

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

**Summary of Monitoring Results for
*Cordylanthus orcuttianus***

May 2003

Introduction

Orcutt's bird's beak (*Cordylanthus orcuttianus*) is a rare annual plant species that is associated with riverine habitat. Monitoring for this plant was conducted on May 7, 2003 within the Otay River Valley (see attached map) by City of San Diego staff Holly Cheong, Melanie Johnson, Betsy Miller, Keli Balo, Eden Nguyen and Jan Atha. Monitoring for this species began in 2001 and has been conducted annually (McMillan Biological Consulting and Conservation Biology Institute, 2001; Wildlife Research Institute, 2002). The methodology and results of the monitoring are detailed below. The goal of the effort was to continue the annual collection of data for long-term monitoring of Orcutt's bird's beak under the Multiple Species Conservation Program (MSCP).

Methodology

Monitoring for this species was conducted in accordance with the Biological Monitoring Plan for the MSCP (Monitoring Plan), dated January 25, 1996. The location of each sampling site was determined by field level surveys and then depicted on aerial photographs. The irregular size of the populations did not lend itself to a transect sampling method. Therefore, a one-meter quadrat sampling method was used to estimate the size of each population. Typically, one-meter quadrats were randomly allocated within the populations using randomly allocated points in ArcView Geographic Information System (GIS). Each point was then navigated to using a Global Positioning System (GPS) and quadrats were placed to the northeast, northwest, southeast, or southwest alternating direction with each point. However, this species tends to co-occur with poison oak (*Toxicodendron radicans*) and allocation of the quadrats by using a GPS may have resulted in exposure to poison oak. Therefore, in this case, points were randomly selected in the field, limited to areas where exposure to poison oak could be avoided or minimized. Where feasible, areas of Orcutt's bird's beak were completely counted (census) to provide more accurate numbers.

Results

Surveyors estimated a total of 84,727 plants, which includes 214 flowering individuals and 84,513 non-flowering individuals. In 2001, 1000+ plants were estimated to occur on-site. In 2002, 168 plants were documented on-site.

Recommendations

Sampling of this site is problematic due to the potential for exposure to poison oak. Additional individuals may be located in areas inaccessible to surveyors. Also, the sampling methodology used to avoid exposure to poison oak did not result in a truly random selection of quadrat sampling areas. This probably resulted in an overestimation of population numbers since the quadrats were placed in areas without poison oak. Areas without poison oak probably have more individuals than areas with poison oak due to lack of cover.

Areas containing individuals of Orcutt's bird's beak were mapped using a submeter GPS. It is recommended that future surveys incorporate a combination of presence/absence surveys for population areas with poison oak and a complete census of population areas without poison oak. This will allow surveyors to avoid exposure to poison oak while still providing annual population estimates and surveys of the species' status.

References

McMillan Biological Consulting and Conservation Biology Institute. 2001 MSCP Rare Plant Survey and Monitoring Report. 2001.

Ogden Environmental. Biological Monitoring Plan for the Multiple Species Conservation Program. 1996.

Wildlife Research Institute. 2002 MSCP Rare Plant Survey and Monitoring Report. 2002.



Population Areas



MHPA

Otay River

Cordylanthus orcuttianus

Survey Date: 5/07/03



Source: H. Cheong, B. Miller, K. Balo,
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