



UPDATED VEGETATION CONCEPTS FOR NORTHERN CALIFORNIA COAST RANGES AND THE MODOC PLATEAU

PRESENTED BY:

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VegCAMP

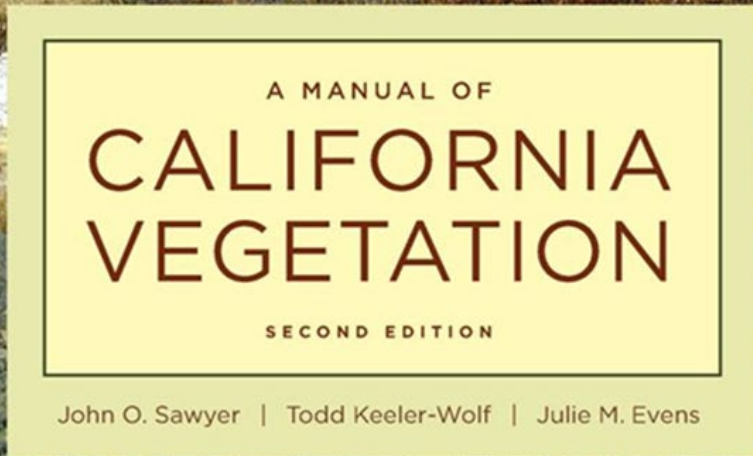
(Vegetation Classification and Mapping Program)

California Department of Fish and
Wildlife Program

Develop and maintain California's
Vegetation Classification System

Fine-scale mapping of the entire
state.

Determine sensitive natural
communities



MCV Classification: The Floristic Levels

Alliance

- The basic, generic unit of floristic classification
- Named by the dominant and characteristic plant species in the uppermost layer of vegetation



Association

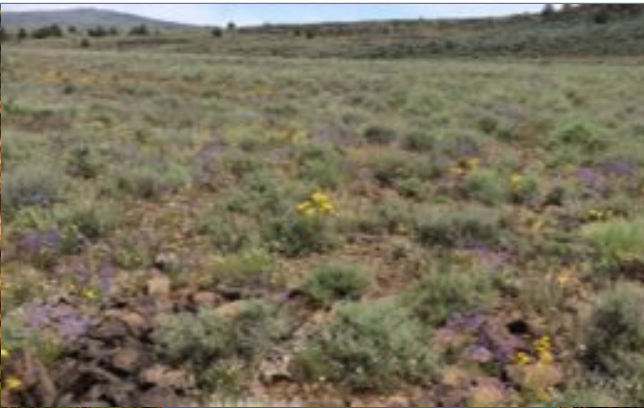
- The smallest, most fundamental unit of classification, analogous to the species in organism taxonomy
- Often named using additional dominant/diagnostic species, of any stratum



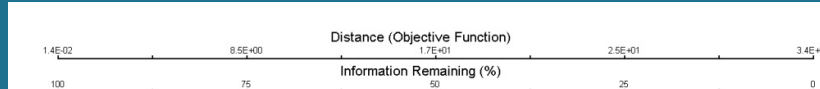
Project Initiation



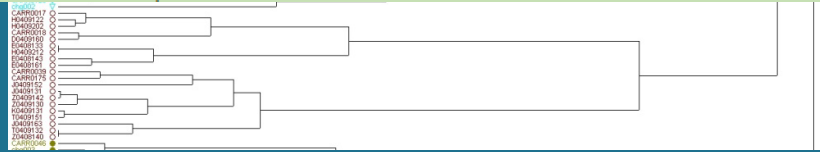
- Vegetation Classification and Mapping to support CA state Biodiversity Enhancements and Operational Efficiency
- Secretarial Order 3362: high priority areas for enhancement and improvement of habitat and migration corridors for big-game species



