

Black Hills National Forest

Mystic Ranger District Fire and Fuels Management



Whaley Prescribed Burn, November 2014



Ricco Fire, July 2005

PRESCRIBED FIRE INFORMATION GUIDE

PRESCRIBED FIRE: *IMPROVING THE HEALTH OF OUR FORESTED ECOSYSTEM*

Fires burn in forests and rangeland, playing a vital ecological role in keeping land healthy. Fire reduces dead vegetation, replenishes nutrients in the soil, stimulates new growth, and maintains biological diversity. Over time a mix of forest management practices, fire suppression, and recently – drought, has led to overcrowding of vegetation and plants and shrubs that may not be ecologically adapted to live with fire. As a result, our forests are now conducive to large, severe wild land fires. Prescribed burns allow fire managers to reintroduce fire under a more controlled environment, usually in the spring or fall, to lower fire intensities and produce fire effects that are more desirable to land managers and the public. Once completed, the prescribed burn area will also serve to lessen fire intensities from naturally ignited fires such as lightning and provides fire managers more options when suppressing future fires.

In the Black Hills, public land managers have been reducing accumulations of hazardous fuels that lead to large, severe wild land fires through the use of mechanical treatment and prescribed fire. Reducing hazardous fuels through prescribed fire and other tools is a key component of the National Fire Plan. This plan is interagency strategy, developed by the Department of Agriculture and Department of Interior, to respond to severe wild land fires, reduce fire's impacts on rural communities, and to assure sufficient firefighting capacity in the future. The National Fire Plan, as well as other legislation such as the Healthy Forest Restoration Act, provides direction for land managers to reduce fuel concentrations and threats of uncharacteristic wildfires in the Wildland Urban Interface.

Substantial progress has been made implementing prescribed fire projects and mechanical fuels reduction treatments within the urban interface mix. Mechanical fuels reduction involves removal or shredding of dense stands of trees. The Forest Service will utilize private contractors with machines that use special attachments that fragment the trees and reduce slash accumulations that can lead to more intense fires. Mechanically thinning trees will remove ladder fuels that reach into the canopies of the older trees. Removing ladder



fuels will decrease torching of trees and ultimately crown fires. Mechanical fuels treatments are conducted near private property where prescribed fire may be too risky.

Prescribed fires have proven to be very successful in creating the conditions necessary for healthy forests, but there is no way to burn without creating smoke. To minimize the impacts of smoke, land managers work closely with the South Dakota and Wyoming Department of Environmental Quality, the National Weather Service, and adjoining ranger districts when implementing prescribed fires.



Before every prescribed fire, burn personnel call the National Weather Service with on-site weather conditions and request a spot weather forecast. This forecast allows fire managers to determine whether they will burn or not based on site specific weather forecasts.

This forecast includes temperatures, relative humidity, winds, and smoke dispersal. Typically, the Forest Service will only burn when the smoke dispersal rating is fair or better. A rating of fair or better allows smoke to rise higher in the atmosphere and allows upper air winds to disperse smoke. Yet even in favorable conditions, the air will still become smoky. Although the air is smoky, it still meets federal and state air quality standards.

Smoke will also be seen this winter when the snow flies. Currently, the Black Hills National Forest has several hundred acres of hand and machine piles that will also be burned. Thinning and hand piling is chosen when forest aesthetics is important because fire crews can selectively leave the largest, healthiest trees and pile the downed and dead woody material.



Ladder fuels can make broadcast burning dangerous



Area after selective thinning and piling

When a natural ignition does occur, this treatment effectively removes ladder fuel, which reduces the chance of trees torching and initiating crown fire. Removing woody debris on the forest floor helps firefighters because it slows fire's rate of spread and reduces the flame length so initial attack forces have increased suppression options (i.e. engines, hand line, dozer line) too safely and effectively manage the incident. Hand piles are typically created near structures where prescribed broadcast burning is too risky.

