



RANCHO SANTA ANA BOTANIC GARDEN

California's Native Garden

working towards conserving California plants



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Conservation Botanist



Echinocereus mohavensis

Mission



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...”



Ibex Hill, Inyo County

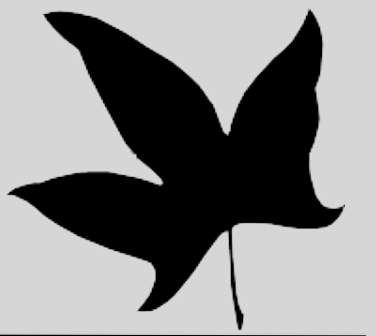


Eremalche rotundifolia



Phacelia campanularia

California flora



- ▶ California ca. 6500 native taxa
- ▶ ca. 35% are endemic
- ▶ Continued population growth, development





Brodiaea filifolia

San Diego County



- ▶ Most botanically diverse state in the county
- ▶ 2.8% of the total land area of the State
- ▶ 27% of California's plants diversity





Eremlache rotundifolia

Partnerships



SEEDS



OF SUCCESS



CALIFORNIA
NATIVE PLANT SOCIETY



CATALINA ISLAND CONSERVANCY

Center for
PLANT
Conservation

NATIONAL
FOREST
FOUNDATION

The Nature
Conservancy





Diplacus rupicola

Programs



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

- ▶ Regional floristic surveys
- ▶ Focused rare plant surveys, mapping, and monitoring
- ▶ 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



