Out of the Garden: Into the Wild

RSABG's role in plant conservation and invasive species management

Naomi S. Fraga, Rachel Wing, Robert Walker Rancho Santa Ana Botanic Garden



Phacelia brachyloba



Rancho Santa Ana Botanic Garden is the largest (86 acres) botanic garden dedicated to California plants. "RSABG promotes botany, conservation, and horticulture to inspire, inform, and educate the public and the scientific community about California's native flora..."



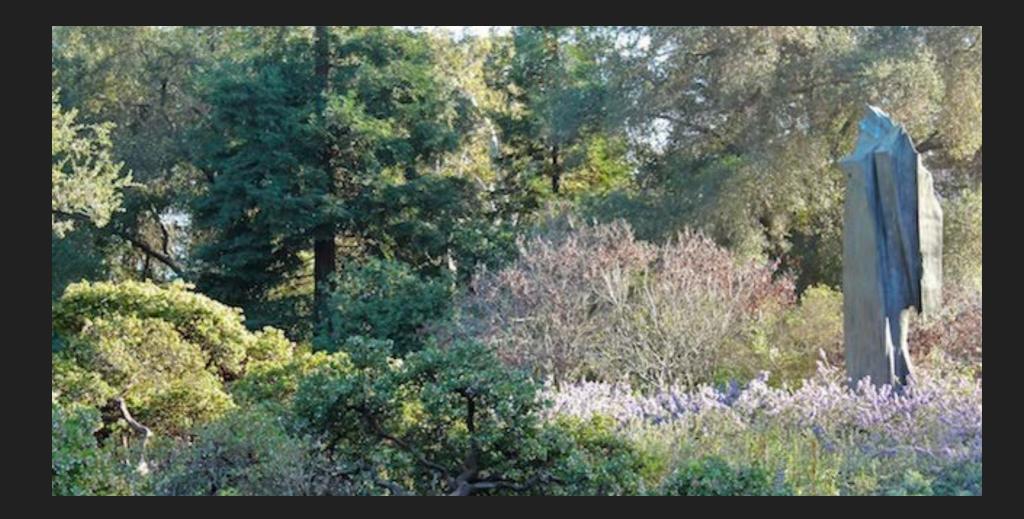
Majestic Oak

Faye's wildflower meadow

Rancho Santa Ana Botanic Garden

Established 1927

Susanna Bixby Bryant stressed conservation: "our primary objective is to preserve our native California flora... to replenish the depleted supply of some of our rarest plants..."







In-situ (on-site) conservation programs at RSABG:

- Regional floristic surveys
- Focused rare and invasive plant surveys, mapping, and monitoring
- Invasive species removal
- Rare plant protection and restoration programs
- Ecological, biological and genetic research

Ex-situ (off-site) conservation programs at RSABG:

 Curation and maintenance of both living and preserved botanical collections

- Native plant propagation research
- Native plant propagation programs for recovery projects
- Public and professional education programs





- Field Work
 - Inventory
 - Mapping
 - Weed Removal
- Education
 - Public Education
 - Workshops for Professionals
 - Internships
- Management of Collections
 - Plants from outside of California
- Research
 - Floristics
 - Systematics



LeRoy Gross, surveying the Lake Fire, SBNF 2016





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Field Work

Long Standing Federal Partnerships

Bureau of Land Management California Desert District Inventory, invasive species mapping

Angeles National Forest Invasive species removal Mapping Restoration

San Bernardino National Forest

Invasive species mapping Early detection post-fire surveys



Inventory of the Bighorn Mountain Wilderness

Field Work

Private Partnerships

National Forest Foundation Restoration and weed removal on the ANF

The Nature Conservancy Inventory and mapping in Santa Clara River



Restoration in the upper Big Tujunga Watershed

Current Field Projects

The Nature Conservancy

- Floristic inventory of the Santa Clara River
- >1,600 vouchers (676 plant taxa)
- 8 (9) new naturalized taxa for Ventura County (in prep for publication)
- Acacia cyclops (De Groot 7554)
- Bacopa monnieri (Fraga 5183a).
- Cycloloma atriplicifolium (Fraga 5439).
- Nicotiana acuminata var. multiflora (Gross 7277).
- Plantago arenaria (De Groot 7512).
- Rumex dentatus (De Groot 7518).
- Rumex stenophyllus (Fraga 5032).
- Verbena litoralis
- *Hedera canariensis?* (need to confirm with voucher)
- Observation in Calflora, no vouchers!



