

The Spruce Beetle Problem

Spruce beetle activity has increased dramatically on Intermountain Region National Forests. These outbreaks have resulted in significant loss of timber, recreational opportunities, and reduced aesthetics. Outbreaks have also resulted in increased fuel loads making the stands susceptible to extreme fire behavior.



Spruce beetle damaged forest

Spruce Beetle Density Management Strategies and Potential Fire Fuel Loads

Density management strategies have been proposed as a viable alternative to sanitation or salvage. Density treatments serve to maintain stand condition outside the range of spruce beetle susceptibility and enhance tree vigor. Reduced fuel loads have also been suggested as another reason for using density treatments.

Study Design

Two density management treatments, a heavy thin and a moderate thin were established in spruce-fir forest on the Fishlake National Forest and private lands in south-central Utah to reduce the susceptibility of stands to spruce beetle infestation. Permanent 2.5 acre (1ha) plots were established in the two treatment and control areas to demonstrate differences and change in the fuel complex and profile over time.



Project Objectives

The objectives of this project are to:

- ❑ Compare fuel complexes in permanent demonstration plots established in untreated, spruce-fir stands and stands where density management treatments will be implemented.
- ❑ Demonstrate fuels modification strategies including mechanical and biomass utilization.
- ❑ Use the data derived to make fuels appraisals.



Masticator

This project was funded by the Joint Fire Science Program

All photos taken by Mike Jenkins unless otherwise note.

Treatment of Down Woody Fuels

The permanent plots were divided into 4 subplots. A chipper was used to treat fuels in one subplot selected at random in each permanent plot. Personnel from the Dixie and Fishlake National Forests in Utah, fire staffs from the Richfield BLM office and Utah Division of Fire, Forestry and State Lands all participated in completing the treatment.



Chipping fuels



Untreated and treated subplots

Getting to the Demonstration Area

Drive east from Salina, Utah on I-70 approximately 10 miles to the Gooseberry Road exit (Forest Service RD 640). Follow RD 640 approximately 20 miles past Salina Reservoir to the Niotche Creek Divide. Inquire for maps to individual plot locations.

For additional information or scheduling field visits to the demonstration area contact:

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