



# “From bad to worse”

Dr. Kate Wilkin  
December 17, 2017

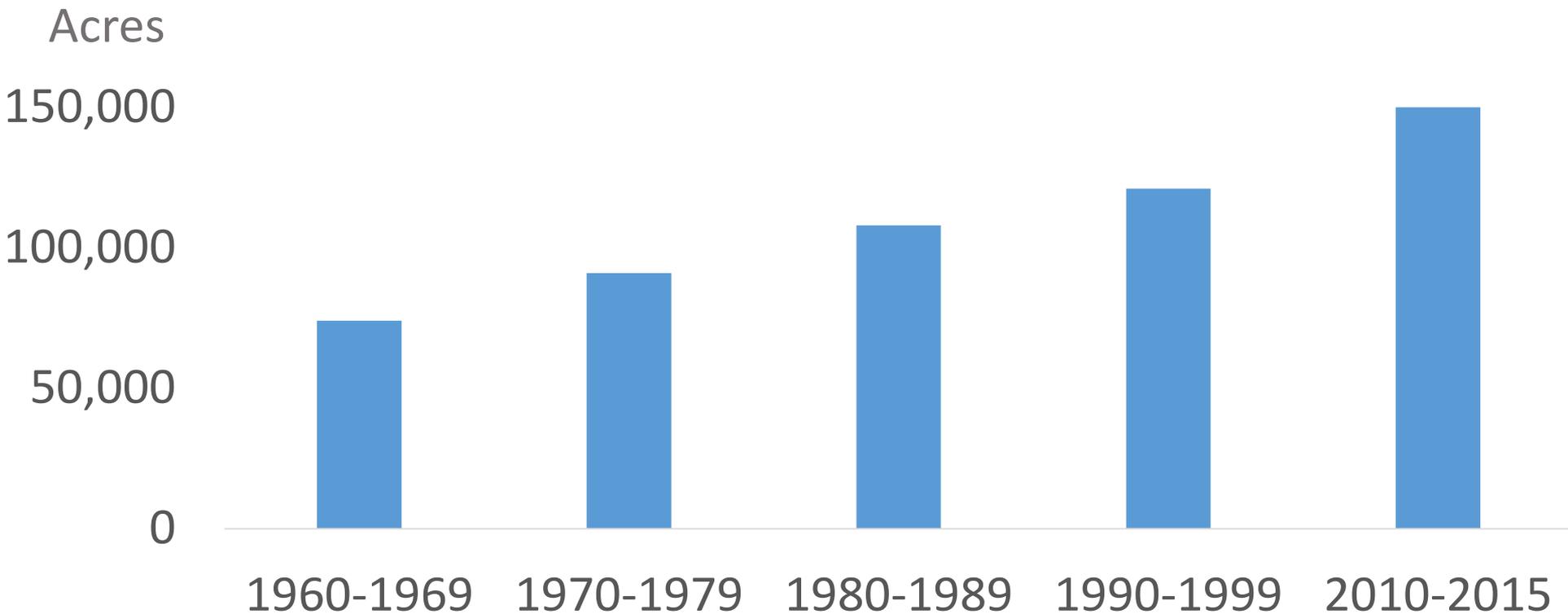
Oroville, CA

from The Sierra Nevada Conservancy’s The State of the Sierra Nevada’s Forests (2017)





