

California Range Management Advisory Committee (RMAC)'s Role in Wildfire Resilience

Bringing Prescribed Grazing to the Forefront



Dr. Stephanie Larson, Vice Chair RMAC
Certified Rangeland Manager
UCCE Livestock & Range Management Advisor, Emeritus

Cole Bush, RMAC
Shepherdess Land & Livestock, Owner Operator
Grazing School of the West, Director

WHAT DOES THE RMAC DO?

Statutory committee that communicates issues of rangeland health and management to the Board of Forestry & Fire Protection and advises agencies. *(i.e., CA Natural Resources Agency, CA Env. Protection Agency, and CA Dept. Food & Ag on issues relating to rangeland resources)*



WHY ARE WE HERE?

- Open communication lines
- Illuminate the RMAC's activities
- Summarize Rx Grazing
- Overview of SB 675
- The RMAC's role in supporting wildfire resilience
- Invite engagement



Guiding Principles of the RMAC



VISION

A resilient rangeland landscape in California that provides a diversity of ecosystem services to support the state's ecological and human health

MISSION

To be an advocate to public agencies promoting scientifically and economically sound policies that affect the sustainability of California rangeland resources by:

- **considering issues** related to California's rangeland resources
- **providing recommendations** on addressing them
- **facilitating strong relationships** with local, state, and federal agencies
- **developing solutions** that are based on environmental, social, and economic information that is current, data-driven, and considers diverse perspectives



**What are RANGELANDS &
why are they significant
to resource management,
public safety, & the
climate conversation?**



Rangelands are Diverse and

Ex *Across the North America*

Arctic Tundra



Mountain Grasslands



Oak Woodlands



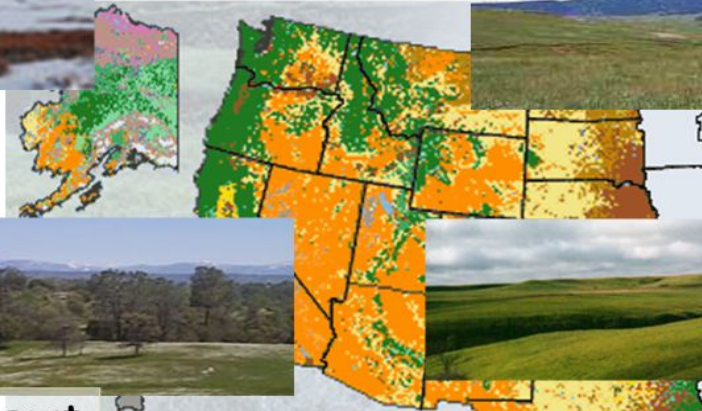
Plains Grasslands



Sonoran Desert



Mixed Prairie



Why are rangelands important?

They cover a lot of ground



47% of the EARTH is rangeland
(some estimates as high as 70%)



36% of the US is rangeland



53% of Western States is rangeland



40% of CA rangeland , Federal
2.3 % of CA rangeland, State
57.6 % of CA rangeland, Private



THE RMAC + PRESCRIBED GRAZING OVER THE PAST DECADE

- 2015 Prescribed Herbivory for Vegetation Treatment Projects White Paper – provided guidance to the CDFG agencies, and the public on herbivory for hazardous fuel reduction
- 2019 Cal Fire Vegetation Treatment Program Programmatic EIR approved, including prescribed herbivory
- 2020 Prescribed Grazing virtual educational series
- 2022 State Lands Grazing License and Land Management subcommittee formed to develop grazing license and land management plan templates for use on state-managed land
- 2023 Co-hosted several state wide field day demonstrations of prescribed grazing at work
- 2024 Update of the Prescribed Herbivory for Vegetation Treatment Projects White Paper

***SO...WHAT ABOUT THESE
BIOLOGICAL MASTICATORS?***



LIVESTOCK GRAZING

When, where, how, why
and with what species do
you apply grazing?



