

The Critical Role of Horticulture in the Conservation and Restoration of California Native Plant Individuals, Populations, and Ecosystems.

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HORTICULTURE

Is the
art and science
of growing plants.

It encompasses all levels
of plant cultivation:
gardening, landscaping,
agriculture,
restoration,
and conservation.

It is a
matter of scale.





Lithophragma affine

Living Collection



- **A living museum on 86 acres.**
- ▶ Together with seed bank collection we have the **largest** *ex-situ* conservation effort for California native plants: roughly 6480 accessions total (2280 in living collection and 4200 in seed bank).
- ▶ Long-term curation and care for groups of plants with significant taxonomic, conservation, and ecologic importance.
- ▶ Provides an avenue for education and outreach to the public at large.





*Cercocarpus
traskiae*





*Arctostaphylos
franciscana*





Rosa minutifolia
fo. *albiflora* 'Pure Bea'





*Fremontodendron
mexicanum*





Berberis
(*Mahonia*)
nevinii





*Malacothamnus
clementinus*



Arctostaphylos
otayensis
from San Miguel
Mountain





Arctostaphylos glandulosa
subsp. *crassifolia*



Comarostaphylis
diversifolia





*Lepechinia
ganderi*



Hosackia (Lotus) crassifolia var. *otayensis*





*Lathyrus
splendens*





Limnanthus douglasii
subsp. *sulphrea*
in seasonally dry streambed at
RSABG since the 1950s.



Nolina parryi subsp. *wolfii*





Minuartia pusilla

Nursery



- **Propagating and caring for California's rarest plants.**
 - ▶ Plant propagation.
 - ▶ Plant salvage (mitigation).
 - ▶ Restoration of common and rare species.
 - ▶ Grow plants and bulk seed for conservation.
 - ▶ Common garden studies.
 - ▶ Reproductive biology studies.
 - ▶ Many genotypes of *Cercocarpus traskiae*.
 - ▶ All known genotypes of *Deppea splendens*.



Valentin Arvizu
hand pollinating
Allium munzii

Trichostema austromontanum
subsp. *compactum*





*Monoptilon
bellidiforme*

Seed Program



- “All the flowers of tomorrow are in the seeds of today.”
- ▶ > 4200 accessions total.
- ▶ Rare plants >1100 accessions (over 360 taxa).
- ▶ Publication: *Processing Seeds of California Native Plants*.
- ▶ Seed workshops to local agencies.



Verbesina dissita

Active (short-term) collection

Seed Bank



Conservation (long-term) collection

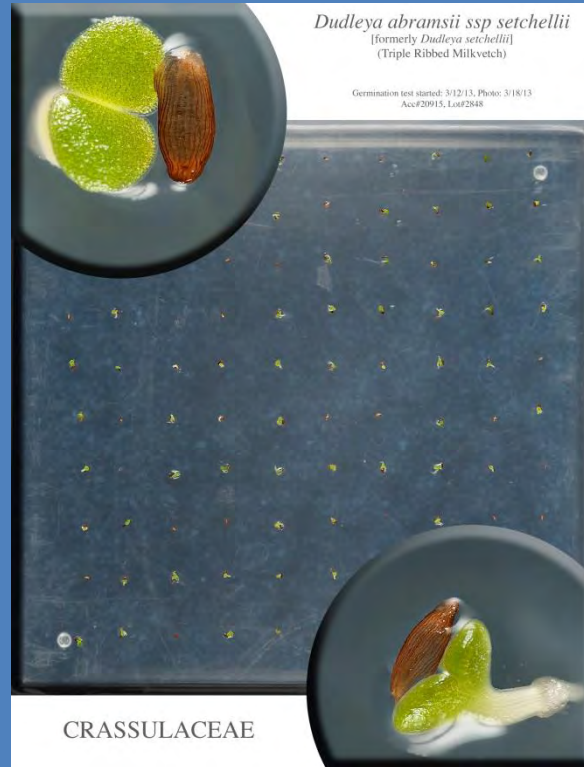


Assessing Viability

- Germination testing



Growth Chamber



Agar Plate

Dudleya abramsii subsp. *setchellii*



In Soil

Helianthus inexpectatus

- Other options include x-ray and tetrazolium (TZ) testing

Seed Bulking





Calochortus kennedyi

Projects 2013



- **Seed Conservation Program.**
 - ▶ Seed banking Federally listed species on Department of Defense lands.
 - ▶ Seeds of Success.
 - ▶ Ongoing funding for seed banking as a part of mitigation.
 - ▶ Seed workshop for the Forest Service.
 - ▶ Attendance at the National Native Seed Conference.



*Trichostema
austromontanum
subsp. compactum
seeds*



*Eriogonum
fasciculatum* in fruit