# Annual average acres burnt in California



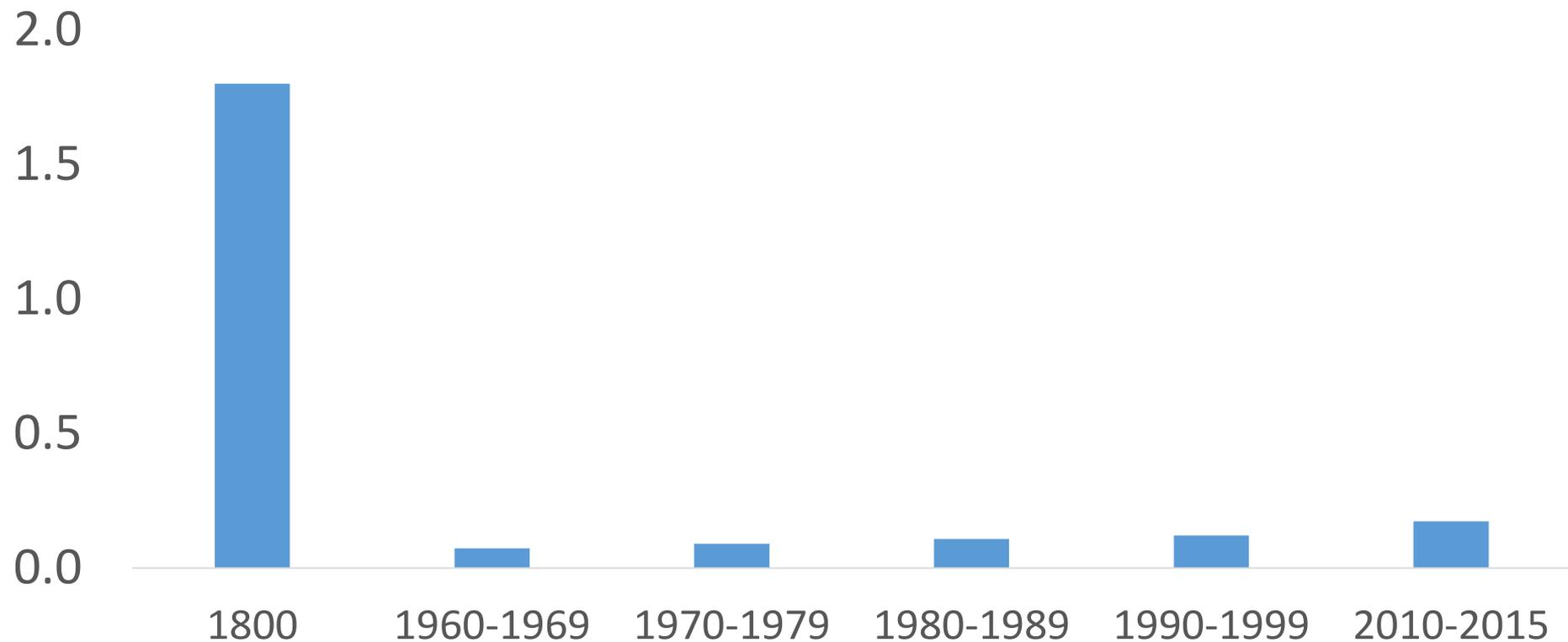
*Adapted from*

S. L. Stephens, R. E. Martin, N. E. Clinton, Prehistoric fire area and emissions from California's forests, woodlands, shrublands, and grasslands. *Forest Ecology Management* **251**, 205 (2007).



# Annual average acres burnt in California

Millions  
of acres



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S. L. Stephens, R. E. Martin, N. E. Clinton, Prehistoric fire area and emissions from California's forests, woodlands, shrublands, and grasslands. *Forest Ecology Management* **251**, 205 (2007).



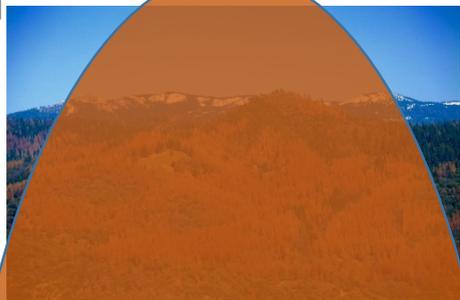
Tree death –  
Insects & Disease



Tree death - Wildfire



Structure loss -  
Wildfire



Tree death –  
Insects & Disease

# Dense trees



Tree death - Wildfire



Threat



# Bear Creek Fire Guard Station Plumas National Forest, Sierra Nevada

1915



What should my forest look like?



Bear Creek Fire Guard Station  
Plumas National Forest, Sierra Nevada

2002



What should my forest look like?



Bear Creek Fire Guard Station  
Plumas National Forest, Sierra Nevada

1915



2002

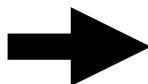


What should my forest look like?



Tree death –  
Insects & Disease

**Dense trees**



Tree death - Wildfire



Threat

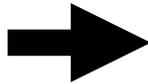


Solutions



Tree death –  
Insects & Disease

**Dense trees**



Tree death - Wildfire



Threat

## Increase the pace and scale of forest thinning:

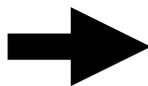
- Make resilient forest structure thru timber harvest, mechanical treatments, and prescribed fire

Solutions



Tree death –  
Insects & Disease

**Dense trees**



Tree death - Wildfire



Threat

## Increase the pace and scale of forest thinning:

- Make resilient forest structure thru timber harvest, mechanical treatments, and prescribed fire
- Maintain treatments with prescribed fire, grazing, timber, and biomass products

Solutions



What should my forest look like?



What should my forest look like?



What should my forest look like?



What should my forest look like?



What should my forest look like?



