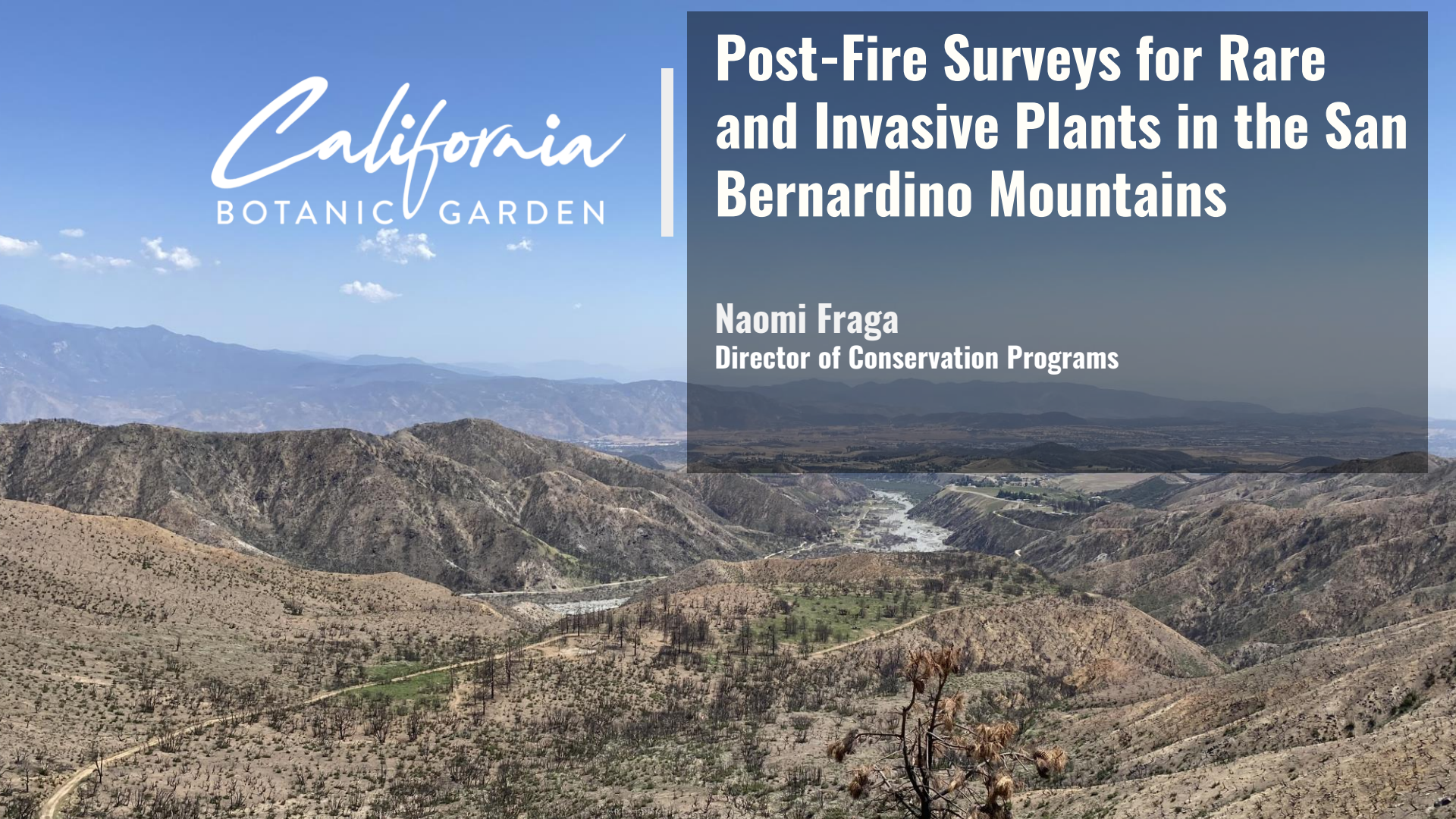




California
BOTANIC GARDEN

Post-Fire Surveys for Rare and Invasive Plants in the San Bernardino Mountains

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Acknowledgements



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chapter



2020 fire affected areas on SBNF

- Apple Fire (33,424 acres)
- El Dorado Fire (22,744 acres)
- Snow Fire (6,254 acres)



The need for surveys following fire events

Likely to locate previously unknown populations of invasive species or detect new infestations

- Fire response equipment may have brought in weed propagules
- Burn areas that are surveyed have been cleared of competing vegetation by fire, stimulating germination and making plants easier to find



Project Scope

Perform floristic surveys of the Apple, El Dorado and Snow Burned Areas.

