

# NEARING THE FINISH-LINE

A path forward to completing a state-wide vegetation classification and fine-scale map



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# Agenda



- The Survey of California Vegetation
- The Process
- The Data
  - Statewide vegetation classification
  - Vegetation maps
  - Resources
- Why standards are important
- The past, present and future.



# Vegetation Classification and Mapping Program

## Survey of California Vegetation

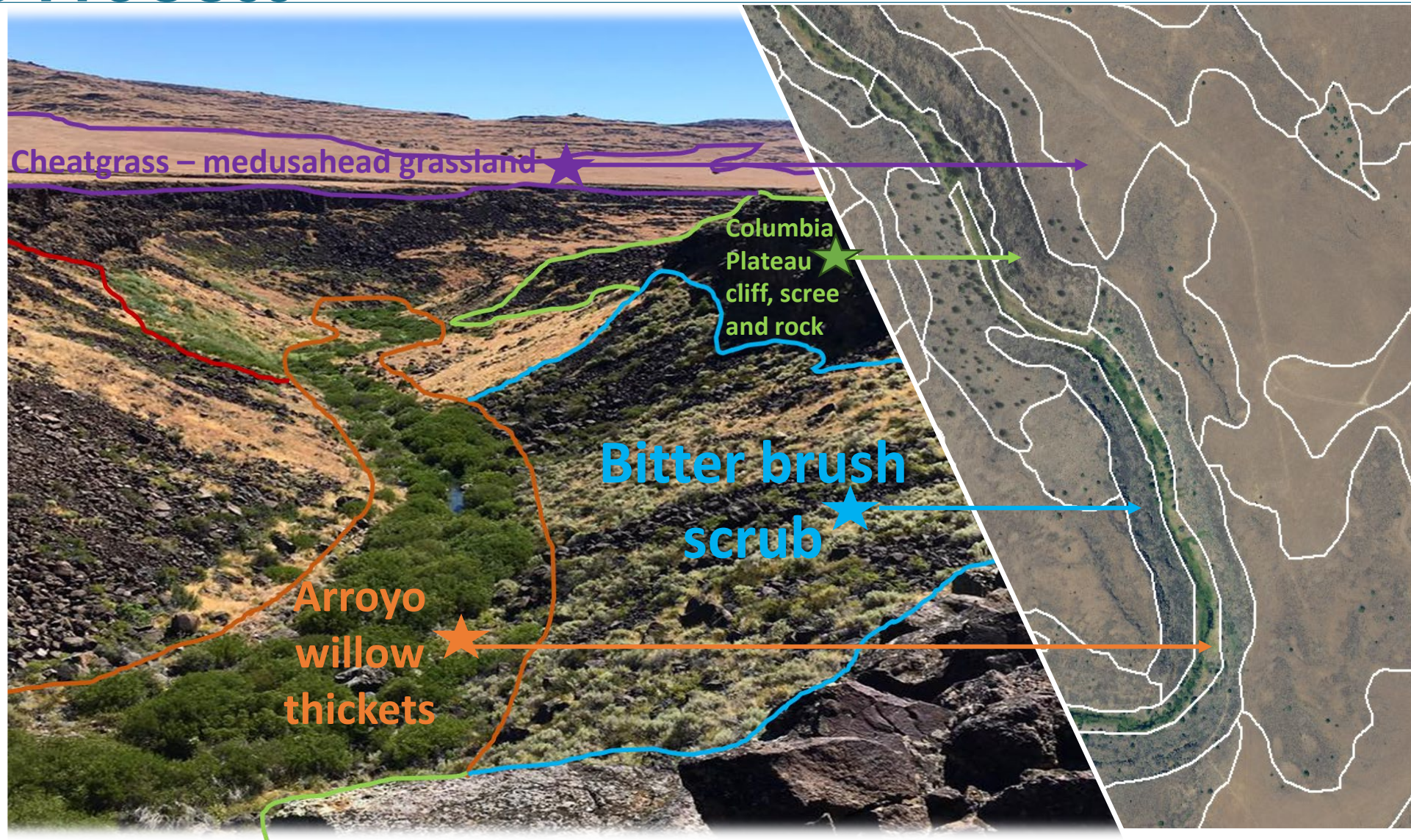


- Develop state standards for vegetation data (sampling, analysis, mapping, reporting)
- Develop CA's vegetation classification system
- Identify sensitive natural communities



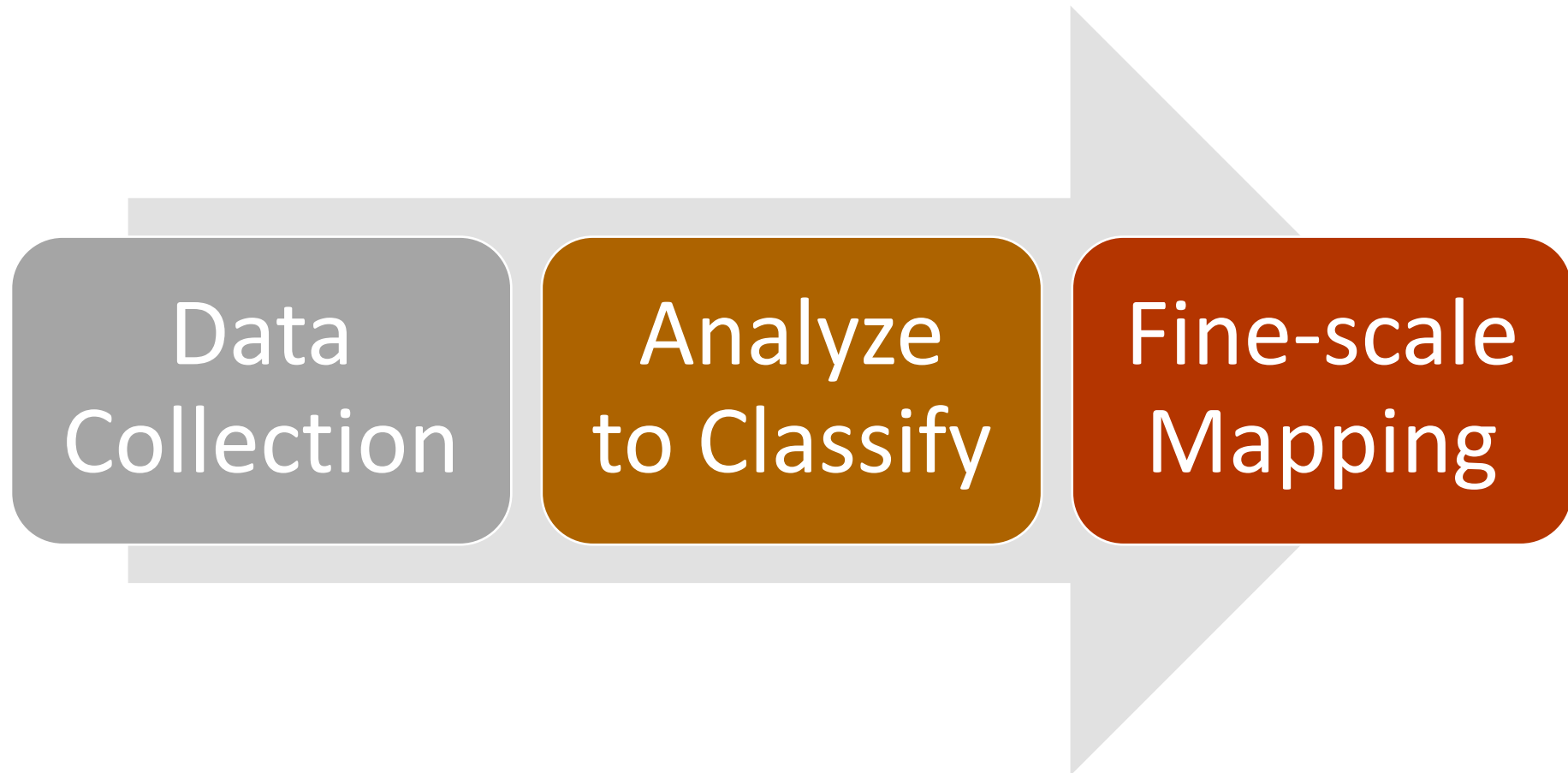
# The Survey of California Vegetation

## The Process



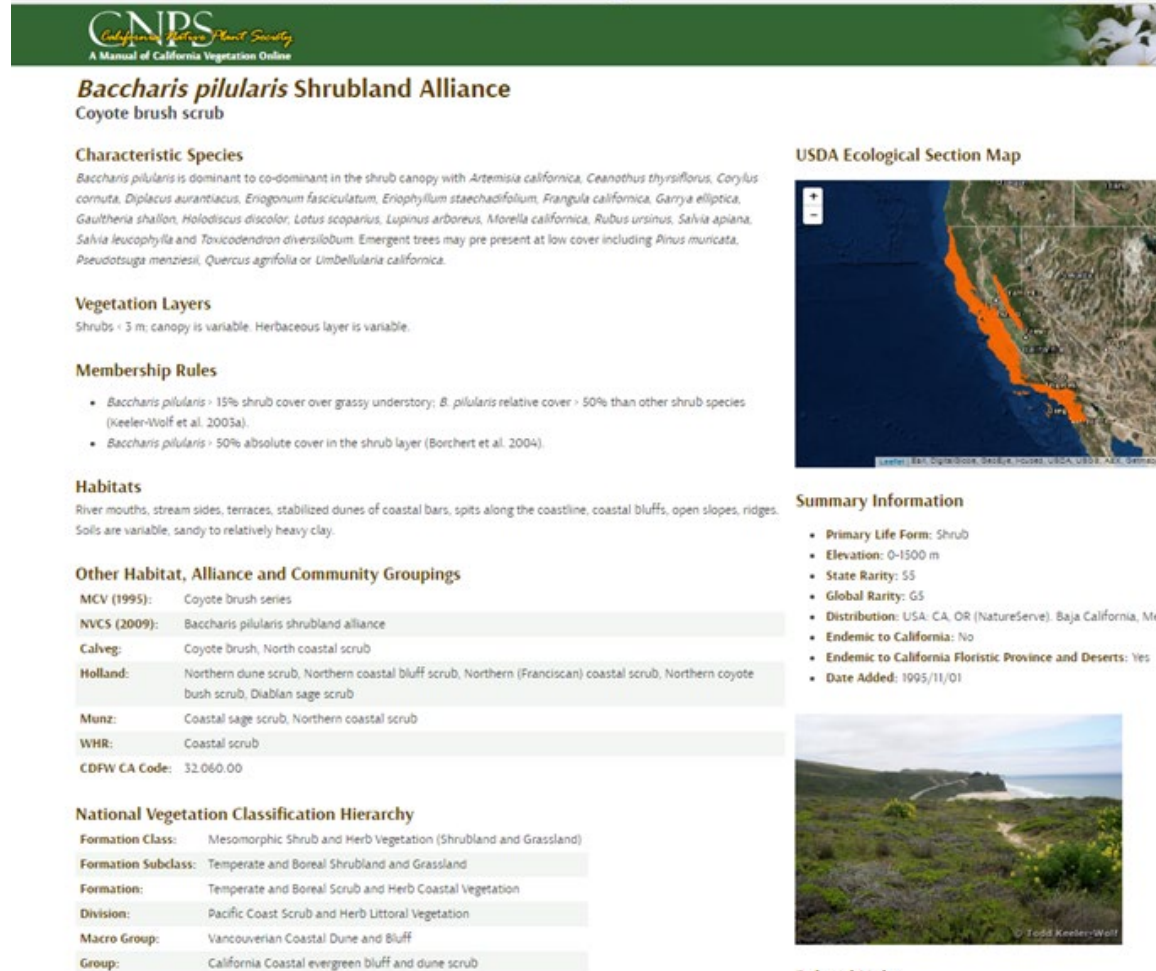
# The Survey of California Vegetation

## The Process



# Statewide Classification Manual of California Vegetation

- Compliant with the National Vegetation Classification System
- Quantitative and hierarchical
- Available and updated regularly online



