

Pyric herbivory: Developing a landscape level application of the fire-grazing interaction

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Abstract

Fire and grazing (referred to as pyric herbivory) can interact to provide benefits through many ecosystem services from promoting heterogeneity across complex landscapes. I will synthesize the research from the past 25 years on pyric herbivory and discuss the potential and limitations to its application. Specifically, I will focus on the effects of pyric herbivory and heterogeneity on livestock production, biodiversity, invasive species, and rangeland conservation in a changing climate. The research on pyric herbivory represents a comprehensive and broad test of fundamental rangeland principles, such as the need for uniform distribution and calls to decouple fire and grazing. In the context of rangeland systems it is important to discuss the human dimension and the challenges with adoption of these principles across broad spatial scales. Challenges with adoption is the dependence of grazing management on prescribed fire which currently has minimal application on rangelands. There is strong adoption on lands that are capable of using fire for land management.

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