# MSCP MONITORING AND MANAGEMENT IN THE CITY OF SAN DIEGO

**Monitoring and Management Coordination Group January 26, 2011** 

#### **CURRENT PROCESS**

- Rare plant monitoring per McEachern et al.
  - Annual monitoring
    - Rare species presence/absence
    - Habitat assessment
    - Photo plot
    - GPS boundary of population
  - DOES provide habitat quality and threats assessment
  - DOES NOT provide quanitative population counts

#### **CURRENT PROCESS**

Posted to City Website	BIOS/City Database
Target species presence/absence	GPS files
Habitat/threats assessment	
Photo plots	
GPS maps of population area	

- Review threats annually
  - Note changes, trends, correlate to events
  - Identify management actions to alleviate threats
- Implement management actions where possible
  - Tests and record outcomes
  - Scale up or choose different action

# PROJECT 1: LIMITING THE THREAT OF BRACHPODIUM DISTACHYON AT ACANTHOMINTHA ILICIFOLIA SITES



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

Scientific Name:	Acanthomintha ilicif	olia		Common	Name:	San Die	ego Thorr	mint	
Site Name:	Sabre Springs-S Su	bpop		Managem	ent Unit #:	TBD			
Date: 5/12/10				Managem	ent Regime:	TBD			
Surveyors and Affilia	tion/Agency: The	Mille	0	lare Ail	64 - C4	boto	Such	ega.	
2850000		1			-	1	/		
Species Found?	Yes No			If not, why	(if reason known	or suspecte	d12		
Total No. Individuals:	300 DB	xact 🗵	Estima		of 10, 100 and 1				
Population/Subpopulati	on Area: <u>240.8</u>		Uni	z X E	xact (based on	GPS mappir	ng) É	stimate	
Collection (if not collect If yes:		s Øv		Collected Prev					
	Collector			Collection Number	Br .	Museu	m/Herbarium	1	
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	non-notive qu	rassla	nd 1	within s	and out	chap.	smel		
Landowner/Manager:	City of San Diego Park	and Rec	creation	Open Space					
Overall Site Quality**	☐ Very Good-t	Excellent		☐ Fair to 0	Good [	Poor		Very Poor	
Surrounding land use:	-goes space,	mid	la tia	1 works	total				
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\*\* Use Trudgen & Keighery Vegetation Condition Scale Descriptions (see back of form or instructions)

Continue on back if needed.

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Species	% cover
* Centauria melitensis	2
& Bromus made Lensis	5
* Frachypodium dietachyon	5
& Fromw horoheaux	5
unk plant	10
* Clastridium ventricosum	/ _
* Phalaris menor	5

# Photo 10. Acanthomintha ilicifolia (San Diego Thornmint) Sabre Springs Southern Subpopulation # 3



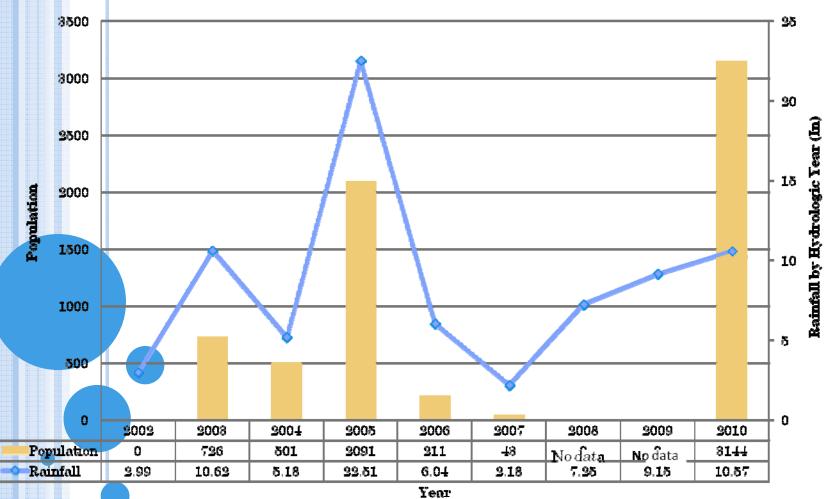
Panorama from Southwestern edge of subpopulation, facing Southeast, South, Southwest. Panorama location is 6303165.7 1923485.4 NAD83 State Plane California Zone 6 (feet)

Photos merged using ArcSoft Panorama Maker 4.