Methods



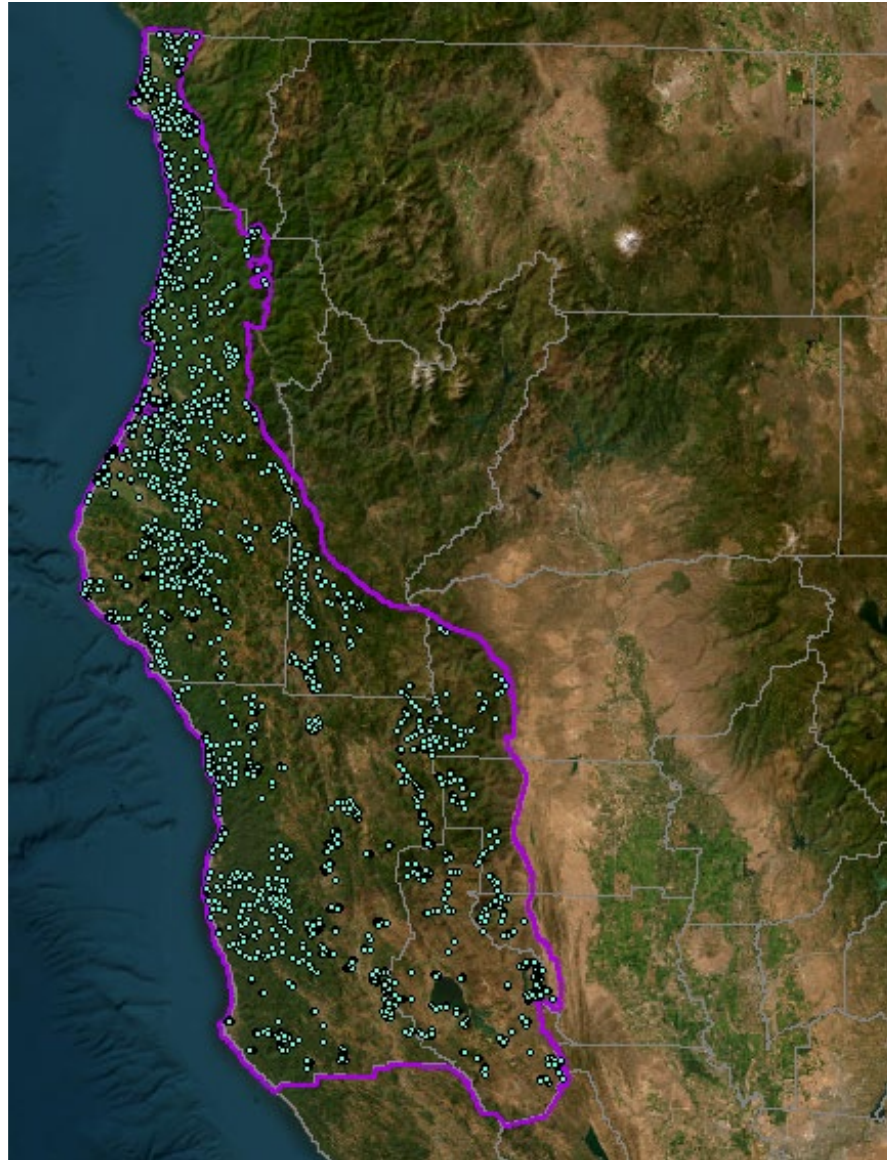
Association Name	ID	Cluster Linkage
Pinus ponderosa var. washoensis / Symphoricarpos spp. / Pseudostellaria jamesiana Association	FSECO048	----- -----
Pinus ponderosa var. washoensis / Symphoricarpos spp. / Pseudostellaria jamesiana Association	FSECO049	-----
Pinus ponderosa var. washoensis / Symphoricarpos spp. / Pseudostellaria jamesiana Association	FSECO058	-----
Abies concolor – Pinus ponderosa / Cercocarpus ledifolius Association	LABEL113	--- --
Abies concolor – Pinus ponderosa / Cercocarpus ledifolius Association	MOLA0766	--- -----
Abies concolor – Pinus ponderosa / Cercocarpus ledifolius Association	MOLA0249	----- -----
Pinus (jeffreyi, ponderosa) – Juniperus occidentalis Association	FSECO124	-- --
Pinus (jeffreyi, ponderosa) – Juniperus occidentalis Association	FSECO125	--
Pinus (jeffreyi, ponderosa) – Juniperus occidentalis Association	FSECO341	----- -----
Pinus (jeffreyi, ponderosa) – Juniperus occidentalis Association	FSECO459	----- -----
Pinus (jeffreyi, ponderosa) – Juniperus occidentalis Association	FSECO460	-----
Pinus ponderosa – Calocedrus decurrens / Ceanothus prostratus Association	FSECO462	-----
Pinus ponderosa – Calocedrus decurrens / Ceanothus prostratus Association	FSECO010	- --
Pinus ponderosa – Calocedrus decurrens / Ceanothus prostratus Association	FSECO078	- -----
Pinus ponderosa – Calocedrus decurrens / Ceanothus prostratus Association	FSECO366	
Pinus ponderosa – Calocedrus decurrens / Ceanothus prostratus Association	MOLA1163	----- --
Pinus ponderosa – Calocedrus decurrens / Ceanothus prostratus Association	MOLA0783	-
Pinus ponderosa – Calocedrus decurrens / Ceanothus prostratus Association	FSECO014	-- ----
Pinus ponderosa – Calocedrus decurrens / Ceanothus prostratus Association	MOLA0767	-- -----
Pinus ponderosa – Calocedrus decurrens / Ceanothus prostratus Association	FSECO018	-----



- Hierarchical agglomerative cluster analysis
- Indicator species analysis to inform relevant grouping level
- Alliance and association assigned to each plot

North Coast & Coast Ranges Project Overview

- Purpose & Project Area
- Collaborators
- Timeline



- Preliminary Total



Incorporating 2025

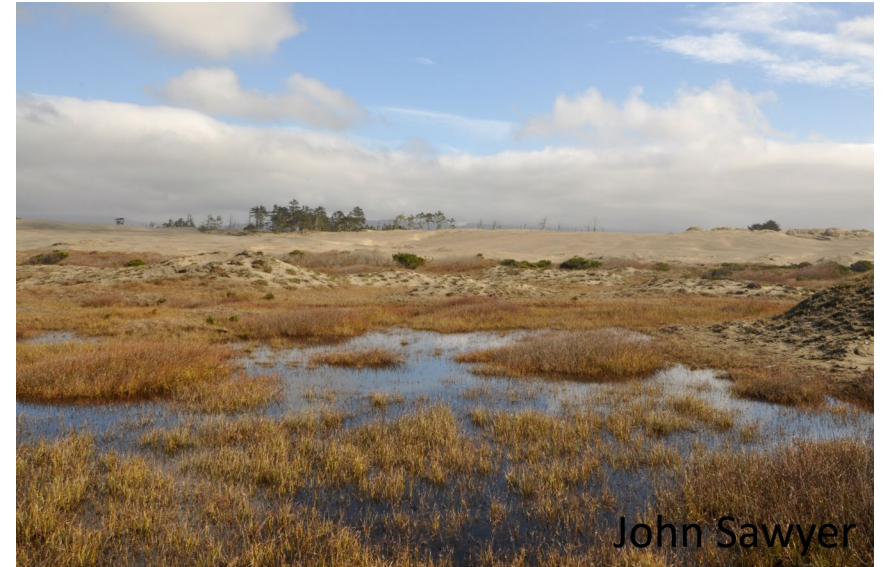
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2026.