What should my forest look like?



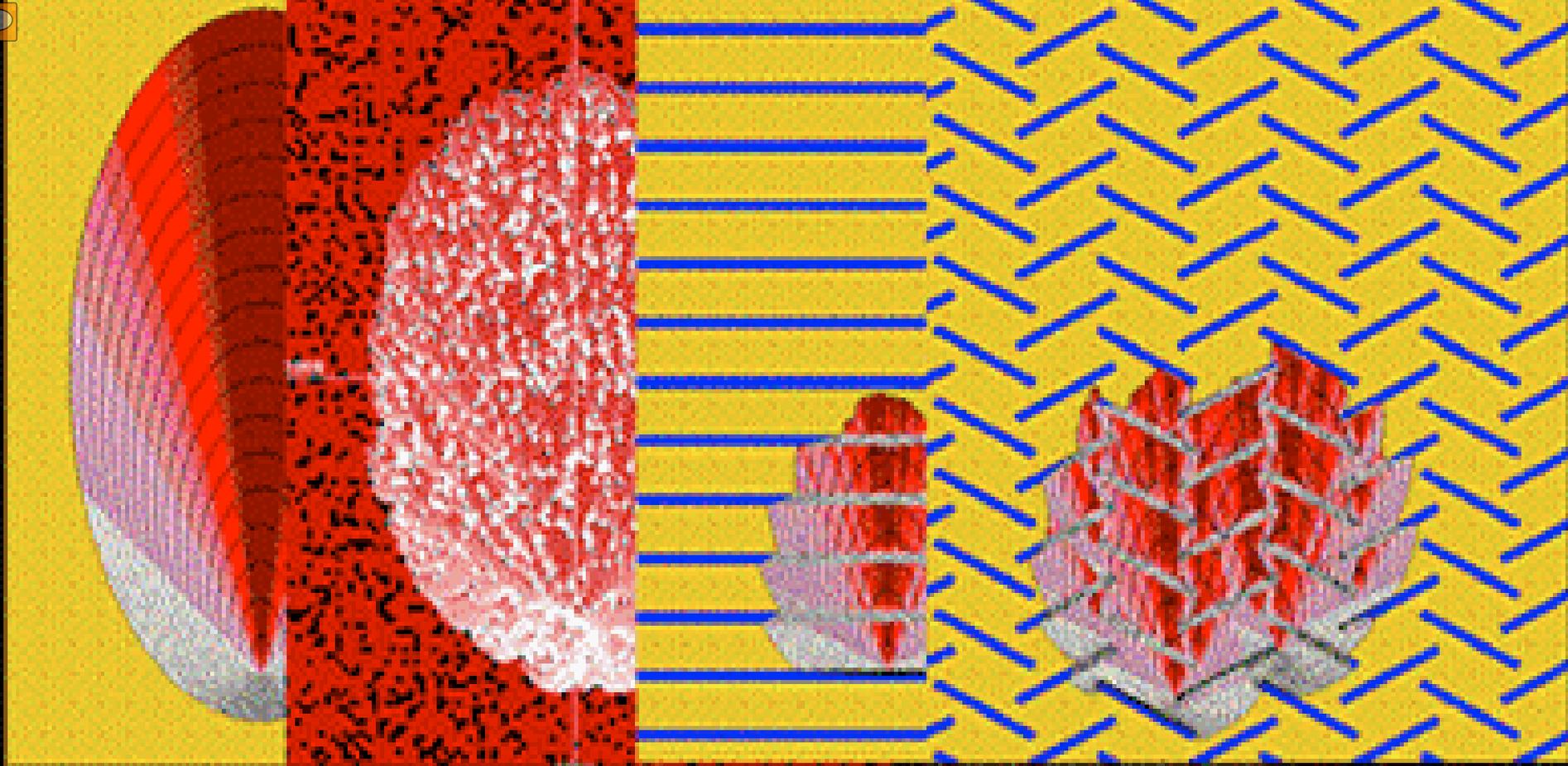


- What?

- Reduce grasses and shrubs, and conifers <1 year of age



- What?
- Where?
- Reduce grasses and shrubs, and conifers <1 year of age
- Timber plantations and timber production areas
- Fuel breaks near communities
- Research needed on browse effects on forest regeneration after high severity fire



- What?
- Where?
- Reduce grasses and shrubs, and conifers <1 year of age
- Timber plantations and timber production areas
- Grass understory in fuel breaks near communities
- Research needed on browse effects on forest regeneration after high severity fire
- Strategic fuel reduction treatments



Thank you for you time!

