Collection Number _____ Museum/Herbarium _____

I. OBSERVATION AREA/MANAGEMENT UNIT LOCATION
Accuracy of Coordinates/GPS Error: +/- _____ meters feet
Observation Location: _____ State Plane (feet) UTM

II. GENERAL HABITAT DESCRIPTION AND THREATS ASSESSMENT
Vegetation Community: Coastal Sage Scrub Native Grassland Matrix
Landowner/Manager: City of San Diego Pk and Rec Dept.
Overall Site Quality** Very Good-Excellent Fair to Good Poor Very Poor
Surrounding land use: Undeveloped Land (Public & Pvt mixed)
Disturbances and/or threats (be specific, include extent of disturbance or percent cover of disturbance if possible):
 Some NWA
Management Recommendation/s:

III. ASSOCIATED SPECIES

List dominant, subdominant and invasive species in/near target species observation area/management unit.
 Form: Tree=T, Shrub=S, Herb/Graminoid=H; 'Cover' = % cover of species; Note if collected by checking 'Coll.' column; if submitted to herbarium, note collection number (submit to SDNHM unless otherwise noted); Use * to indicate non-native species

Form	Species	Cover	Coll.	Form	Species	Cover	Coll.
S	<i>Adenostoma fasciculata</i>	5		S	<i>Yucca whipplei</i>	1	
H	<i>Nasella pulchra</i>	3		H	<i>Artemisia californica</i>	1	
H	<i>Avena barbata</i> *	4		H	<i>Bromus madriensis</i> *	3	
H	<i>Chorizanthe</i> sp.	1		H	<i>Deinandra fasciculata</i>	4	
S	<i>Eriogonum fasciculatum</i>	1		H	<i>Gallium</i> sp.	1	
H	<i>Paraphyllum gracile</i>	3		H	<i>Calochortus splendens</i>	1	
H	<i>Plagiobothrys</i> sp.	1		H	<i>Filago gallica</i> *	1	
S	<i>Lotes scyrius</i>	2		H	<i>Vulpia myuros</i> (cf. <i>myuros</i>)*	1	
				S	<i>Malosma laurina</i>	2	

IV. SITE PHOTOMONITORING
Camera type: Canon Powershot A75
 Location [State Plane (ft)] _____ Direction (facing) SE, SSW Height 52" Camera Angle down 10-15° Photo # 15-17 File location/s _____
 Location [State Plane (ft)] _____ Direction (facing) _____ Height _____ Camera Angle _____ Photo # _____ File location/s _____

V. OTHER FIELD NOTES
 Other Field Notes/Comments: Site is on ridge top SE slope heavy w/ Avena Pop is west from Euc along road

** Use Trudgen & Keighery Vegetation Condition Scale Descriptions (see back of form or instructions)
 Continue on back if needed.

Modified Trudgen & Keighery Vegetation Condition Scale

Very Good-Excellent	80-100% Native Flora Composition Vegetation Structure intact or nearly so Cover /abundance of weeds < 5% No or minimal signs of disturbance
Fair to Good	50-80% Native Flora Composition Vegetation structure modified or somewhat modified Cover/abundance of weeds 5-20% any number of individuals Possible minor signs of disturbance
Poor	20-50% Native Flora Composition Vegetation structure modified Cover/abundance of weeds 20-60% any number of individuals Disturbance incidence high
Very Poor	0-20% Native Flora Composition Vegetation Structure disappeared Cover/abundance of weeds 60-80% any number of individuals Disturbance incidence very high

<u>Form</u>	<u>Sp</u>	<u>% Cover</u>
H	<i>Calystegia macrosperma</i>	< 1
H	<i>Helianthus scoparium</i>	< 1
H	<i>Dubautia variegata</i>	~ 1%

**Photo 25. *Dudleya variegata* (Variegated Dudleya)
East Elliot – Hilltop Observation Area**



Panorama from northeastern edge of subpopulation, facing southeast, south and southwest (photos merged using Canon PhotoStitch, v. 3.1).

**Photo 26. *Dudleya variegata* (Variegated Dudleya)
East Elliot – Slope Observation Area**



Panorama from south of observation area, facing west, northwest, north and northeast (photos merged using Canon PhotoStitch, v. 3.1).

**Photo 27. *Dudleya variegata* (Variegated Dudleya)
East Elliot – Creek Observation Area**



Panorama from east of observation area, facing southwest, west and northwest (photos merged using Canon PhotoStitch, v. 3.1).

Multiple Species Conservation Program (MSCP) Rare Plant Field Survey Form

Scientific Name: *Dudleya variegata* **Common Name:** Variegated Dudleya
Site Name: Goat Mesa / Spring Canyon **Management Unit #:** WM
Date: May 16 2006 **Management Regime:** NA
Surveyors and Affiliation/Agency: Melanie Johnson Rocks, Betsy Miller, Lisa Markkwich-Nichols - City of SD MSCP

Species Found? Yes No If not, why (if reason known or suspected)?
Total No. Individuals: 500 Exact Estimate (use orders of 10, 100 and 1000 for estimates)
Population/Subpopulation Area: _____ Exact (based on GPS mapping) Estimate
 Units _____
Collection (if not collected previously)? Yes No
 If yes: _____
 Collector _____ Collection Number _____ Museum/Herbarium _____

I. OBSERVATION AREA/MANAGEMENT UNIT LOCATION

Accuracy of Coordinates/GPS Error: +/- _____ meters feet
Observation Location: _____ State Plane (feet) UTM

II. GENERAL HABITAT DESCRIPTION AND THREATS ASSESSMENT

Vegetation Community: Maritime Succulent Scrub
Landowner/Manager: City of San Diego / City of SD Park & Rec (?)
Overall Site Quality** Very Good-Excellent Fair to Good Poor Very Poor
Surrounding land use: _____

