

# Vascular Flora of the Boulder Creek Watershed, Jennie Lakes Wilderness, and Evans Grove Complex, Fresno and Tulare Counties, CA

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## Background



Photo of Rough Fire (2015) burn scar near Boulder Creek with smoke from the Basin Fire (July 2024)

California's Sierra Nevada mountain range is a global biodiversity hotspot. While some parts of the range have historically received a great deal of attention from botanists, meaningful sampling gaps remain. One such gap centers around the Boulder Creek watershed in Fresno and Tulare counties, including two known endemism hotspots. The area is impacted by increasingly common high-intensity fires, extensive recreational use, invasive species, and competing management goals. As is often the case with floristic work in our changing climate, it is essential to establish a clear record of floral diversity before that diversity is lost or so severely impacted that it cannot be recovered.

## Objectives

- Produce a voucher-based annotated species checklist
- Document new records and range extensions of species through herbarium vouchers
- Relocate historical populations & survey for new populations of rare plants
- Prioritize outreach, including through field assistants and iNaturalist

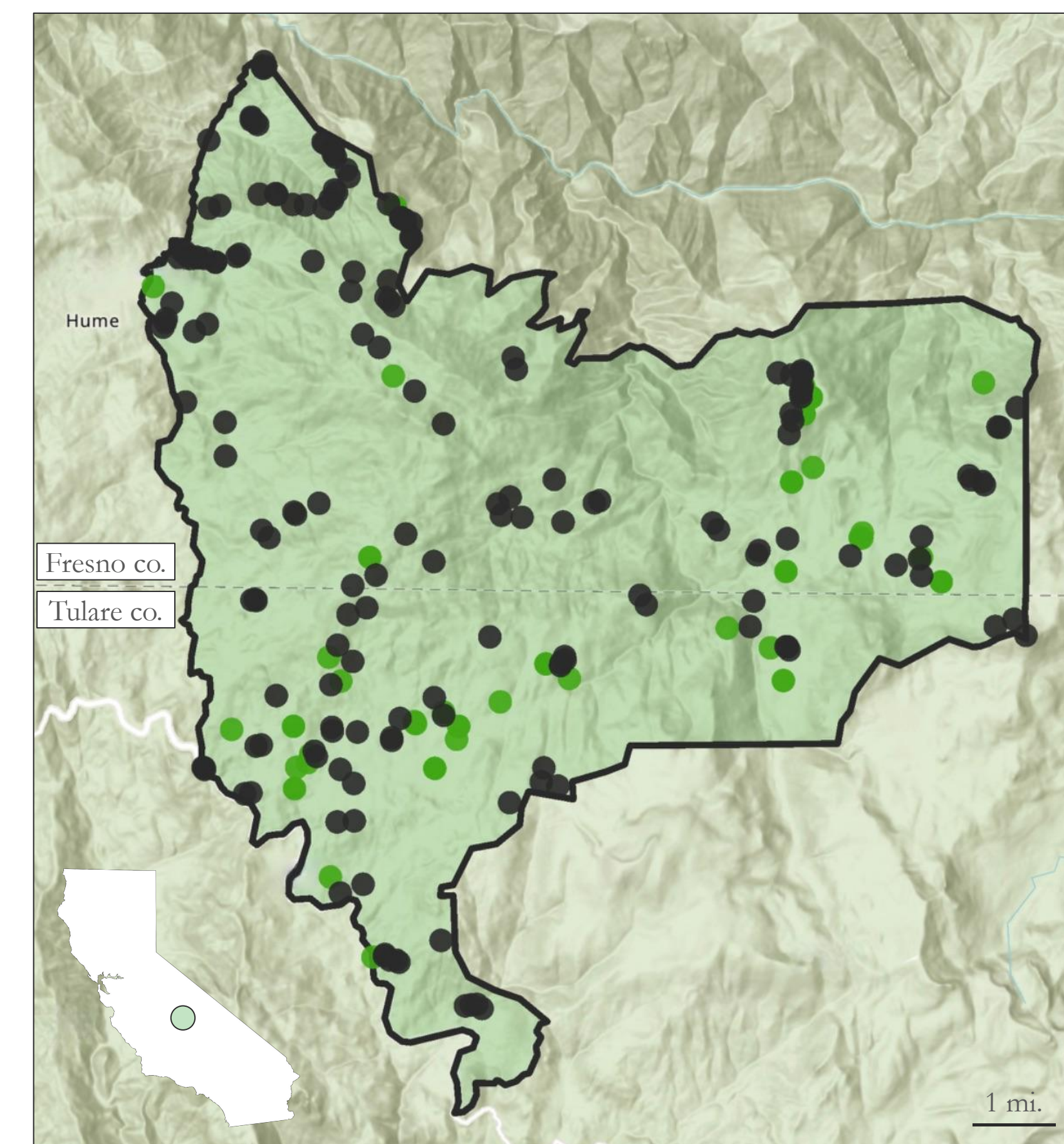
## Methods

1,000-1,500 herbarium specimens will be collected in the 2024-2025 field seasons. Surveys will target unique topography, geology, historical specimens, and burn scars. Metadata for each specimen will include coordinates, elevation, locality remarks, habitat descriptions, associated taxa, phenology, and all other relevant notes. After identification, specimens will serve as vouchers for the species checklist. Outreach will at least include 1) widely recruiting field assistants and 2) curating an iNaturalist project with photos of collected plants.



Garrett in Lost Meadow

## Study Site



← Fresno (approx. 60 mi.) ↓ Sequoia NP Kings Canyon NP →

The study site covers over 60 square miles of land managed by Sequoia National Forest. Over 50 percent of the study area has burned in the past ten years, most notably in the 2015 Rough Fire. The elevation ranges from 3,250 to 9,500 feet, with the average just below 7,000 feet. Plant communities include lodgepole forest, red fir forest, giant sequoia grove, meadow, yellow pine forest, and foothill woodland.

- Study area
- Historical collections
- 2024 collections

## Preliminary Results

- 723 collections
- 50 field days
- 14 trips
- 11 field assistants
- Collected at least 9 California Rare Plant Rank species & subspecies (CRPR taxa)

Logging activity, including surveys for future projects, documented in the vicinity of eight CRPR taxa. Logging resulted in habitat disturbance for two CRPR taxa. Cattle grazing documented in the habitat of four CRPR taxa, including signs of grazing on two. Recreation observed near all nine CRPR taxa.