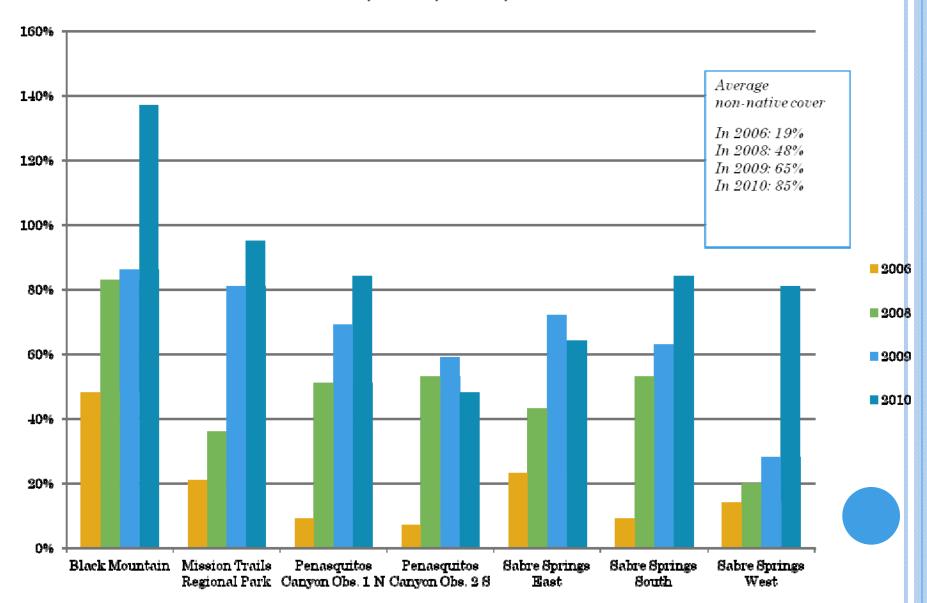


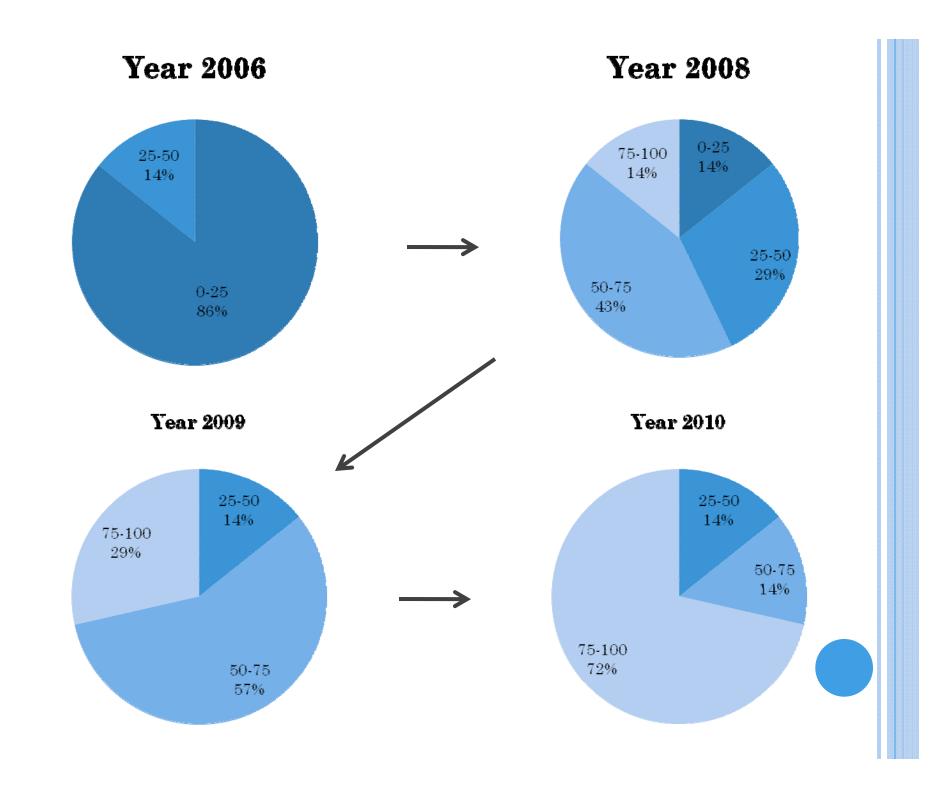
#### ANNUAL THREATS ASSESSMENT

#### Acanthomintha ilicifolia Totals at Los Penasquitos With Rainfall Data 2002-2010

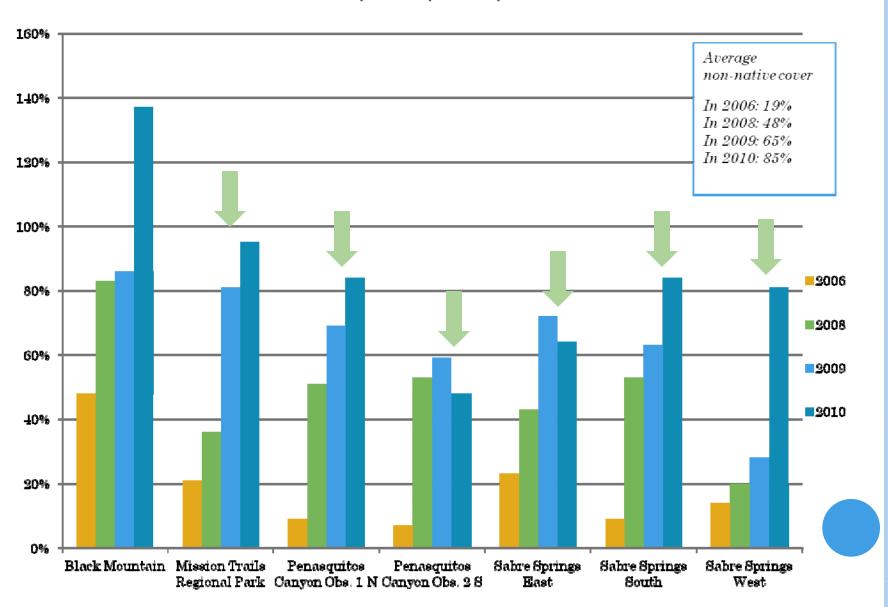


### Non-Native Cover at *Acanothomintha ilicifolia* Populations 2006, 2008, 2009, 2010





### Non-Native Cover at *Acanothomintha ilicifolia* Populations 2006, 2008, 2009, 2010



	Brachypodium distachyon	Brassica nigra	Avena fatua	Sonchus sp.	Centauria melitensis	Anagallus arvensis	Euphorbia peplis	Cynara cardunculus	Filago gallica
2006	40	4	1	1	1	0	0	0	0
2008	80	1	1	0	0	0	0	0	0
2009	80	3	2	0	0	1	0	0	0
2010	90	40	1	1	0	0	1	1	1

Non-native Cover by Species at *Acanthomintha ilicifolia*Population in
Black Mountain Ranch

	Brachypodium distachyon	Brassica nigra	Sonchus sp.	Anagallus arvensis	Centaurea melitensis	Erodium sp.	Bromus madritensis ssp. rubens	Filago gallica	Lepidium sp.	Erodium sp.	Gastridium ventrucosum	Bromus hordaceous
2006	<b>5</b> 15	1	1	1	1	1	1	0	0	0	0	o
2008	3 25	5	0	1	0	0	2	1	1	0	o	0
2009		3	0		2	o	1	0	0	2	1	1
2010		5	1	0	3		2		0		0	0