Disturbances and/or threats (be specific, include extent of disturbance or percent cover of disturbance if possible): Goats! Off Road Vehicles. Non-native grasses, other	Management Recommendation/s: Remove/preclude goats from area Off road vehicle enforcement Control non-natives
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III. ASSOCIATED SPECIES

List dominant, subdominant and invasive species in/near target species observation area/management unit.
 Form: Tree=T, Shrub=S, Herb/Graminoid=H; 'Cover' = % cover of species; Note if collected by checking 'Coll.' column; if submitted to herbarium, note collection number (submit to SDNHM unless otherwise noted); Use * to indicate non-native species

Form	Species	Cover	Coll.	Form	Species	Cover	Coll.
H	<i>Dudleya variegata</i>	1%		H	<i>Hypochaeris glabra</i> *	1	
H	<i>Castilleja californica</i>	40		H	<i>Linanthus dianthiflorus</i>	3	
H	<i>Deinandra fasciculata</i>	5		H	<i>Centaurea melitensis</i> *	1	
S	<i>Simmondsia chinensis</i>	5		H	Grass <i>Nasella lepida</i>	1	✓
H	<i>Bromus madriensis</i> sp. rubens *	7		H	<i>Ferocactus viridescens</i>	1	
H	<i>Avena barbata</i> *	7		H	<i>Hedyscymis cratica</i> *	1	✓
H	<i>Selaginella</i> (c.f. <i>cinerascens</i>)	2		H	<i>Calochortus splendens</i>	1	

IV. SITE PHOTOMONITORING

Camera type: Canon Powershot 21, 22, 23
 6330913.6 1782237.6 SE S, SW 38" Slightly down (5° to 10°)
 Location [State Plane (ft)] Direction (facing) Height (Use Tripod) Camera Angle File location/s
 _____ _____ _____ _____ _____

V. ADAPTIVE MANAGEMENT RECOMMENDATIONS/FIELD NOTES

Adaptive Management Experiment Recommendations: _____
Other Field Notes/Comments: Ca bin heard while walking to site (use SW of pop)

** Use Trudgen & Keighery Vegetation Condition Scale Descriptions (see back of form or instructions)
 Continue on back if needed.

**Photo 28. *Dudleya variegata* (Variegated Dudleya)
Goat Mesa**



Panorama from north edge of population, facing southeast, south, and southwest (photos merged using Canon PhotoStitch, v. 3.1).

Multiple Species Conservation Program (MSCP) Rare Plant Field Survey Form

Scientific Name: <u>Dudleya variegata</u>	Common Name: <u>Variiegated Dudleya</u>
Site Name: <u>Marron Valley</u>	Management Unit #: <u>TBD</u>
Date: <u>5/2/06</u>	Management Regime: <u>TBD</u>
Surveyors and Affiliation/Agency: <u>Melanie Johnson Rocks, City of SD MSCP</u>	
Species Found? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
If not, why (if reason known or suspected)?	
Total No. Individuals: <u>1,000</u> <input type="checkbox"/> Exact <input checked="" type="checkbox"/> Estimate (use orders of 10, 100 and 1000 for estimates)	
Population/Subpopulation Area: <u>150</u> <u>m²</u> <input checked="" type="checkbox"/> Exact (based on GPS mapping) <input type="checkbox"/> Estimate	(2005)
Collection (if not collected previously)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Collected Previously	
If yes: <u>Melanie Johnson Rocks</u> Collector	<u>msj 03</u> Collection Number
	<u>SDNHM</u> Museum/Herbarium

I. OBSERVATION AREA/MANAGEMENT UNIT LOCATION

Accuracy of Coordinates/GPS Error: +/- _____ meters feet

Observation Location: _____ State Plane (feet) UTM

II. GENERAL HABITAT DESCRIPTION AND THREATS ASSESSMENT

Vegetation Community: Non-Native Grassland / Coastal Sage Scrub (Recently burned)

Landowner/Manager: City of San Diego Water Department (Cornerstone lands)

Overall Site Quality** Very Good-Excellent Fair to Good Poor Very Poor

Surrounding land use: Open Space

Disturbances and/or threats (be specific, include extent of disturbance or percent cover of disturbance if possible): <u>Non-natives</u>	Management Recommendation/s: <u>Herbicidal control of Non-natives</u>
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III. ASSOCIATED SPECIES

List dominant, subdominant and invasive species in/near target species observation area/management unit.
 Form: Tree=T, Shrub=S, Herb/Graminoid=H; 'Cover' = % cover of species; Note if collected by checking 'Coll.' column; if submitted to herbarium, note collection number (submit to SDNHM unless otherwise noted); Use * to indicate non-native species

Form	Species	Cover	Coll.	Form	Species	Cover	Coll.
H	<u>Dudleya variegata</u>	<u>2</u>	<u>Y</u>	H	<u>(c.f. Melica imperfecta)</u>	<u>1-2</u>	
H	<u>Erodium (c.f. moschatum)*</u>	<u>5-10</u>		H	<u>Crassula conata</u>	<u>1</u>	
H	<u>Selaginella cinerascens</u>	<u>5</u>		H	<u>Dichelostemma capitatum</u>	<u><1</u>	
H	<u>Lepidium nitidum var. nitidum</u>	<u>4</u>		H	<u>Silene dia (c.f. gallica)*</u>	<u><1</u>	
H	<u>Avena barbata*</u>	<u>2</u>					
H	<u>Vulpia myuros var. hirsuta*</u>	<u>2</u>					
H	<u>Bromus hordeaceus*</u>	<u>1-2</u>					
H	<u>Bromus madritensis ssp. rubens*</u>	<u>1-2</u>					

IV. SITE PHOTOMONITORING

Camera type: Canon Powershot A75

Location [State Plane (ft)]	Direction (facing)	Height	Camera Angle	Photo #	File location/s
	<u>S, SW 215° S (240°)</u>	<u>27"</u>	<u>~Flat</u>		<u>L:MSCP/Mntng</u>
	<u>SE, S, SW</u>	<u>27"</u>	<u>~Flat</u>		<u>"</u>

V. OTHER FIELD NOTES

Other Field Notes/Comments: Considerable amount of gopher/mole activity in adjacent areas. NNG appears to be biggest threat, as it is moving into rocky Selaginella / Dudleya areas.