North Coast & Coast Ranges Vegetation Drivers

- Mediterranean climate & maritime influence
- Geology & topography
- Disturbance: fire, erosion/landslides, logging, grazing



Along the Coast: Salt Spray and Fog

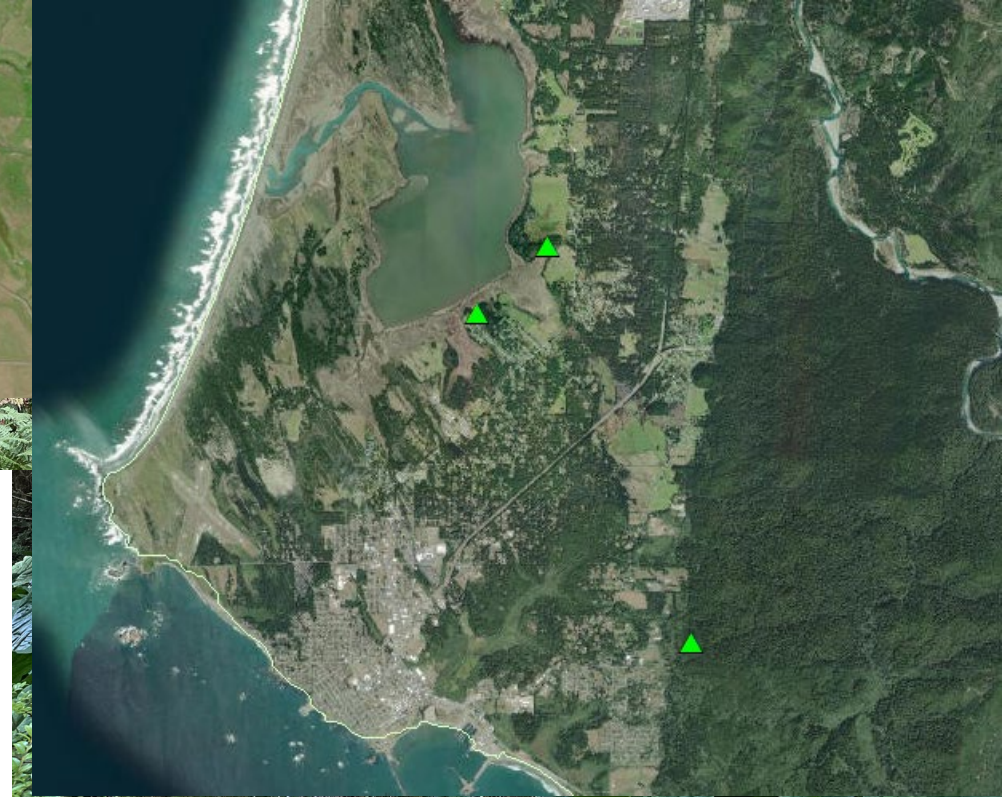
Forested alliance highlights:

- *Pinus contorta* ssp. *contorta*
- *Frangula purshiana*
- *Picea sitchensis*



Forested Wetlands

- *Tsuga heterophylla* -
Picea sitchensis /
*Lysichiton
americanus* Swamp
Forest Alliance
 - *Picea sitchensis* /
Rubus spectabilis /
Carex obnupta -
Lysichiton americanus
Swamp Forest



Forested Wetlands

- *Tsuga heterophylla* -
Picea sitchensis /
Lysichiton
americanus Swamp
Forest Alliance
 - Preliminarily: *Thuja*
plicata forests



Forested Wetlands

Acer macrophyllum – *Alnus rubra* Alliance

- *Alnus rubra* – *Fraxinus latifolia* / *Lysichiton americanus* Association
- *Alnus rubra* / *Rubus spectabilis* / *Carex obnupta* - *Lysichiton americanus* Riparian Forest Association



Herbaceous Wetlands

- Coastal Fen: *Carex aquatilis* var. *dives* - *Carex cusickii*
Intermediate Fen Alliance
 - Indicator species:
 - *Carex cusickii*,
Comarum palustre,
Menyanthes trifoliata



Ultramafic and Serpentine Soils

Alliance highlights:

- *Arctostaphylos columbiana*
- *Arctostaphylos patula* –
Arctostaphylos nevadensis:
 - *Quercus vacciniifolia* –
Arctostaphylos nevadensis –
Arctostaphylos nortensis Association