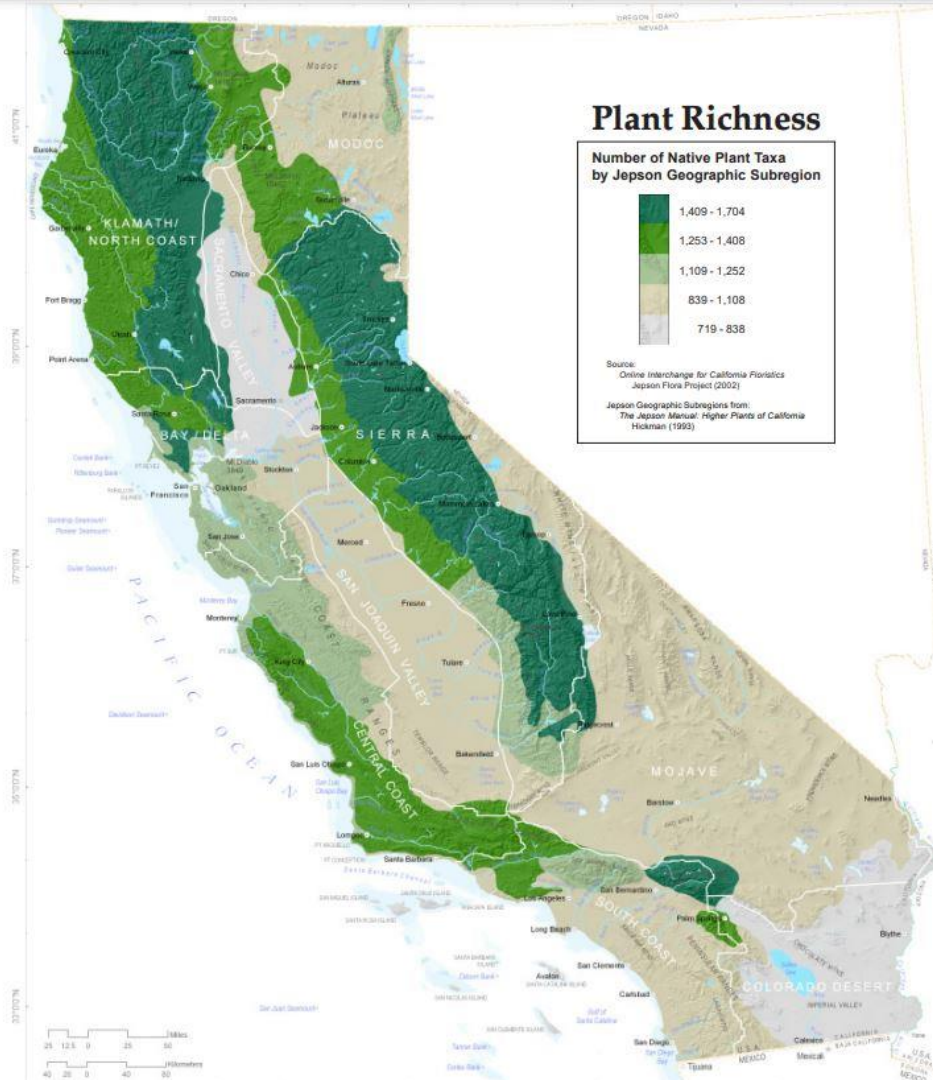
Report invasive species subject to early detection and rapid response protocols soon as possible, and not later than one week of discovery.



An Enumeration of the Pteridophytes and Spermatophytes of the San Bernardino Mountains, California by Samual Bonsall Parish

"Yet nowhere else in America save on the adjacent San Jacinto Mountains, is there displayed in such close conjunction so wide a range of phytogeographic regions..."





Plant Richness

Atlas of the Biodiversity of California

California Department of Fish and Wildlife





Rare Plants

Large number of listed and sensitive plant taxa

- 21 listed plants
- 92 Forest Service sensitive plants
- 39 watch list plants

Horkelia wilderae
Barton Flats horkelia





Results (Rare Plants)

Sidalcea hickmanii **subsp.** *parishii*

- 1B.2, S1, G3T1, Forest Service Sensitive
- Fire following species
- Not frequently encountered
- Vegetation/fuels management (dozer lines) and fire suppression cited as threats
- 2 occurrences in CNDDDB cite invasive species as a threat, but lacks specific info. *Bromus tectorum*?