IT DEPENDS



What are the Resource Goals??

- **Natural Resources & Wildlife**
 - **Fire Risk Reduction**
 - **Invasive & Native Species**
 - **Climate Change Mitigation**
 - **Production & Profit**
 - **Quality of Life**
- > Make them achievable and appropriate for the landscape;*
- > Determine the Grazing System that will achieve your goals;*
- > Decide how to measure changes and determine if goals are being reached;*
- > Apply Adaptive Management – recognize what changes are needed to achieve goals*



ANIMAL CONSIDERATIONS

Choosing the right animal for the job

Grazers vs Browsers

*Small ruminants consume approx. 4% of their body weight and drink 5-2 gallons of water per day



CATTLE



GOATS



SHEEP



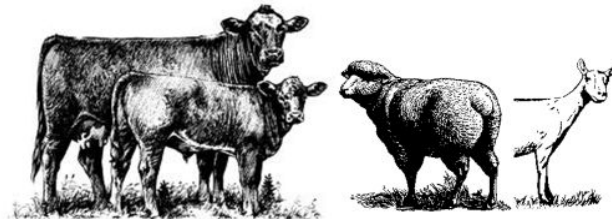
Small ruminants vs. cattle

SHEEP AND GOATS


- ✓ Select a diverse diet
- ✓ Prefer to graze and bed on upland areas and away from wet lowlands.
- ✓ Can graze steep, rocky areas.
- ✓ Their smaller hooves have less of an impact.
- ✗ Require better fencing
- ✗ Predator risk

CATTLE

- Consume a more homogenous diet.
- Prefer lowlands for grazing
- Their bigger hooves have more of an impact (e.g. soil compaction).



**WHAT IS
“PRESCRIBED GRAZING”
*HOW DOES IT DIFFER FROM
TRADITIONAL GRAZING SYSTEM’S
GOALS & PRIORITIES?***

An aerial photograph showing a large flock of sheep grazing on a dry, brownish hillside. The sheep are clustered in several areas, with a particularly dense group on the right side of the frame. The terrain is uneven and covered with sparse, dry vegetation. The lighting suggests a bright, sunny day, casting soft shadows.

Prescribed grazing is the lawful application of a **specific kind of livestock at a determined season, duration, and intensity** to accomplish defined vegetation or conservation goals, including reducing the risk of wildfire by reducing fuel loads, controlling undesirable or invasive plants, and promoting biodiversity and habitat for special status species.

Section 4124.5 of the Public Resources Code

** Other names of this grazing approach include, targeted grazing, managed grazing, contract grazing, to name a few.*

The **GRAZING Rx**

What are you treating?
Symptom or Systemic Cause

- **Species + Breed Selection**, browsing vs grazing
- **Number of animals** in the herd, flock, or flerd
- **Density**, # of animals in given grazing area
- **Duration**, how long is the treatment based on density and impact goals
- **Time of year**, seasonality of treatment, early season vs late season, growing season vs dormant season





Fine Fuels Reduction Project Grazing Rx

- Mixed-species herd of 400 sheep & goats
- 1 acre paddock per day
- 45 degree slope
- Vegetation type: primarily annual grass
(East Bay Regional Parks District, July 2015)



BENEFITS & CONSIDERATIONS WHEN TO USE PRESCRIBED GRAZING

- **Air Quality**, when compared to the use of prescribed fire
- **Noise**, when compared to mechanical operations
- **Steep Slopes**, hard to access areas or presence of poisonous plants
- **Soil Compaction** and surface disturbance concerns





