

**City of San Diego
Multiple Species Conservation Program**

**Summary of Monitoring Results for
Monardella linoides ssp. *viminea***

June 2002

Introduction

Willow monardella (*Monardella linoides* ssp. *viminea*) is an endangered plant species that is found along drainages within the County of San Diego. It is a perennial herb that blooms between June and August.

Monitoring for this plant was conducted between May and August in various locations. The locations, dates, and survey personnel for each survey is given in the table below. The methodology and results of the monitoring are detailed below. In addition, monitoring of the Lopez Canyon population is conducted on an annual basis by the Friends of Los Penasquitos Canyon. The goal of the effort was to establish baseline data for long-term monitoring of willow monardella under the Multiple Species Conservation Program (MSCP).

Willow Monardella Surveys, 2002		
Location	Date	Surveyors
Otay Lakes (Buschalaugh Cove)	May 23, 2002	Holly Cheong, Brett Williams, Keith Greer, Jim Harry
Lopez Canyon	June 17, 2002	Holly Cheong, Brett Williams, Michael Klein, Randy Rodriguez
Sycamore Canyon	June 19, 2002	Holly Cheong, Randy Rodriguez, Chad Kane, Brett Williams, Keith Greer
Marron Valley	June 21, 2002	Holly Cheong, Keith Greer, Chad Kane, Jim Harry, Mike White, Brett Williams

Methodology

Monitoring for this species was conducted in accordance with the Biological Monitoring Plan for the Multiple Species Conservation Program (Monitoring Plan), dated January 25, 1996. The location of each sampling site were determined by field level surveys and then depicted on aerial photographs. This plant species tends to grow in groupings, referred to as clumps. In previous years, clumps were counted instead of individual plant shoots. However, due to the accuracy of the previous year's data, plants were located quickly and individual plants could be counted. Flowering adult plants, non-flowering adult plants, and dead or dormant plants were counted separately. Photographs were taken at each of the survey sites. All plant locations were surveyed using a sub-meter GPS, with the exception of the Otay Lakes site.

Results

Surveyors counted a total of 302 flowering, non-flowering, and dead or dormant plants. A description of each site and the number of individuals found at each site is given below.

Otay Lakes

The Otay Lakes willow monardella population is located in the southeast corner of lower Otay Lake (see attached figure). These lands are conserved for watershed management of the adjacent Otay Lakes and will be included as a City of San Diego cornerstone conservation bank in the future. Only two non-flowering plants were found along the drainage in this area.

Marron Valley

Marron Valley is located in the southeast portion of San Diego along the Mexican border (see attached map). This land is part of a City of San Diego conservation bank and has been surveyed extensively by the Conservation Biology Institute (CBI). A management plan for Marron Valley is currently in draft format. 103 plants were found along the drainages in Marron Valley. Of these, 57 were flowering, 41 were non-flowering, and 5 were counted as dead or dormant.

Lopez Canyon

Lopez Canyon is located south of Calle Cristobal and Penasquitos Canyon in Mira Mesa (see attached map). This canyon has been highly disturbed by erosion associated with urban runoff. A total of 44 willow monardella were found within the canyon including seven flowering, 36 non-flowering, and one dead or dormant.

Sycamore Canyon

Sycamore Canyon is located north of NAS Miramar and east of Santee (see attached map). This canyon is within open space proposed for preservation and is relatively undisturbed. Within Sycamore Canyon a total of 153 plants were found including 39 flowering, 89 non-flowering, and 25 dead or dormant plants. An additional reconnaissance survey was conducted in the tributary to the south of the drainage that contains the large population of willow monardella. No additional plants were located in the southern drainage.

Recommendations

All plant/clump locations should be recorded using the sub-meter GPS, including the Otay Lakes population. If additional populations of willow monardella are found within City of San Diego limits, surveys should be conducted in those areas. Willow monardella has also been identified outside of the City of San Diego jurisdiction in Sycamore Canyon in Santee, Cedar Canyon in Chula Vista and on MCAS Miramar. Coordination with other jurisdictions may help determine the regional status of this plant species.