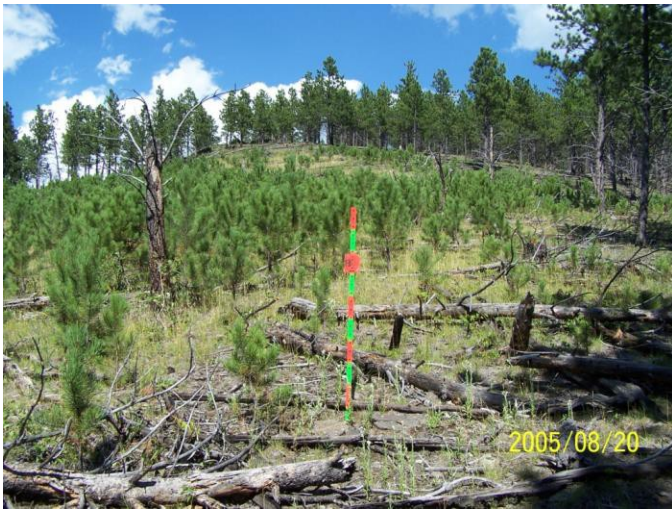


Central Zone Fire Management consists of one ranger district in the central part of the Black Hills National Forest. The Mystic Ranger District lies mostly in Pennington County, and lies adjacent to Rapid City and extends West of Deerfield Lake Recreation Area.

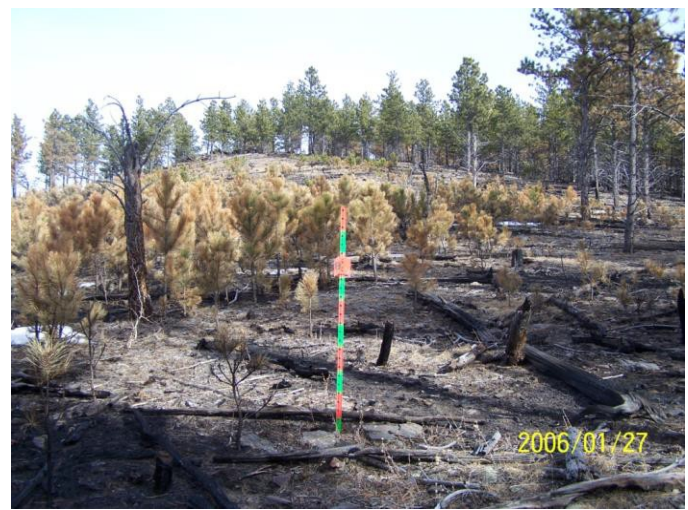
The Mystic Ranger District has two prescribed burns planned for this season which include Silver Mountain and Long Draw. Silver Mountain lies wholly within the northern section of the Battle Creek Fire footprint; this project will most likely take a couple of seasons to complete. Long Draw encompasses all of the old Medicine Mountain prescribed burn areas as well as some new ground to the East and West. It will most likely take multiple seasons to complete. These areas have been identified and cleared for treatment utilizing direction from the National Fire Plan, Mitchell Environmental Impact Statement (EIS), Upper Spring Creek EIS, and the Calumet EIS.

Purposes of prescribed burns are as follows:

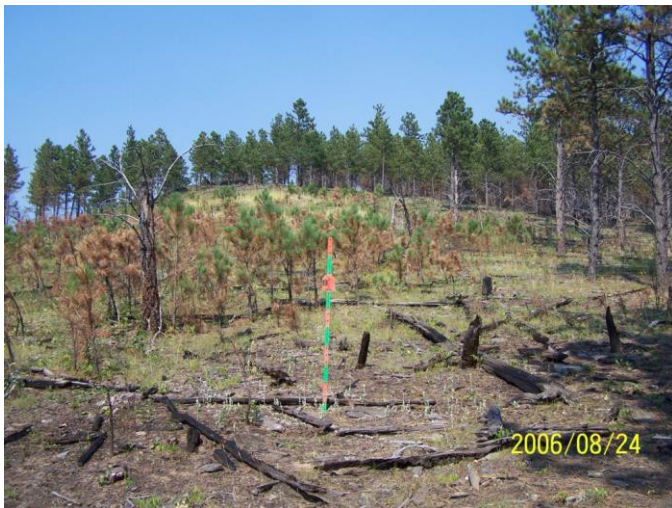
- Treat forest land around the wildland urban interface, and establish and maintain a mosaic of vegetation conditions to reduce the occurrences of catastrophic fire, insect and disease events, and to enhance firefighting capability in the wildland-urban interface.
- Reduce the accumulation of forest litter, and to open up the pine stand. The desired end state will be an open pine forest that produces high-quality forage for wintering game and remains safe from stand-replacing wildfire for up to twenty five years.
- Disrupt the continuity of the dead, down material in order to lessen the severity and extent of future wildfires across the project area. Burning the woody material will also help to recycle nutrients and stimulate the growth and vigor of vegetation that feeds wildlife.
- Reduce accumulations of logging slash and bug-killed timber in order to return the inorganic and organic chemicals in the foliage and small woody material to the soil, to reduce fire hazard, and to provide seed beds for natural regeneration. The proposed action will also benefit wildlife by improving plant vigor and diversifying the composition of plantspecies.