Dr. Kate Wilkin  
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# *Livestock Grazing as a* **Forest Management Tool**



**Management**

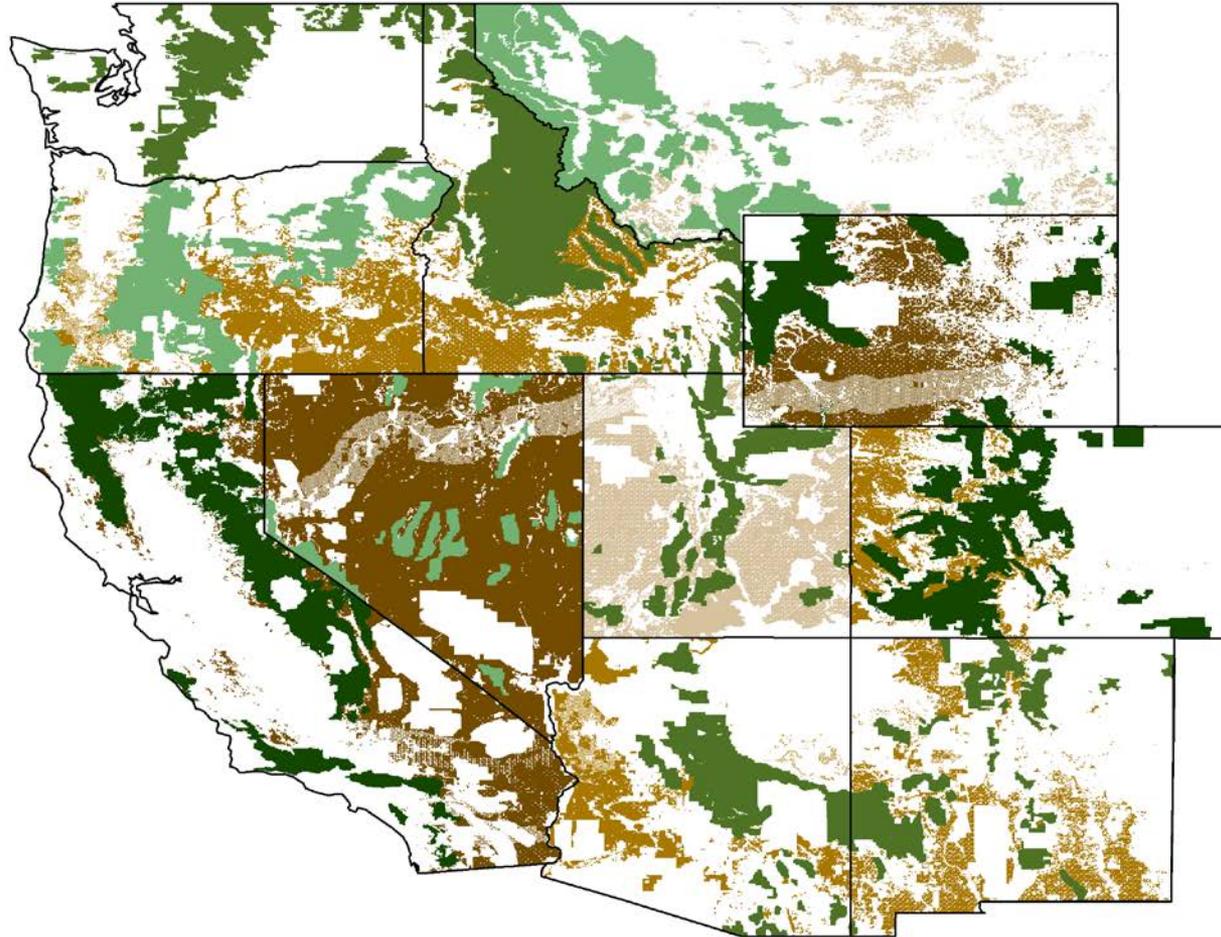
Tracy Schohr  
Livestock and Natural Resources Advisor  
Butte, Plumas and Sierra counties  
University of California Cooperative Extension

# Decrease in Grazing

## Change in BLM Authorized-Actual Use AUMs



## Change in USFS Authorized-Actual Use AUMs



# Forest Grazing Research

## *UC Rangelands Team*

- Adaptive Management
- Sensitive Habitat (e.g. Aspen, Toads)
- Meadow Health
- Water Quality



# Prescribed Grazing

*Grazing implemented to achieve specific goal(s)*

1. Type of livestock (*e.g., cattle, sheep, goats*)
2. Number of livestock (*stocking density – head/acre*).
3. Duration of grazing (*stocking rate – head/acre/year*).
4. Seasonal timing of grazing (*e.g., spring, summer, etc*).
5. Frequency of grazing (*e.g., 1X, 2X per growing season*).
6. Spatial distribution of grazing (*e.g., fences, water*).