As previously mentioned, clumps of plants were counted in previous years, not individuals. However, the accuracy of the baseline data allowed surveyors time to count individuals without harming the plant. The biology of the willow monardella should be studied further and if it is

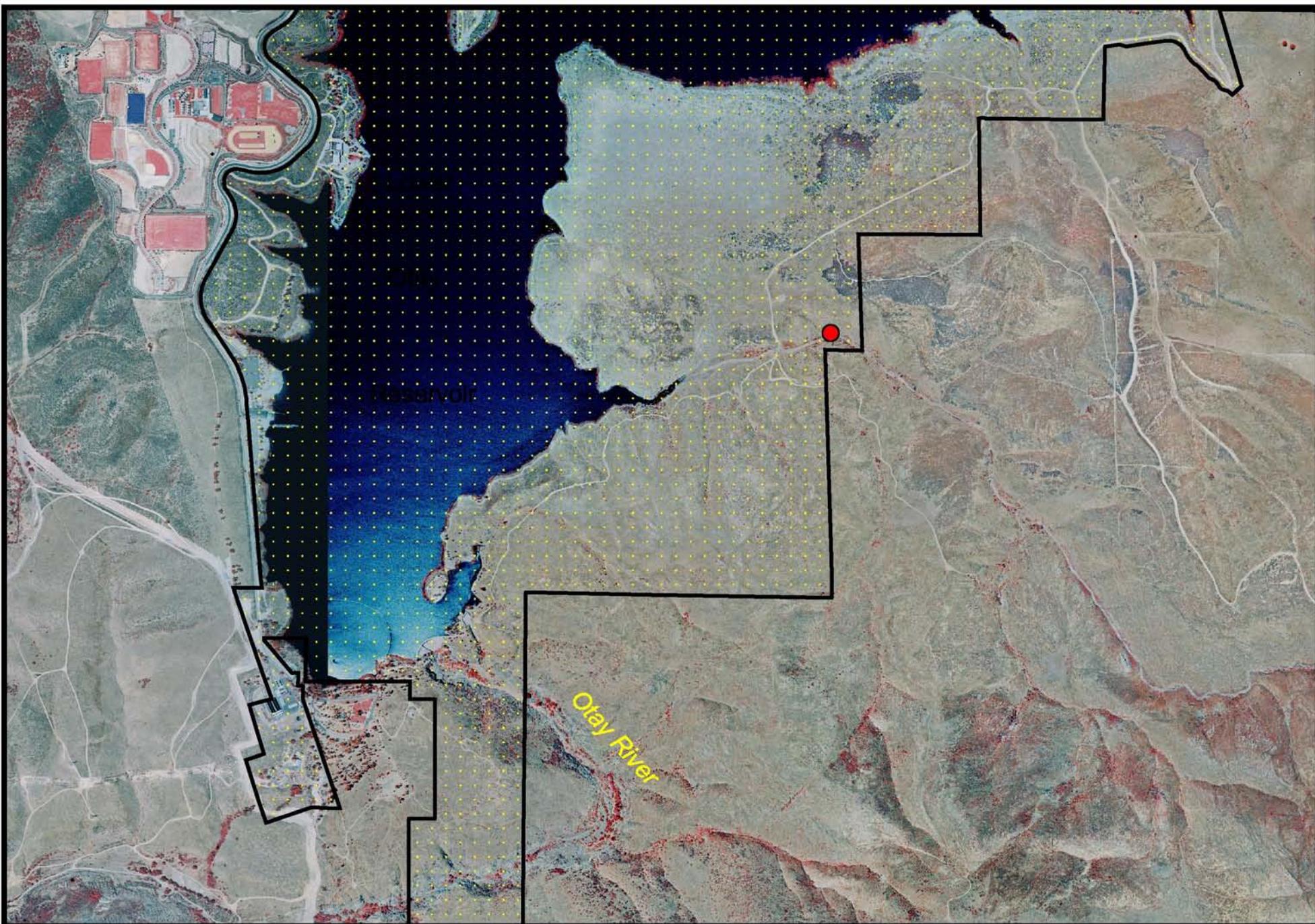
determined that the clumps come from one root mass, future surveys may consider all clumps to be one individual plant.

Plants identified as dead or dormant were counted as such, due to the difficulty in determining if the plant was dead or if it remained dormant due to the low rainfall. If adequate rainfall is received prior to the next monitoring season, MSCP staff may be able to determine if the species will lie in a dormant state for a year or, if in fact the plants are truly dead.

Erosion of drainages adjacent to willowy monardella populations can impact the species. Lopez Canyon is a good example of where erosion from urban runoff has already occurred and impacted willowy monardella populations. Future monitoring efforts should document any observed erosion in drainages adjacent to willowy monardella populations and recommendations should be made to correct the problem. The City of San Diego received a grant from the California Department of Fish and Game to implement erosion control measures in Lopez Canyon. Future monitoring will help determine the effectiveness of that effort.

An annual census of willowy monardella in drainages subject to high erosion, such as Lopez Canyon, can be very useful for protection of this species. However, given that this species is perennial, annual surveys as required in the biological monitoring plan for the MSCP are not beneficial for the more stable populations. The Sycamore Canyon, Marron Valley, and Otay Lakes populations should be counted every three years augmented with annual presence/absence monitoring to ensure that the populations are protected from erosion. MSCP staff will work with the wildlife agencies to develop a modified schedule for willowy monardella monitoring that is more appropriate for the species.

