



Post-Fire Recovery in the Caldor Fire Scar

Leveraging Collaboration &
Partnership to Protect Diversity

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Outline

- Project Overview
- Volunteer Engagement & Collaboration
- Methods & Results:
 - Yellow Bur Navarretia
 - Pleasant Valley Mariposa-lily
 - **Sierra Valley Lewisia**
- What's Next? (Mosquito Fire)



Photo: Courtney Matzke



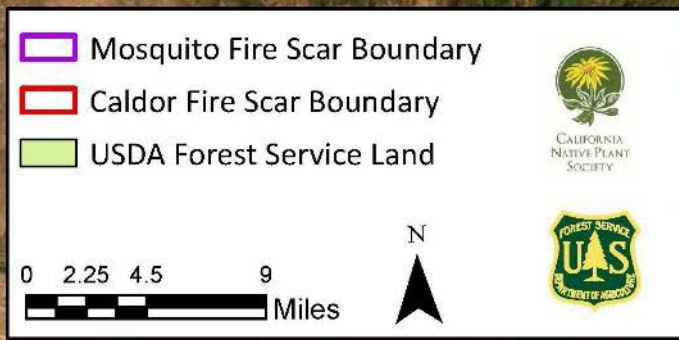
Photo: Courtney Matzke

El Dorado National Forest Caldor & Mosquito Fire Recovery

Project Overview

Caldor Fire:

- 08/14/21- 10/21/21
(68 days)
- Nearly 222k acres
- Mostly El Dorado
County, also Alpine &
Amador Counties



Legend:

- Mosquito Fire Scar Boundary (purple outline)
- Caldor Fire Scar Boundary (red outline)
- USDA Forest Service Land (green fill)

Scale: 0 2.25 4.5 9 Miles

Logos: CALIFORNIA NATIVE PLANT SOCIETY, FOREST SERVICE US DEPARTMENT OF AGRICULTURE

Esri, Inc., Geographic, California State Parks, Esri, TomTom, Garmin, SafeGraph, FAD, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, USFWS



Project Overview: Objectives

Project term: March 2024 – September 2024

1. Collect seed for 3 target rare taxa, minimum:
 - 1 population: long-term seed banking (CalBG)
 - 3 populations: short-term objectives (USFS)
2. Collect population data and herbarium vouchers
3. Collaborate with local volunteers for support and expertise (target: ~425 volunteer hrs)