PRESCRIBED GRAZING

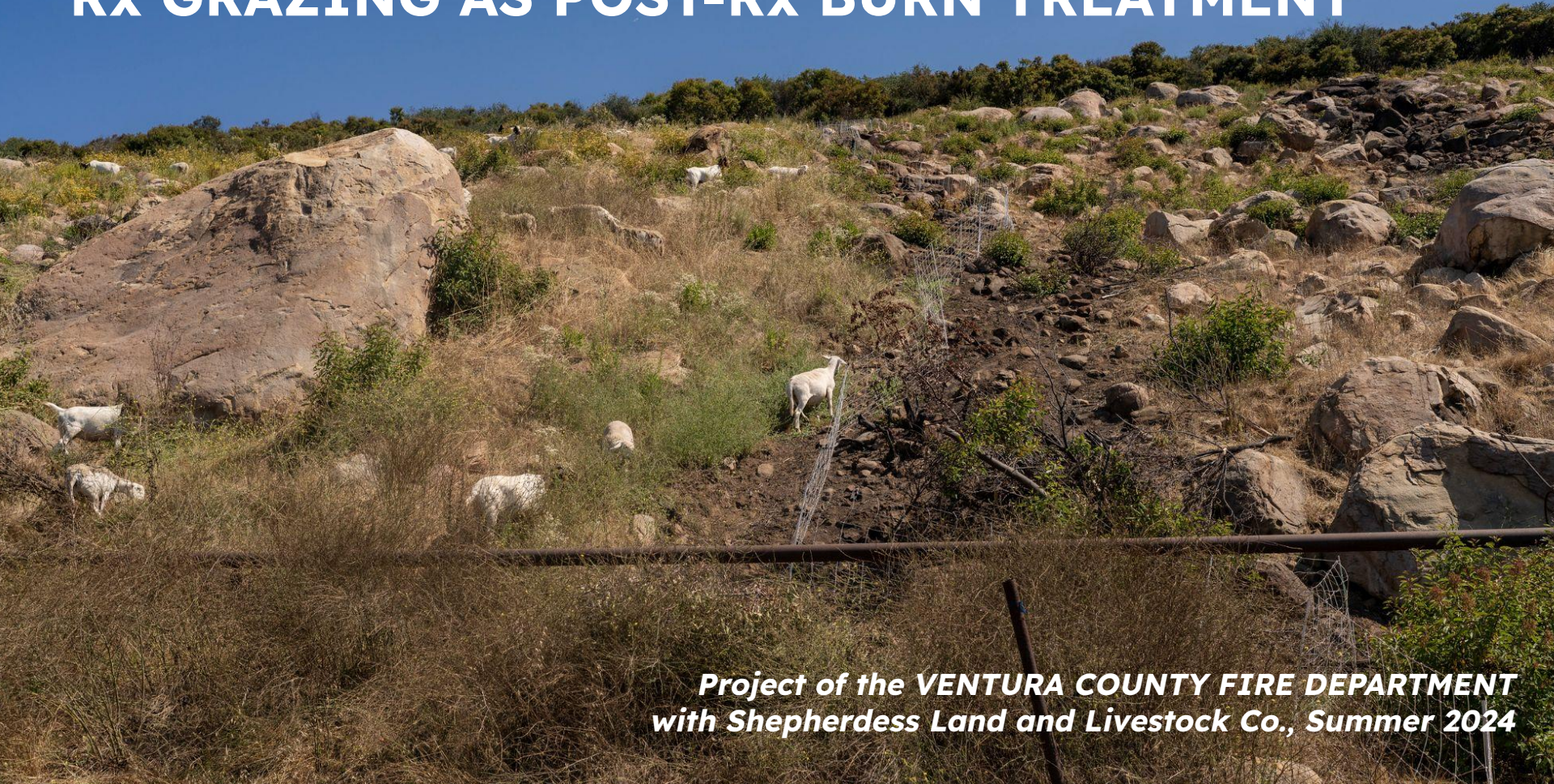
as a **Climate Beneficial Solution**
to enhance Ecological Resilience and Fire Safety