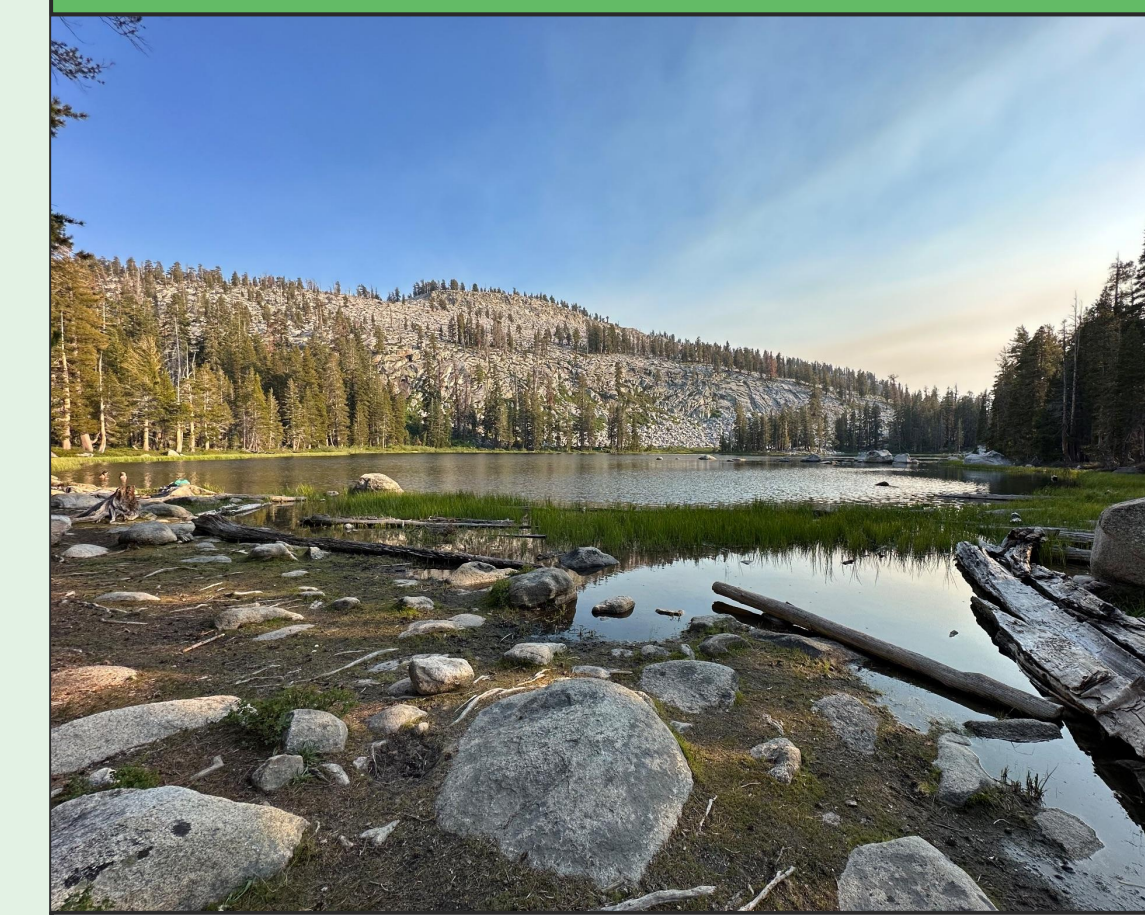


Logging in rare plant habitat



Borrow pit with *Ivesia campestris* (CRPR 1B.2) in foreground

## 2025 Field Season & Beyond



Weaver Lake in Jennie Lakes Wilderness

Approximately 50 field days will be completed in 2025. If permitted, the Jennie Lakes Wilderness will be added to the study area. An effort will be made to relocate the four historically present CRPR taxa that were not relocated in 2024. The resulting flora and checklist will be published.

## Acknowledgments

Thank you to my advisor, Dr. Mare Nazaire, for mentoring me in all aspects of this project. Many