Abstract

Bureau of Land Management policy regarding wildfire events on public rangelands dictates that burned areas are closed to livestock grazing until the vegetation in the burned area has reestablished itself. Ranchers and their supporters contend that extended duration of such grazing closures increases the likelihood of subsequent fire events during the grazing rest period. The ranchers attribute this effect to an over-accumulation of vegetation during the grazing rest period. With the goal of testing the claim made by ranchers, this project utilized fire history records, grazing allotment data, and remote sensing vegetation indices to identify and analyze potential rest period fires between 2000 and 2016 in and around the Nevada counties of Humboldt and Elko. GIS proximity tools were used to identify initial and subsequent fires on BLM grazing allotments which met the spatial and temporal requirements of a rest period fire. The four most likely candidates for rest period fires were selected for further examination as case studies. Scaled NDVI was used as an estimator of vegetation cover and change between selected initial and subsequent fires. Precipitation and land cover data were incorporated to provide further context. Three of the four fire perimeters showed increased vegetation cover when compared to similar nearby unburned sites during the second spring after the initial fires. This pattern suggests that increased fuel loads before the secondary fire may have been present. Evidence of cheatgrass and anthropogenic fire activity in the case study area suggest more complex explanations. Ways to improve monitoring and post-fire recovery through better record keeping, more complex sensors for satellite imagery, and targeted grazing research are discussed.