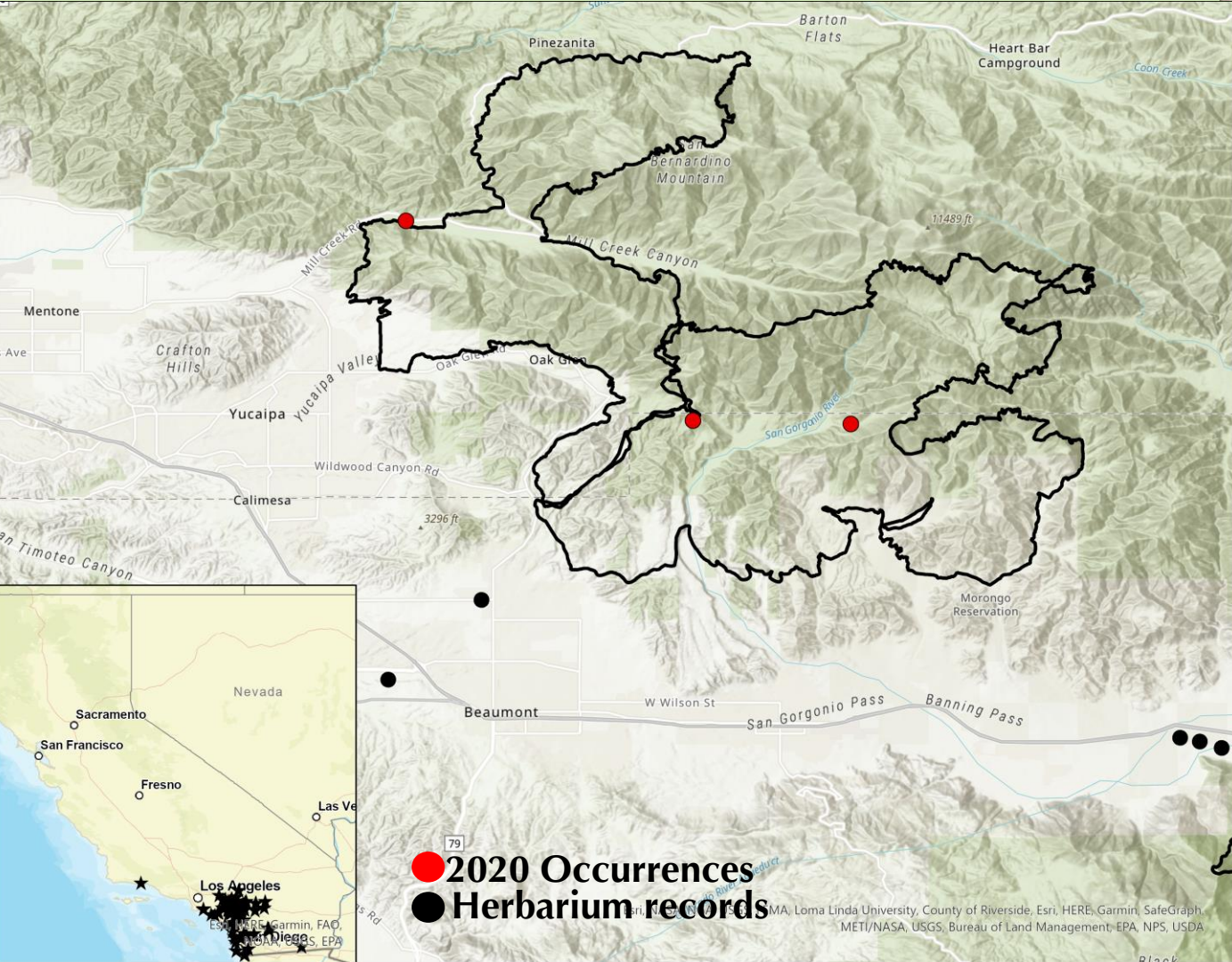
Results (Invasive Plants)

Results Preliminary

Two invasive species of concerns in southern California

Oncosiphon pilulifer (**stinknet**)

Chondrilla juncea (**skeleton weed**)



Oncosiphon pilulifer

- Annual herb
- South coast and desert in southern California
- Cal-IPC rating: High

● 2020 Occurrences
● Herbarium records

Map data: Esri, DeLorme, Garmin, FAO, IGN, Intermap, Inc., Japan, NGA, NITN, NOAA, NPS, USGS, USMA, Loma Linda University, County of Riverside, Esri, HERE, Garmin, SafeGraph, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, USDA