**CNIPS**  
California Native Plant Society  
A Manual of California Vegetation Online

## Baccharis pilularis Shrubland Alliance

Coyote brush scrub

**Characteristic Species**  
*Baccharis pilularis* is dominant to co-dominant in the shrub canopy with *Artemisia californica*, *Ceanothus thyrsiflorus*, *Corylus cornuta*, *Diplocis aurantiacus*, *Eriogonum fasciculatum*, *Eriophyllum staechadifolium*, *Franseria californica*, *Garrya elliptica*, *Gaultheria shallon*, *Holodiscus discolor*, *Lotus scoparius*, *Lupinus arboreus*, *Morella californica*, *Rubus ursinus*, *Salvia apiana*, *Salvia leucophylla* and *Toxicodendron diversilobum*. Emergent trees may be present at low cover including *Pinus muricata*, *Pseudotsuga menziesii*, *Quercus agrifolia* or *Limbellularia californica*.

**Vegetation Layers**  
Shrubs < 3 m; canopy is variable. Herbaceous layer is variable.

**Membership Rules**

- *Baccharis pilularis* > 15% shrub cover over grassy understory; *B. pilularis* relative cover > 50% than other shrub species (Keeler-Wolf et al. 2003a).
- *Baccharis pilularis* > 50% absolute cover in the shrub layer (Borchert et al. 2004).

**Habitats**  
River mouths, stream sides, terraces, stabilized dunes of coastal bars, spits along the coastline, coastal bluffs, open slopes, ridges. Soils are variable, sandy to relatively heavy clay.

**Other Habitat, Alliance and Community Groupings**

MCV (1995):	Coyote brush series
NVCS (2009):	Baccharis pilularis shrubland alliance
Calveg:	Coyote brush, North coastal scrub
Holland:	Northern dune scrub, Northern coastal bluff scrub, Northern (Franciscan) coastal scrub, Northern coyote bush scrub, Diablan sage scrub
Munz:	Coastal sage scrub, Northern coastal scrub
WHR:	Coastal scrub
CDFW CA Code:	32.060.00

**National Vegetation Classification Hierarchy**

Formation Class:	Mesomorphic Shrub and Herb Vegetation (Shrubland and Grassland)
Formation Subclass:	Temperate and Boreal Shrubland and Grassland
Formation:	Temperate and Boreal Scrub and Herb Coastal Vegetation
Division:	Pacific Coast Scrub and Herb Littoral Vegetation
Macro Group:	Vancouverian Coastal Dune and Bluff
Group:	California Coastal evergreen bluff and dune scrub

USDA Ecological Section Map

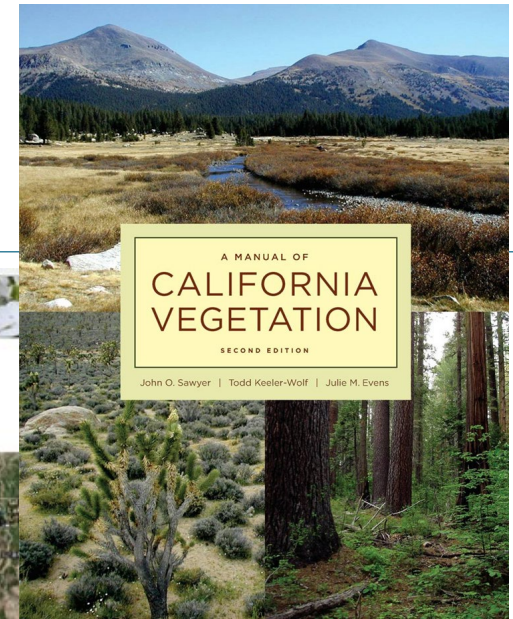


Summary Information

- Primary Life Form: Shrub
- Elevation: 0-1500 m
- State Rarity: S5
- Global Rarity: G5
- Distribution: USA: CA, OR (NatureServe); Baja California, Mexico (TJM2)
- Endemic to California: No
- Endemic to California Floristic Province and Deserts: Yes
- Date Added: 1995/11/01

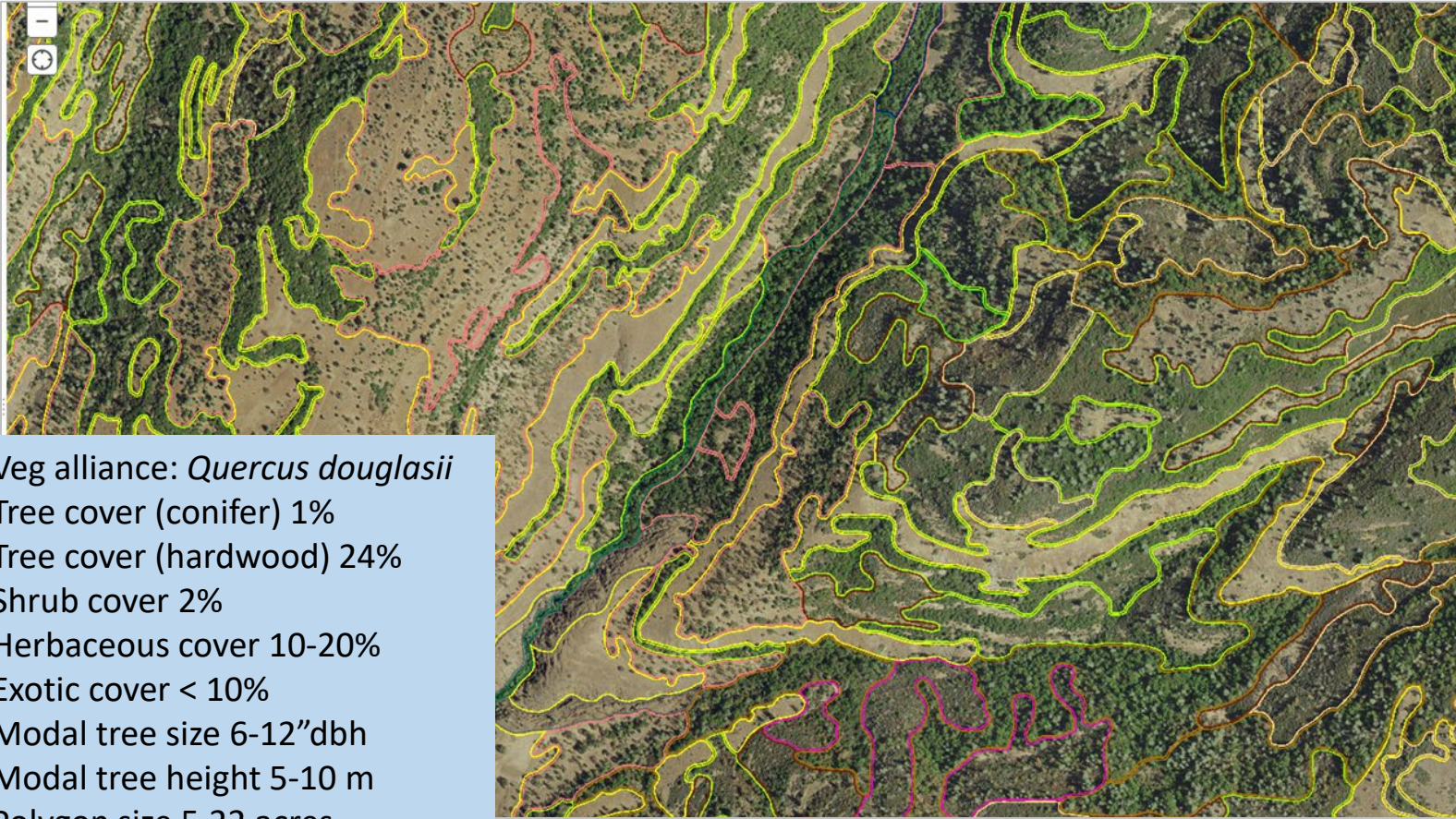


Related Links



# Statewide Vegetation Maps

## Biogeographic Information and Observation System



Veg alliance: *Quercus douglasii*  
Tree cover (conifer) 1%  
Tree cover (hardwood) 24%  
Shrub cover 2%  
Herbaceous cover 10-20%  
Exotic cover < 10%  
Modal tree size 6-12" dbh  
Modal tree height 5-10 m  
Polygon size 5.22 acres  
Human disturbance 0

- Identify sensitive natural communities
- Conservation and wildlife corridor planning
- Wildlife habitat modeling
- Fire and fuels management
- Impact and invasive species assessment
- Land management planning