It has been observed that the willowy monardella plants in southern San Diego (Otay Lakes and Marron Valley) may have some different characteristics from the northern populations (Lopez Canyon and Sycamore Canyon). Until additional information on these observations is available, MSCP staff will assume that all willowy monardella populations identified within the City of San Diego are the same subspecies.



● Patch Locations

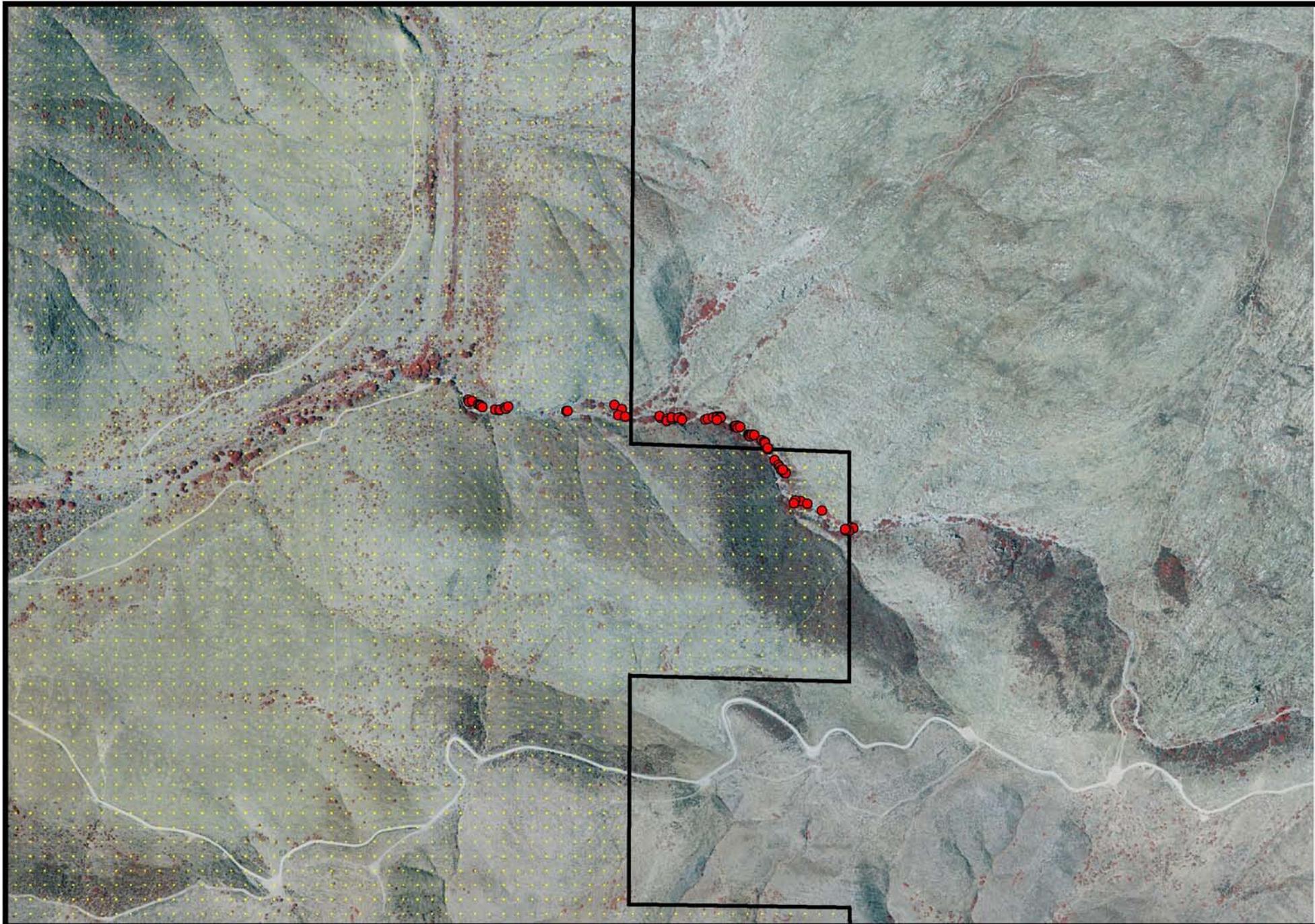
■ MHPA



Otay Lakes

Monardella linoides ssp. *viminea*
Survey Date: 5-23-02

Source: K. Greer, H. Cheong