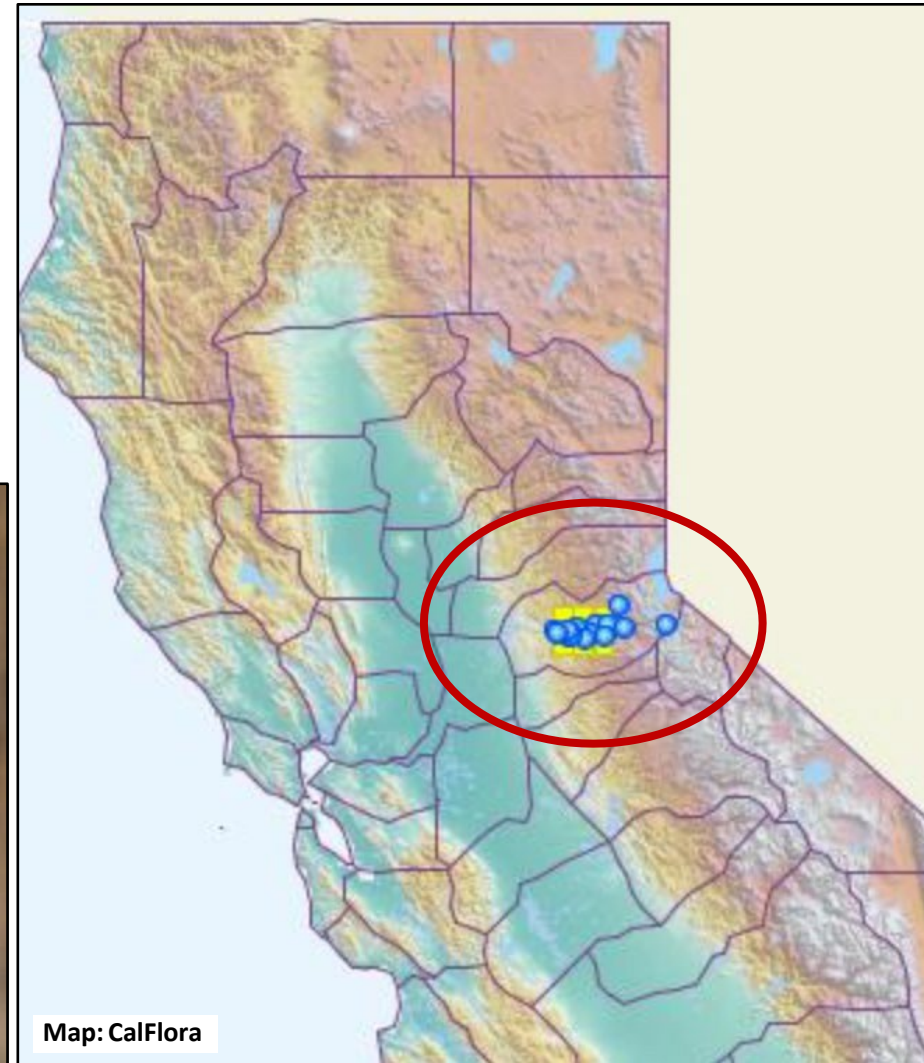
Photo: CourtneyMatzke

Project Overview: Target Taxa

Navarretia prolifera subsp. *lutea*

Yellow bur navarretia

CRPR 4.3; endemic to El Dorado County

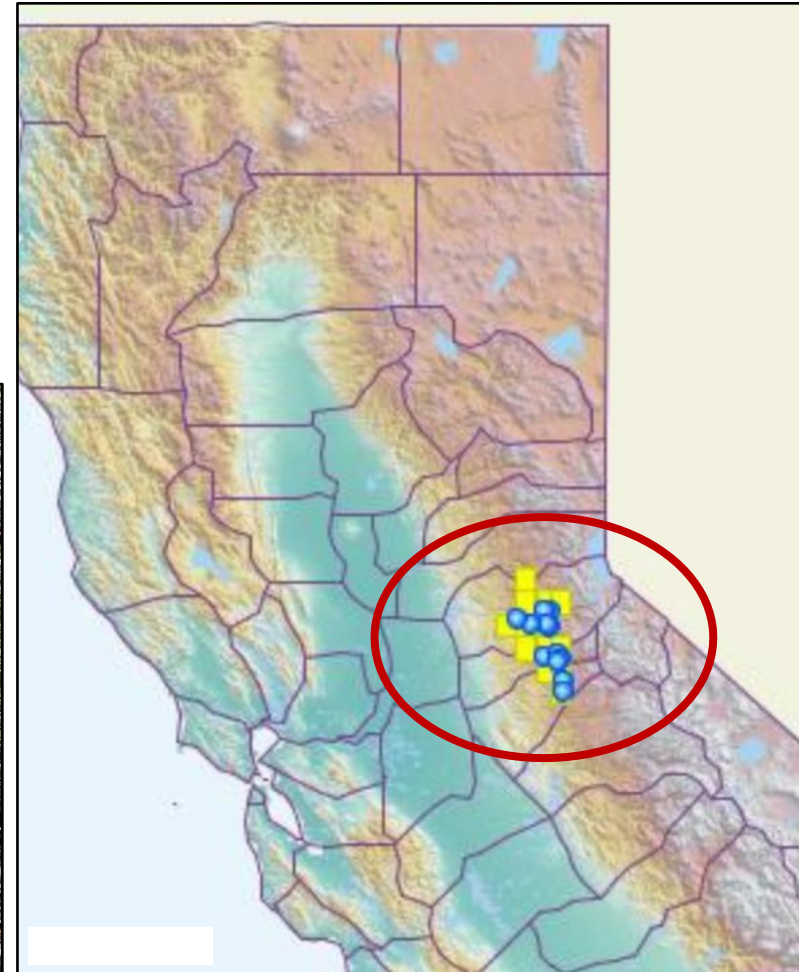


Project Overview: Target Taxa

Calochortus clavatus var. *avius*

Pleasant Valley mariposa-lily

CRPR 1B.2; El Dorado, Amador, & Calaveras Counties

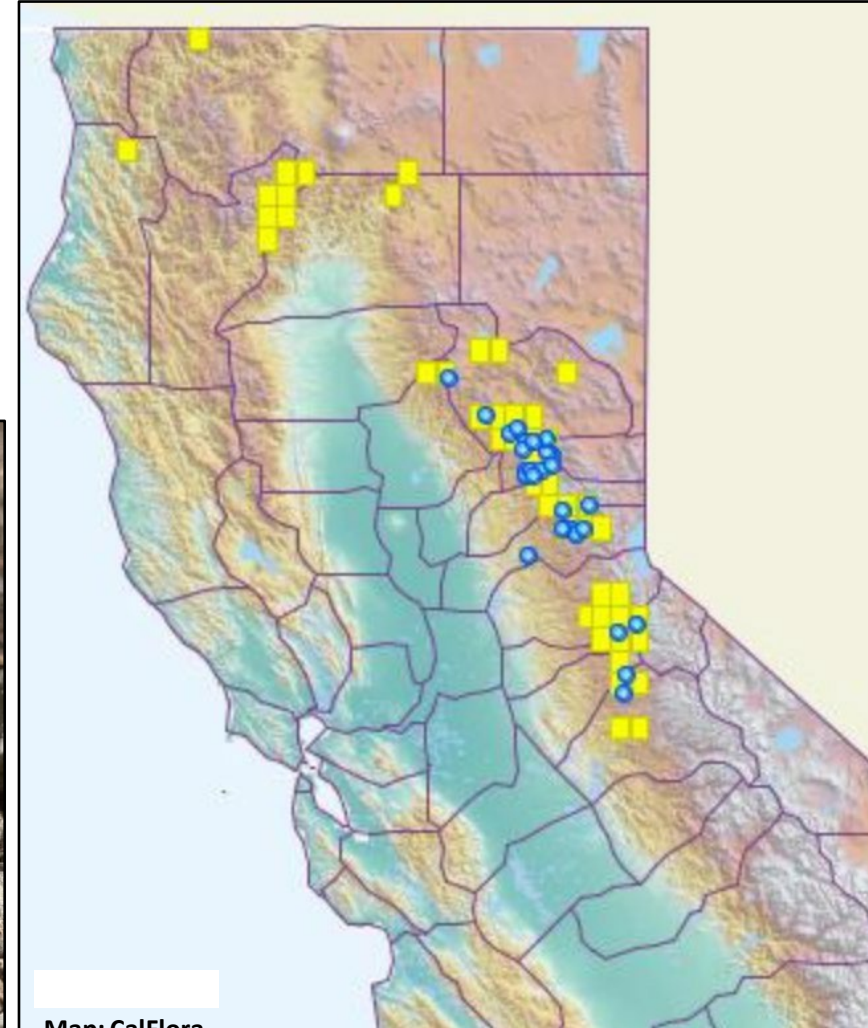


Project Overview: Target Taxa

Lewisia kelloggii subsp. *hutchisonii*

Sierra Valley (Hutchison's) Lewisia

CRPR 3.2; wider range, concentrated in Plumas, Sierra, Nevada, Placer, Eldorado, Amador, & Tuolumne Counties



Volunteer Collaboration

- Was optimistically hoping to get 15-20 volunteers
- We ended up with **more than 60!!!**
- Planned and led four in-person trainings and one virtual session in Feb / Mar
- Lots to consider for coordination, logistics, data collection with this large of a group



Volunteer Effort

- 03/24 – 09/11, volunteers logged:
 - 126 work days
 - 498.5 hours
 - 3,823 driving miles
- **Staff + volunteers:**
 - Submitted 157 surveys
 - Visited 58 'population' groupings



Results: Yellow Bur Navarretia

Navarretia prolifera subsp. *lutea*, CRPR 4.3

- Collected entire plants in envelopes
- 12 vouchers (diff. popns.)
- ~43k seeds from 279 maternal lines
- Primary challenge: co-occurs with *N. p. var. prolifera* – had to vet popns during a short bloom window