Modoc Plateau



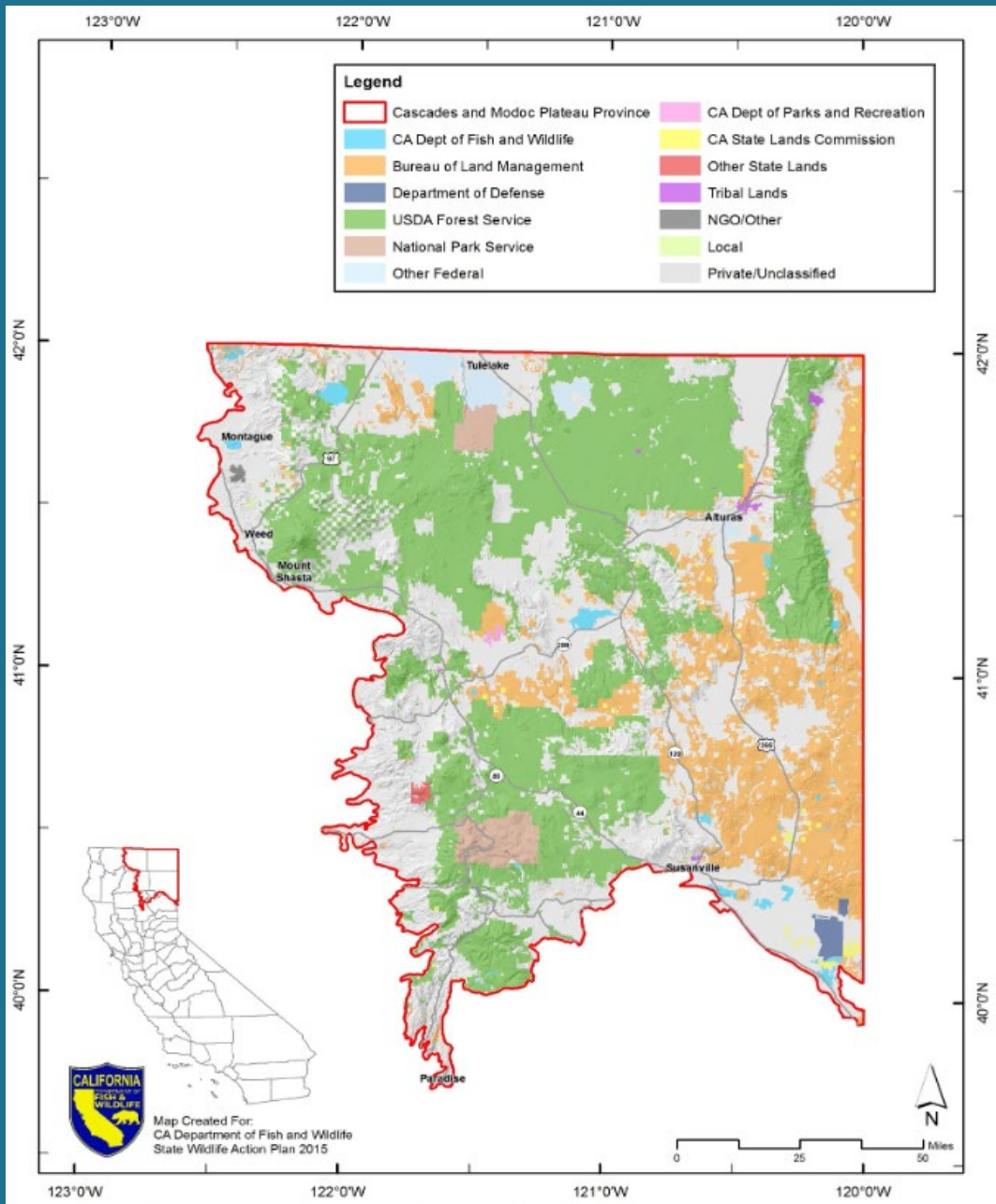
Photo by Brian Krebs

Modoc Plateau



- Low human population
- Strongly affected by human-caused disturbances
 - Grazing
 - Hydrological alterations
 - Altered fire regimes
 - Invasive species (plants and animals)
- Rapid changes in vegetation patterns