J. Harry, B. Williams



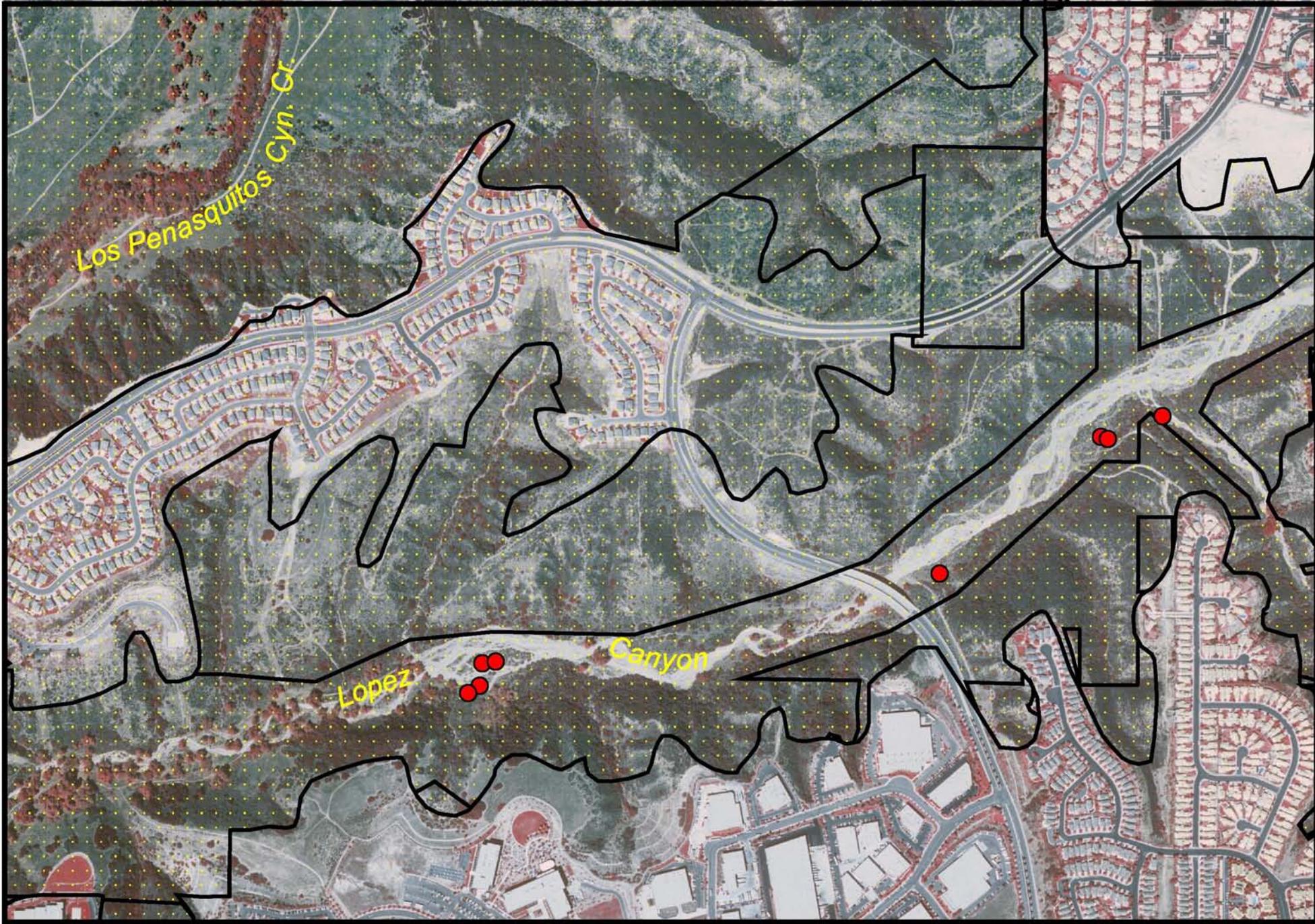
● Patch Locations

■ MHPA



Marron Valley
Monardella linoides ssp. *viminea*
Survey Date: 6-21-02

Source: K. Greer, H. Cheong
J. Harry, M. White
B. Williams, C. Kane



● Patch Locations

■ MHPA



Lopez Canyon

Monardella linoides ssp. *viminea*

Survey Dates: 6-17-02

Source: H. Cheong, S. Smith,
C. Kane, J. Harry,
B. Williams, M. Klein



● Patch Locations

■ MHPA



Sycamore Canyon
Monardella linoides ssp. *viminea*
Survey Date: 6-19-02

Source: H. Cheong, K. Greer
J. Harry, C. Kane
B. Williams