

Project Summary

Rocky Mountains Cooperative Ecosystem Studies Unit

Project Title: Assessing an alternative to mechanical fuel reduction and pile burning
Discipline: Natural
Type of Project: Research
Funding Agency: National Park Service
Other Partners/Cooperators: Colorado State University
Effective Dates: 9/15/2007 - 9/30/2012
Funding Amount: \$225,000 (\$150,000 added in FY08)

Investigators and Agency Representative:

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Project Abstract: Ponderosa pine stands in the Black Hills National Park units are often overgrown with pole and sapling trees. This presents a challenge for fire management in at least two ways: 1) left alone, it is at risk of high severity fire that is difficult to control and 2) it is very difficult to safely apply prescribed fire to these stands in their current condition. The traditional approach has been to mechanically thin the stands, pile the resulting material, burn the piles with snow cover, and then apply prescribed fire. Winter snow cover has been especially unreliable the past several years since the region has been in a drought. The goal of this project is to examine an alternative to the traditional thin/pile/burn treatment often used in ponderosa pine forests. One potential alternative is to utilize a portion of the material in the form of posts and chip the remaining material. The chipped material may be broadcast on site or removed from the site. This treatment has been applied to private lands in the Black Hills, as well as on public lands across the western United States. Because of uncertainties about impacts of this type of treatment to herbaceous vegetation and the soil, there is hesitation to use this treatment in a National Park unit.

The field portion of this project will start during summer 2008 with the designation of treatment units followed by plot establishment and pre-treatment data collection, and will continue for at least two additional field seasons. Thinning treatments will be applied during the following fall and winter. Potential variables could include herbaceous vegetation cover (native and non-native), soil chemistry, soil compaction, overstory tree mortality, chip depth, and fuel load. When possible, sampling protocols would conform to those used by the Northern Great Plains Fire Ecology program.

Outcomes with Completion Dates: Detailed Scope of Work and Study Plan, Final Report (due by January 2012), Thesis, Refereed Journal Article

Keywords: ponderosa pine, Black Hills, fire management, fuels, National Park Service-Northern Great Plains Fire Program, Colorado State University