# *Sheep & Goat Grazing as a* **Forest Management Tool**

- Intensive Management
- Browse on everything  
(Brush and Grasses)
- Fuel Breaks
- Cost prohibitive
- Smaller scale



# *Cattle Grazing as a* **Forest Management Tool**

- Forest Setting & Urban Setting
- Landscape Maintenance
- Grass and shrubs
- Tree-establish for timber
- Wildlife Habitat
- Research

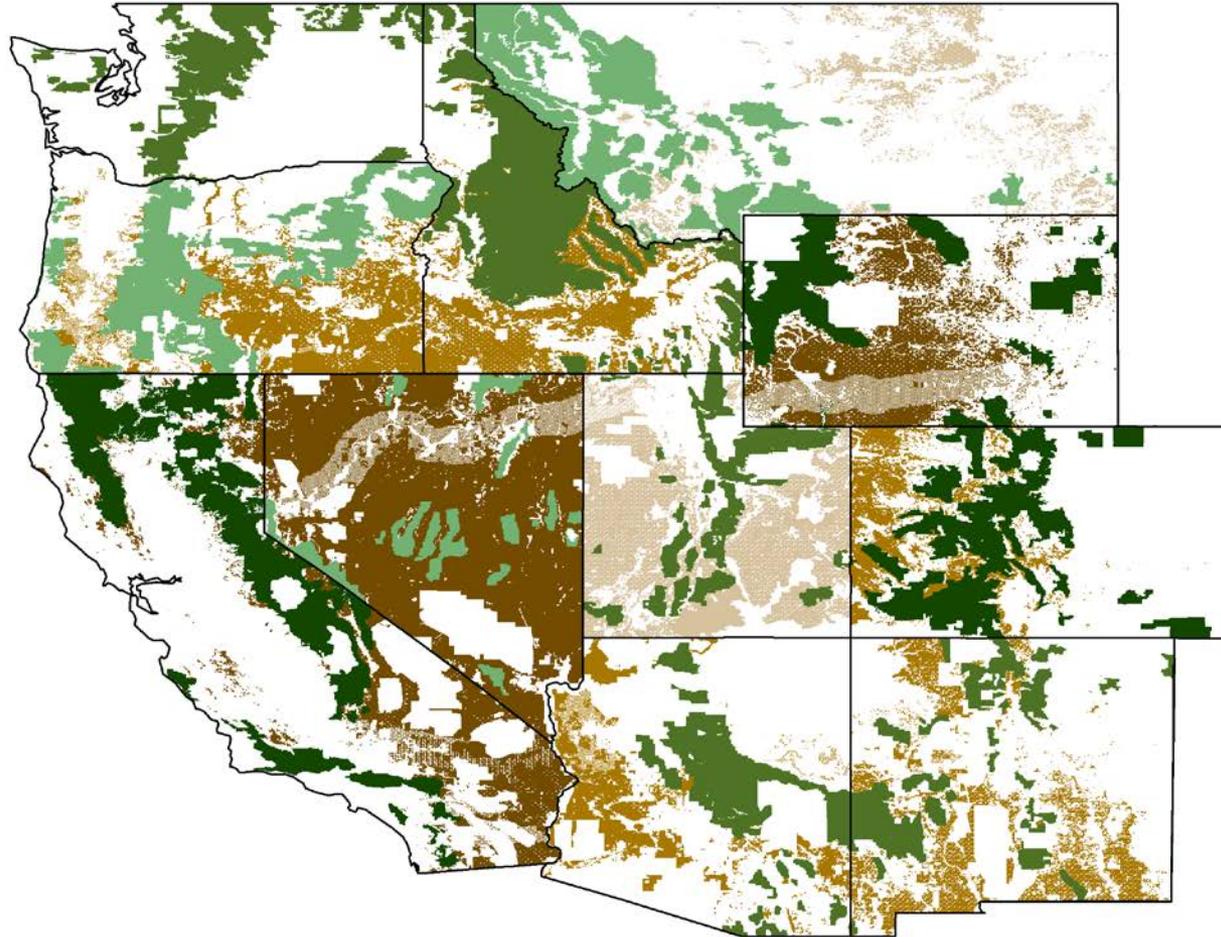


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