

Influence of Fire and Grazing on Grasslands
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Grazing and fire are the oldest and most pervasive vegetation management tools used by humankind. Recent decades have shown an increase in the number of large wildfires across the western US. This increase in annual area burned has generated much interest in interactions between fire and grazing. In particular, there is an urgent need to better understand the effects of historic and current grazing systems on fire fuels, ignition risk, fire spread, fire behavior, and post-fire effects on soil and plant communities. Managed grazing is a proven tool for fuel management and can lead to fires that burn at lower intensity, increased patchiness, reduced rates of spread, and increased subsequent survival of plants after fire. At first glance it looks easy – the herbaceous biomass that livestock consider forage is also fuel for wildland fires. However, the effectiveness of managed grazing to reduce fuels and modify fire behavior depends on specific vegetation composition and fire weather conditions. Under moist and cool conditions, grazing can have readily observed effects. However, under severe fire weather livestock grazing has only a limited ability to affect fire behavior. From research in the field of landscape ecology are emerging new ideas that emphasize the entwined relationship between fire and grazing over time. Areas burned, attract grazers in subsequent years, and thereby reduce fire risk across landscapes in a patchy arrangement. This interactive relationship between fire and grazing, called “Pyric-Herbivory,” is an important force maintaining landscape heterogeneity in grassland ecosystems. After centuries of on-the-ground experience, scientist and managers are still learning the intricacies of this relationship. The time is right to take a closer look at the coordinated management of fire and grazing across time and space.