- **FIRE FUEL REDUCTION + DEFENSIBLE SPACE**
- **INVASIVE SPECIES MANAGEMENT**
- **HABITAT RESTORATION + BIODIVERSITY**
- **WATERSHED + MINERAL CYCLE FUNCTION**
- **ALTERNATIVE TO FOSSIL FUEL DEPENDENT MACHINERY & CHEMICAL TREATMENT**
- **BYPRODUCT-->FOOD + FIBER**

Rx GRAZING as a complementary treatment to mastication and Rx BURN



Rx GRAZING AS POST-Rx BURN TREATMENT



*Project of the VENTURA COUNTY FIRE DEPARTMENT
with Shepherdess Land and Livestock Co., Summer 2024*

SB 675 Rx Grazing Legislation

Section 4214.1

What does this bill do?

- Elevates prescribed grazing (on par with other fuel reduction strategies) as a wildfire solution in existing state wildfire programs and policies
- Defines prescribed grazing in statute

SB 675 institutionalizes support for prescribed grazing by integrating:

- Prescribed grazing outreach
- Infrastructure
- Local and regional planning into two existing wildfire prevention grant programs:
 - *CalFire's Wildfire Prevention Grants Program*
 - *Department of Conservation's (DOC) Regional Forest & Fire Capacity Program.*

What does SB 675 require?

Requires the Board of Forestry & Fire Protection to appoint & consult with the RMAC on rangeland resource issues under consideration by the board.

Requires on or before July 1, 2025, the advisory committee, develop guidance for local or regional prescribed grazing plans, as provided.

Requires the Department of Forestry and Fire Protection & Department of Conservation to consider & incorporate this guidance in specific grant programs.

Expands the fire prevention and home hardening education activities eligible for grants to include projects involving the application of prescribed grazing.

What is the RMAC's role?

To guide CalFire and Department of Conservation in formalized consultation by the RMAC's members comprising prescribed grazing experts, researchers, and practitioners.

To direct the state's Wildfire and Forest Resilience Task Force to develop a plan to expand the use of prescribed grazing near communities.

CASE STUDIES

PRESCRIBED GRAZING AT WORK

Match.Graze , an online grazing service for livestock grazers and landowners; Match.Graze.com

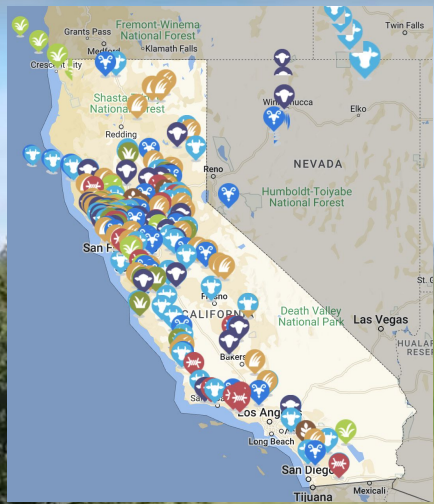
Graze Ojai, Ojai Valley Community Supported Grazing Program;
OV Fire Safe Council

Los Angeles County Fire Dept. & Sheriff's Dept collaboration:
Prescribed Grazing Demonstration and Training

matchgraze.com

Match.Graze

FIND YOUR PERFECT GRAZING MATCH



UNIVERSITY OF CALIFORNIA
Agriculture and Natural Resources

UC Cooperative Extension





A Supergoat Hwy

Since the Thomas Fire, the Ojai Valley Fire Safe Council (OVFSC) has gained traction when it comes to increasing the community's capacity around wildfires. Graze Ojai is one of the priority projects on the road to establish a large-scale "Wildfire Intensity Reduction Zone" called the **Ojai Valley Safety "Corridor"**. The Corridor will be a fuel reduction zone that extends from Upper Ojai, around the Ojai Valley, and down the Ventura River Watershed. These mapped areas of the Corridor would approximately 3,000 acres of continuous year-round grazing to minimize fuel loads and improve ecosystem health in the Ojai Valley and Ventura County Watershed.