# Survey of California Vegetation

## Vegetation Data Toolkit

### Classification



CNPS: Manual of California Vegetation Online & CNPS Website



### Maps



CDFW: Biogeographic Information and Observation System



### Standards



CDFW VegCAMP Website





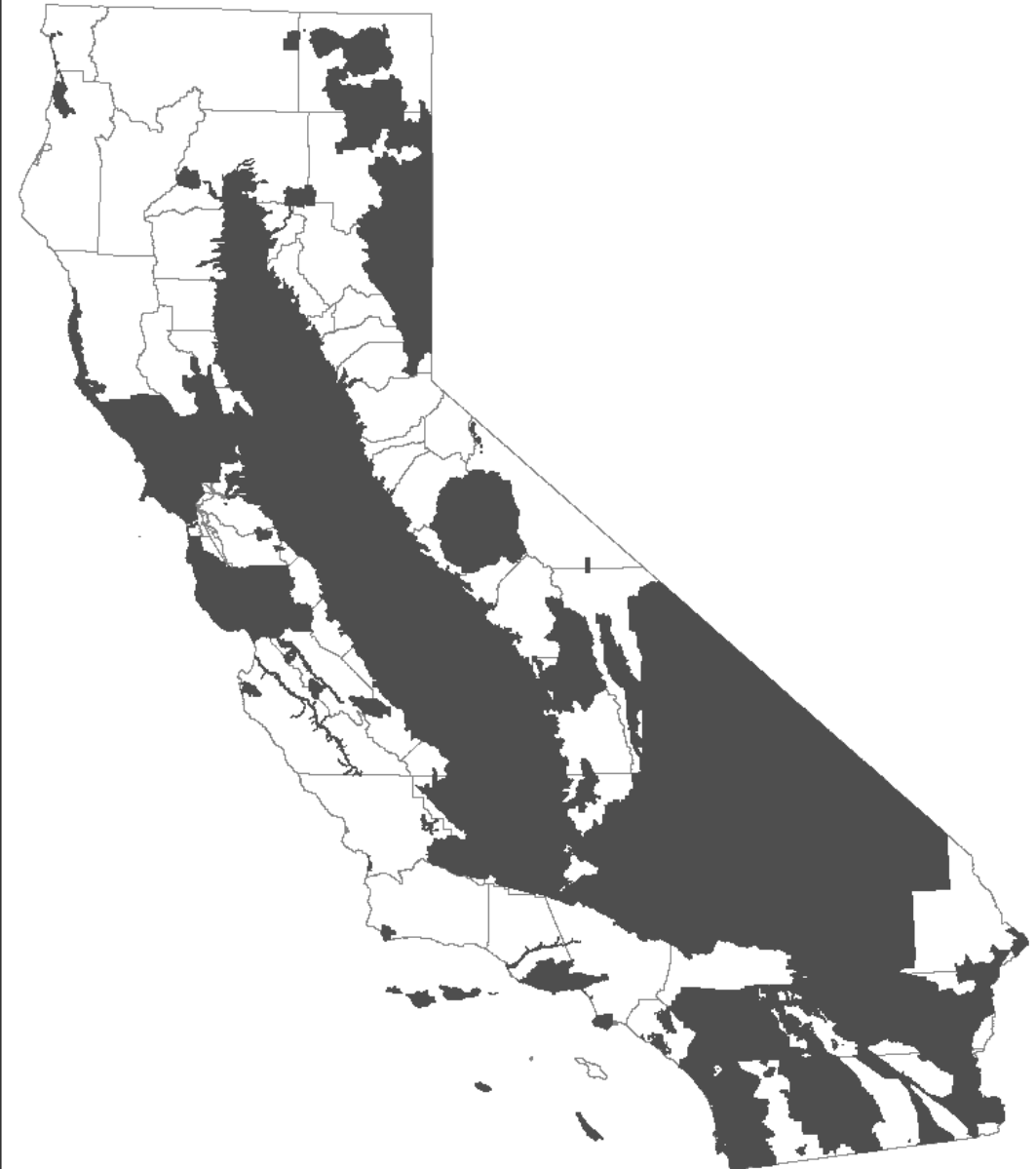
# The Value of a State-wide Standard



- Definitions that are defensible
- Consistent applications of concepts
- Identify of all vegetation community types (not just SNCs)
- Identify new concepts

# Survey of California Vegetation History

- 1998- <1%
- 2008- 2%
- 2018- 46%
- 2022 – 54%

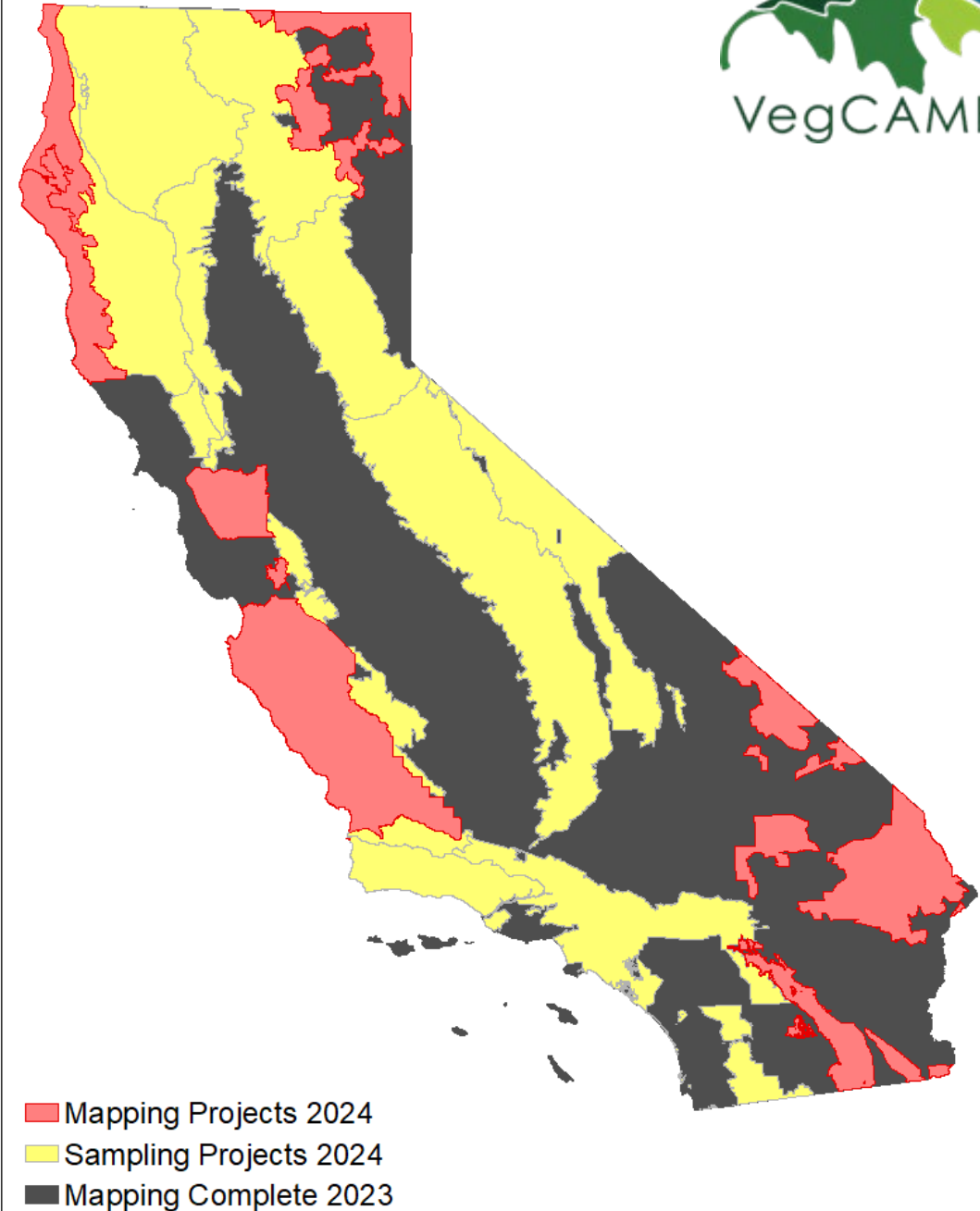


■ Mapping Complete 2023

# Legislative Funding!

# Current Projects

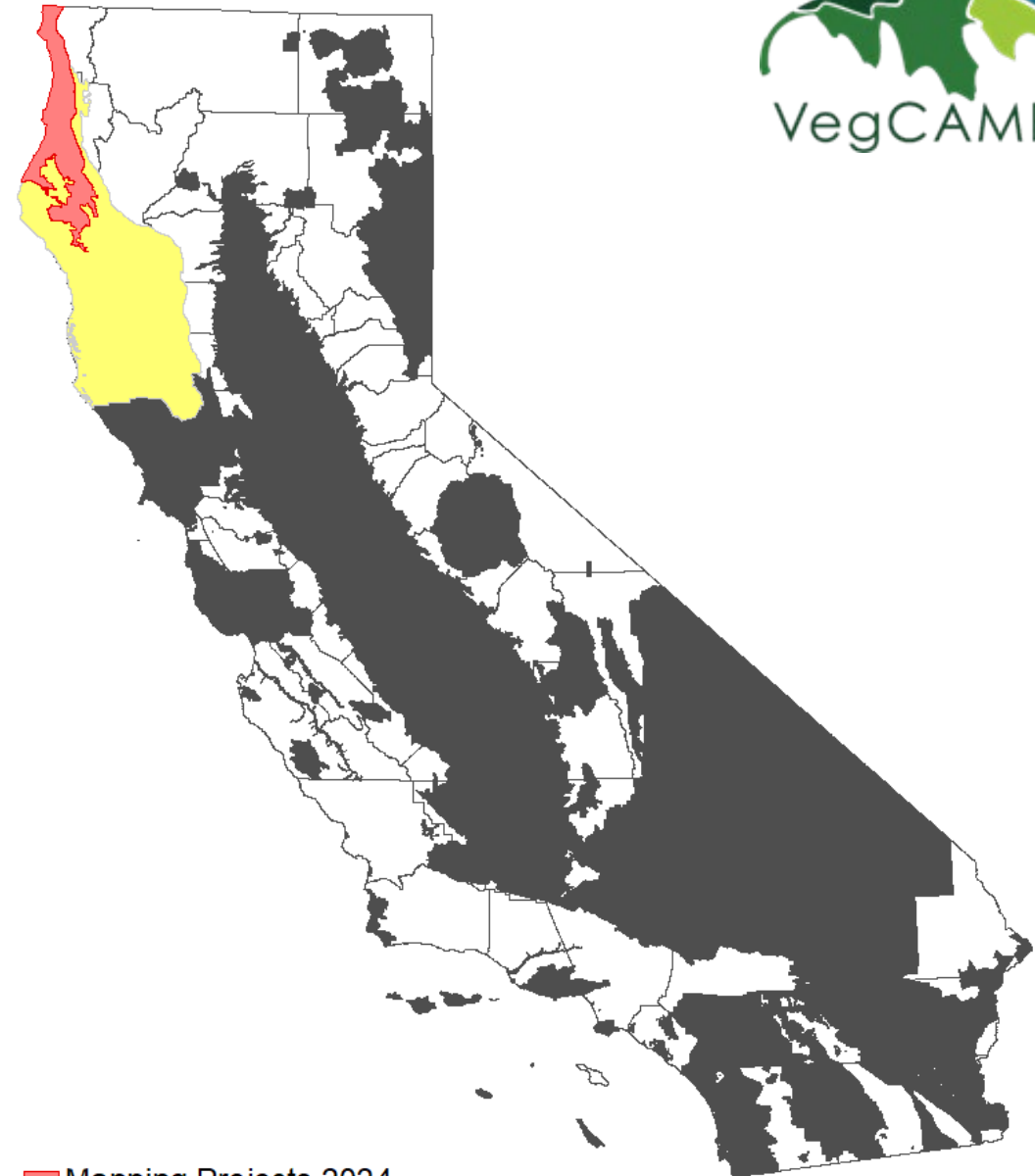
- Modoc Plateau and Warner mountains sampling and mapping
- Sierra Nevada sampling
- Mono and Great Basin sampling
- Southern Cascades Sampling
- Klamath Mountains Sampling
- North Coast and Coast Ranges Sampling and Mapping
- Alameda and Contra Costa Counties Sampling and Mapping
- Northern Inner Coast Range Sampling
- Central Coast Sampling and Mapping
- Colorado Desert Mapping
- Mojave and Sonoran Desert Mapping
- **New North Coast Mapping**
- **Southern California Mountains and Valleys Sampling**