thanks to everyone else who has supported this work as a field assistant, mentor, or peer. Thank you to all my funding sources, including Mike Hagebusch, CNPS Alta Peak Chapter, and all institutions represented by their logos below.



## Notable collections in 2024



*Hosackia oblongifolia* var. *cuprea* (CRPR 1B.3)



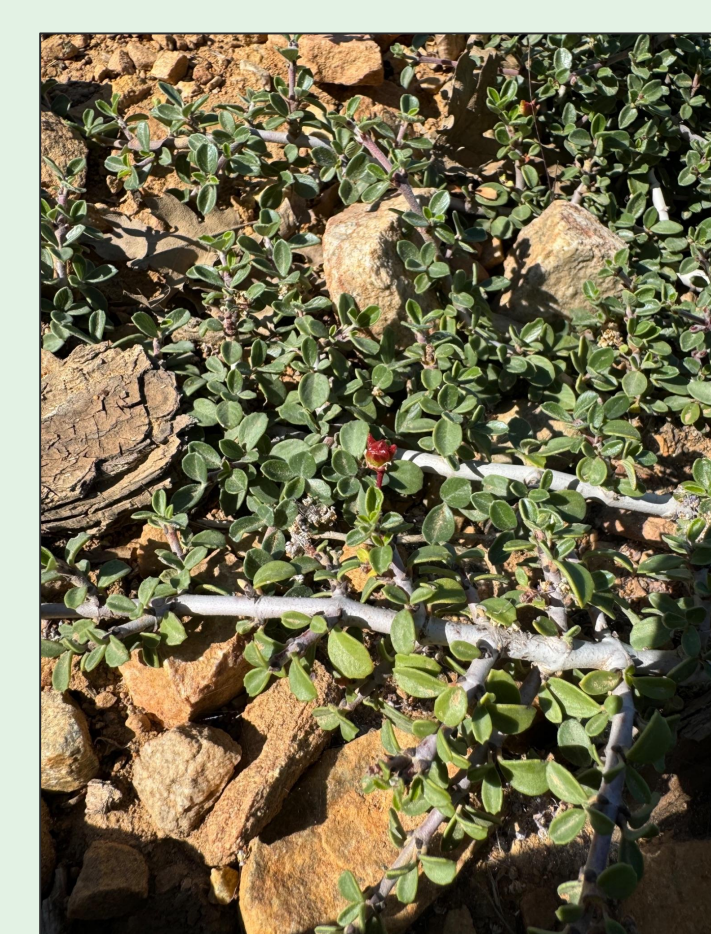
Abundant flowering stems of *Utricularia intermedia* (CRPR 2B.2)



*Oreonana purpurascens* (CRPR 1B.2)



Many thousand flowering stems of *Spiranthes*



*Ceanothus fresnensis* (CRPR 4.3)



*Ivesia campestris* (CRPR 1B.2)



*Dicentra nevadensis* (CRPR 4.3)