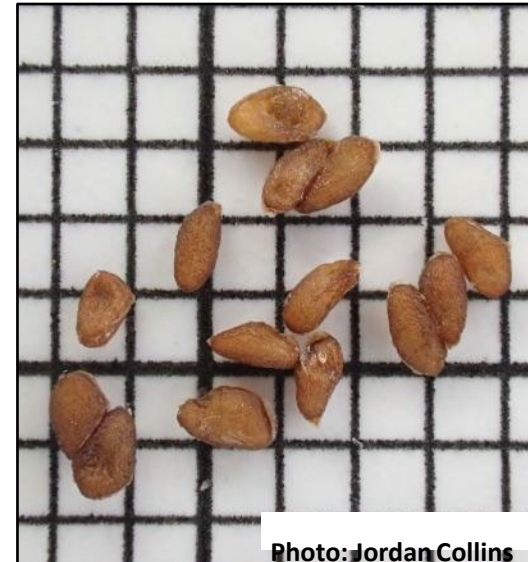


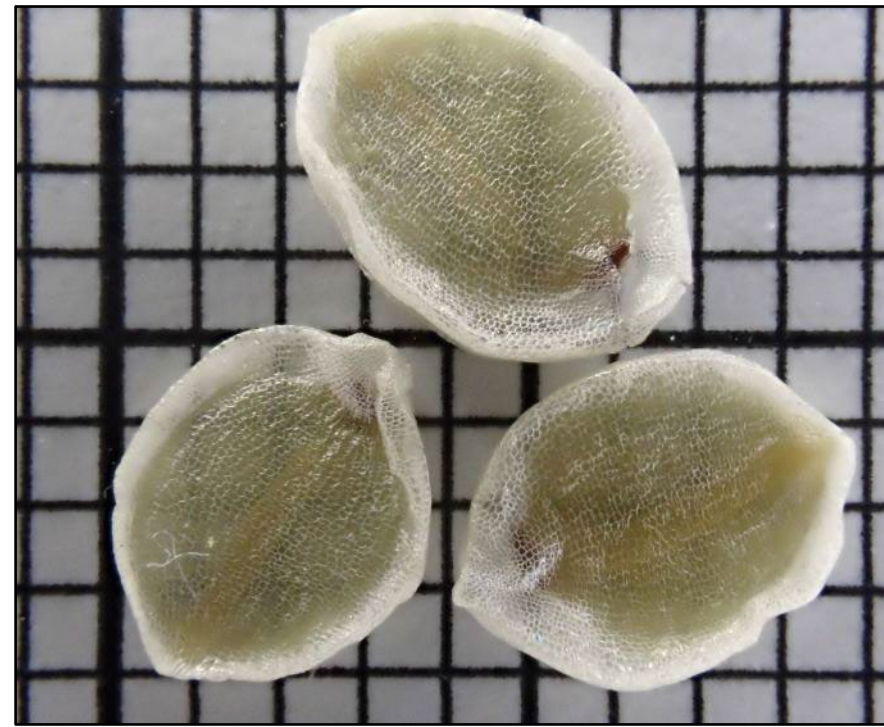
Photo: Jordan Collins



Results: Pleasant Valley mariposa-lily

Calochortus clavatus var. *avius*, CRPR 1B.2

- Collected entire pods or dumped seed
- 3 vouchers (diff. popns.)
- ~35k seeds from 177 maternal lines
- Primary challenge: significant herbivory on mature pods



All Photos: Jordan Collins

Results: Sierra Valley lewisia

Lewisia kelloggii subsp. *hutchisonii*, CRPR 3.2

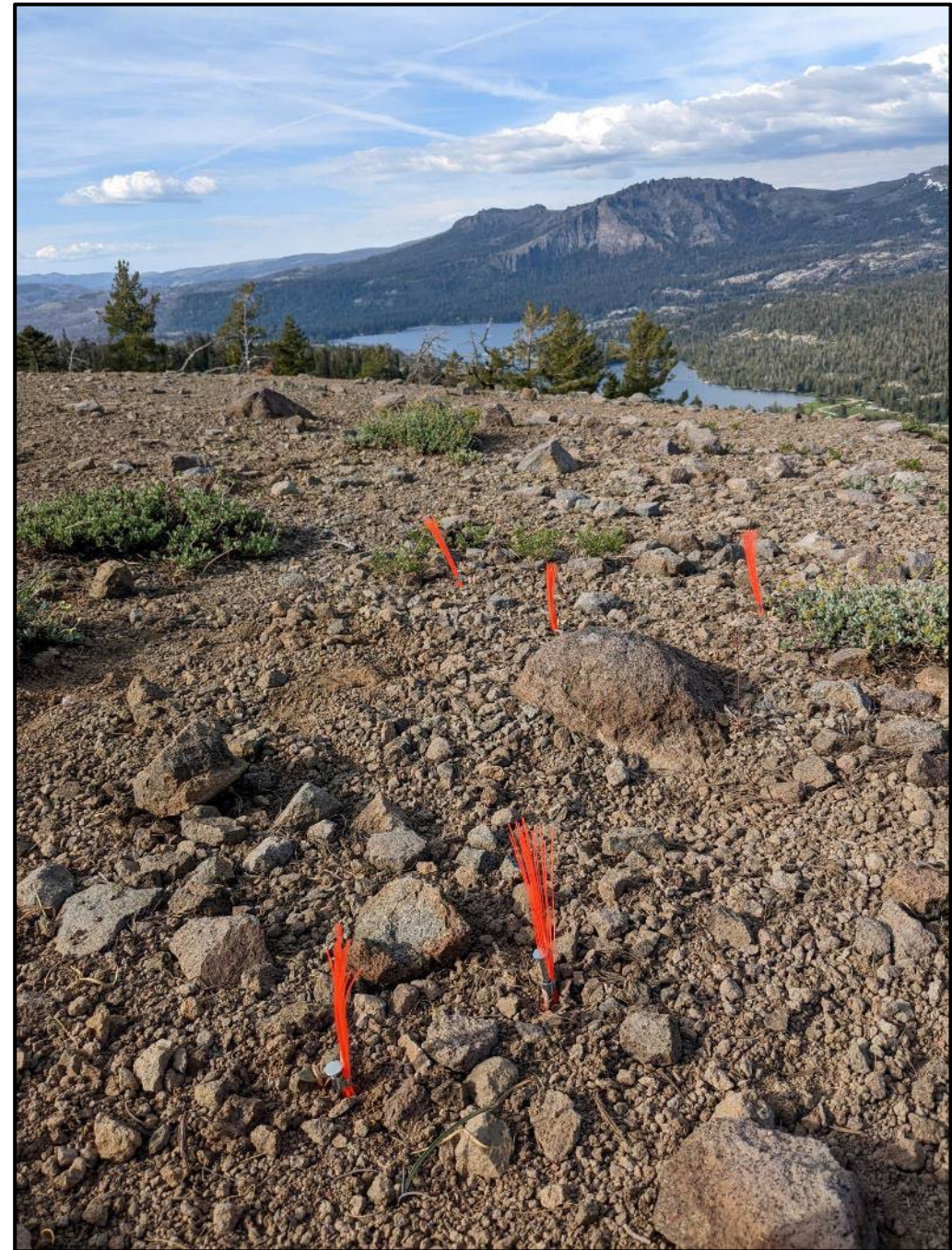
- Collection process complicated
- 4 vouchers (diff. popns.)
- ~6.5k seeds from 84 maternal lines
- Primary challenge: literally everything (timing, marking/re-locating plants, excavating, collecting, cleaning)