** Use Trudgen & Keighery Vegetation Condition Scale Descriptions (see back of form or instructions)

**Photo 29. *Dudleya variegata* (Variegated Dudleya)
Marron Valley**



Panorama from north edge of population, facing southeast, south, and southwest (photos merged using Canon PhotoStitch, v. 3.1).

Multiple Species Conservation Program (MSCP) Rare Plant Field Survey Form

Scientific Name: *Dudleya variegata* **Common Name:** Variegated Dudleya
Site Name: Mercy Road **Management Unit #:** NA
Date: May 10, 2006 **Management Regime:** NA
Surveyors and Affiliation/Agency: Melanie Johnson, Betsy Miller; City of SD MSCP

Species Found? Yes No Low Rains - ?
 If not, why (if reason known or suspected)?

Total No. Individuals: _____ Exact Estimate (use orders of 10, 100 and 1000 for estimates)

Population/Subpopulation Area: _____ Exact (based on GPS mapping) Estimate
 Units

I. OBSERVATION AREA/MANAGEMENT UNIT LOCATION

Accuracy of Coordinates/GPS Error: +/- _____ meters feet
Observation Location: State Plane (feet) UTM 6294298.3 1924423.2

II. GENERAL HABITAT DESCRIPTION AND THREATS ASSESSMENT

Vegetation Community: Coastal Sage Scrub w/ intermixed NNB patches
Landowner/Manager: City of SD PK & Rec (Gina Washington - Sr. Ranger)
Incidental rare/sensitive plant or animal sitings on this date at this site: ca

Overall Site Quality** Very Good-Excellent Fair to Good Poor Very Poor

Surrounding land use: Open space, Residential ~500 to north

Disturbances and/or threats (be specific, include extent of disturbance or percent cover of disturbance if possible): No major threats - NNB substantial though

Management Recommendation/s: NNB & Centaurea Control
Maintain Access Control

III. ASSOCIATED SPECIES

List dominant, subdominant and invasive species in/near target species observation area/management unit.

Form: Tree=T, Shrub=S, Herb/Graminoid=H; 'Cvr' = % cover of species; Note if collected by checking 'Colln' column; if submitted to herbarium, note collection number (submit to SDNHM unless otherwise noted); Use * to indicate non-native species

Form	Species	Cvr.	Coll.	Form	Species	Cvr.	Coll.
H	Brassica hirsuta <i>Brachypodium distachyon</i>	40	✓	S	<i>Isomeris arborea</i>	1	
S	<i>Rhus integrifolia</i>	2		H	<i>Anagallis arvensis</i> *	1	
S	<i>Malosma laurina</i>	2		H	<i>Brassica nigra</i>	2	
S	<i>Eriogonum fasciculatum</i>	3		H	<i>Centaurea malitensis</i> *	2	
S	<i>Salvia mellifera</i>	1		S	<i>Lotus scarparius</i> *	1	
S	<i>Isocoma menziesii</i>	2	✓	H	small <i>Chlorogallum parviflorum</i>	1	
S	<i>Adolphia californica</i>	3		H	<i>Selaginella</i> sp.	1	
				H	<i>Sonchus</i> sp. *	1	
				S	<i>Ferocactus viridescens</i>	1	

IV. SITE PHOTOMONITORING

Camera type: Canon Powershot A75 42" Slightly Down (15°)

Location [State Plane (ft)] Same as I **Direction (facing)** SW, W, NW **Camera Angle** Slightly Down (15°) **File location/s:**

Collection (if not collected previously)? Yes No
 If yes: _____

Collector _____ **Collection Number** _____ **Museum/Herbarium** _____

V. ADAPTIVE MANAGEMENT RECOMMENDATIONS/FIELD NOTES

Adaptive Management Experiment Recommendations: No

Other Field Notes/Comments:

** Use Trudgen & Keighery Vegetation Condition Scale Descriptions (see form instructions)

29-31

**Photo 30. *Dudleya variegata* (Variegated Dudleya)
Mercy Road**



Panorama from eastern edge of observation area, facing southwest, west and northwest (photos merged using Canon PhotoStitch, v. 3.1).

Multiple Species Conservation Program (MSCP) Rare Plant Field Survey Form

Scientific Name: *Dudleya variegata* **Common Name:** Variegated Dudleya
Site Name: MTRP Subpop 1 **Management Unit #:** Subpop 1 MTRP
Date: May 26, 2006 **Management Regime:**
Surveyors and Affiliation/Agency: Melanie Johnson, Keith Greer (City of SD MSCP)
Species Found? Yes No Janet Franklin, Lauren Hiest (SDSU)
 If not, why (if reason known or suspected)?
Total No. Individuals: 500 Exact Estimate (use orders of 10, 100 and 1000 for estimates)
Population/Subpopulation Area: _____ Exact (based on GPS mapping) Estimate
 Units
Collection (if not collected previously)? Yes No Collected Previously
 If yes: _____
 Collector _____ Collection Number _____ Museum/Herbarium _____