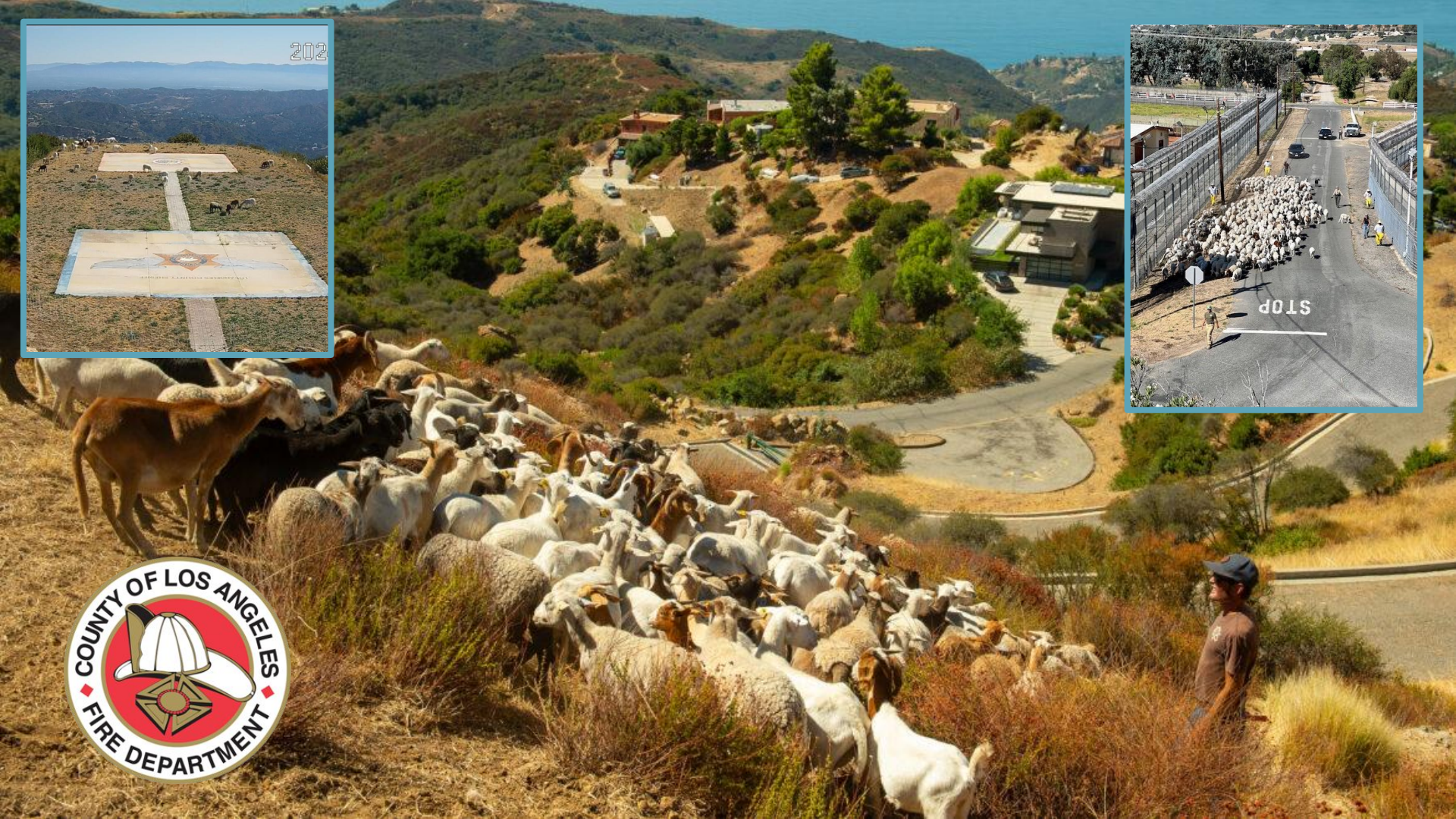
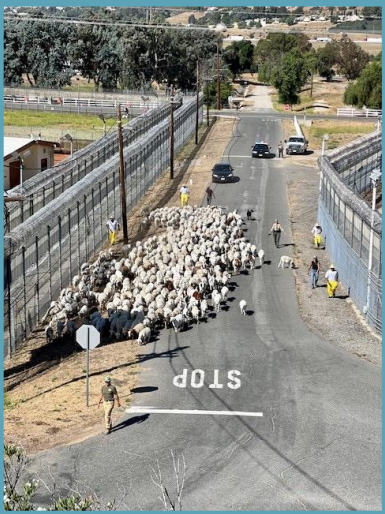
Graze Ojai is a **Community-Supported Grazing** Program of the **Ojai Valley Fire Safe Council**