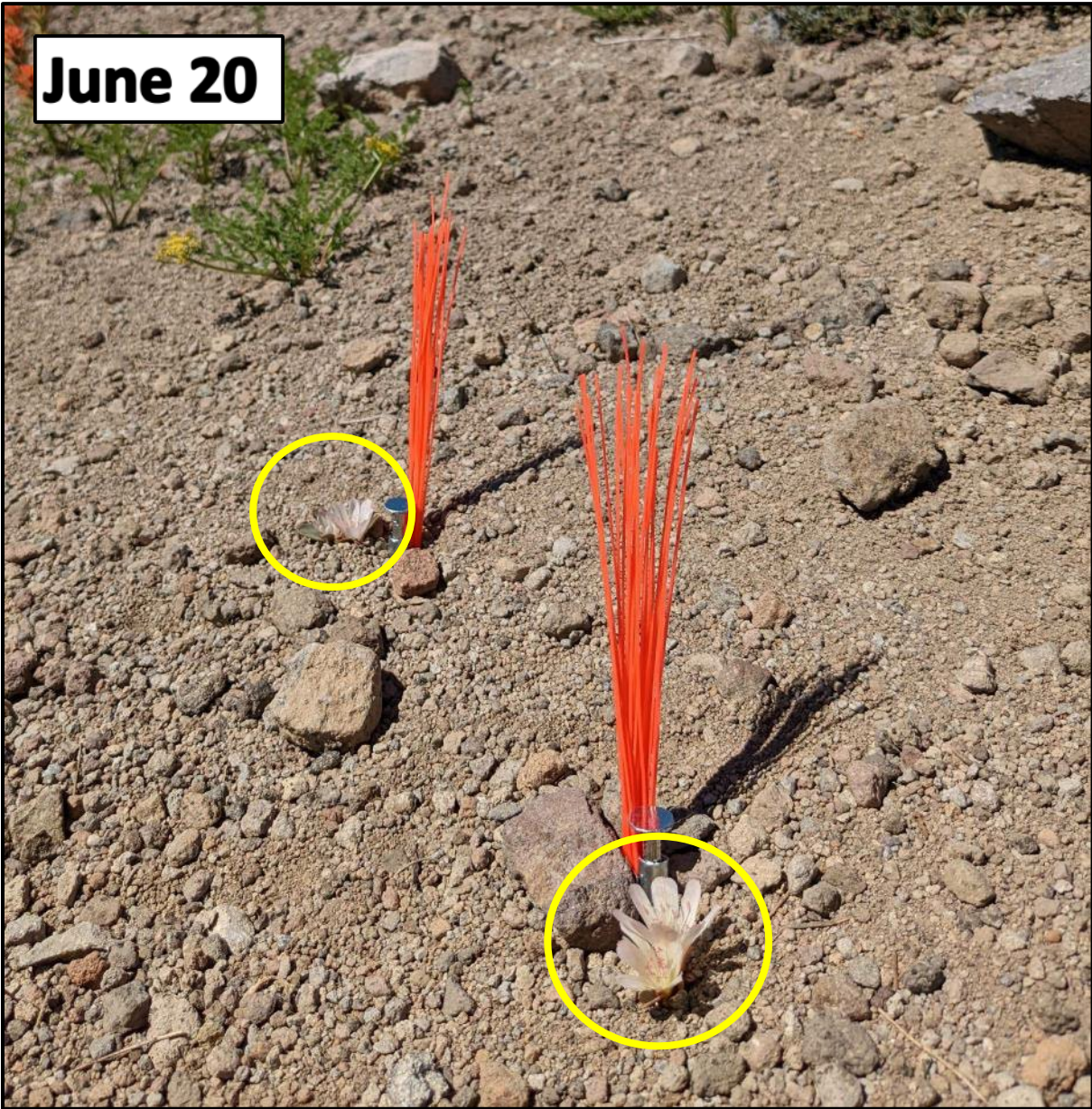
Disappearing Lewisia!