I. OBSERVATION AREA/MANAGEMENT UNIT LOCATION
Accuracy of Coordinates/GPS Error: +/- _____ meters feet
Observation Location: _____ State Plane (feet) UTM

II. GENERAL HABITAT DESCRIPTION AND THREATS ASSESSMENT
Vegetation Community: CSS
Landowner/Manager: City of San Diego Park & Rec Open Space
Overall Site Quality** Very Good-Excellent Fair to Good Poor Very Poor
Surrounding land use: Open Space Preserve (but no physical disturbance)
Disturbances and/or threats (be specific, include extent of disturbance or percent cover of disturbance if possible):
 Non-native spp. (primarily NNG)
Management Recommendation/s:
 Control Non-Natives in Area

III. ASSOCIATED SPECIES

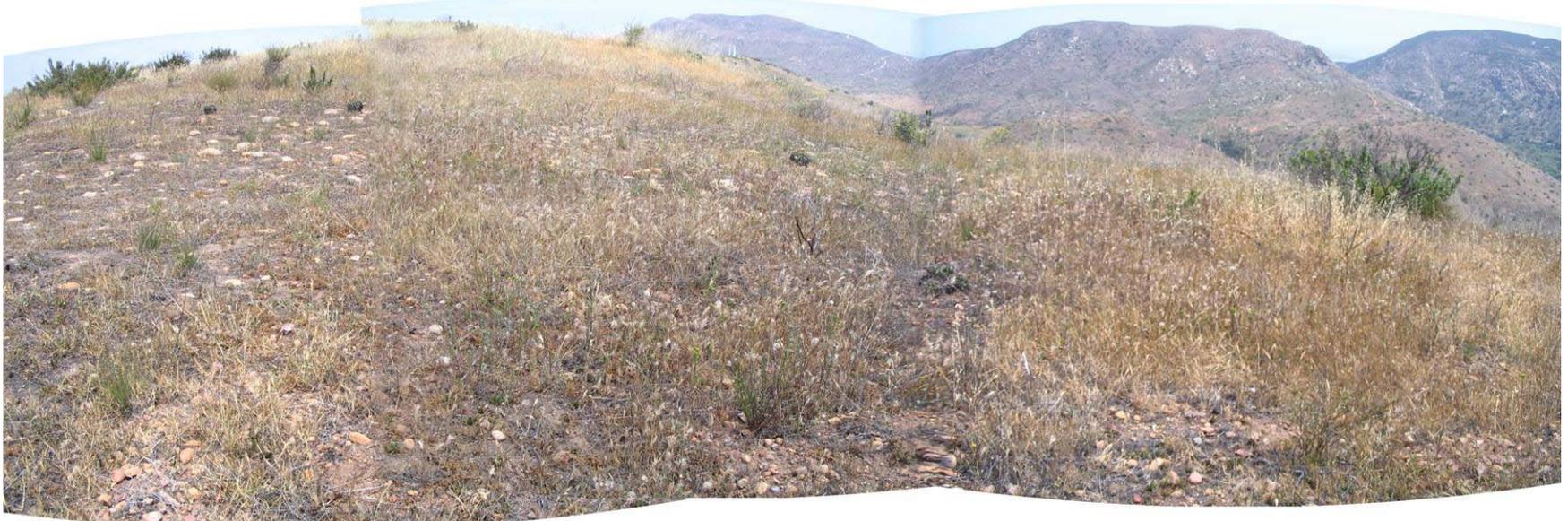
List dominant, subdominant and invasive species in/near target species observation area/management unit.
 Form: Tree=T, Shrub=S, Herb/Graminoid=H; 'Cover' = % cover of species; Note if collected by checking 'Coll.' column; if submitted to herbarium, note collection number (submit to SDNHM unless otherwise noted); Use * to indicate non-native species

Form	Species	Cover	Coll.	Form	Species	Cover	Coll.
H	<i>Bromus madrikusis</i> ssp. rubens*	3		H	<i>Selaginella cinerascens</i>	1	
S	<i>Isomeris arborea</i>	1		H	<i>Erodium</i> sp.*	1	
H	<i>Pennisetum fasciculata</i>	2		H	<i>Brachypodium distachyon</i> *	20	✓
S	<i>Artemisia californica</i>	1		H	<i>Nasella lepida</i>	3	
S	<i>Viguiera lacinata</i>	<1		H	<i>Hypochaeris glabra</i> *	1	
S	<i>Opuntia littoralis</i>	<1		H	<i>Syntherisma speciosum</i> *	<1	
S	<i>Ferocactus viridescens</i>	1		H	<i>Colysisgia macrostegia</i>	<1	
H	<i>Avena barbata</i> *	7		H	<i>Filago siliqua</i> *	<1	
				H	<i>Centaurea medietensis</i> *	<1	
				H	<i>Dudleya variegata</i>	2	

IV. SITE PHOTOMONITORING
Camera type: Canon Powershot A75
 Location [State Plane (ft)] _____ Direction (facing) NW, N, NE Height 48" Camera Angle DOWN ~5° Photo # 9-11 File location/s _____
 Location [State Plane (ft)] _____ Direction (facing) _____ Height _____ Camera Angle _____ Photo # _____ File location/s _____

V. OTHER FIELD NOTES
 Other Field Notes/Comments: _____

**Photo 31. *Dudleya variegata* (Variegated Dudleya)
Mission Trails – Subpopulation One**



Panorama from southern edge of subpopulation, facing northwest, north and northeast (photos merged using Canon PhotoStitch, v. 3.1).