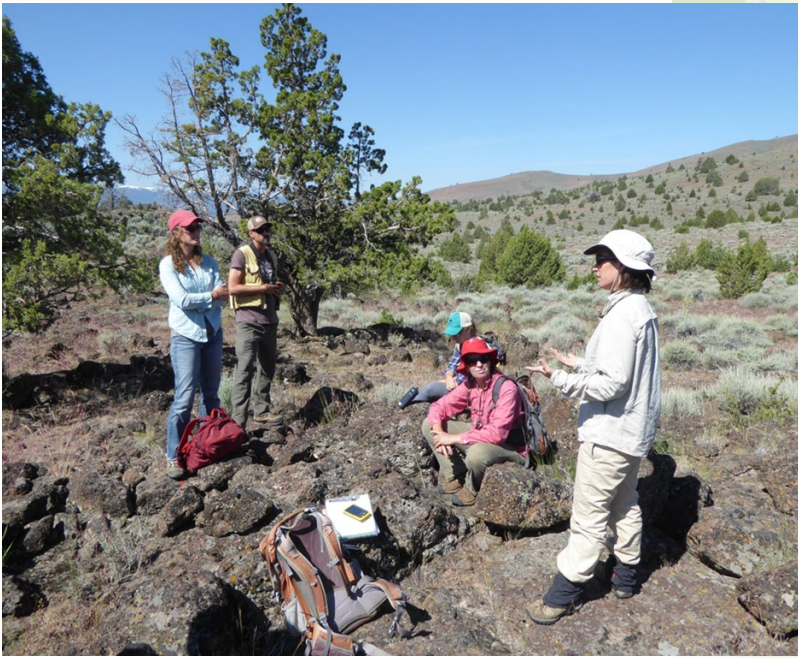
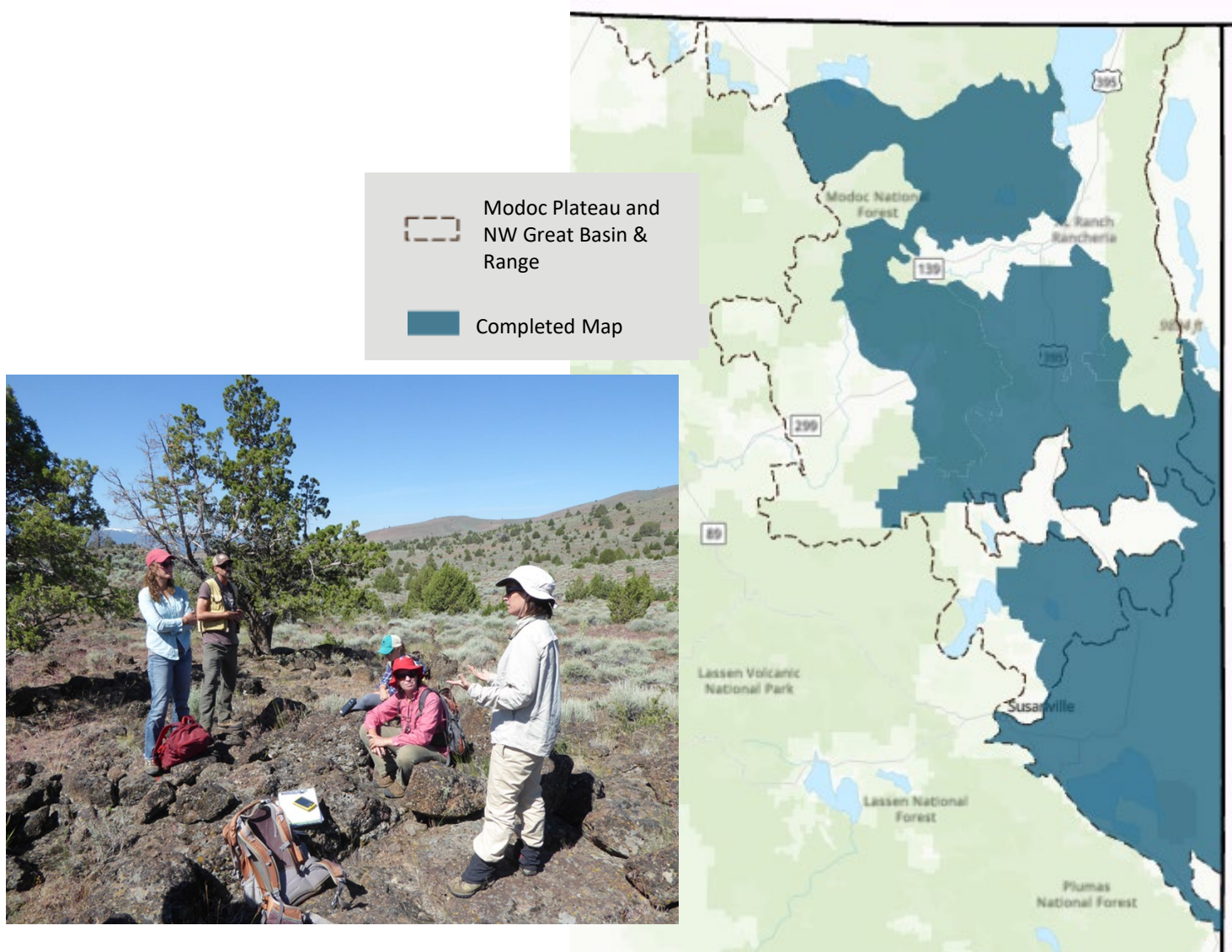




“Sagebrush plant communities are characteristic of the area, providing **important habitat** for sagebrush-dependent wildlife...”