1. Retractable roots – the plants disappear quickly after flowering

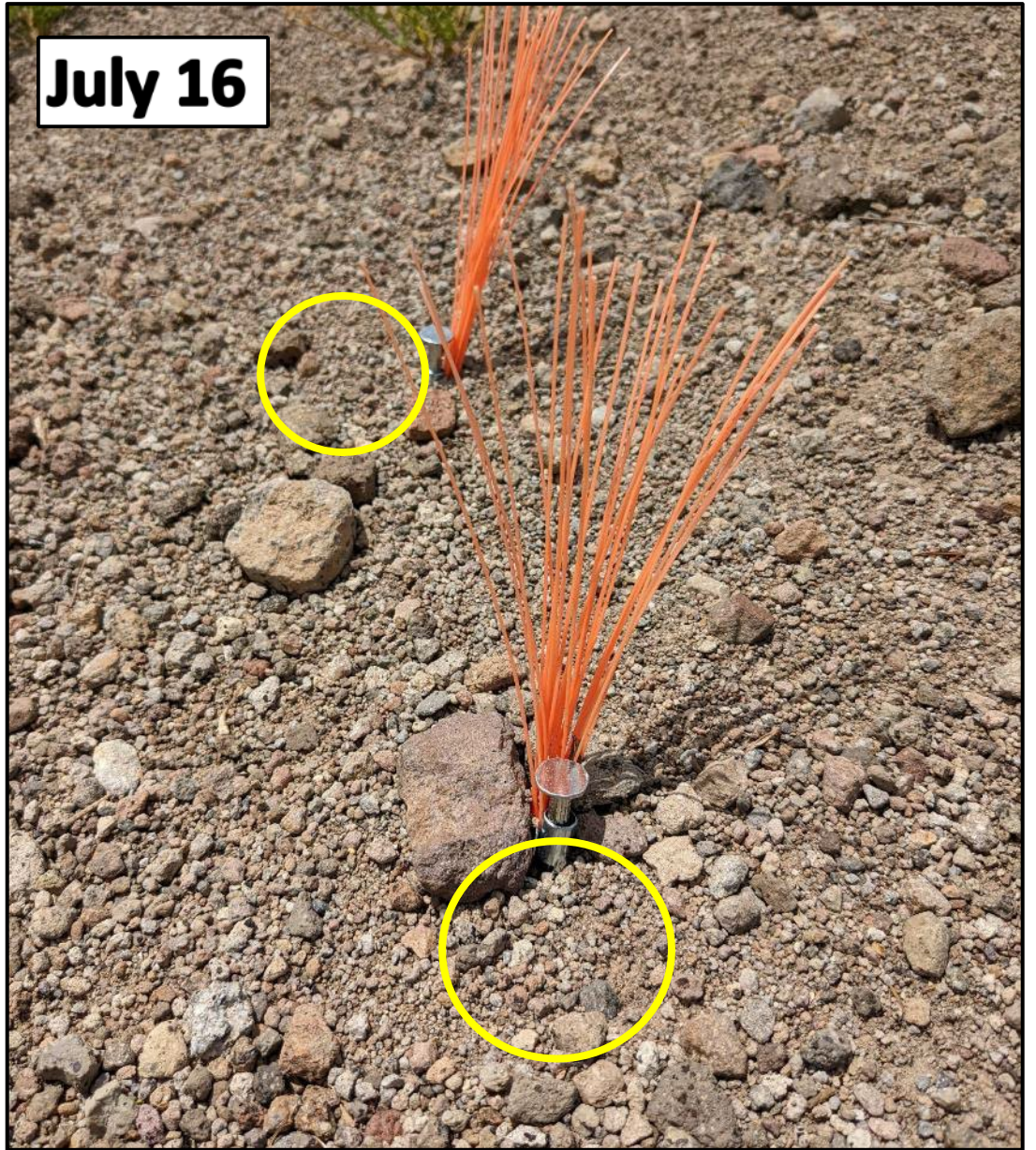
- Needed to mark individual plants while in flower



June 20



July 16



Disappearing Lewisia!