Silybum marianum (milk thistle) in a sea of *Bromus*, Santa Clara River

Field Work

ANF Invasive Plant Team

- Since 2010, 5-10 team members
- Work in coordination with Katie VinZant, Janet Nickerman
- Multiple projects across the forest, but focus is on Santa Clara/Mojave Rivers Ranger District



RSABG Invasive Plant Team 2016

Field Research

2002 Copper Fire Restoration (20,000 acres)

Principal invasives treated:

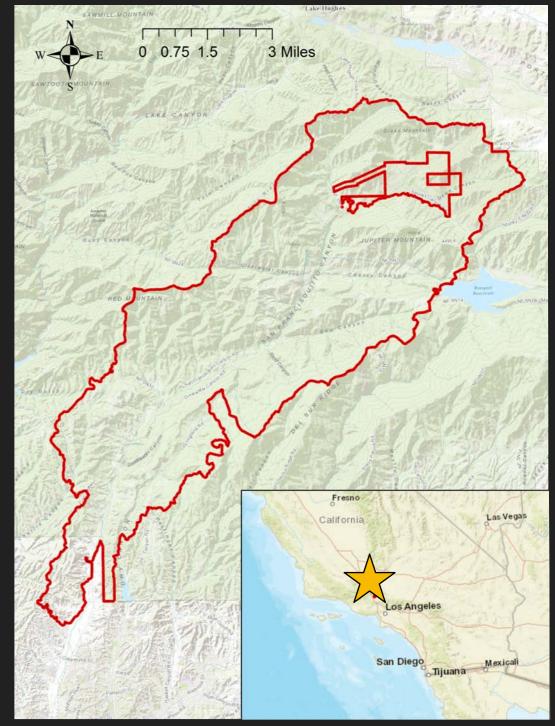
- Tamarix ramosissima (salt-cedar)
- Arundo donax (giant reed)
- Spartium junceum (Spanish broom)

Treatment methods:

Cut-stump herbicide treatmentHand-pulling seedlings

Progress:

- •95 km of stream drainage surveyed
- Majority of surveyed drainages treated at least once
- Some drainages treated multiple times



Copper Fire Burn Area (2003)





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Interns in the field

Education

Public Outreach

- Native Plant Sales
- School tours
- Exhibits on importance of native plants
- Professional Workshops
- Grass Identification (Travis Columbus)



Lucinda McDade and Peter Evans at RSABG Plant Sale Oct 21, 2017

Internships

Building Botanical Capacity

- Conservation Land Management
- Cal Poly Pomona
- Cal State San Bernardino
- Getty Multicultural Internship
- Volunteer Student Interns
- Citrus College









Internships

Building Botanical Capacity

- > 80 interns in the past 10 years
- ►75% undergraduates
- ► 53% are from underserved groups
- ► 70% women
- ▶ 54% are currently working in a related field













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Scrophularia peregrina (Mediterranean figwort)

Scrophularia peregrina (Mediterranean figwort)

Jepson e-flora Introduced to southern California (Rancho Santa Ana Botanic Garden) for biosystematic studies in the 1950s by Richard Shaw. *"Likely to spread, potential threat to wildlands."* Travis Columbus collecting Desmostachya bipinnata





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Sophie Winitsky Flora of Adobe Valley, Mono County



Portulaca oleracea subsp. *impolita* (verdolagas, purslane; Portulacaceae)

Photo by Keir Morse

Partners

Angeles National Forest Bureau of Land Management National Forest Foundation San Bernardino National Forest The Nature Conservancy Rancho Santa Ana Botanic Garden Amazing Staff!

Thank you!