- *CDFW State Wildlife Action Plan (2015)*

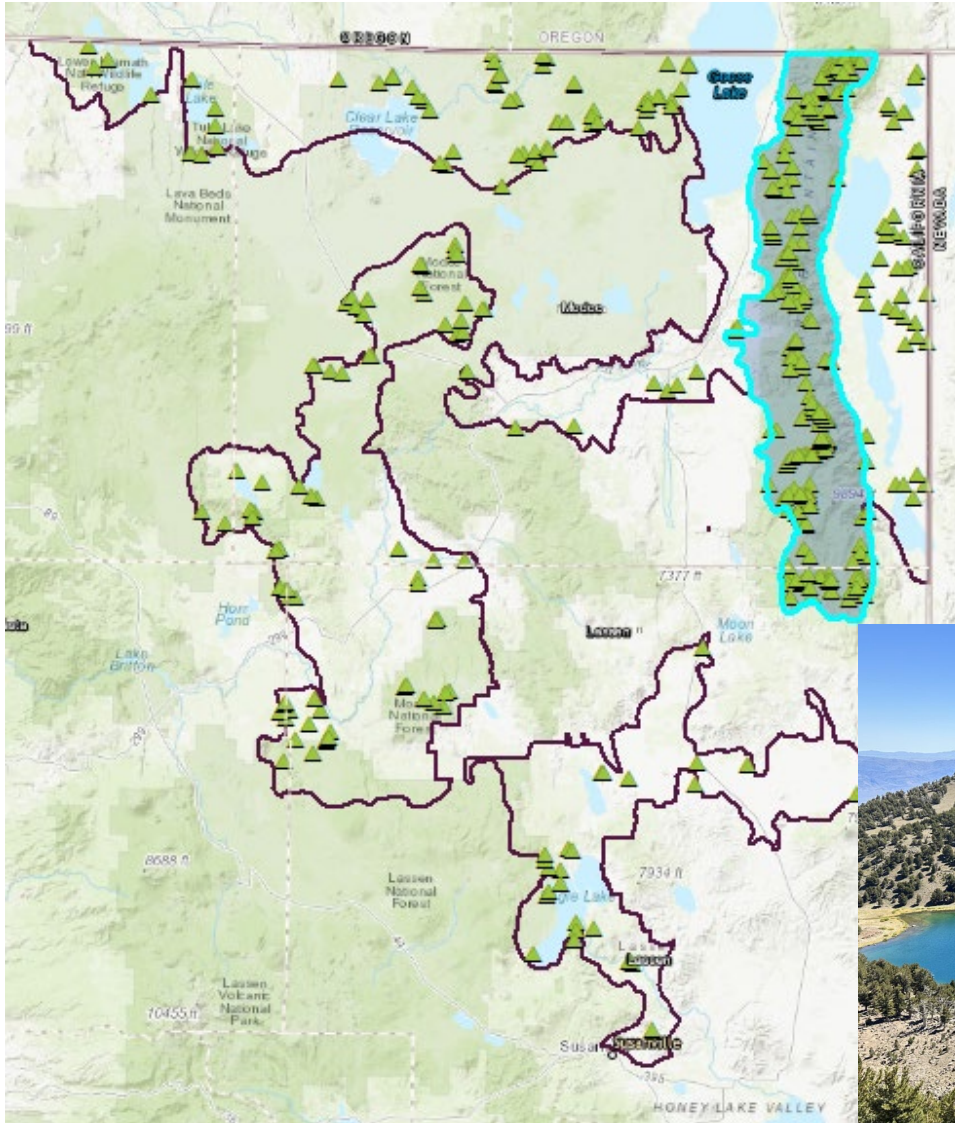
Previous Efforts in the Modoc Plateau



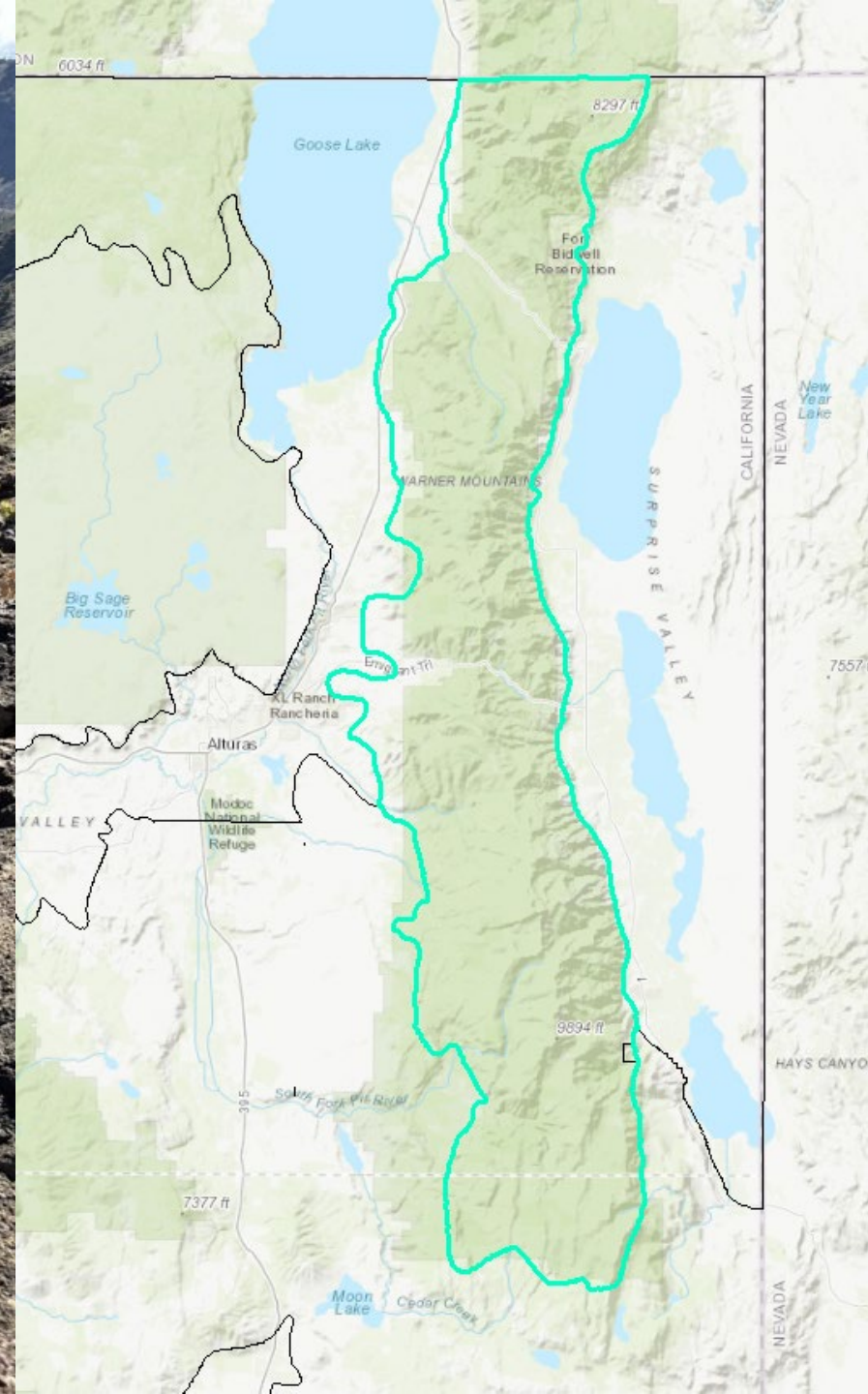
2016 - 2019

- Over 900 rapid assessment and releve surveys
- Completed over 3 million acres of fine-scale vegetation map
- 2.3 million acres remaining to survey and map