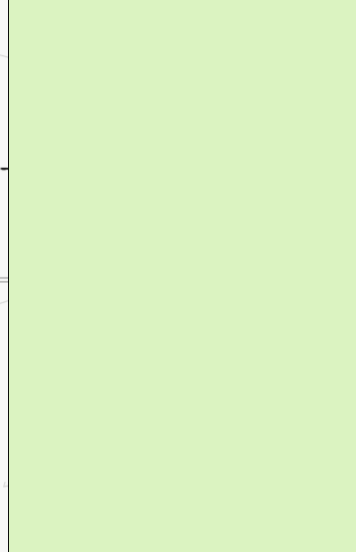
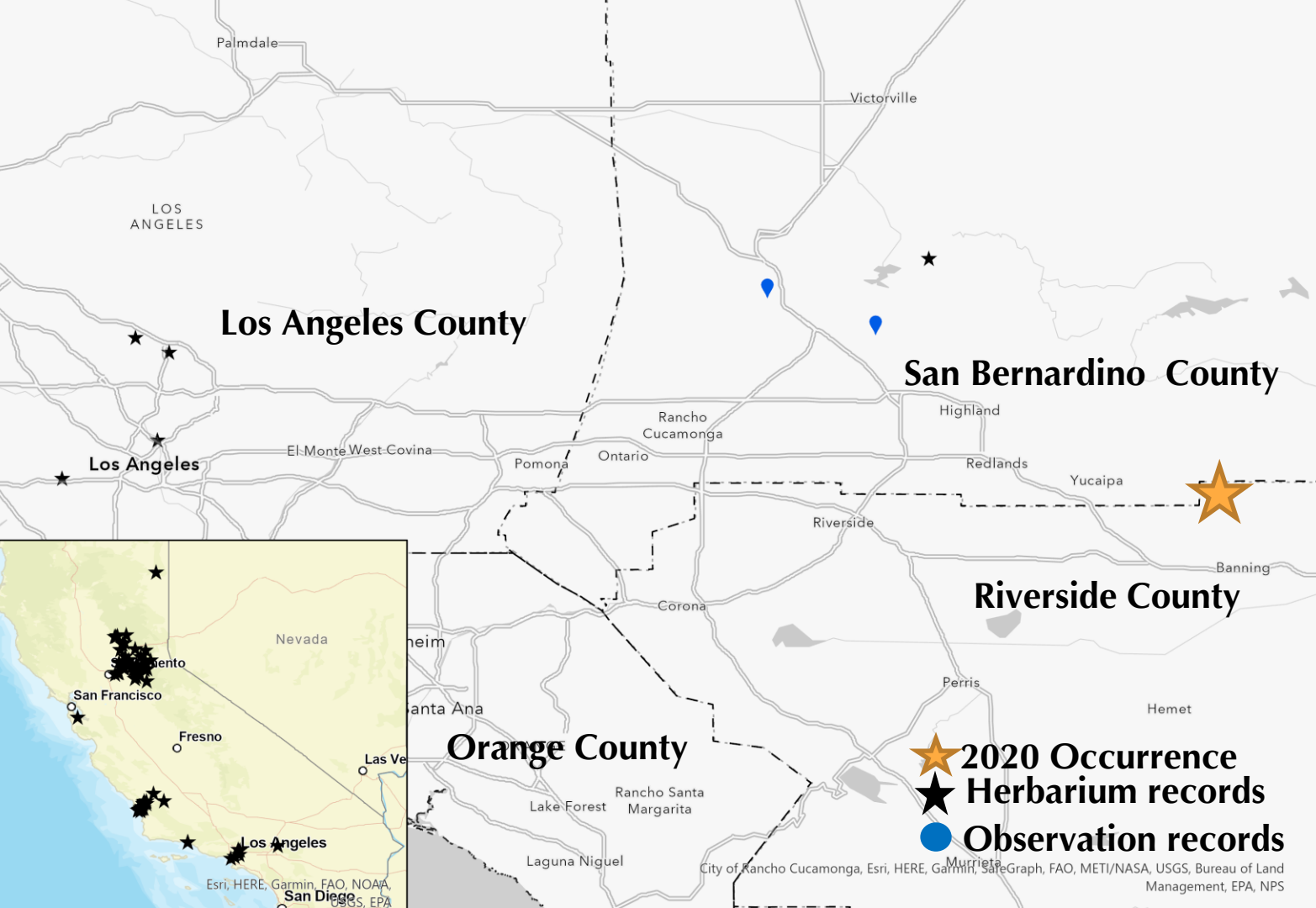
Chondrilla juncea (skeleton weed)

Results Preliminary

- 1st record for Riverside County
- 4th known record on the SBNF
- Perennial or biennial forb
- Uncommon, but highly competitive
- Cal-IPC rating: moderate
- Early detection rapid response

Photo by Richard Spellenberg







Summary

- Invasive plants are often considered a serious threat to rare plants
- Documentation and specific information is often lacking
- Post fire surveys provide an important opportunity to document new weed occurrences, and the status of rare plants (especially fire followers)
- Impacts of the fire (burn severity)
- Impacts from fire fighting activities



Thank you!
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Thank you!
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