Non-native Cover by Species at *Acanthomintha ilicifolia* Population in Mission Trails Regional Park



#### REFINING MANAGEMENT ACTIONS

- Sites need Brachypodium distachyon control
  - General non-natives control ineffective
- Coordinate with other groups managing for Brachypodium distachyon
- Pilot study phase
  - Kelly testing herbicide effects on ACIL seedlings
  - City and CBI conducting randomized block design treatments with herbicide, thatch removal, control

# PROJECT 2: LIMITING NON-NATIVE GRASSES AND THATCH AT THE AMBROSIA PUMILA POPULATION AT MISSION TRAILS



#### RARE PLANT MONITORING

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

CONTRACTOR OF THE PARTY OF THE	Ambrosia pumila		Common Name	J. Jeli I	Diego Ambro	ASIA .	
Site Name:	MTRP-Kumeyaay L	ake	Management U	nit #: TBD			
Date: 4/11/10			Management R	legime: TBD			
Surveyors and Affiliation	n/Agency: / Refry	Miller C	ity of San	Diene:	Micale 1	iesta	alt
volunteer	7	t.	10	7			
Species Found?	es 🗆 No						
		0	If not, why (if reasons)	on known or suspe	ected)?		
Total No. Individuals:	3000 DE	exact Estima	te (use orders of 10, 1	100 and 1000 for	estimates)		
Population/Subpopulation	Area: 16809.0	06 m <sup>2</sup>	ts ZExact (t	ased on GPS may	pping) 🗆 E	stimate	
Collection (if not collected If yes:			Collected Previously			_	
	Collector	and the second second second	Collection Number	Mu	seum/Herbarium	_	_
I. OBSERVATION ARE		and the second second second					
Accuracy of Coordinates/	3PS Error: +/	<1 I mer	The second second	and enter containing			
Observation Location:	6321443.021	1886016.47	<u> </u>	State Plane (feet)	☐ un	4	
II. GENERAL HABITAT	DESCRIPTION AN	D THREATS A	SSESSMENT				
	non-native						
Landowner/Manager:	City of San Diego Par						
Overall Site Quality**	☐ Very Good	-Excellent	☐ Fair to Good	₹ Foor	Πv	ery Poor	
Surrounding land use:	дип просе	camega	4 /4	portation			
Disturbances and/or threa of disturbance or percent of the cover of th	cover of disturbance if	possible):	Management Re				
of disturbance or percent	cover of disturbance if	possible):	1				
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\*\* Use Trudgen & Keighery Vegetation Condition Scale Descriptions (see back of form or instructions)

Continue on back if needed.