Current Efforts in the Modoc Plateau



- Approximately 500 additional rapid assessment and relevé surveys
 - Focus on the Warner Mountains
- Remaining 2.3 million acres of fine-scale vegetation map
- Completed in 2026



Western white pine



Pinus monticola

- Co-dominating with white fir (*Abies concolor*)
- New association for California
- Found in northern Warner Mountains

Whitebark pine

Pinus albicaulis



- Added to knowledge of whitebark pine in the Warner Mountains
- New locations
 - Warren Peak
 - Payne Peak
 - Horse Mountain

Artemisia arbuscula / *Stenotus acaulis* Association



- Low sagebrush with associated species such as *Stenotus acaulis*, cushion plants, lithophytes
- Windswept ridges and summits with shallow and rocky soils
- Also found in the Sierra Nevada

Subalpine – Alpine Vegetation



- Rayless goldenbush and Davidson's penstemon
- Shaded areas with persistent snow patches
- May represent a new association and a range expansion for the *Ericameria discoidea* – *Hulsea algida* Alliance

Ericameria discoidea – *Penstemon davidsonii*

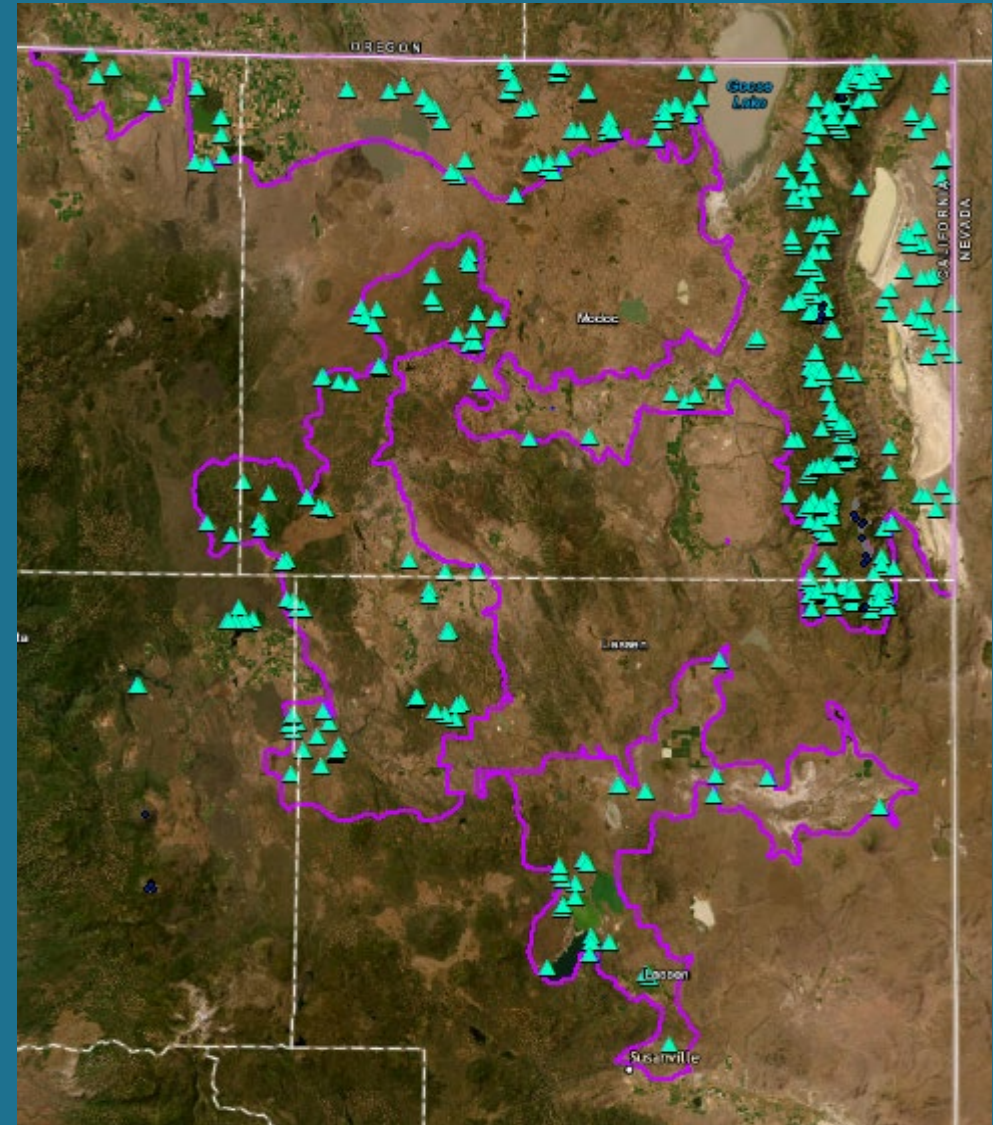
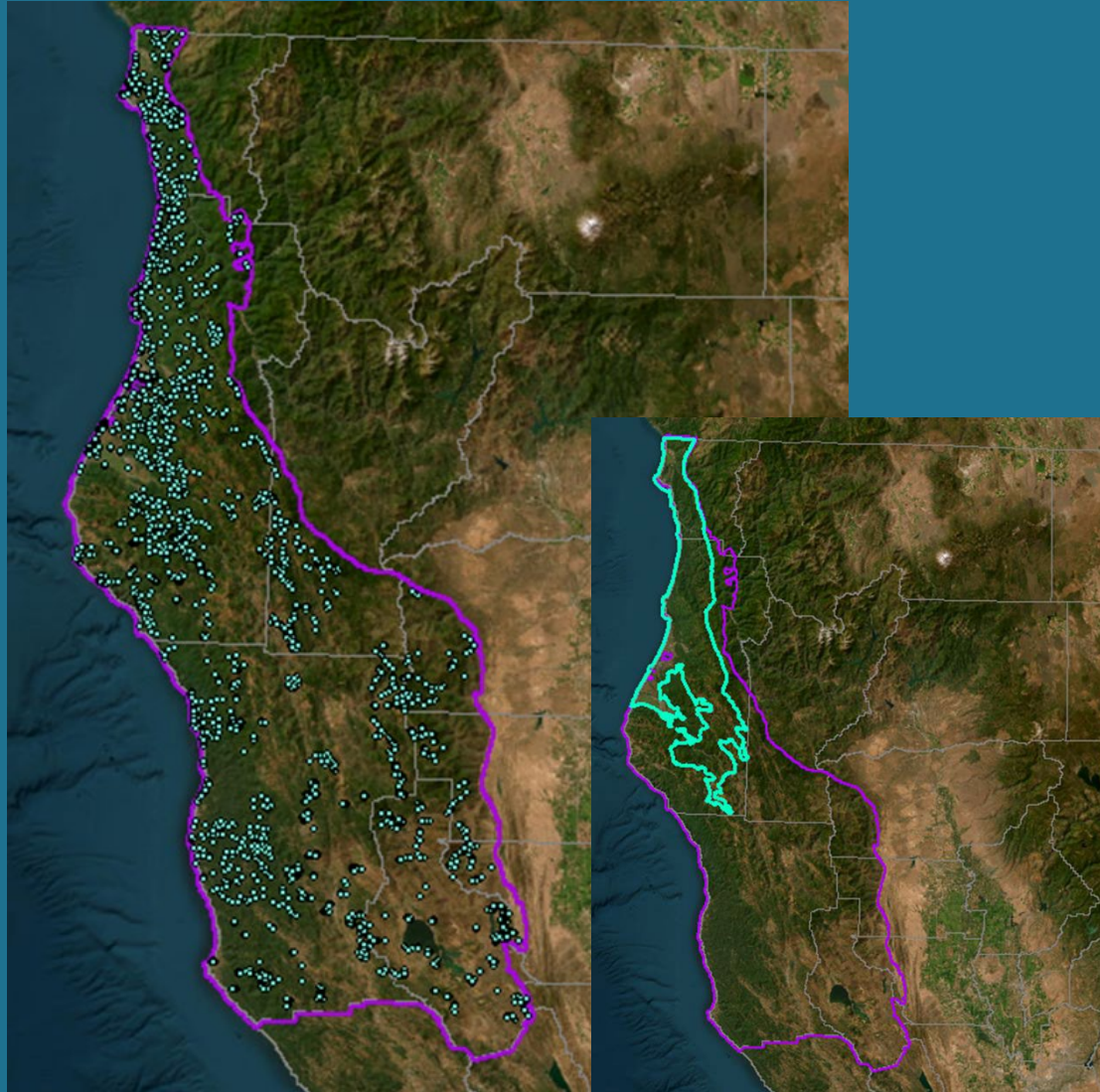
Subalpine – Alpine Vegetation