Multiple Species Conservation Program (MSCP) Rare Plant Field Survey Form

Scientific Name: *Dudleya variegata* **Common Name:** Variegated Dudleya
Site Name: Mission Trails ~~PA~~ Subpop 2 **Management Unit #:** TBD
Date: ~~May~~ May 26, 2006 **Management Regime:** TBD
Surveyors and Affiliation/Agency: Melanie Johnson, Keith Greer (City of SD MSCP)

Species Found? Yes No 1 Janet Franklin, Laurent Hierl, (SDSU)
 If not, why (if reason known or suspected)?

Total No. Individuals: ~~800~~ 800 Exact Estimate (use orders of 10, 100 and 1000 for estimates)

Population/Subpopulation Area: _____ Exact (based on GPS mapping) Estimate
 Units

Collection (if not collected previously)? Yes No Collected Previously
 If yes: _____
 Collector Collection Number Museum/Herbarium

I. OBSERVATION AREA/MANAGEMENT UNIT LOCATION

Accuracy of Coordinates/GPS Error: +/- _____ meters feet
Observation Location: _____ State Plane (feet) UTM

II. GENERAL HABITAT DESCRIPTION AND THREATS ASSESSMENT

Vegetation Community: Grassland / CSS Matrix
Landowner/Manager: City of SD Park Rec (Cindy Walker, Sr. Ranger)

Overall Site Quality** Very Good-Excellent Fair to Good Poor Very Poor

Surrounding land use: Open Space Preserve (But no physical disturbance)

Disturbances and/or threats (be specific, include extent of disturbance or percent cover of disturbance if possible):
 NNF / Invasives

Management Recommendation/s:
 Control non-natives

III. ASSOCIATED SPECIES

List dominant, subdominant and invasive species in/near target species observation area/management unit.

Form: Tree=T, Shrub=S, Herb/Graminoid=H; 'Cover' = % cover of species; Note if collected by checking 'Coll.' column; if submitted to herbarium, note collection number (submit to SDNHM unless otherwise noted); Use * to indicate non-native species

Form	Species	Cover	Coll.	Form	Species	Cover	Coll.
H	<i>Dudleya variegata</i>	5		H	<i>Lomium (?)</i>	1	✓
H	<i>Bradyopodium distachyon</i> *	20	✓	H	<i>Lotus segariius</i>	1	
H	<i>Nasella lepida</i>	3		H	<i>Gallium sp</i>	1	✓
H	<i>Erodium sp</i> *	1		S	<i>Artemisia californica</i>	1	
H	<i>Avena barbata</i> *	1		H	<i>Sonchus asper</i> *	1	
H	<i>Desmodium fasciculata</i>	1		H	<i>Baccharis sarothoides</i>	1	
H	<i>Sisyrinchium bellum</i>	1		H	<i>Brassica nigra</i> *	1	
H	<i>Cleochortus splendens</i>	1		S	<i>Eriocactus viridescens</i>	1	

IV. SITE PHOTOMONITORING

Camera type: Canon Powershot A7S

Location [State Plane (ft)] W, NW, N Direction (facing) 52" Height down ~ 10-15° Camera Angle 12-14 Photo # File location/s

Location [State Plane (ft)] _____ Direction (facing) _____ Height _____ Camera Angle _____ Photo # _____ File location/s

V. OTHER FIELD NOTES

Other Field Notes/Comments: Photo pt immediately SW of survey markers

** Use Trudgen & Keighery Vegetation Condition Scale Descriptions (see back of form or instructions)

Continue on back if needed.

Modified Trudgen & Keighery Vegetation Condition Scale

Very Good-Excellent	80-100% Native Flora Composition Vegetation Structure intact or nearly so Cover /abundance of weeds < 5% No or minimal signs of disturbance
Fair to Good	50-80% Native Flora Composition Vegetation structure modified or somewhat modified Cover/abundance of weeds 5-20% any number of individuals Possible minor signs of disturbance
Poor	20-50% Native Flora Composition Vegetation structure modified Cover/abundance of weeds 20-60% any number of individuals Disturbance incidence high
Very Poor	0-20% Native Flora Composition Vegetation Structure disappeared Cover/abundance of weeds 60-80% any number of individuals Disturbance incidence very high

S *Eriogonum fasciculatum* 1
H *Bromus madriensis** 2

**Photo 32. *Dudleya variegata* (Variegated Dudleya)
Mission Trails – Subpopulation Two**



Panorama from southeastern edge of subpopulation, facing west, northwest and north (photos merged using Canon PhotoStitch, v. 3.1).



Multiple Species Conservation Program (MSCP) Rare Plant Field Survey Form

DUVA POP # 3

Scientific Name: *Dudleya variegata* Common Name: Variegated Dudleya
 Site Name: MTRP 30 S. Hilltop, north side Management Unit #: _____
 Date: 5/26/06 Management Regime: _____
 Surveyors and Affiliation/Agency: Melanie Johnson Keith Greer (City of SD MSCP) Janet Franklin
 Species Found? Yes No If not, why (if reason known or suspected)? _____
 Total No. Individuals: 100 Exact Estimate (use orders of 10, 100 and 1000 for estimates)
 Population/Subpopulation Area: _____ Units Exact (based on GPS mapping) Estimate
 Collection (if not collected previously)? Yes No Collected Previously
 If yes: Collector _____ Collection Number _____ Museum/Herbarium _____

I. OBSERVATION AREA/MANAGEMENT UNIT LOCATION
 Accuracy of Coordinates/GPS Error: +/- _____ meters feet
 Observation Location: _____ State Plane (feet) UTM