# Northern CA Coast Vegetation Sampling and Mapping

Tukman Geospatial  
Aerial Information Systems  
California Native Plant Society

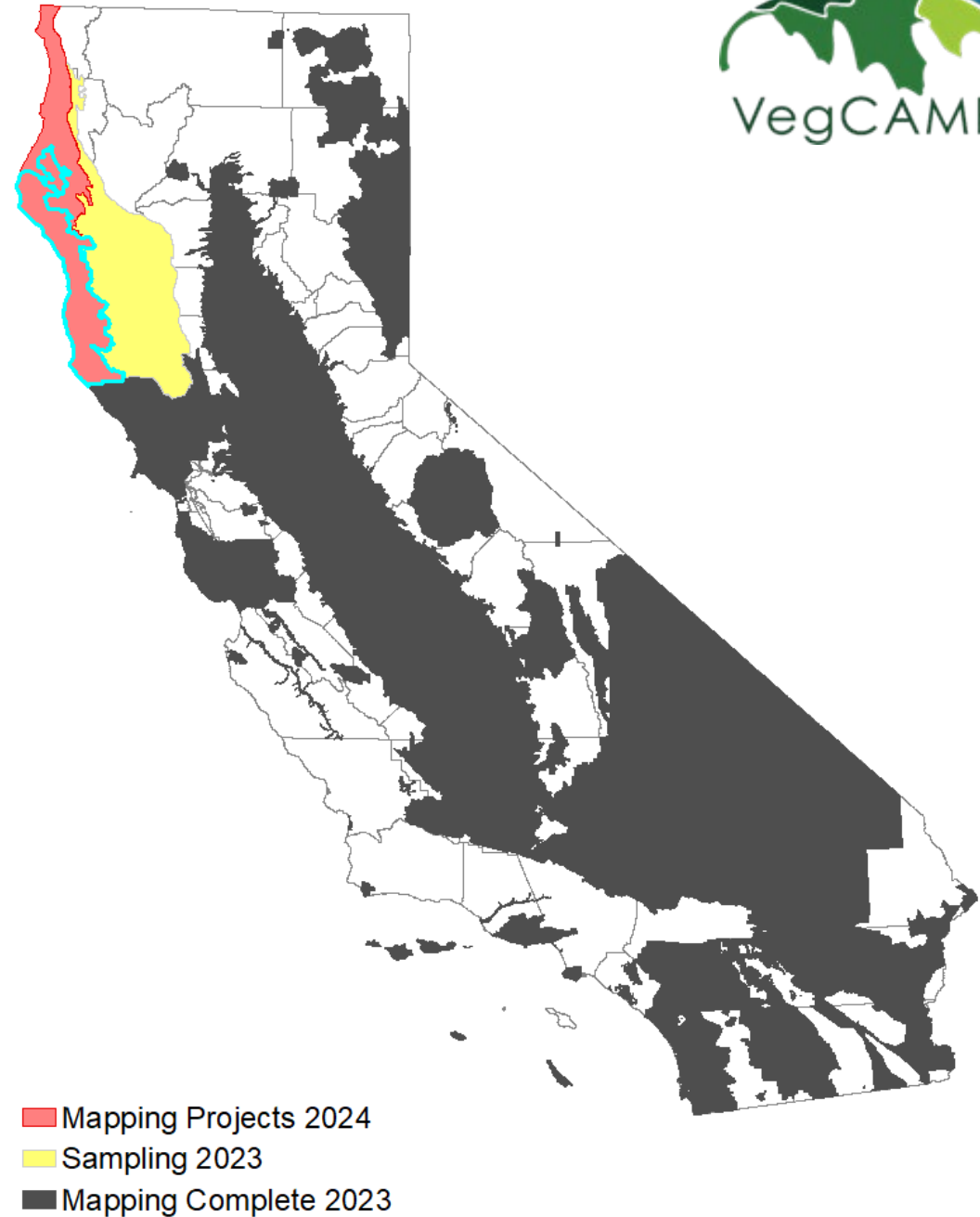
- 2500 surveys
- 1.16 million acres of mapping



- Mapping Projects 2024
- Sampling Projects 2024
- Complete Or Nearly Complete 2024

# Northern CA Coast Vegetation Mapping

Proposals due February 9th!