August, 2005



January, 2006



August, 2006



August, 2013

This photo series is from the Horse-Nugget Prescribed fire, just northeast of Hill City. Notice the reduction in surface fuels.

MYSTIC RANGER DISTRICT: PRESCRIBED FIRE PROJECTS FISCAL YEAR 2017

PROJECT NAME	PLANNED ACRES	TARGET DATE
Silver Mountain	Up to 1,140 acres	October-March
Long Draw	Up to 9,136 acres	January-December

Broadcast burning reduces fire hazard by consuming woody debris. Prescribed Fire is the most economical and effective treatment land managers use to reduce fire hazard across the Black Hills landscape. Prescribed fire is able to efficiently treat areas that are too steep and rocky for mechanized logging equipment or too expensive to cut and pile by hand. Once the woody debris is consumed by prescribed fire, the treated area typically remains safe from high-intensity wildfire for up to twenty years. Additionally, re-introducing fire to an ecosystem provides benefits for many species of plants and animals. Pictured below are the Medicine and Whaley Prescribed burns. The area near the ridgetop had never been mechanically thinned because of steep terrain. In a few hours of prescribed burning, fire hazard was significantly reduced on roughly four hundred acres of forest. Accomplishing the same task by piling up the material by hand and then burning the piles would have taken a large crew several months to complete at a much higher cost.

Medicine Prescribed Burn, 2004



Whaley Prescribed Burn, 2014

Silver Mountain PRESCRIBED FIRE

- ☐ Information Contact: Chris Stover
605/343-1567
- ☐ Target Date for Burn: October 1 - March 30
- ☐ Location: 10 miles west/south west of Rapid City, between Highway 16 and Sheridan Lake Road along Boulder Hill Road to the west.
- ☐ Project Size: 1,140---Most likely completed over two seasons.
- ☐ Description: The goal of the Silver Mountain Prescribed Fire is to maintain a mosaic of vegetation conditions created by the Battle Creek Fire of 2002. This project will lessen the severity and extent of future wildfires in the project area by breaking up the continuity of dead, downed fuels, ultimately reducing those fuel loads. Fire will also be utilized as a tool to thin pine regeneration and increase canopy base heights. Additionally, this burn will stimulate browse for big game species.

Long Draw PRESCRIBED FIRE

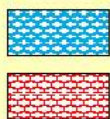
- Information Contact: Chris Stover
605/343-1567
- Target Date for Burn: Jan. 1 – Dec. 31
- Location: Approximately 5 miles west/south west of Hill City, on both the east and west sides of Newton Fork road mostly north of Reno Gulch road with a portion south of Reno Gulch road. As well as Odakota Mountain, west of the Medicine Mountain Boy Scout Camp.
- Project Size: 9,136---Will be completed over multiple seasons.
- Description: The goal of the Long Draw Prescribed Fire is to Establish and maintain a mosaic of vegetation conditions over the project area. This project will lessen the severity and extent of future wildfires in the project area by breaking up the continuity of dead, downed fuels, ultimately reducing those fuel loads. Fire will also be utilized as a tool to thin pine regeneration and increase canopy base heights. Additionally, this burn will stimulate browse for big game species.

Mystic RX Vicinity Map



Long Draw

Silver Mountain



Complete

Upcoming