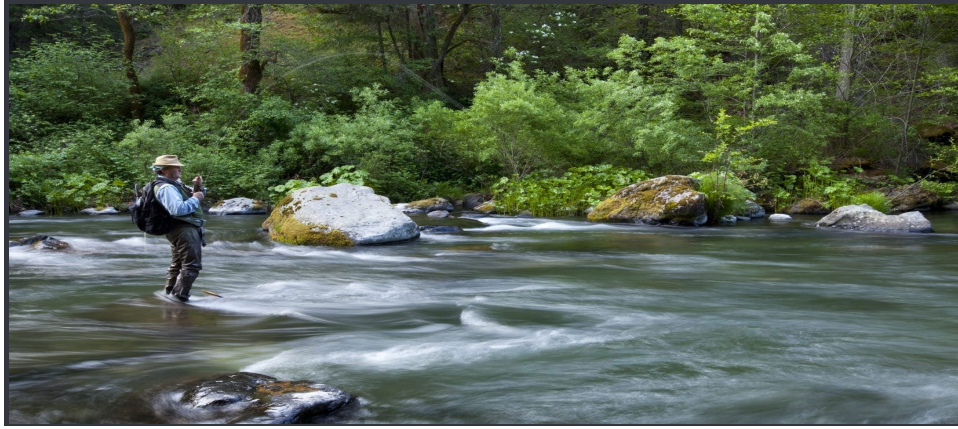


Oxyria digyna – *Senecio fremontii* – *Epilobium obcordatum*

- Mountain sorrel patches, *Oxyria digyna* Provisional Alliance
- Mountain sorrel, Fremont's groundsel, heart willow weed
- Rock crevice and unstable talus with persistent snowbeds

Overall Progress





Vegetation is often considered to be the best single surrogate for habitat and ecosystems.

Vegetation science has played an increasing role in wildlife and natural lands conservation and management

It is now among the principal tools involved in wildlands management and planning.





Questions?