Our mission is to work with the Ojai Valley Community to create resilient ecological systems against catastrophic wildfires.

Our vision: Cultivating community resilience with landscape-level *prescribed grazing* for fire mitigation.

202



RESEARCH

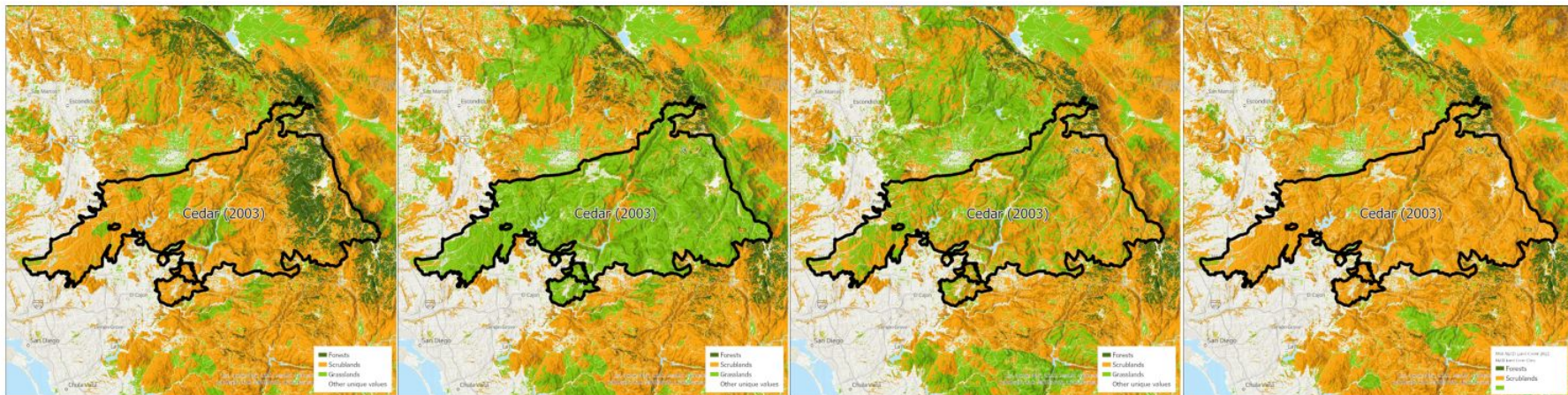
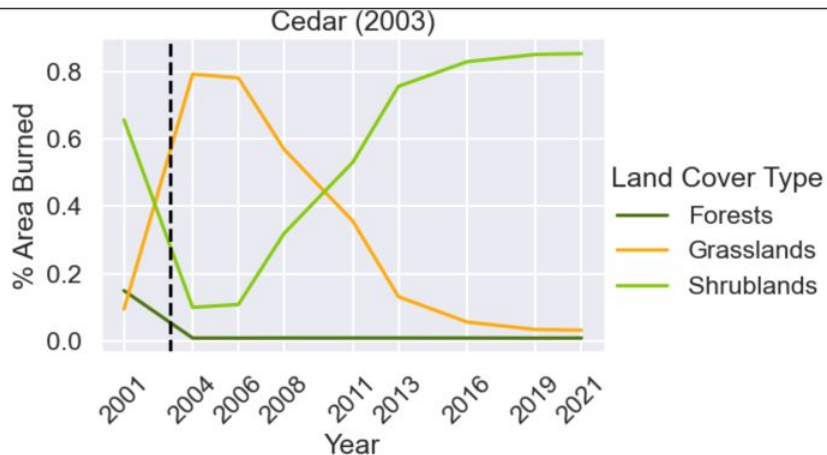
Ratcliff, et al., 2022, Grazing reduced fine fuels which lead to lower flame lengths, cattle grazing reduced fuel loads enough to lessen fire hazards for firefighters.