II. GENERAL HABITAT DESCRIPTION AND THREATS ASSESSMENT
 Vegetation Community: Grassland/Coastal Sage Scrub Matrix
 Landowner/Manager: City of SD PR & Rec open space
 Overall Site Quality** Very Good-Excellent Fair to Good Poor Very Poor
 Surrounding land use: Open Space Preserve
 Disturbances and/or threats (be specific, include extent of disturbance or percent cover of disturbance if possible):
 Non-natives (primarily NNG)
 Management Recommendation/s: _____

III. ASSOCIATED SPECIES
 List dominant, subdominant and invasive species in/near target species observation area/management unit.
 Form: Tree=T, Shrub=S, Herb/Graminoid=H; 'Cover' = % cover of species; Note if collected by checking 'Coll.' column; if submitted to herbarium, note collection number (submit to SDNHM unless otherwise noted); Use * to indicate non-native species

Form	Species	Cover	Coll.	Form	Species	Cover	Coll.
H	Lamarckia aurea *	1			Dudleya variegata	2	
H	Avena barbata *	1			Nasella (bent) sp.	<1	
H	Bromus madritensis *	1			Hedysarum	4	
H	Osmoidea tenella	<1			Filago gallica *	<1	
H	Hypochaeris glabra *	<1			Eriogonum fasciculatum	<1	
S	Lolium superius	1			Calliopsis sp.	<1	✓
H	Celochortus splendens	<1			Brachypodium (→ distachyon) *	1	✓
H	Erodium sp *	<1			Vulpia (→ myuros (cf. myuros)) *	10	✓

IV. SITE PHOTOMONITORING
 Camera type: Canon Powershot A75
 Location [State Plane (ft)]: _____ Direction (facing): SES, SW, Height: 51" Camera Angle: Down 25-10° Photo #: 6-8 File location/s: _____
 Location [State Plane (ft)]: _____ Direction (facing): _____ Height: _____ Camera Angle: _____ Photo #: _____ File location/s: _____

V. OTHER FIELD NOTES
 Other Field Notes/Comments: _____

**Photo 33. *Dudleya variegata* (Variegated Dudleya)
Mission Trails – Subpopulation Three**



Panorama from northern edge of subpopulation, facing southeast, south and southwest (photos merged using Canon PhotoStitch, v. 3.1).

Multiple Species Conservation Program (MSCP) Rare Plant Field Survey Form



Scientific Name: Dudleya variegata Common Name: Variegated Dudleya
 Site Name: Otay Lakes Management Unit #: TBD
 Date: May 24, 2006 Management Regime: TBD
 Surveyors and Affiliation/Agency: Melanie Johnson, Lisa Markovchick, City of SD MSCP

Species Found? Yes No If not, why (if reason known or suspected)?
 Total No. Individuals: _____ Exact Estimate (use orders of 10, 100 and 1000 for estimates)
 Population/Subpopulation Area: _____ Exact (based on GPS mapping) Estimate
 Units
 Collection (if not collected previously)? Yes No Collected Previously
 If yes: _____
 Collector _____ Collection Number _____ Museum/Herbarium _____

I. OBSERVATION AREA/MANAGEMENT UNIT LOCATION

Accuracy of Coordinates/GPS Error: +/- _____ meters feet
 Observation Location: _____ State Plane (feet) UTM

II. GENERAL HABITAT DESCRIPTION AND THREATS ASSESSMENT

Vegetation Community: Grassland, Vernal Pool, CSS Matrix
 Landowner/Manager: City of San Diego Water Dept.
 Overall Site Quality** Very Good-Excellent Fair to Good Poor Very Poor
 Surrounding land use: Reservoir to north, open space (?) to south

Disturbances and/or threats (be specific, include extent of disturbance or percent cover of disturbance if possible):
Some non-natives, primarily NNE

Management Recommendation/s:
Annual grass control

III. ASSOCIATED SPECIES

List dominant, subdominant and invasive species in/near target species observation area/management unit.

Form: Tree=T, Shrub=S, Herb/Graminoid=H; 'Cover' = % cover of species; Note if collected by checking 'Coll.' column; if submitted to herbarium, note collection number (submit to SDNHM unless otherwise noted); Use * to indicate non-native species

Form	Species	Cover	Coll.	Form	Species	Cover	Coll.
H	<u>Dudleya variegata</u>	<u>1</u>		H	<u>Sisyrinchium bellum</u>	<u>1</u>	
H	<u>Deinandra fasciculata</u>	<u>15</u>		H	<u>Erodium sp.*</u>	<u>3</u>	
H	<u>Bromus madritensis*</u>	<u>3</u>		S	<u>Lotus scoparius</u>	<u>1</u>	
H	<u>Avena barbata*</u>	<u>1</u>		H	<u>Lolium sp.*</u>	<u>1</u>	
S	<u>Isocoma menziesii</u>	<u>1</u>		H	<u>Centauria melitensis*</u>	<u>1</u>	
H	<u>Cuscuta sp.</u>	<u>1</u>		H	<u>Hypochaeris glabra*</u>	<u>1</u>	
H	<u>Centaurium venustum</u>	<u>1</u>		H	<u>Sonchus asper*</u>	<u>1</u>	
H	<u>Eriogonum fasciculatum</u>	<u>2</u>		H	<u>Bromus hordeaceus*</u>	<u>1</u>	

IV. SITE PHOTOMONITORING

Camera type: pit # ~~15~~ 23 N Canon Powershot A7S
 Location [State Plane (ft)] _____ Direction (facing) N, NE, E, SE, W, NW Height 4" Camera Angle _____ Photo # 15-23 File location/s _____
 Location [State Plane (ft)] _____ Direction (facing) _____ Height _____ Camera Angle _____ Photo # _____ File location/s _____

V. OTHER FIELD NOTES

Other Field Notes/Comments: _____

** Use Trudgen & Keighery Vegetation Condition Scale Descriptions (see back of form or instructions)

Continue on back if needed.