Erythranthe discolor



E. montioides



E. rubella



E. purpurea



E. rhodopetra



E. androsacea



Nemacladus longiflorus

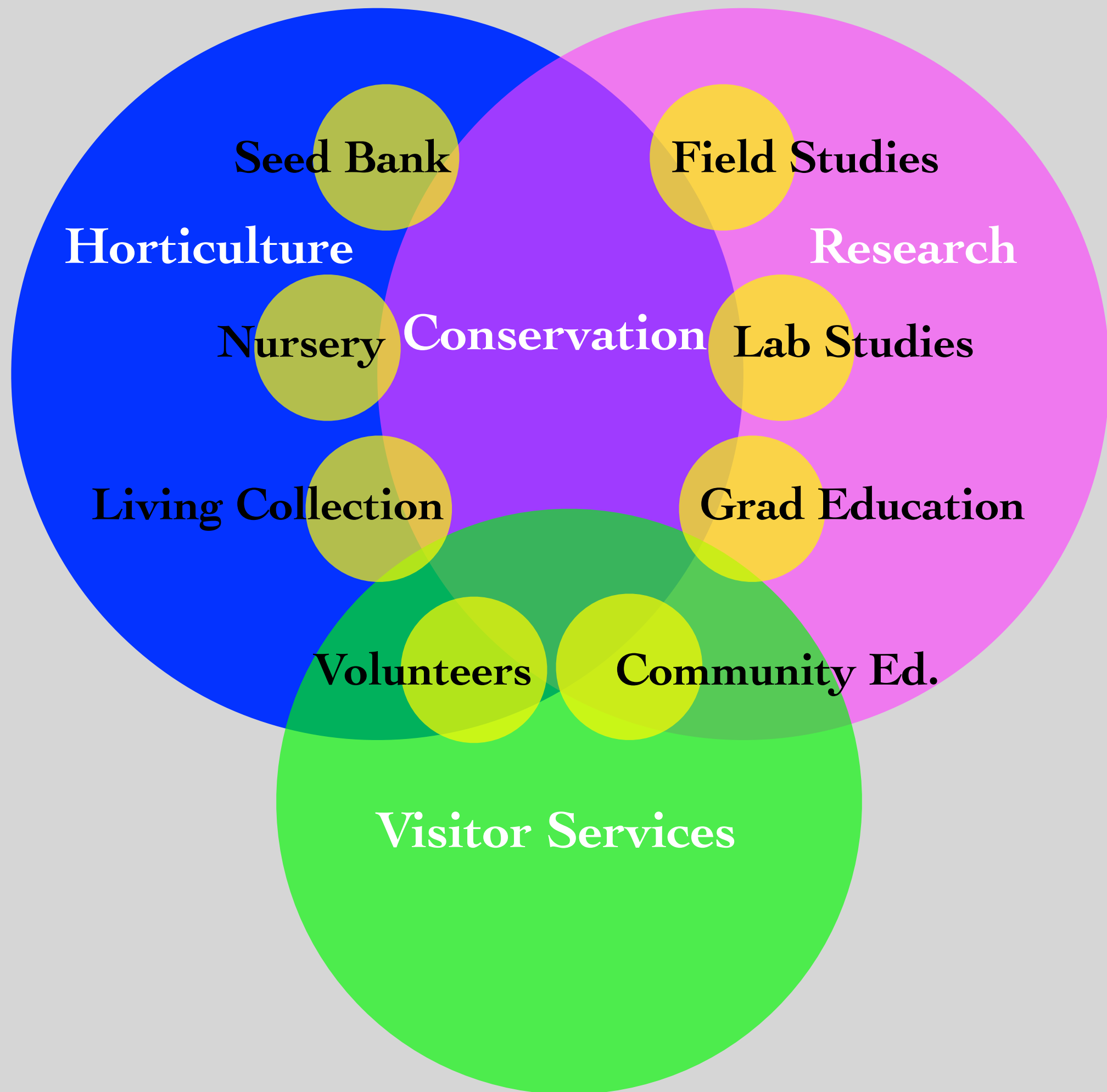
Botanic Gardens

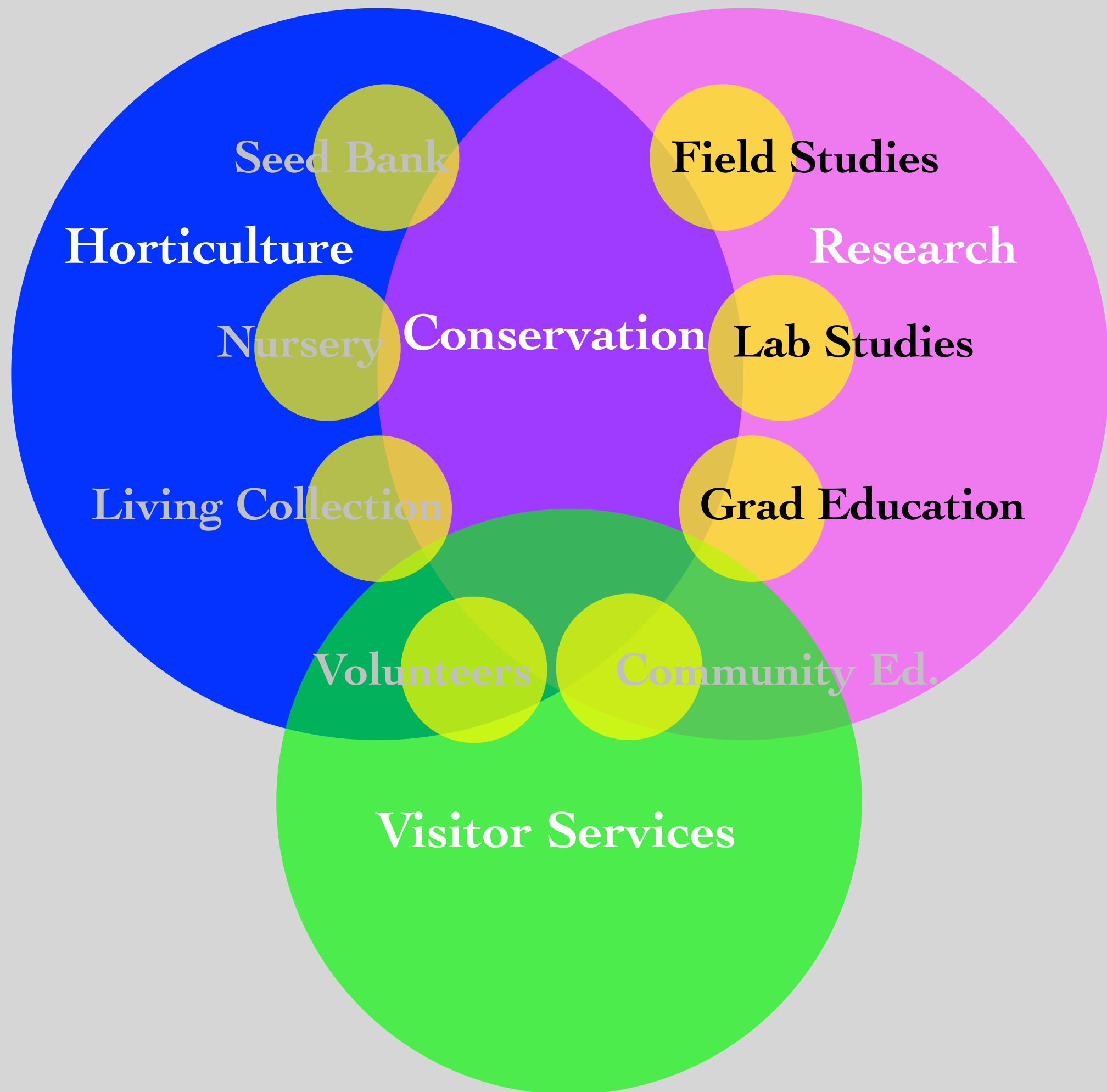


Plant Conservation at Botanic Gardens

- ▶ Botanic Gardens have an important role in *ex-situ* (off site) conservation
 - Last refuge for plants extinct in the wild
 - Horticulturists developing techniques to grow and maintain rare plants
- ▶ Rancho Santa Ana Botanic Garden also plays an important role in *in-situ* (in place) conservation









Phacelia stellaris

Field Studies



Focused Rare Plant Surveys

► *Phacelia stellaris* (star phacelia)

- 17 occurrences globally
- 4 occurrences seen since 2002 (gap between 1932-2002)
- 6 extant pops, 10 presumed extinct pops, 1 unknown

► *Eriogonum evanidum* (vanishing wild buckwheat)

- Species thought to be extinct
- Relocated it across its historic range
- Pine Valley (San Diego County)
- Provided Conservation Assessment



Eriogonum evanidum



Linanthus killipii

Field Studies



Floristic Studies

- ▶ Flora of the Santa Ana River Watershed, San Bernardino Mountains (2012)
 - New native county record
 - Three new weeds (early detection of weeds)
- ▶ Flora of the Jennie Lakes Wilderness, Sierra Nevada (2013)
 - NO weeds documented (baseline)
- ▶ Flora of the Bighorn Mountain Wilderness, San Bernardino County, California (ongoing)
 - Mapped ## rare plants in an area where no rare plants had been mapped!

CROSSOSOMA

Journal of the Southern California Botanists, Inc.