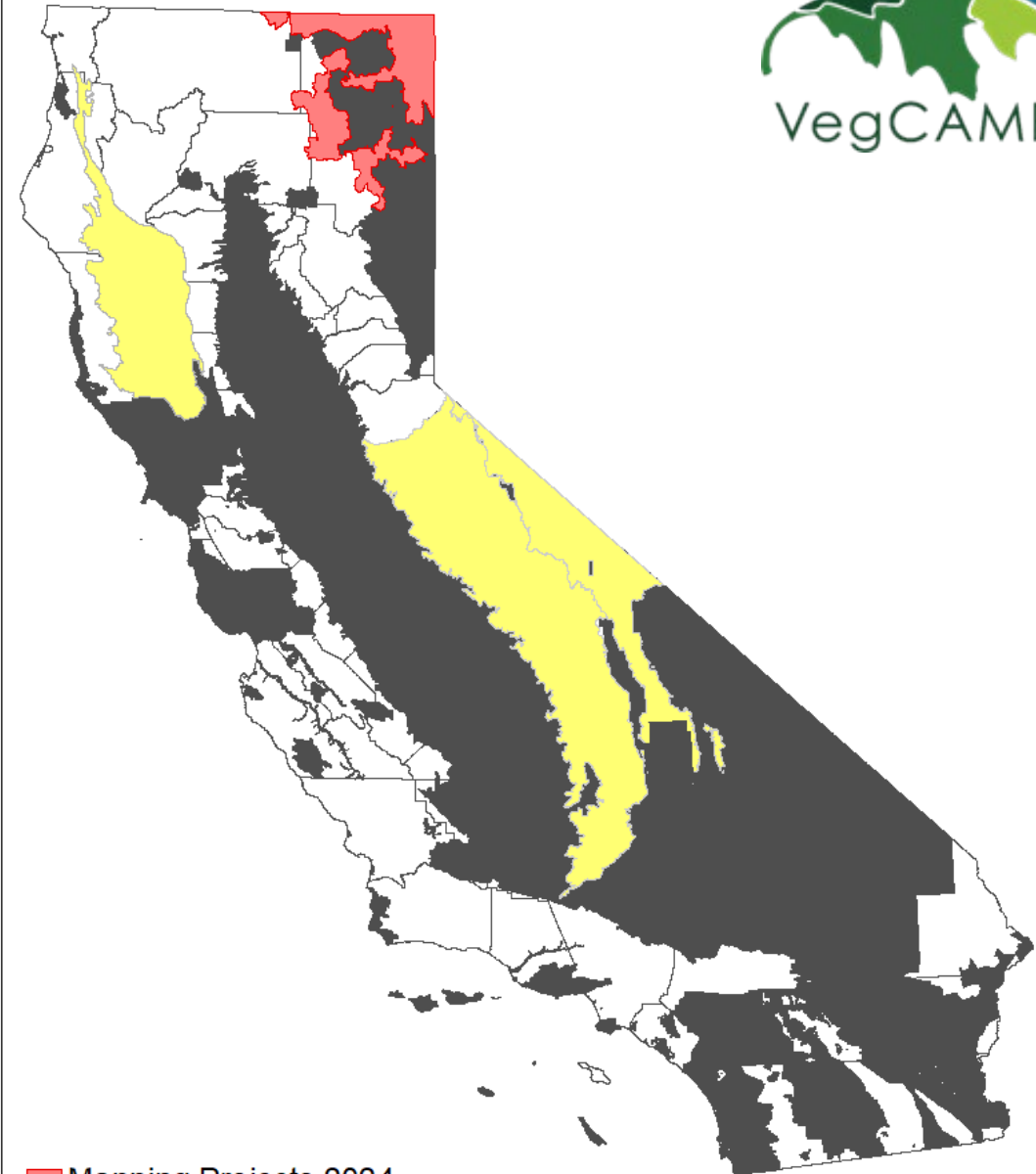
# Geographical Information Center

Modoc Plateau and Warner  
mountains sampling and mapping

Southern Sierra Nevada sampling

Mono and Great Basin sampling

- 1600 surveys
- 2.2 million acres of mapping

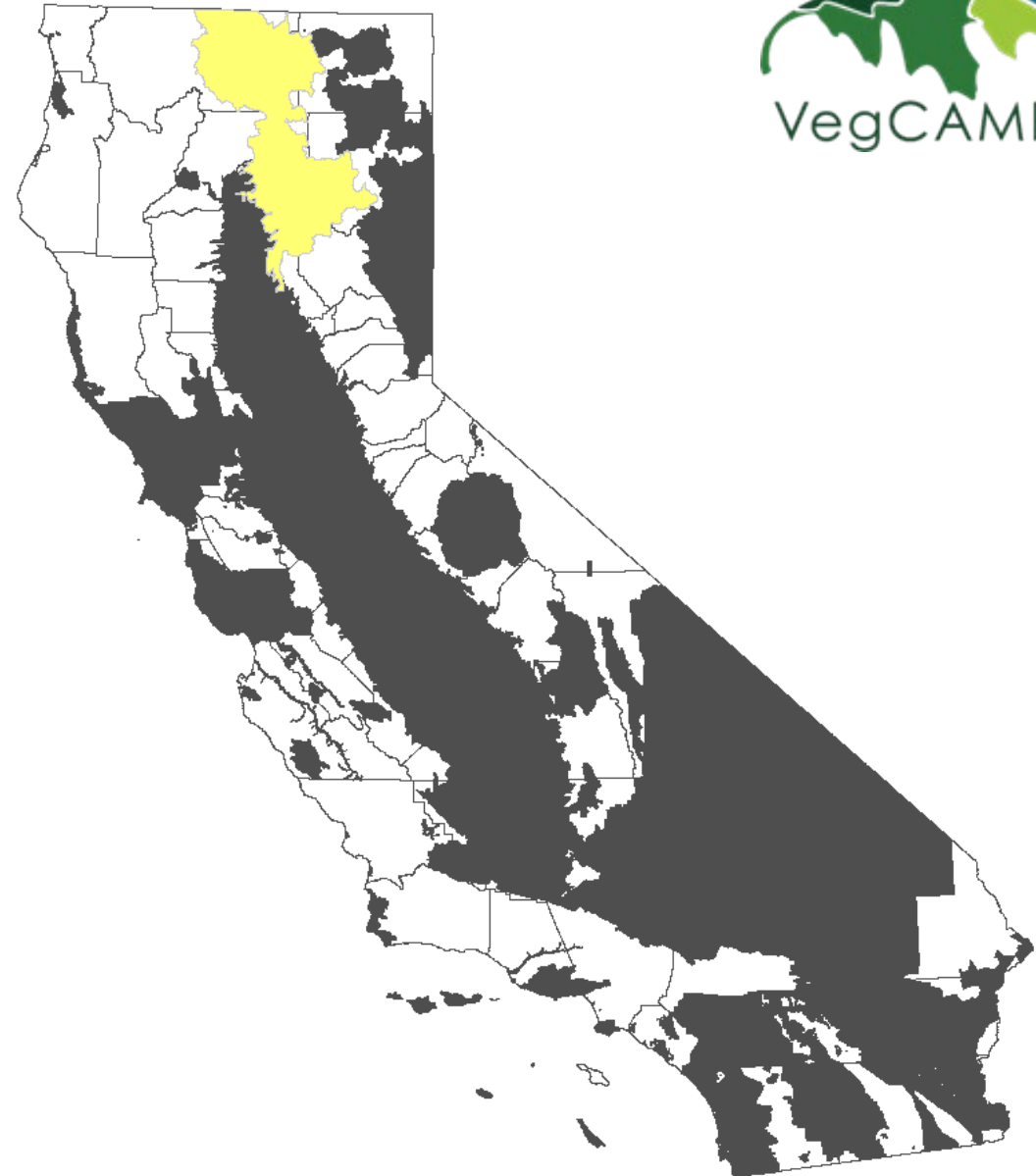


- Mapping Projects 2024
- Sampling Projects 2024
- Complete Or Nearly Complete 2024

# Southern Cascades Vegetation Sampling

Vollmar Natural Lands Consulting  
Siskiyou BioSurvey

- 1 600 surveys



■ Sampling Projects 2024

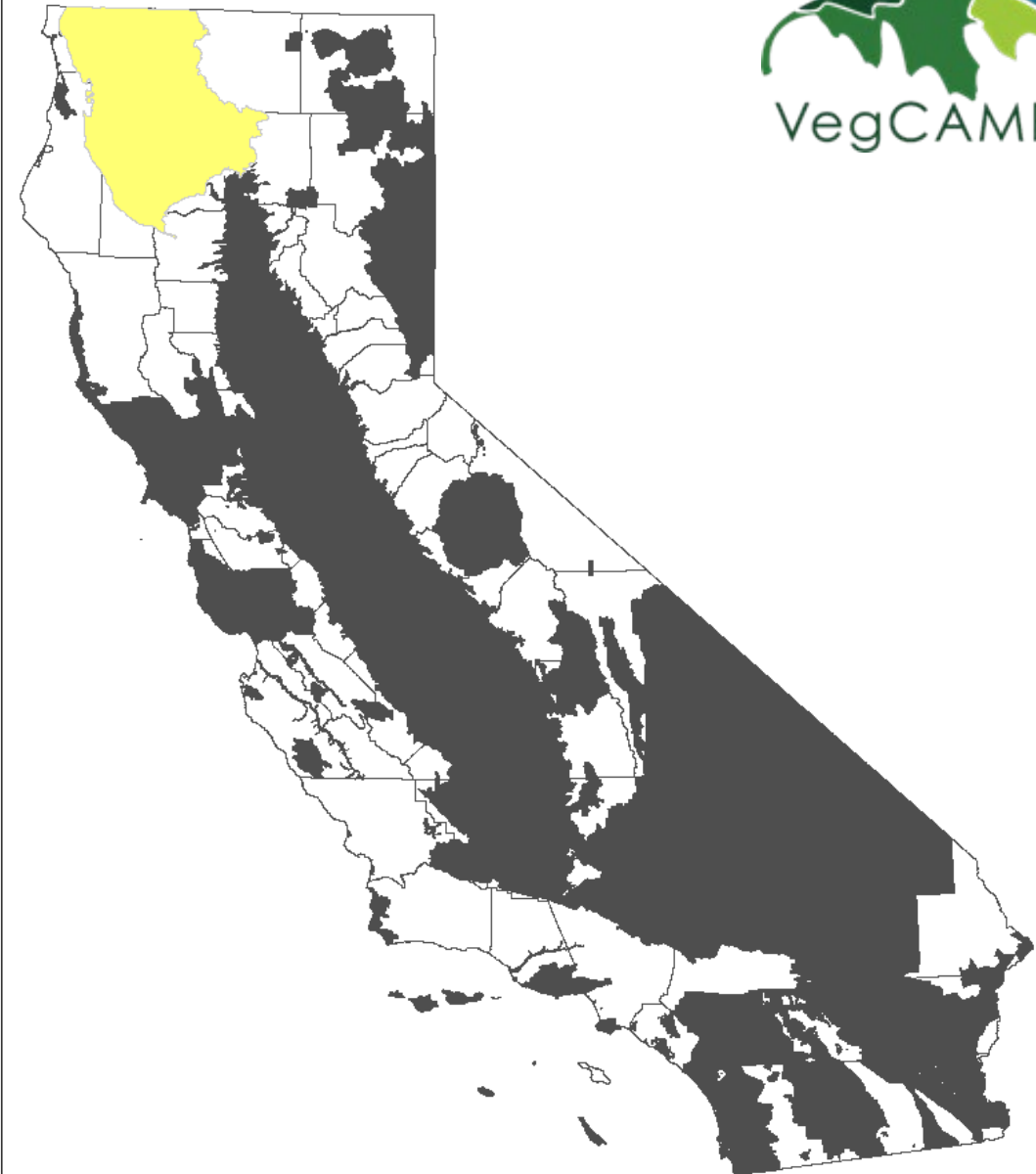
■ Complete Or Nearly Complete 2024



# Klamath Mountains Vegetation Sampling

California Native Plant Society  
Cal Poly Humboldt  
Bigfoot Trail

- 2000 surveys



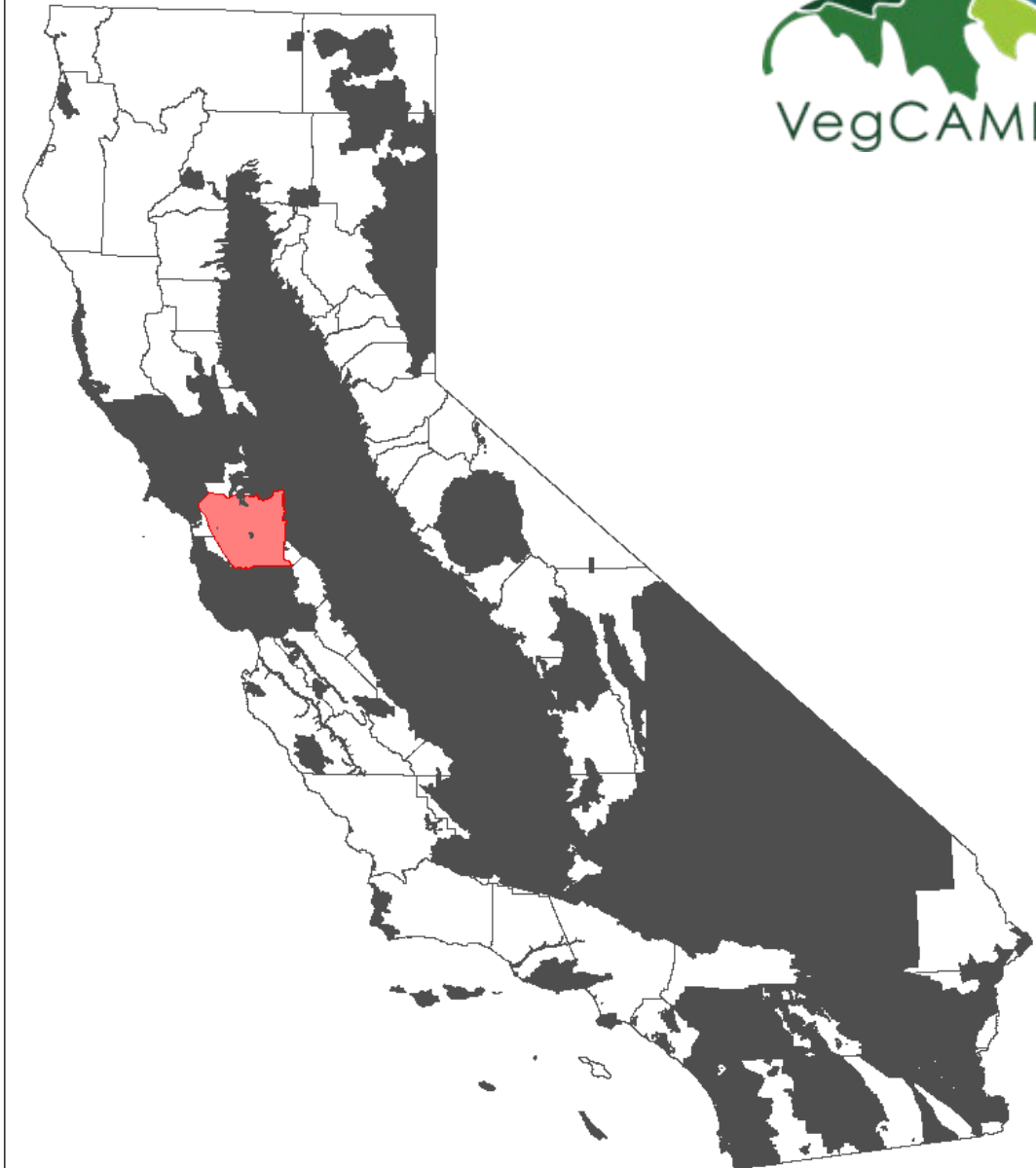
■ Sampling Projects 2024

■ Complete Or Nearly Complete 2024

# Alameda and Contra Costa Cos. Sampling and Mapping

East Bay Regional Park District  
Tukman Geospatial  
California Native Plant Society  
Nomad Ecology  
Benson Bio Consulting

