

***Monardella viminea* (Willow Monardella) and *M. stoneana* (Jennifer's Monardella)**

Introduction

The MSCP Biological Monitoring Plan (1996) does not specify any *Monardella* (*Monardella viminea* and *M. stoneana*, previously *M. linoides* ssp. *viminea*) monitoring locations within the City of San Diego; however, several sites have been monitored due to the rarity of this species. The Marron Valley site was recommended for monitoring in the Conservation Biology Institute draft monitoring plan revision and has been informally adopted as a City monitoring site. Other sites monitored include Lopez Canyon in the Mira Mesa community area of San Diego, and Sycamore Canyon, which is at the northeastern corner of the City and immediately west of the County of San Diego's Sycamore Canyon/Goodan Ranch Park.

Results

Site	Lead Monitor/s	Date	Method*	Result
Lopez Canyon	Johnson	June 7, 2005	Census	7 points + 900 Plantings**
Marron Valley	Greer/Johnson	June 16, 2005	Census	82 points/102 Plants
Sycamore Canyon	Greer/Miller	June 10, 2005	Census	51 points/99 Plants

* Please see the *City of San Diego MSCP Rare Plant Monitoring: Field Monitoring Methods* manual for a full description of plant monitoring methods and locations.

** Lopez Canyon Willow 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.

Analysis

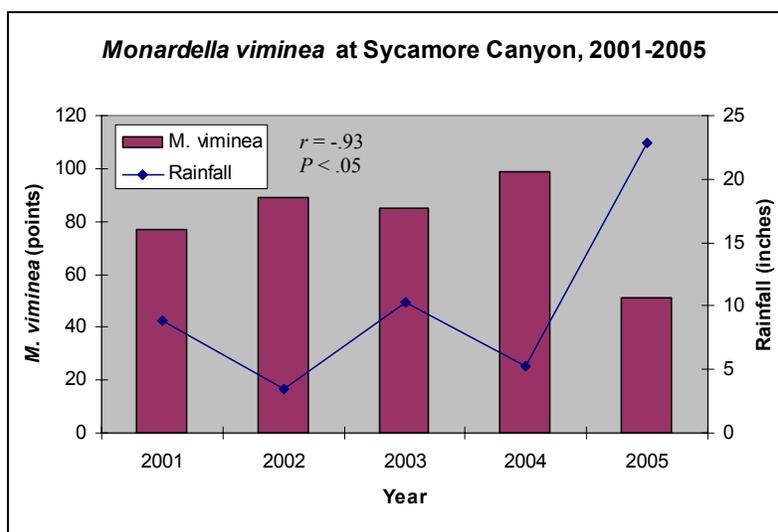
Sycamore Canyon and Marron Valley plant populations, two of the larger populations monitored, were examined and correlated with water year rainfall using Microsoft Excel. GPS point counts were used rather than plant estimates; thus, the numbers do not necessarily represent actual population numbers, but represent the number of small areas (points) that consist of one plant or multiple clumped plants. Interestingly, the Sycamore Canyon population exhibits a negative correlation with rainfall ($r = -0.93$; $P < 0.05$; Figure 1).

The negative correlation at Sycamore Canyon may be a result of increased erosion in high rainfall years. It was noted during 2005 spring surveys that several areas that were previously occupied had been washed away in the heavy winter rains. Another potential explanation is increased competition from non-native species in heavier rainfall years.

The Marron Valley site does not exhibit any correlation, positive or negative ($r = 0.01$; $P > 0.05$). The Marron population has been relatively steady and may have had a slight increase over the past several years, with point counts of 42, 66, 86, 83, 113, and 82 in 2000-2005, respectively. However, it should be noted that implementation of the current monitoring method may have been inconsistent from season to season. Monitoring of this species is being analyzed and methods may be revised in order to provide more reliable data.

The Lopez Canyon population has been relatively stable since monitoring began in 2000, with point counts of five, eight, eight, eight, 82 and seven in 2000-2005, respectively. It is believed that the 2004 count of 82 was an aberration and was a stem count rather than a point count, as the species is prone to have underground stems that can be mistaken for seedlings.

Figure 12. *Monardella viminea* at Sycamore Canyon and Annual Rainfall, 2001-2005



Notes: 1) All rainfall data are from San Diego County Water Authority; data collected at Lindbergh Field (<http://www.sdcwa.org/manage/rainfall-lindbergh.phtml>). 2) Additional statistical analyses, such as confidence intervals, etc., are being performed by MSCP plant monitoring scientific advisors and will be used in revisions to the plant monitoring program.

Management Recommendations

Lopez Canyon

Non-natives such as *Chrysanthemum coronarium* (Garland/Crown Daisy) and non-native grasses should be controlled around the *Monardella* populations.

Marron Valley

The Marron Valley population has occasional small batches of non-native grasses, which should be controlled.

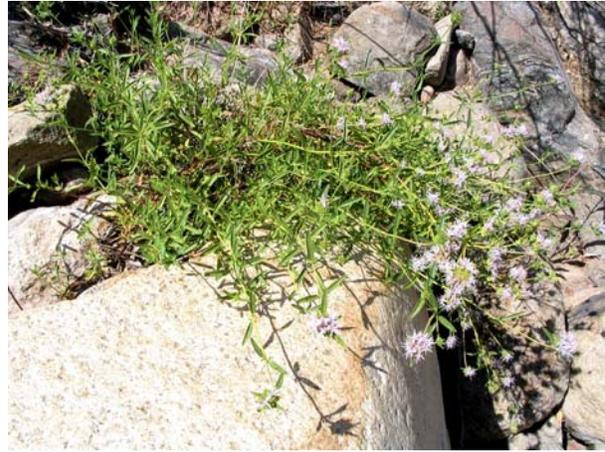
Sycamore Canyon

Non-native species, especially non-native grasses such as *Bromus diandrus* (Ripgut Brome), *Avena barbata* (Slender Wild Oat) and *Lolium* sp. (Ryegrass), should be controlled as soon as possible.

Marron Valley, June 16, 2005



View of stream area, facing east



Monardella stoneana

Sycamore Canyon/Goodan Ranch, June 10, 2005



View of stream area, facing west



Monardella viminea, surrounded by non-native grasses