Mile Elev 533-4016

 Terrence Rife 236-6545
 City Refs 236-5555

Location of photopoint:

~500ft NW of burrowing owl mound

(owl mound ~500 ft SE of us)

*Complete panorama photos taken

Modified Trudgen & Keighery Vegetation Condition Scale

Very Good-Excellent	80-100% Native Flora Composition Vegetation Structure intact or nearly so Cover /abundance of weeds < 5% No or minimal signs of disturbance
Fair to Good	50-80% Native Flora Composition Vegetation structure modified or somewhat modified Cover/abundance of weeds 5-20% any number of individuals Possible minor signs of disturbance
Poor	20-50% Native Flora Composition Vegetation structure modified Cover/abundance of weeds 20-60% any number of individuals Disturbance incidence high
Very Poor	0-20% Native Flora Composition Vegetation Structure disappeared Cover/abundance of weeds 60-80% any number of individuals Disturbance incidence very high

Plants, cont.

Form	Sp.	% Cover
H	<i>Eragrostis aristulatum</i>	1
H	<i>Psilocarphus brevissimus</i>	1
H	<i>Calochortus splendens</i>	1
H	<i>Bromus?</i> (small ^{short} flower) _____ *	1

**Photo 34. *Dudleya variegata* (Variegated Dudleya)
Otay Lakes**



Panorama from southern edge of population, facing north, northeast and east (photos merged using Canon PhotoStitch, v. 3.1).

Multiple Species Conservation Program (MSCP) Rare Plant Field Survey Form



Scientific Name: *Dudleya variegata* **Common Name:** Variegated Dudleya
Site Name: Black Mountain Ranch / Santa Lucia Management Unit #: NA
Date: 4/10/06 **Management Regime:** NA
Surveyors and Affiliation/Agency: Melanie Johnson, Betsy Miller - City of SD MSCP

Species Found? Yes No If not, why (if reason known or suspected)?

Total No. Individuals: _____ Exact Estimate (use orders of 10, 100 and 1000 for estimates)

Population/Subpopulation Area: _____ Exact (based on GPS mapping) Estimate
 Units

Collection (if not collected previously)? Yes No
 If yes: _____

Collector _____ Collection Number _____ Museum/Herbarium _____

I. OBSERVATION AREA/MANAGEMENT UNIT LOCATION

Accuracy of Coordinates/GPS Error: +/- _____ meters feet
 Observation Location: _____ State Plane (feet) UTM

II. GENERAL HABITAT DESCRIPTION AND THREATS ASSESSMENT

Vegetation Community: *CSS intermixed w/ Native Grass*
 Landowner/Manager: *City of SD (PR & Rec - ?)*

Overall Site Quality** Very Good-Excellent Fair to Good Poor Very Poor

Surrounding land use: *cleared area to north, open space to south*

Disturbances and/or threats (be specific, include extent of disturbance or percent cover of disturbance if possible):
Mustard (?) (coll) to N.

Management Recommendation/s:

III. ASSOCIATED SPECIES

List dominant, subdominant and invasive species in/near target species observation area/management unit.

Form: Tree=T, Shrub=S, Herb/Graminoid=H; 'Cover' = % cover of species; Note if collected by checking 'Coll.' column; if submitted to herbarium, note collection number (submit to SDNHM unless otherwise noted); Use * to indicate non-native species

Form	Species	Cover	Coll.	Form	Species	Cover	Coll.
S	<i>Artemisia californica</i>	15		S	<i>Baccharis pilularis</i>	1	
S	<i>Isocoma menziesii</i>	5		H	<i>Nasella pulchra</i>	2	
S	<i>Lotus scoparius</i>	3		H	<i>Bromus med. hensis</i> <i>ssp. rubens</i>	1	
S	<i>Rhus integrifolia</i>	1		H	<i>Sida acuta</i>	1	
S	<i>Eriogonum fasciculatum</i>	1		H	<i>Brodiaea hirsuta</i> <i>Brachypodium distachyon</i>	2	
H	<i>Crassula (c.f. conata)</i>	1		H	<i>Sonchus oleraceus</i>	1	
S	<i>Isocoma menziesii</i>			H	<i>Calystegia macrostegia</i>	1	

IV. SITE PHOTOMONITORING

Camera type: _____
 Location [State Plane (ft)]: 6289735.8 1940294.1 Direction (facing): SW, W, NW Height (Use Tripod): 40" Camera Angle: Slightly Down (~5-10) File location/s: _____
 Location [State Plane (ft)]: _____ Direction (facing): _____ Height (Use Tripod): _____ Camera Angle: _____ File location/s: _____

V. ADAPTIVE MANAGEMENT RECOMMENDATIONS/FIELD NOTES

Adaptive Management Experiment Recommendations: _____
 Other Field Notes/Comments: *Catn vocalizing nearby (lined W of population area)*

** Use Trudgen & Keighery Vegetation Condition Scale Descriptions (see back of form or instructions)

Trudgen & Keighery Vegetation Condition Scale

Very Good-Excellent	80-100% Native Flora Composition Vegetation Structure intact or nearly so Cover /abundance of weeds < 5% No or minimal signs of disturbance
Fair to Good	50-80% Native Flora Composition Vegetation structure modified or nearly so Cover/abundance of weeds 5-20% any number of individuals Minor signs of disturbance
Poor	20-50% Native Flora Composition Vegetation structure completely modified Cover/abundance of weeds 20-60% any number of individuals Disturbance incidence high
Very Poor	0-20% Native Flora Composition Vegetation Structure disappeared Cover/abundance of weeds 60-80% any number of individuals Disturbance incidence very high

H *Bromus madritensis* ssp *rubens* 1% *

Calystegia macrostegia 10%

**Photo 35. *Dudleya variegata* (Variegated Dudleya)
Santa Luz**



Panorama from eastern edge of population, facing southwest, west and northwest (photos merged using Canon PhotoStitch, v. 3.1).