- 605 surveys
- 1 million acres of mapping



■ Mapping Projects 2024

■ Complete Or Nearly Complete 2024

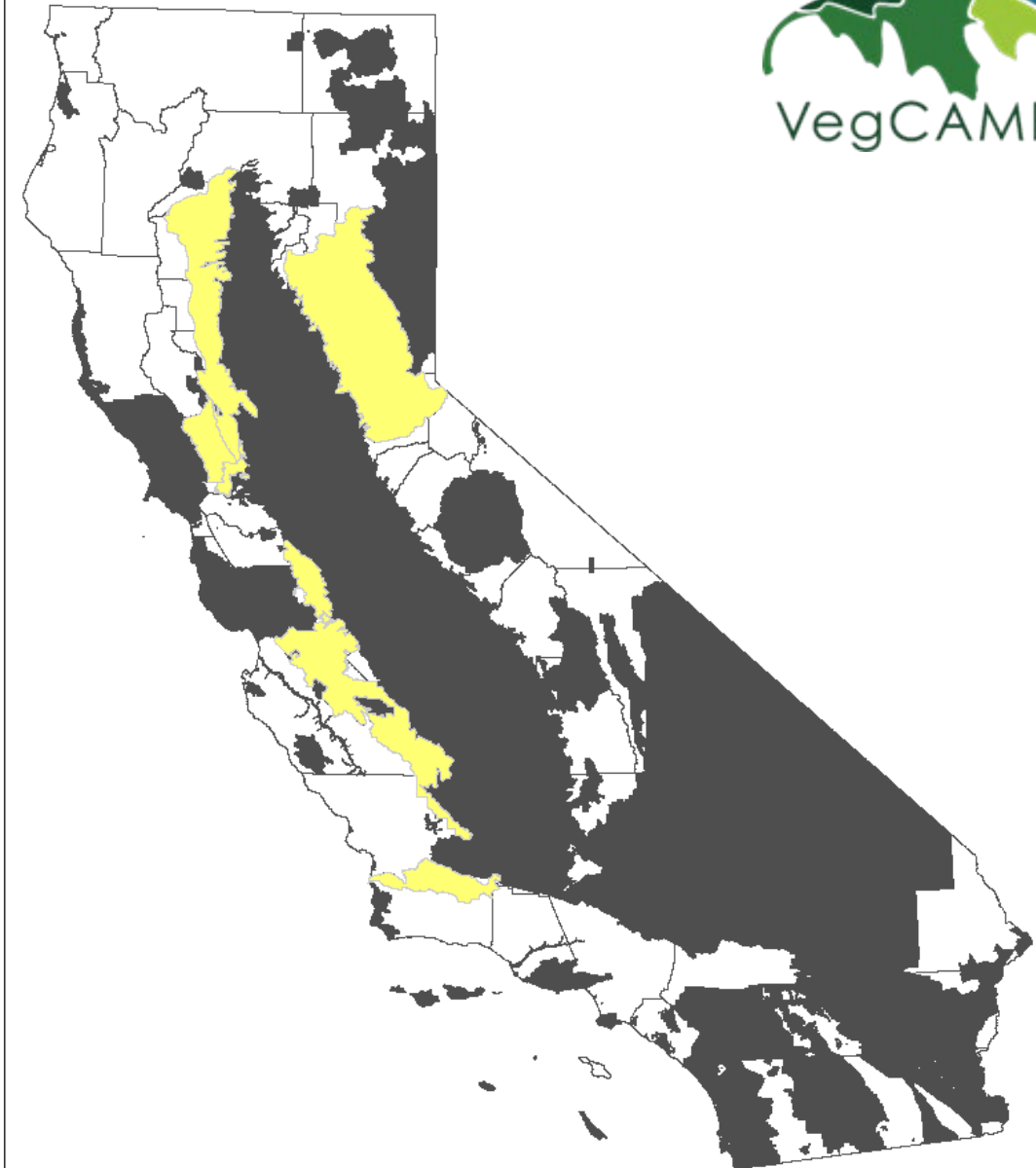
# UC Santa Cruz Arboretum Vegetation Sampling

Northern Sierra Nevada sampling

Northern Inner Coast Range and  
Napa County sampling

Central Coast and Coast Ranges  
Sampling

- 1950 surveys



■ Sampling Projects 2024  
■ Complete Or Nearly Complete 2024

# Central CA Coast Vegetation Sampling and Mapping

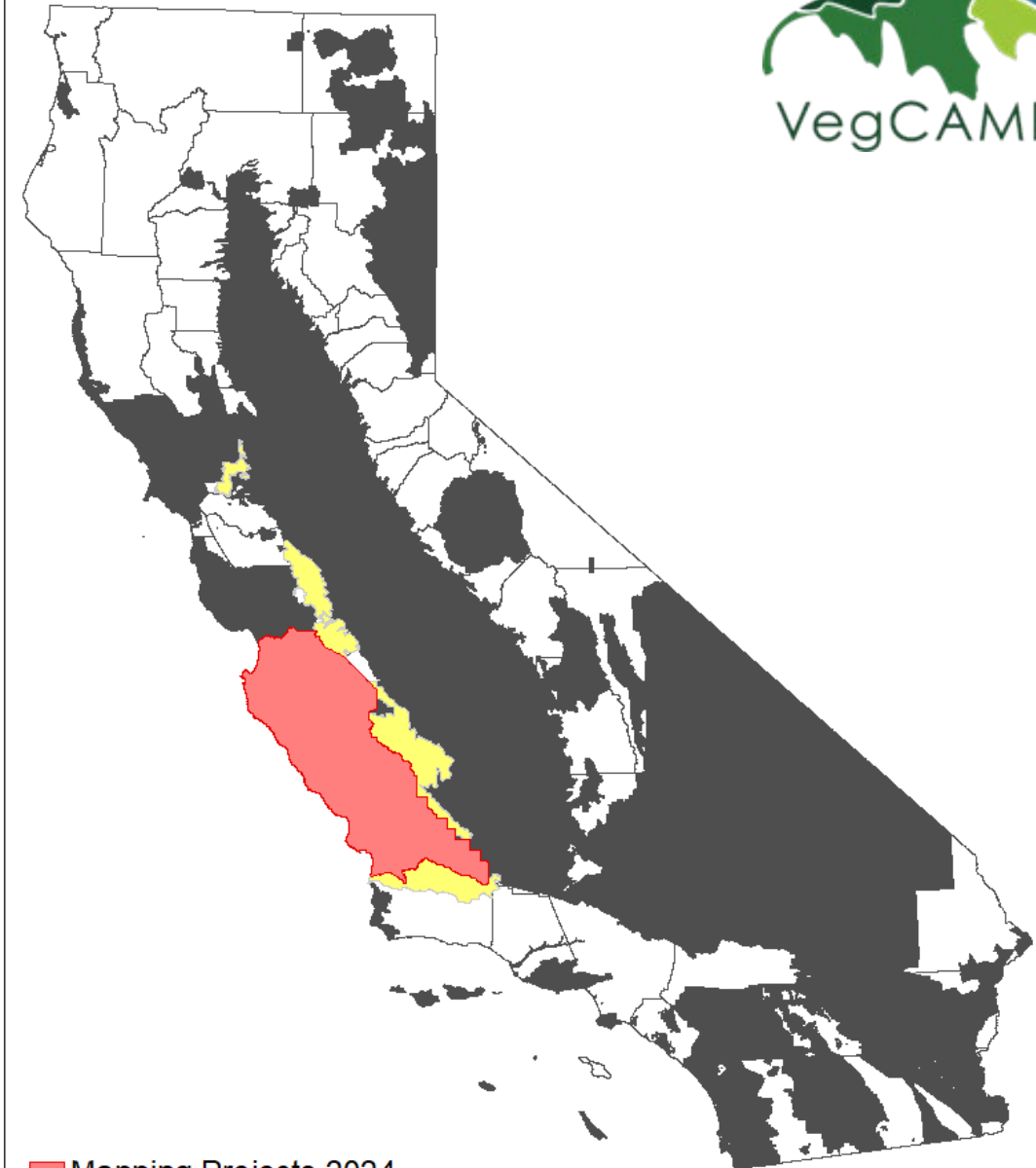
Coastal San Luis Resource  
Conservation District

Resource Conservation District of  
Monterey Co.

Tukman Geospatial

California Native Plant Society

- 1750 surveys
- 5.1 million acres of mapping

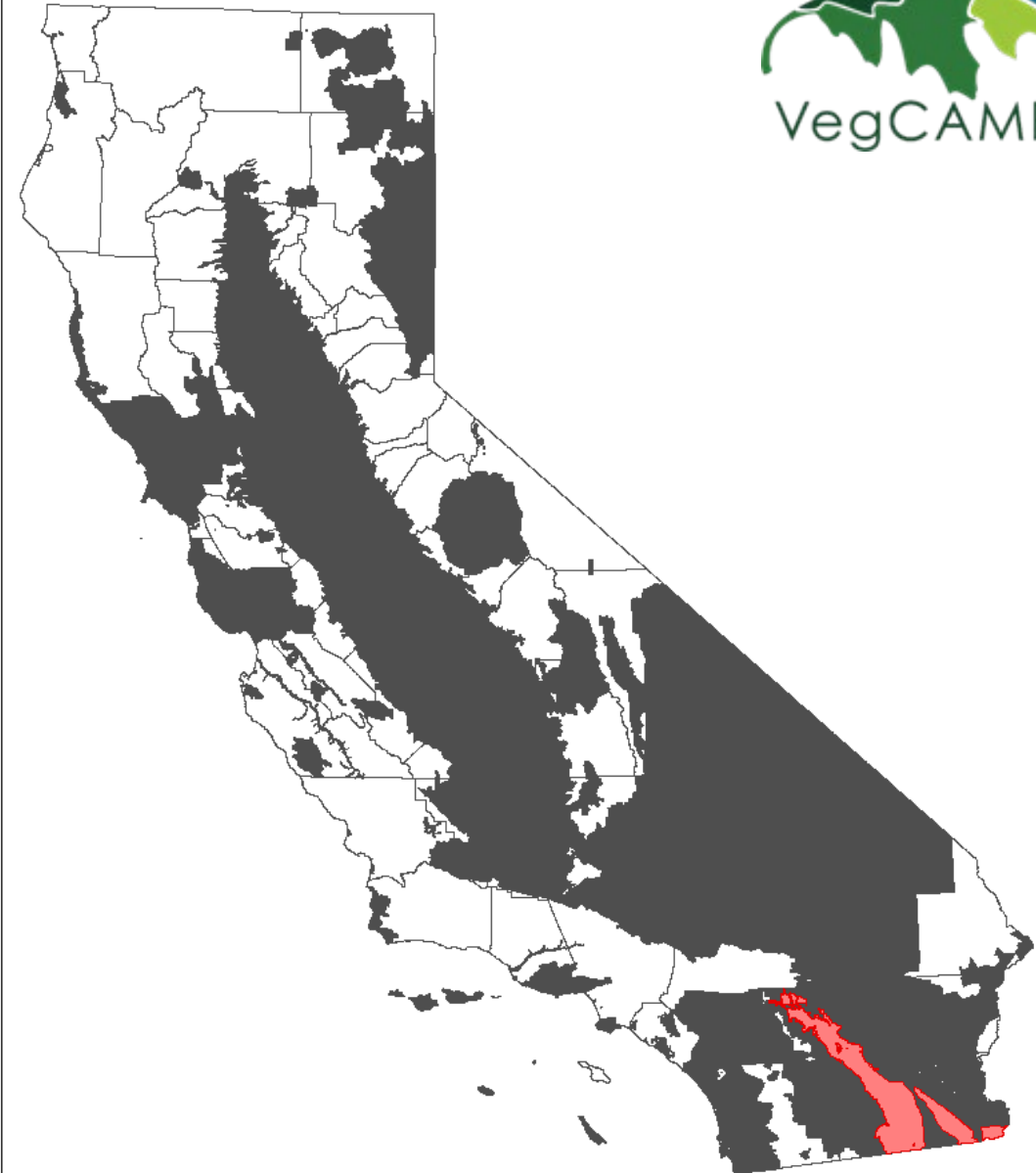


- Mapping Projects 2024
- Sampling Projects 2024
- Complete Or Nearly Complete 2024