Siegel, et al., 2022, areas in California (North Bay & Central Coast), annual burn probability decreased as stocking levels increased across all vegetation types.

Starrs, et al., 2024, Cattle grazing (Napa & Sonoma) reduced average annual burn probability 45% compared to ungrazed conditions. Grazing in high priority landscapes, identified by (Cal Fire), decreased average annual burn probability by 82%.

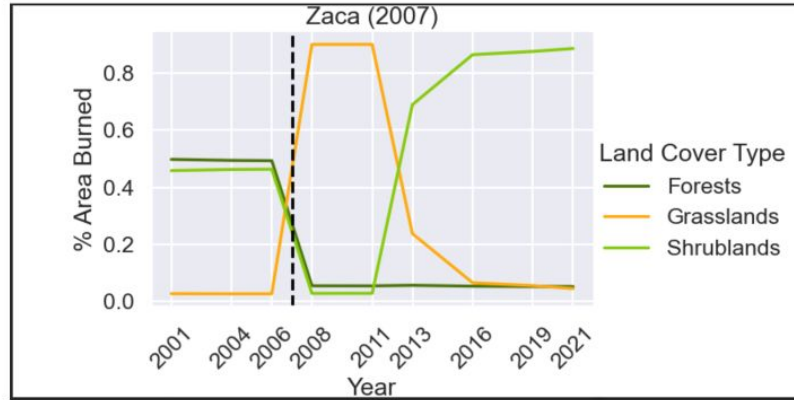


UC ANR researchers, Theresa Becchetti & Dr. Stephanie Larson, will present this data at the International Rangeland Congress, Australia, 2025. Research findings will be published in 2025.