Acknowledgments

The following staff assisted in the preparation of this report:

Melanie Johnson Rocks, Biologist III
Keith Greer, Deputy Planning Director
Lisa Markovchick-Nicholls, MSCP Intern

**City of San Diego MSCP Rare Plant Monitoring:
2006 Field Dates and Staff**

Species	Risk Group (SDSU 3/06)	Site	Survey Date	Field Staff	Methodology
<i>Arctostaphylos glandulosa</i> ssp. <i>crassifolia</i> (Del Mar Manzanita)	First	Crest Canyon	14-Apr	MJR, JG	Photo, Habitat Assessment
		Crest Canyon	20-Apr	MJR, JG	
		Carmel Mountain	28-Apr	MJR, JG, KG	
<i>Navarretia fossalis</i> (Spreading Navarretia)	First	Carroll Canyon	18-May	MJR, JG, LMN	Photo, Habitat Assessment
		Nobel Drive	18-May	MJR, JG, LMN	
		Robinhood Ridge	16-May	MJR, BM, LMN	
<i>Orcuttia californica</i> (California Orcutt Grass)	First	Robinhood Ridge	16-May	MJR, BM, LMN	Photo, Habitat Assessment
<i>Pogogyne nudiuscula</i> (Otay Mesa Mint)	First	Robinhood Ridge	16-May	MJR, BM, LMN	Photo, Habitat Assessment
<i>Acanthomintha illicifolia</i> (San Diego Thorn-mint)		Black Mountain Pk W (BMR)	19-May	MJR, KG, MK	Census, Photo, Habitat Assessment, Quantitative
		Mission Trails ^	26-May	MJR, KG, JF, LH	
		Penasquitos Cyn	19-May	MJR, KG, MK	
		Sabre Springs	19-May	MJR, KG, MK	
		Sabre Springs	19-May	MJR, KG, MK	
<i>Ambrosia pumila</i> (San Diego Ambrosia)	First	Mission Trails Regional Park	8-Jun	MJR, LMN	Photo, Habitat Assessment
<i>Dudleya variegata</i> (Variegated Dudleya)	Second	Black Mtn Pk - E (BMR)	10-May	MJR, BM	Photo, Habitat Assessment
		Black Mountain Pk W (BMR)	19-May	MJR, MK	
		East Elliot	26-May	KG, MJR, BM	
		East Elliot	1-Jun	MJR, JG	
		Goat Mesa	16-May	MJR, BM, LMN	
		Marron Valley	2-May	MJR	
		Mercy Road	10-May	MJR, BM	
		Mission Trails ^	26-May	MJR, KG, JF, LH	
		Otay Lakes ^	24-May	MJR, LMN	
		Santa Luz (BMR)	10-May	MJR, BM	
<i>Dudleya blochmaniae</i> subsp. <i>brevifolia</i> (Short-Leaf Dudleya)	First	Carmel Mountain	2-Jun	KG, MJR, BM, LH	Photo, Habitat Assessment, Quantitative @ Pop 3
		Crest Canyon	2-Jun	KG, MJR, LH	
		Skeleton Canyon	2-Jun	KG, MJR, LH	

City of San Diego MSCP Rare Plant Monitoring: 2006 Field Dates and Staff

Species	Risk Group (SDSU 3/06)	Site	Survey Date	Field Staff	Methodology
<i>Lotus nuttallianus</i> (Nuttall's lotus)	First	Hospitality Pt	18-May	MJR, JG, LMN	Photo, Habitat Assessment
		No Men's Land	1-Jun	MJR, JG	Photo, Habitat Assessment
		South Shores	1-Jun	MJR, JG	Photo, Habitat Assessment
		Dunes Triangle	1-Jun	MJR, JG	Photo, Habitat Assessment
<i>Monardella viminea</i> (Willowly Monardella)	Second	Lopez Canyon	14-Jun	MJR, LMN, MKI	Quantitative, Photo, Habitat Assessment
		Marron Valley	30-Jun	MJR, BM, PS	Quantitative
		Sycamore Canyon [^]	20-Jun	KG, LMN	Quantitative, Photo, Habitat Assessment
		Otay Lakes [^]	12-Jul	MJR, PS, LMN	Habitat Assessment, Photo
<i>Deinandra conjugens</i> (Otay Tarplant)	First	Proctor Valley [^]	16-Jun	MJR, PS	Photo, Habitat Assessment
<i>Cordylanthus orcuttianus</i> (Orcutt's Bird's Beak)	First	Otay River Valley	7-Jul	MJR, JG	Quantitative, Photo, Habitat Assessment

[^] Survey site is located in Oct 2003 fire-affected area

City Staff, Planning Department

KG = Keith Greer, Planning Deputy Director
 MJR = Melanie Johnson Rocks, MSCP Biologist
 BM = Betsy Miller, MSCP Planner
 LMN = Lisa Markovchick-Nicholls, MSCP Intern
 MKI = Michael Klein, Information Systems Analyst II

City Staff, Park and Recreation Department

J. Garcia = Joshua Garcia, Open Space Natural Resources Manager

City Staff, Water Department

PS = Paul Schlitt, Water Operations Biologist

Volunteer (Non-Staff) Monitors:

MK = Mike Kelly, Conservation Resources Network
 JF = Dr. Janet Franklin, MSCP Monitoring Plan Revision Grant Lead, SDSU
 LH = Lauren Hierl, MSCP Monitoring Plan Revision Grant Staff, SDSU