# Colorado Desert Vegetation Mapping

UC Riverside  
Center for Conservation Biology

- 1 million acres of mapping



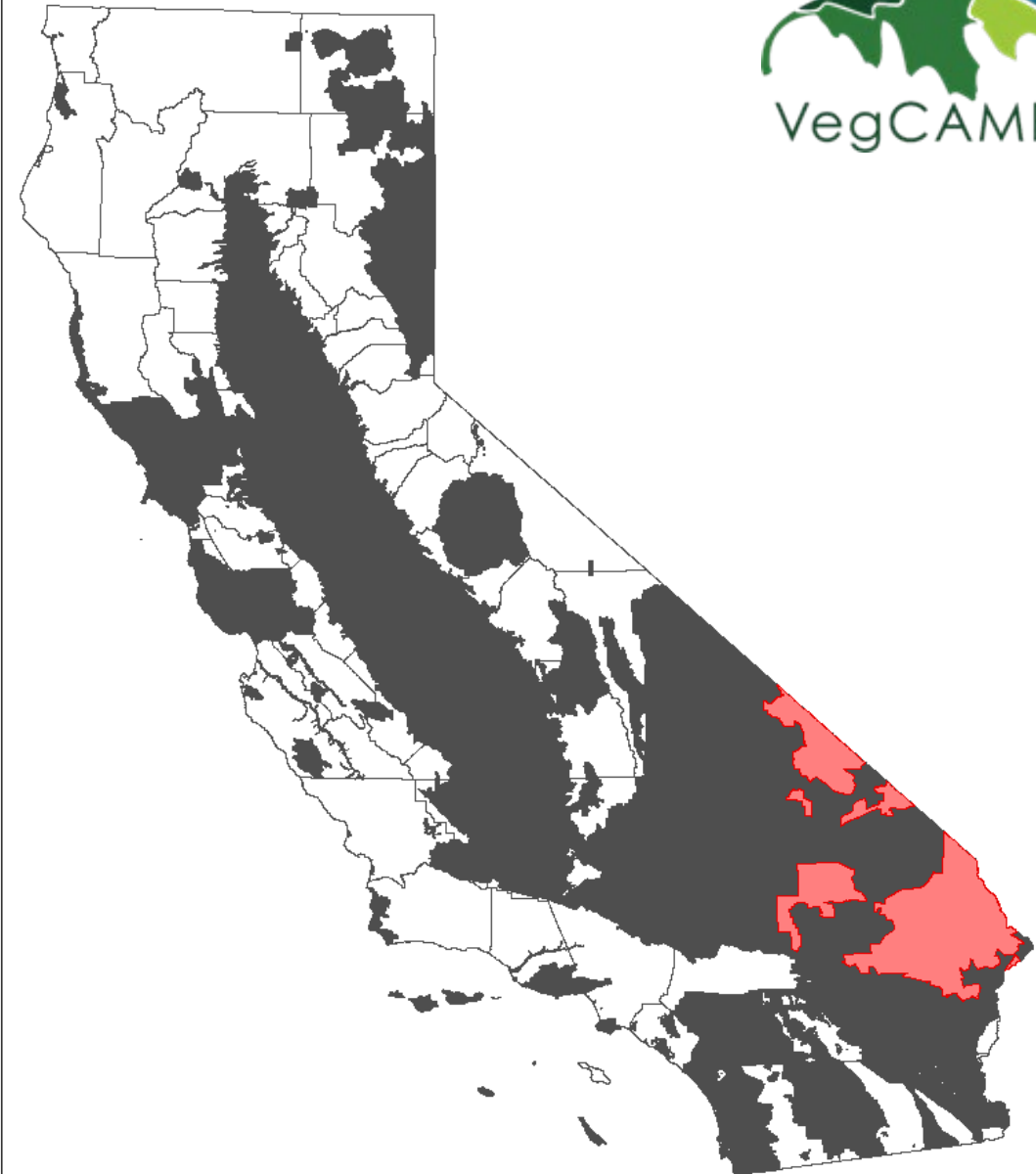
■ Mapping Projects 2024

■ Complete Or Nearly Complete 2024

# Mojave and Sonoran Desert Vegetation Mapping

Aerial Information Systems  
California Native Plant Society  
Ironwood Consultants