## Photo 11. Ambrosia pumila (San Diego Ambrosia) Mission Trails Regional Park - Kumeyaay Lake

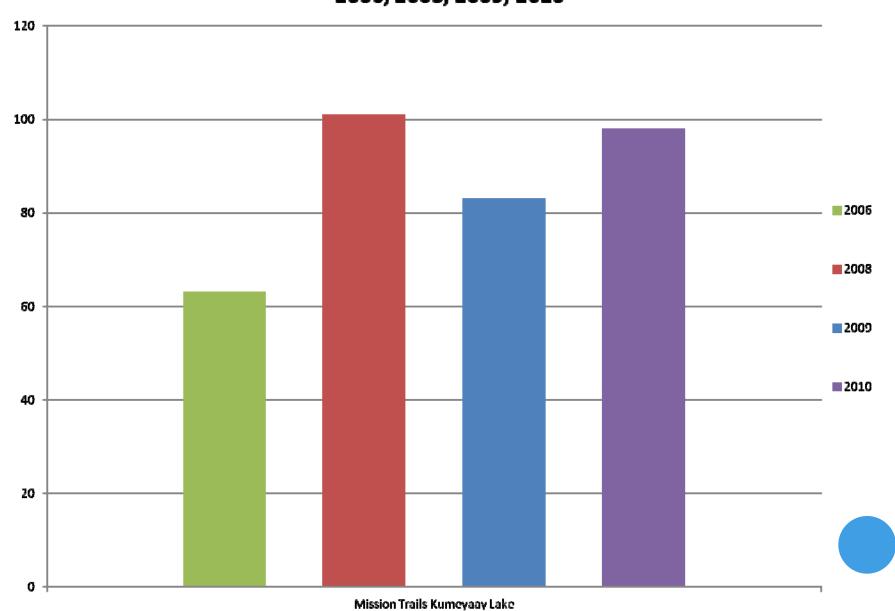


Panorama from Northeastern edge of population, facing Northwest, North, Northeast, East. Panorama location is 6321443.021 1886016.476 State Plane California Zone 6 (feet)

Photos merged using ArcSoft Panorama Maker 4.

#### ANNUAL THREATS ASSESSMENT

### Non-Native Cover at *Ambrosia pumila* Populations 2006, 2008, 2009, 2010



# MANAGEMENT ACTIONS RECORD OUTCOMES

#### REFINING MANAGEMENT ACTIONS

- Pilot studies on invasive removal in thornmint populations conducted by Kelly, Burrascano and Rocks (2008) and CNLM (2009)
  - Methods effective
- Scaling up project to majority of population area
  - Monitoring outcomes in treatment and control areas
  - Monitoring cost
  - Utilizing project as a training project for in-house QAC-certified staff

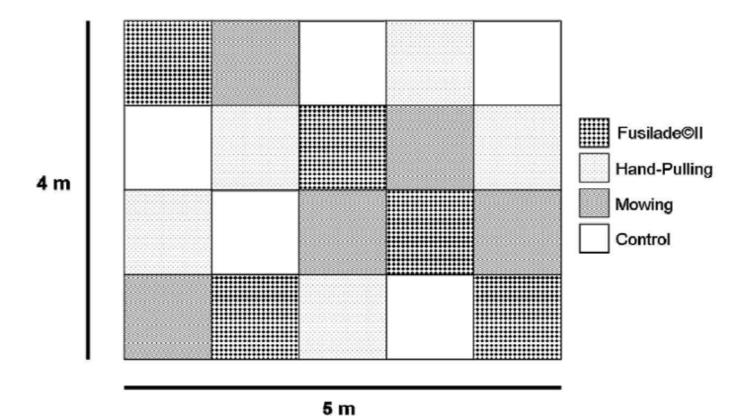


Figure 5. Diagram of one of the replicated blocks used at MT and SDNWR. Each block consisted of 20, 1-m<sup>2</sup> plots with four treatments replicated five times. Treatments included hand-pulling, application of Fusilade ©II, mowing, and a control. At SH, Fusilade ©II was not applied and therefore replicated blocks there consisted of 15, 1-m<sup>2</sup> plots. There were a total of five replicated blocks at each site.

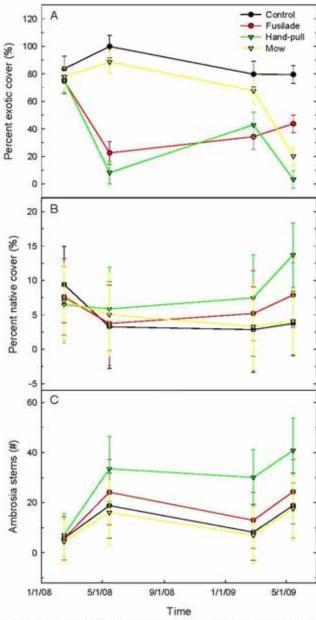


Figure 9. Change in (A) percent exotic cover, (B) percent native cover, and (C) the number of A. pumila stems at Mission Trails. Treatments included a control, application of Fusilade ©II, hand-pulling of exotic species, and mowing. Treatments were applied in late February/early March of 2008 and 2009. Values represent mean and 95% confidence intervals (N = 5 per sampling date); thus, if confidence intervals overlap, values are not significantly different ( $\alpha$  = 0.05).