1. Retractable roots – the plants disappear after flowering
2. **Finding the seeds underground...?**
 - How are we going to locate & isolate seeds in the soil?



Fresh capsule

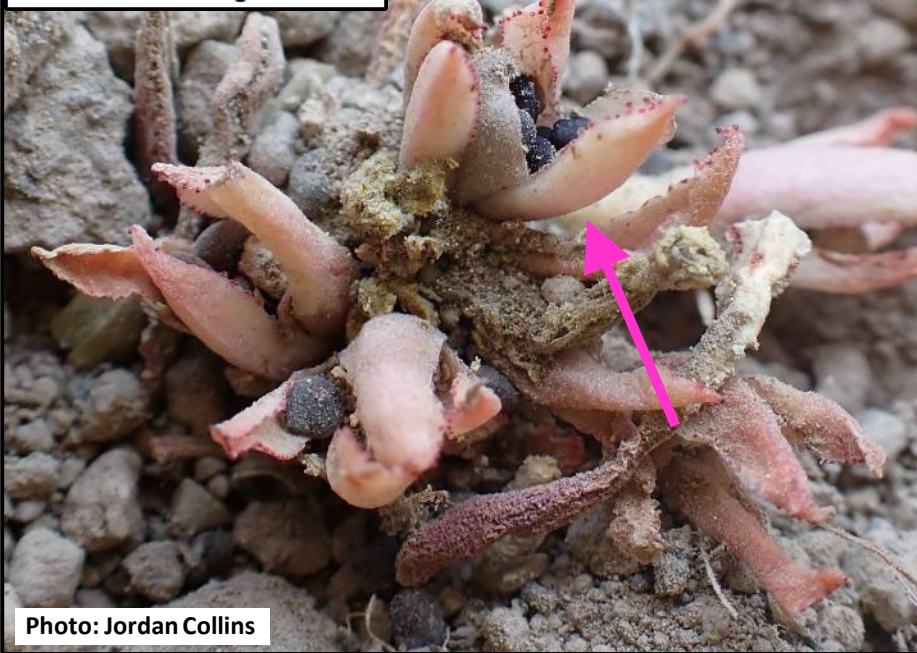
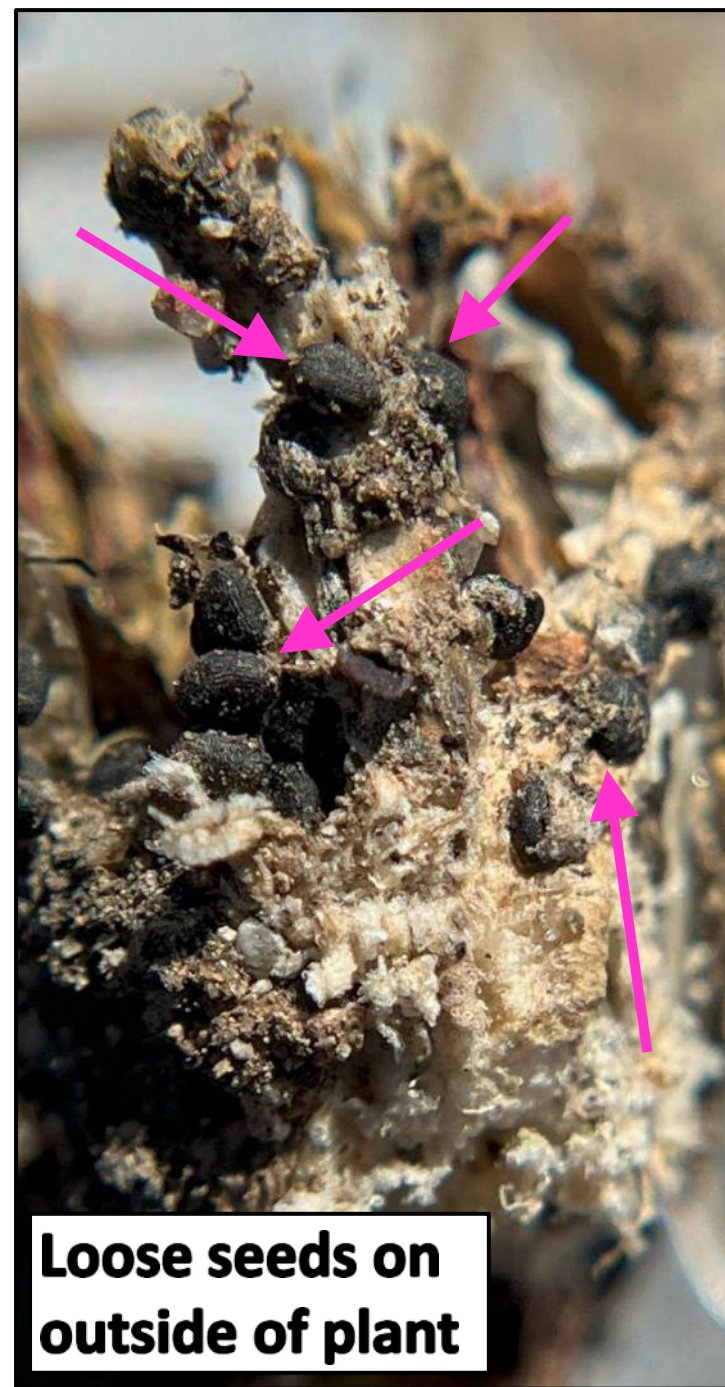


