

The Role of the Regional Parks Botanic Garden in the Preservation of Rare Plants

By Joe Dahl, Garden Supervisor

Reprinted from *Manzanita*, Vol. 3, No. 2, Summer 1999 - a quarterly publication of the *Friends* of the Regional Parks Botanic Garden.

With the coming of warmer weather the perennial and deciduous plants of the Regional Parks Botanic Garden have emerged. The warmer weather has brought an increase in visitors who are lured by the pleasant weather and the new, lush, late spring growth that appears to have renewed the Garden. Beds that appeared empty over the winter months are now covered in leafy mounds and flowers of many colors.

Lately, I have been approached by Garden visitors who wish to compliment the staff on the wonderful appearance of the Garden. It occurred to me that there are aspects of the Garden beyond its obvious beauty that many visitors may not be aware of. Not only does the Regional Parks Botanic Garden house an extensive collection of California native plants, but many of the plants in the collection are listed as rare or rare and endangered by the state of California. In the Garden are also examples of plants that have become extinct in the wild.

To see several examples of rare and endangered plants that have flourished in the Regional Parks Botanic Garden you need go no further than the deck off the back of the Visitors Center. Looking across the Garden to the top of the Sea Bluff section one can't help but notice at this time of year a broad swath of yellow at the crest of the section. These are the flowers of the Point Reyes meadowfoam (*Limnanthes douglasii* ssp. *sulphurea*). Although known from only about ten locations in the wild, the Point Reyes meadowfoam has become almost a "weed" in the Sea Bluff section. Self-sowing freely every year, it carpets plant beds so thickly that only a few of the most aggressive weed species can out-compete this gorgeous annual wildflower.



Point Reyes meadowfoam (*Limnanthes douglasii* ssp. *sulphurea*).
Photograph by the author.

Now looking straight down from the deck of the Visitors Center one can see a twisting path cutting back and forth down the slope towards the creek. This path is Jim Roof's interpretation of San Francisco's Lombard Street, a tribute to the San Francisco region he loved so much. It is fitting then to have at the foot of "Lombard Street" two examples of rare and endangered manzanitas from San Francisco. One, the Presidio manzanita (*Arctostaphylos hookeri* ssp. *ravenii*) only occurs naturally now within the boundaries of the former Presidio Military Base. It seems somehow ironic to think of a plant species as having been saved by the military. Elsewhere in San Francisco where this plant had occurred, it has since disappeared, a casualty of the advancing development of the city.

The other species is the Franciscan manzanita (*Arctostaphylos hookeri* ssp. *franciscana*). This was a favorite plant of Alice Eastwood, who was at one time the Curator of Botany at the California Academy of Sciences and who has been honored by having a number of plants named for her. Alice Eastwood had for some time been watching the last individual of this species. She watched as it grew old and began to decline in its final stronghold in Laurel Heights Cemetery in the city. One day she showed this last survivor to her friend Jim Roof and expressed her concerns for the future of “her” manzanita. Jim subsequently returned to the site and procured cutting material, which he was able to successfully root. In 1942 this last wild plant lost the fight with urbanization, and to Alice Eastwood’s knowledge disappeared forever. Even Laurel Heights Cemetery has since disappeared from the city.



“Lombard Street” with Franciscan manzanita (*Arctostaphylos hookeri* ssp. *franciscana*) on the left and Presidio manzanita (*A. hookeri* ssp. *ravenii*) on the right along the path.

Shortly before Alice Eastwood passed away, Jim Roof invited her to come and take a tour of the garden with him. While showing her the Garden he surprised her with the patch of Franciscan manzanitas he had planted out as a result of the cuttings he had taken earlier. The story goes that when Alice Eastwood saw the Franciscan manzanita in cultivation she was moved to tears. Her good friend, Jim Roof, had saved her manzanita and only because of him does it now persist.



Brewer spruce (*Picea breweriana*).
Photograph by Glenn Keator

Throughout the Garden are many, many more examples of rare and endangered plants (219 species at last count), but preserving them is only half the story of what we do at the Regional Parks Botanic Garden. Every plant that is displayed in the garden has been collected from the wild. This collecting is accomplished by the use of permits issued to the Regional Parks Botanic Garden by the state and federal agencies that have jurisdiction over our public lands. Every plant that comes into the garden arrives with detailed collection information. These records are compiled in a central file and contain information on each plant such as the location and environmental conditions where collected, what kind of material was collected (cuttings, seeds, seedlings, etc.), any state or federal listing categories and eventually where it is displayed in the garden. We even maintain a “Dead File” of plants for which we have yet to figure out the horticultural requirements. This may actually be our most important file since compiling information on our failures allows us to make more educated decisions the next time we try a particular plant. Remember, many plants grown here have not been grown in cultivation and we are trying to determine how to adapt them to the Garden. All of

this record keeping is what makes this a Botanic Garden and not just a garden featuring native plants. One of the garden's goals is to return plants to their original habitats. Our records also mean that the Garden collection is a resource for plant material for reintroduction projects. By knowing the precise location our plants come from we can ensure that not only are we returning a plant species back to the wild, but that it is of the correct genetic stock for the location. This is particularly important in the case of rare and endangered plants, where each population may have been isolated long enough to have developed into a form that is uniquely adapted to that particular location.

Seeds may also be gathered from our documented collections for future reintroduction. The Santa Lucia fir (*Abies bracteata*) does very well in our garden. In the wild these trees produce cones that suffer heavy parasitism from a species of wasp whose larvae feed on the developing seed. This parasitism is at times so severe that in some years there are hardly any viable seeds produced by the wild population at all. By growing these trees away from their natural range we have removed them from the reach of their insect parasite. In most years our trees produce a heavy cone crop which is collected and the seed stored for insurance in the event that something should happen to the wild population of this very rare tree.

While the emphasis of our collection at the Regional Parks Botanic Garden is focused on plants native to California there is one notable exception that I feel deserves mentioning here. In the Southern California section there is a little agave from Arizona. Appropriately named the Arizona agave (*Agave arizonica*), it is known from just sixty individuals in the wild. It is not sixty populations, but sixty plants, each so far separated from the other in the mountains of Arizona that the chances of any of these plants



Arizona agave (*Agave arizonica*). Photograph by the author.

ever cross-pollinating with another is almost zero. At present the Arizona agave only reproduces asexually by sending out suckers referred to as 'pups', just as the one here is doing now. These pups possess roots and can be removed from the main plant. Some of these pups have been placed in the care of certain botanic gardens as a safeguard against a disaster that may occur within the wild population. The Regional Parks Botanic Garden has been chosen as a repository for this federally listed plant.

In writing this article I hope I have given a deeper insight as to what this Garden has to offer. We are delighted to hear that visitors have enjoyed the beauty of the Regional Parks Botanic Garden. The Garden can be enjoyed for the beauty and serenity it provides. I hope that the knowledge of these other functions may make your next visit just a little more special.