- 4.4 million acres of mapping

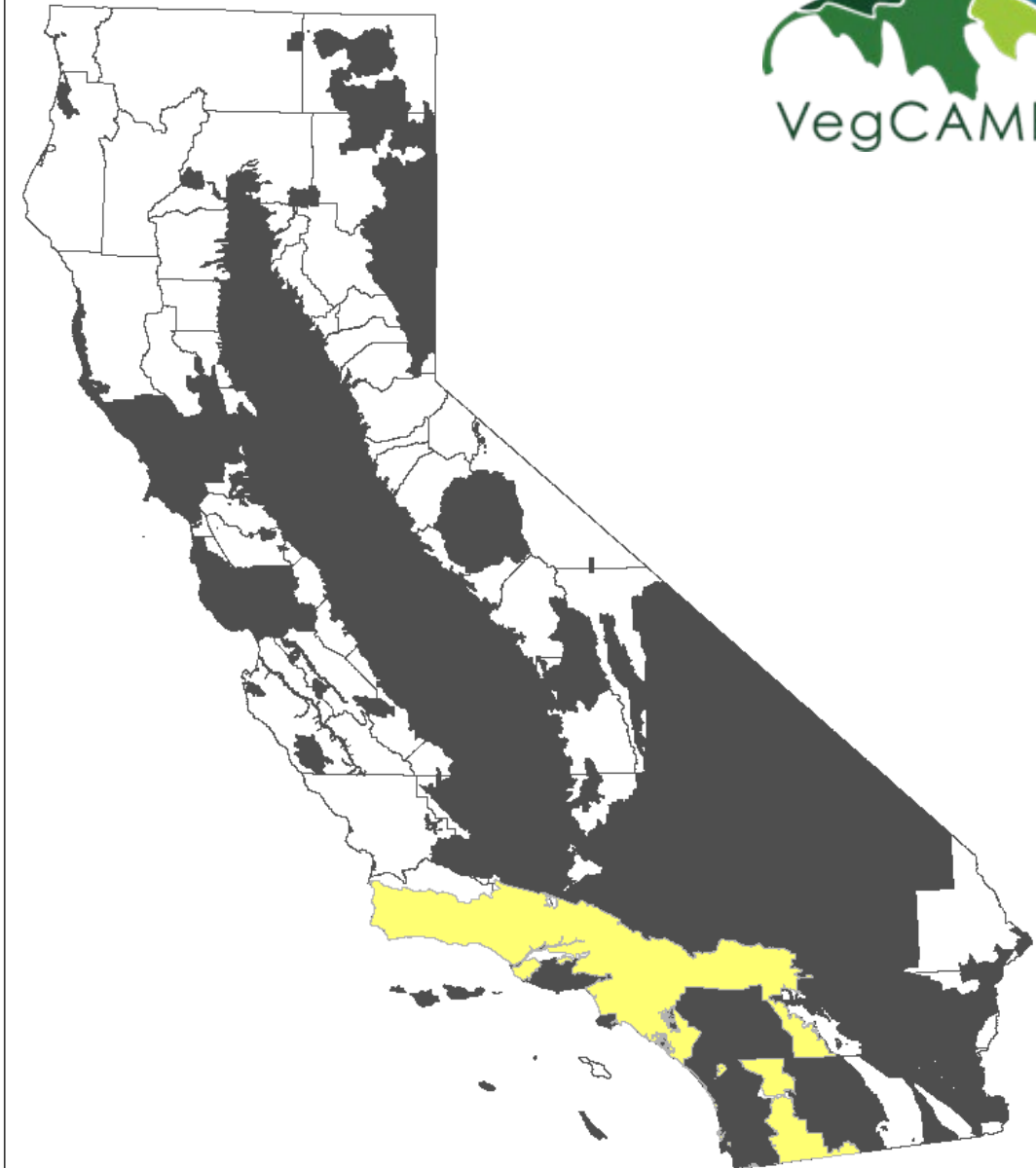


■ Mapping Projects 2024

■ Complete Or Nearly Complete 2024

# Southern California Vegetation Sampling

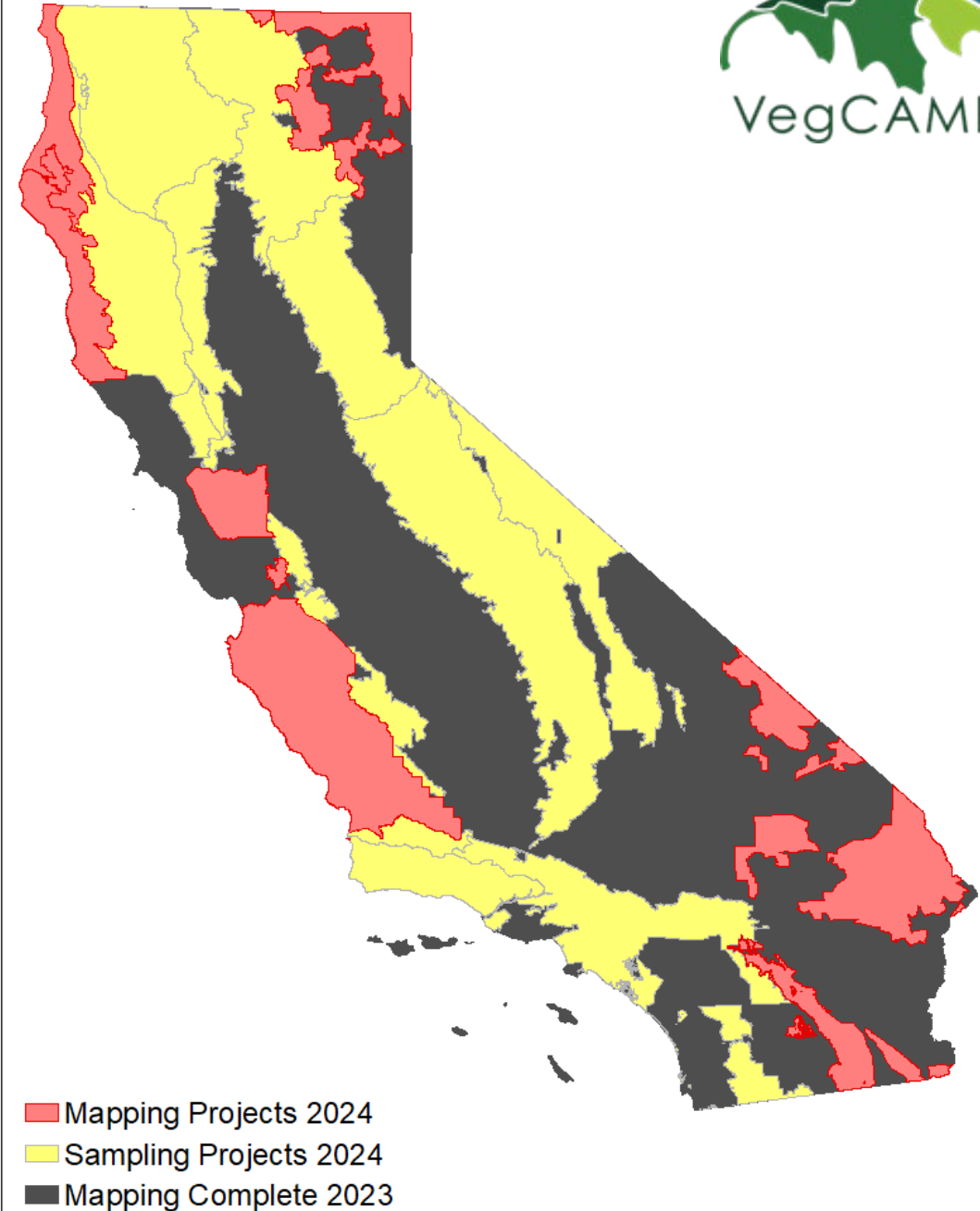
Proposals due January 26th !



- Southern California Sampling
- Complete Or Nearly Complete 2024

# Current Projects

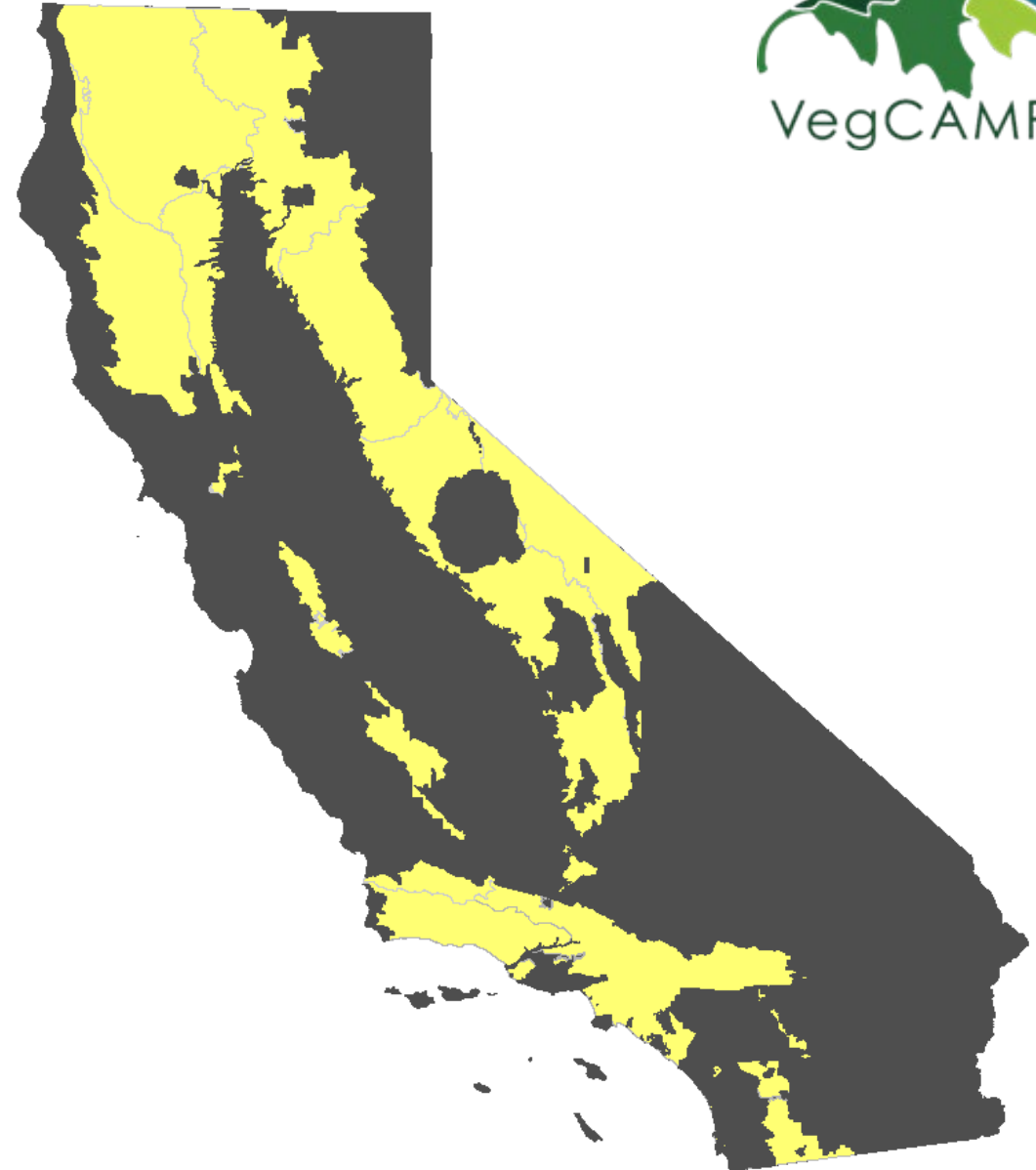
- Over 12,000 new field surveys added (covering 40% of the state)
- Over 16 million new acres mapped (16% of the state)





# Completed by 2026

- 100% surveyed!
- 68% (68 million acres) of the state mapped!



■ Sampled 2026  
■ Complete 2026

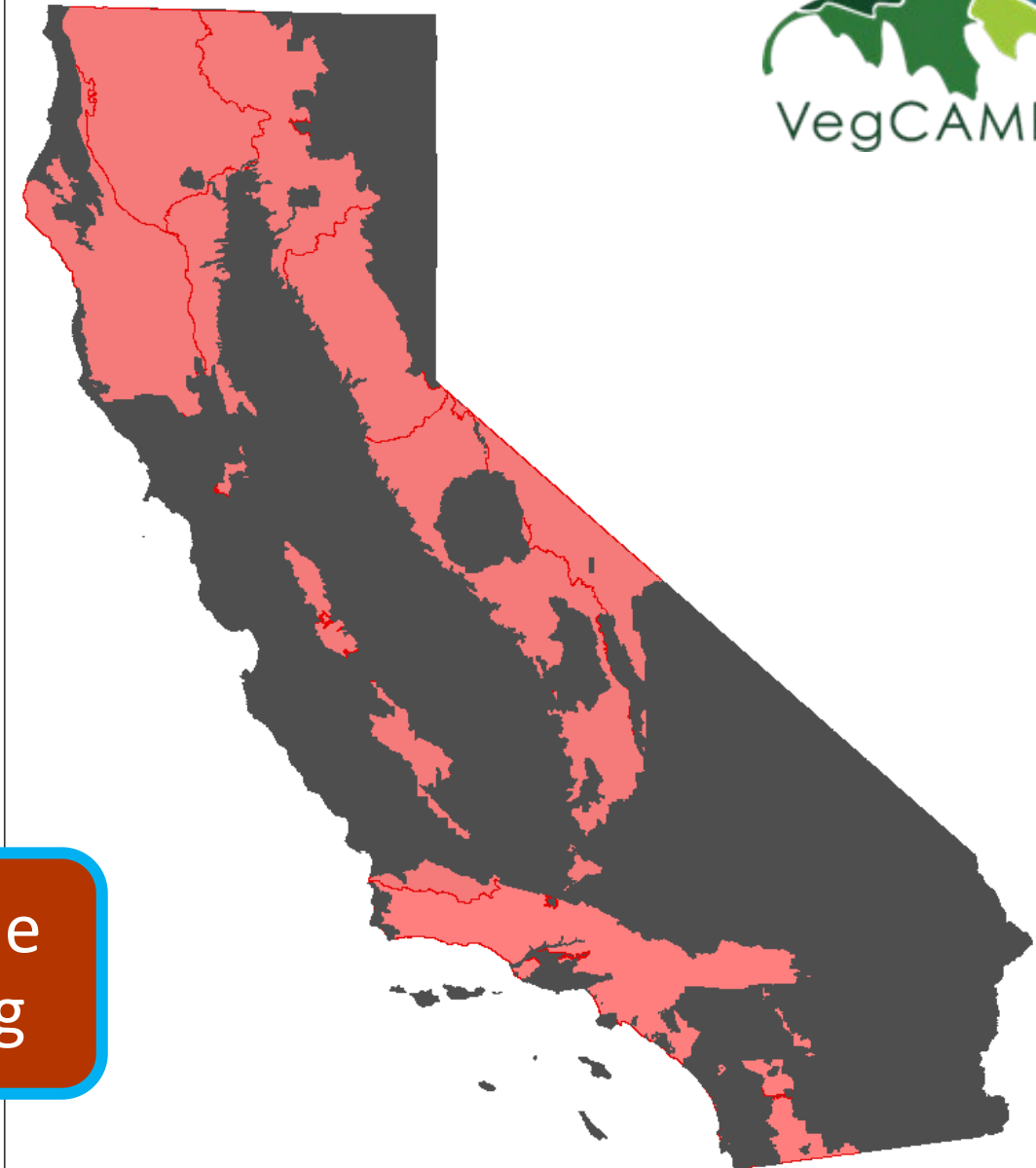
# What's Next

- Analysis of all that data!
- 34% of the state ready for final mapping phase!

Data  
Collection

Analyze to  
Classify

Fine-scale  
Mapping



■ Mapping Projects Post-2026  
■ Complete 2026



# Collaboration is key!



CALIFORNIA NATIVE PLANT SOCIETY



COASTAL SAN LUIS RESOURCE CONSERVATION DISTRICT



Benson Bio Consulting



UNIVERSITY OF CALIFORNIA SANTA CRUZ



Ironwood Consulting



East Bay Regional Park District

Healthy Parks Healthy People



Aerial Information Systems





# VegCAMP Contacts

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