Photo: Jordan Collins

Unopened capsule

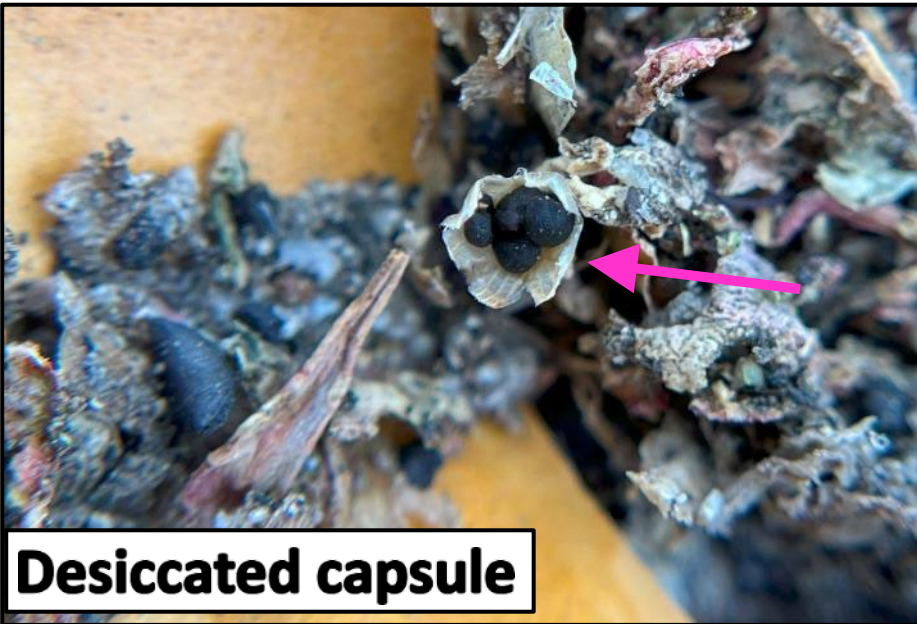


Photo: Jordan Collins



Loose seeds on outside of plant

Desiccated capsule



Disappearing Lewisia!

1. Retractable roots – the plants disappear after flowering
2. Finding the seeds underground...?
3. **Not killing the mature plant while collecting seed**





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Bill Blackburn

Brendan Wilce

Carol Vittore

Carolyn Gravelle

Corrie Galvan

Cynthia Powell

Dan Linhardt

Daniel Macias

Dawn Marquez

Diana Muñoz

Elaine Lauer

Gabrielle Stadem

Gus Bauman

Hannah Stone

Jackson Marquez

Jan Jones

Janet Cicero

Jean Bauwens

Jennifer McDowell

Julie Horenstein

Kaitlin Lubetkin

Katheleen Gadway

Katie Rahaim

Krista Ericson

Leann Schroeder

Leslie Parker

Lester Lubetkin

Lisa Couper

Lorraine Luna

Lynne Tweten

Mahala Guggino

Marcella Jaeger

Martin Mortensen

Ola Jane Gow

Paula Bertram

Rhoda Cortez

Rich Wade

Rosalind Rowe

Sarah Hauck

Sarah Roy

Sicely Sohn

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Torrance Haynes

Uriah Benett

CNPS El Dorado

Chapter

CNPS Sacramento

Valley Chapter

CNPS Redbud Chapter

Questions?

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