Flora of the Upper Santa Ana River Watershed

Volume 37, Numbers 1 & 2

2011



Erythranthe shevockii

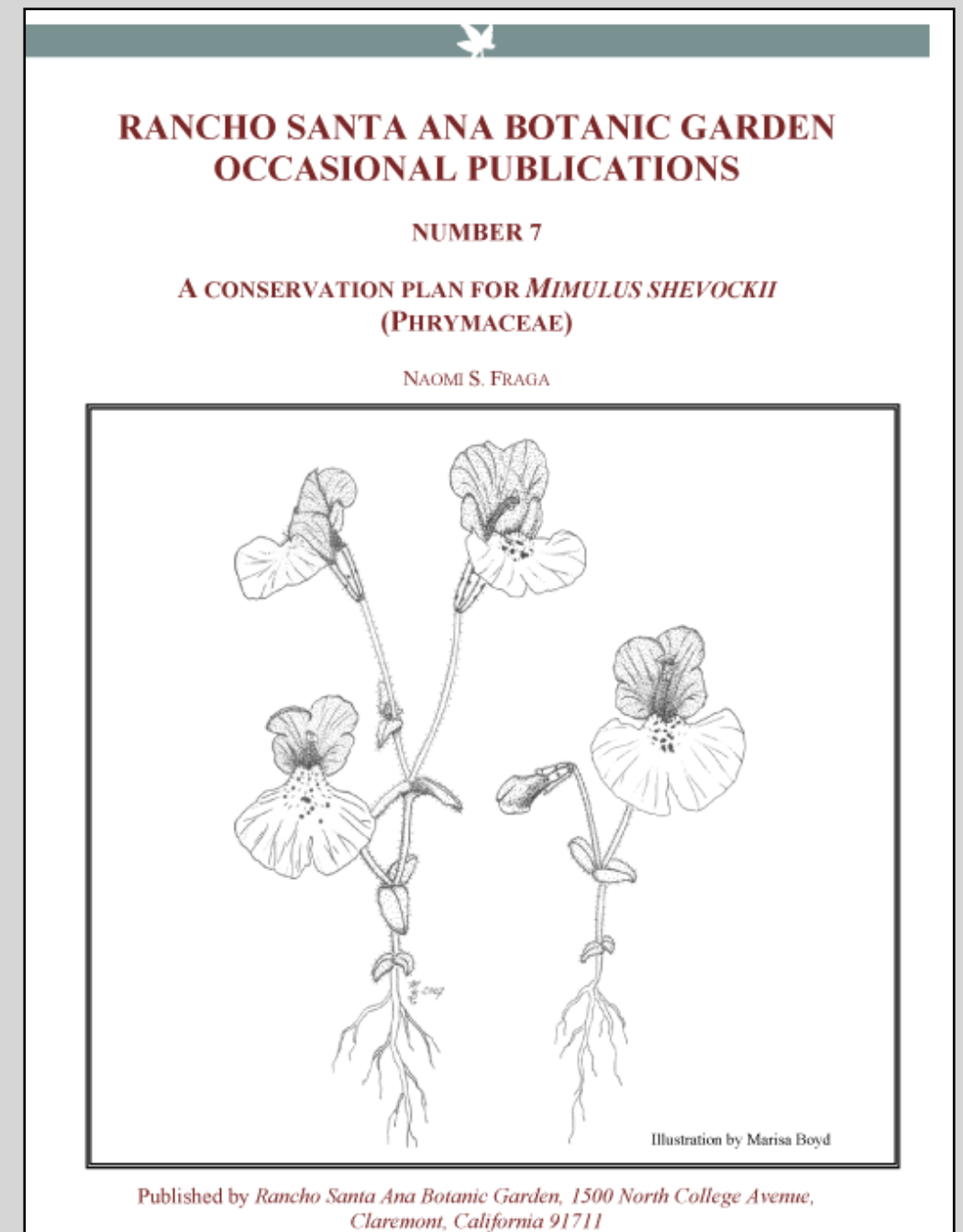
Grad Education



Conservation Plans for non-listed species

- ▶ *Erythranthe shevockii* (2007)
- ▶ *Frankenia palmeri* (2013)
- ▶ *Agave shawii* subsp. *shawii* (in press)

Summarizes recommended conservation actions and all known information, but also *fosters professional development and training in plant conservation*





Helianthus annuus

Lab Studies



Kinds of Research based studies

- ▶ Phylogenetic research
 - *Monardella viminea*
- ▶ Population genetic studies
 - *Hazardia orcuttii*
- ▶ Common garden studies
 - *Trichostema austromontanum*
subsp. *compactum*
- ▶ Reproductive biology studies
 - *Nolina interatta*



Astragalus peirsonii





Helianthus annuus

Lab Studies



Phylogenetic Research

- ▶ *Astragalus peirsonii*

Results: *As distinctive as other species in subsection; not nested within A. magdalenae*

- ▶ *Monardella linoides* subsp. *viminea*

Results: *Support recognition of M. viminea and M. stoneana as separate from M. linoides*



Monardella viminea



Calochortus palmeri

Strategic Plan



Build the Conservation Program by bringing the intellectual and facilities capacities of RSABG to bear on advancing knowledge of and Conserving California plants and habitats



Thank you!





Erythranthe shevockii

Thank you!