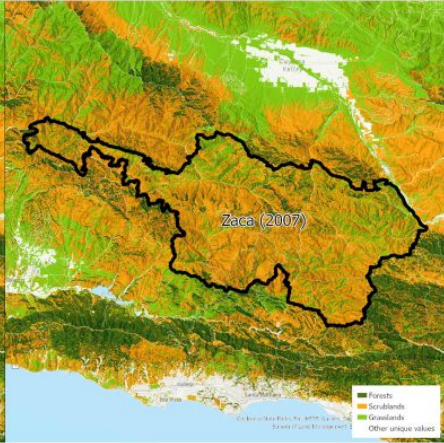




2001



2011



2013

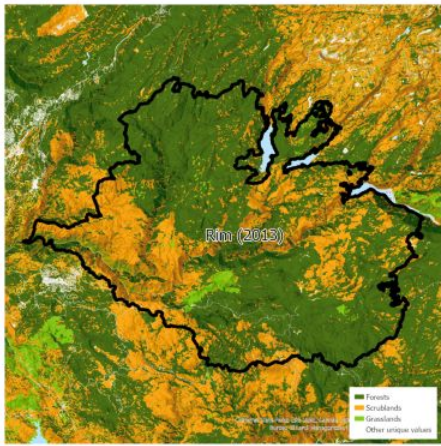


2016

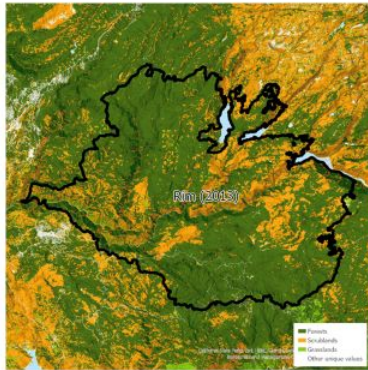
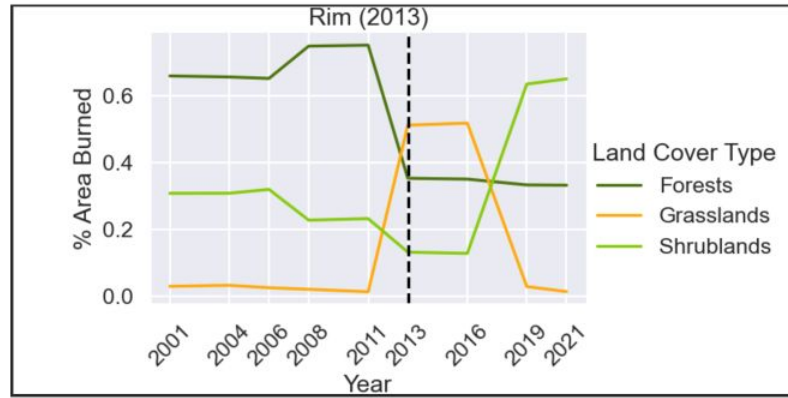


2021

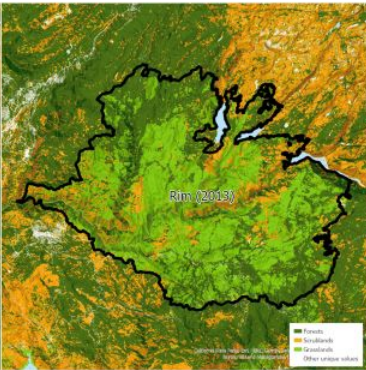




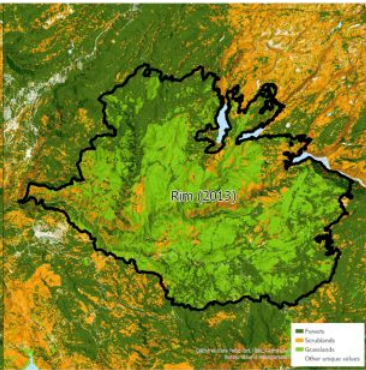
2001



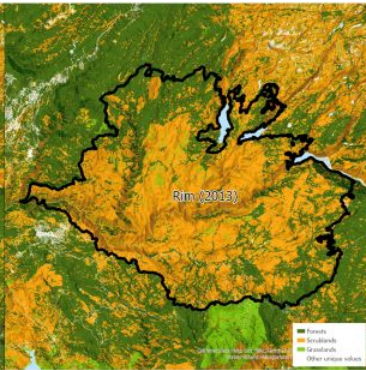
2011



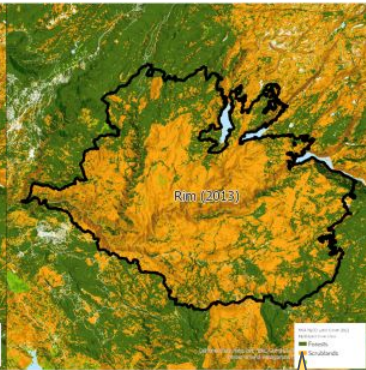
2013



2016



2019



2021



INVITATION TO ENGAGE

Develop guidance for local & regional entities interested in or wanting to expand prescribed grazing:

- Cities
- Counties
- Fire Safe Councils
- Local Parks
- CalFire
- Homeowners Associations
- CA Fish & Wildlife
- Water Boards



QUESTIONS?

**Thank you & the RMAC looks forward to
collaborating in 2025**





CONTACT

Stephanie Larson, PhD

Vice Chair RMAC

slarson@ucanr.edu

Cole Bush

RMAC Member

bcbshepherdesslandl.co