Grazing to Reduce Wildfires

Understanding Vegetation Types to Reduce Fire Severity

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Introduction

California has experienced dozens of major wildfires in the past two decades, impacting not only the rangelands that experienced the fires, but also the communities that surround them. These communities experienced loss of lives, property and general health, due to reduced air quality and fire related stress. More numerous and severe fires are expected under climate change scenarios. As climate becomes hotter and drier, the vegetation cover of open spaces in our Mediterranean habitats is predicted to shift from wooded and grassy habitats toward brushlands (e.g., coyote brush, Himalayan blackberry). Additionally, the removal of grazing from CA open spaces, could potentially lead to further shifts toward brushy habitats.

Change is beginning to happen slowly as all Californians realize the benefit to natural resources if our landscapes are managed. Our research project was multifaceted, examining different landscapes throughout the state and their probability of burning. Information generated can inform decision makers on future grazing management.

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Methods

Distinct segments of the project included:

- Paired federal allotments, grazed and ungrazed with same slope, aspect, vegetation type to see if grazed/ungrazed had any impact on the probability of burning or vegetation type.
- Paired private property in the Central Coast, Central Valley and Foothills and the North Bay. Ranchers were contacted to determine stocking rates.
- GIS analysis of the most devastating wildfires in California along with vegetation mapping from National Land Cover Database to plot vegetation community changes post fire.

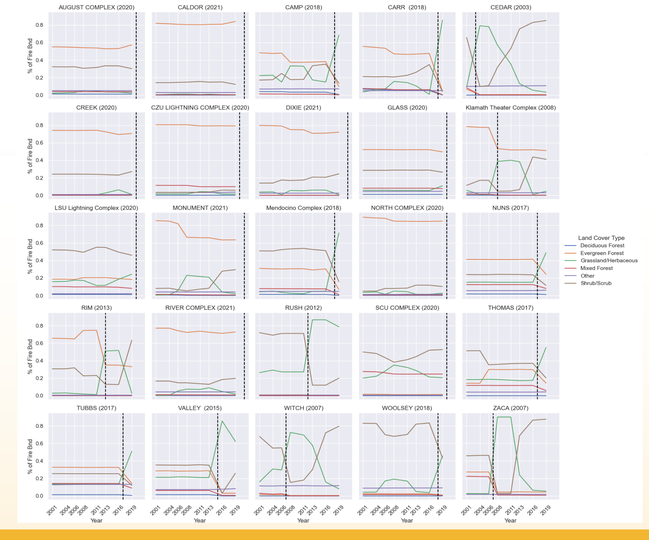
Results

From our research we found:

- Grazing can reduce the probability of burning in shrubs and oak vegetation types.
- Grazed allotments were more likely to maintain grasslands.
- Grasslands that burned were less likely to switch to shrub or forest.
- On the Central Coast and North Bay Area, regardless of vegetation type, increasing stocking rates corresponded to decreasing probability of burning.
- Shrub management on private ground is complicated.
- Dramatic changes in vegetation communities can be seen post-fire.
- Grasslands typically increase immediately post fire, and then the area quickly becomes dominate in shrubs, often replacing other vegetation types.

Next steps

We will examine how wildfires have impacted vegetation types. Our predecessors did work on managing shrubs in the 1970's and 80's, but none of that work was documented. In today's climate, we need to document the impact grazing can have on shrub management and use the information we have at hand to help land managers plan a healthy landscape that provides a variety of habitat while reducing the probability of burning. The interactive maps created will help with this effort.



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