Silver Strand Elementary Rare Plant Surveys by California Native Plant Society Rare Plant Survey Committee, Spring 2011

Frank Landis, PhD
June 30, 2011

The Rare Plant Committee of the San Diego chapter of the California Native Plant Society performs annual surveys of rare, sensitive, or endangered plants, as its name suggests. Its mission is to find species and populations that are "falling through the cracks," plants that have not been recently surveyed or that occur in areas where systematic sampling or specimen collection is difficult. In these surveys, we fill a valuable role, checking on rare plants that are not typically monitored.

All work is performed by volunteers, led and supervised by Dr. Frank Landis, a trained botanist and plant ecologist. The survey protocol is basic: volunteers are recruited and trained to identify the plants under field conditions, and populations are either counted or numbers estimated, depending on what is found. The data are recorded on forms from the California Natural Diversity Database (CNDDB) of the Department of Fish and Game (DFG). Data are shared with the landowner, state CNPS, CNDDB, CDFG, and other interested parties on request.

In 2011, the Rare Plant Survey Committee chose to survey dune plants, because there was a consensus among informed participants that we had insufficient information on a number of species. In contacting landowners and studying existing records, the committee narrowed down potential survey locations to Silver Strand State Beach, Silver Strand Elementary School Beach, Fiesta Island, Black's Beach, Torrey Pines, San Elijo Lagoon, and Batiquitos Lagoon.

On March 24, 2011, three volunteers, Dr. Frank Landis, Ms. Jessie Vinje, and Mr. Paul Hormick spent three hours searching for sensitive, rare, and endangered plants on the beach immediately east of Silver Strand Elementary school on Coronado Island.

During preliminary reconnaissance (walking south to north within the polygon delineated in Figure 1), they determined that there were too many Nuttall's lotus and coast woollyheads to count accurately. They therefore adopted a simple sampling strategy. Each person would separately walk 50 paces, stop, spread their arms, rotate in place to approximate a 2 m diameter circle, and count the sensitive plants by species within that circle. Both Dr. Landis and Mr. Hormick have long arms, and Ms. Vinje is an experienced plant ecologist used to sampling circles of this size. The three surveyors wandered haphazardly across the entire polygon, travelling generally north to south and zig-zagging to cover the as much of the area as possible. At the end of the survey, an average density per species was calculated from the preliminary counts (based on number of plants/species/1m radius circle), the area surveyed was calculated from the map, and Dr. Landis created an estimate of the number seen. So few Brand's phacelia were found that these were counted entirely, and their location marked with a GPS.

CNPS volunteers found three sensitive plant species growing on Silver Strand Elementary School:

- Brand's phacelia (*Phacelia stellaris*), a CDFG list 1B species. Six were found, five in the northern location and one in the southern location.
- Nuttall's lotus (*Lotus nuttallianus =Acmispon prostratus* in the next *Jepson Manual* revision), a CDFG list 1B species. Between an estimated 16,000 and 17,000 were found.
- Coast woollyheads (*Nemacaulis denudata* var. *denudata*), a CDFG list 1B species. An estimated 120,000 were found.

Figure 1. Survey area at Silver Strand Elementary, with locations of *Phacelia stellaris* marked in blue.

The data from this survey are available from Dr. Landis in an Access database, as is a kmz (Google Earth) file of the polygon and points used to generate the image above.

Any requests, questions, or comments should be addressed to Dr. Landis at franklandis03@yahoo.com. It is likely that the rare plant survey committee will focus again on dune plants in the 2011-2012 growing season, and the group would be happy to survey this or other Navy lands again, if there is a need.