Steamboat Project

Black Hills National Forest
Northern Hills Ranger District
Lawrence, Meade and Pennington Counties, South Dakota

Proposed Action and Request for Comments

December 2010

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Introduction

The 1997 Black Hills National Forest Land and Resource Management Plan as amended by the 2005 Phase II Amendment (Forest Plan) provides direction for the management of resources contained within the Black Hills National Forest. The Forest Plan places an emphasis on improving forest health, especially through reducing the risk of high severity wildfires and epidemic insect events.

The Northern Hills Ranger District (NHRD) of the Black Hills National Forest (BHNF) is proposing to improve forest conditions with an emphasis on providing structural diversity in big game winter range and reducing the fire hazard and risk of epidemic mountain pine beetle infestation in the Steamboat project area through commercial timber harvest, non-commercial thinning, and the use of prescribed fire. Project area background information, the purpose and need for action and a description of the proposed action are included below.

Steamboat Project Area

Location and Features

The Steamboat project area is located in the northern Black Hills immediately east of Nemo, SD, and west of Piedmont, SD (see Project Area Vicinity Map below). The project area encompasses a total of 24,596 acres, including 21,833 acres of National Forest System (NFS) land and 2,713 acres of private land. Treatments are proposed on NFS land only.

Landmarks within the project area include Steamboat Rock, Dalton Lake and Stagebarn Canyon. Ponderosa pine is the dominant cover type in the project area, covering 21,060 acres. Other cover types include aspen (320 acres), grassland (229 acres), white spruce (138 acres), and bur oak (136 acres).

There are approximately 126 miles of existing National Forest System (NFS) roads in the Steamboat project area. Approximately 9.5 miles of the Centennial Trail traverses the project area. The trail is accessed via the Dalton Lake trailhead. One campground, Dalton Lake, and one picnic ground, Steamboat Rock, are located within the project area.

The project area has been actively managed in the past, with approximately 6,200 acres of timber harvest occurring within the past 10-15 years. A portion of the Case 1 timber sale, the first ever timber sale on a national forest in 1898, is located within the Steamboat project area. Timber management has occurred in the project area, and the Black Hills as a whole, on a regular basis since that time.

Two large wildfires have occurred recently in the project area. The Little Elk fire of 2002 burned approximately 600 acres within the Steamboat area and the Ricco fire of 2005 burned approximately 4,000 acres. Both fires threatened the town of Piedmont and other inhabited areas along the Interstate 90 corridor.
Management Area Direction
The Forest Plan identifies the location of and describes the goals and objectives associated with the Forest’s Management Areas (MAs). The Steamboat project area is entirely within MA 5.4 (Big Game Winter Range).

Management Area and Forest Plan Direction

<table>
<thead>
<tr>
<th>Management Area</th>
<th>Emphasis</th>
<th>Acres in Project Area</th>
<th>Percent of Project Area</th>
<th>Management Theme</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.4</td>
<td>Big Game Winter Range</td>
<td>21,833</td>
<td>100</td>
<td>These areas are managed to provide high-quality winter and transitional habitat for deer and elk, high-quality turkey habitat, habitat for other species, and a variety of multiple uses.</td>
</tr>
</tbody>
</table>

Purpose of and Need for Action
The purpose of and need for action in the Steamboat project area is to create structural diversity in big game winter range and to reduce the fire hazard and risk of mountain pine beetle infestation.

Provide for Structural Diversity in Big Game Winter Range
The Forest Plan provides for a diversity of forest structure, and wildlife habitat, through structural stage objectives in specific MAs. These structural stage objectives outline the desired Forest-wide distribution of ponderosa pine age classes and are designed so that a variety of structure, ranging from open grassland to late successional (i.e. old growth) forest, will exist across the forest. Structural stage objectives are in place for MA 5.4 in the Steamboat project area (Objective 5.1-204). Other MA-specific goals, objectives, standards and guidelines are in place to enhance big game habitat in MA 5.4.

The entirety of the Steamboat project area is in MA 5.4. In general, the structural stage distributions, both Forest-wide and within the project area, are skewed heavily to mature forest (structural stage 4) with a lack of early to mid-successional habitat (structural stages 1, 2 and 3) and late successional habitat (structural stage 5). Habitat for a variety of wildlife species, including Region 2 Sensitive Species, Management Indicator Species and Species of Local Concern is located within the project area. The opportunity exists to improve big game winter range conditions while also increasing structural diversity for other wildlife species.

Reduce the Risk of High Intensity Wildfire
Forest Plan Objective 10-01 directs that the Forest be managed for 50-75% moderate-to-low fire hazard in the wildland urban interface (WUI). The Steamboat project area includes 2,713 acres of interspersed private land. The project area is also immediately adjacent to the communities of Nemo and Piedmont and other populated areas along the Interstate 90 corridor. The Lawrence, Meade and Pennington County Community Wildfire Protection Plans establish a ½ mile WUI buffer around all structures.

Currently, there are approximately 490 known private structures located either within the Steamboat project area or within ½ mile of the project area boundary. Approximately 74% of the forested land in the project area is rated as high or very high fire hazard and only 26% is rated low or moderate. In 2002, over 600 acres within the project area were burned by the Little Elk fire and in 2005 approximately 4,000 acres were burned in the Ricco fire. The opportunity exists to reduce fire hazard across the project area.
Reduce Risk of Mountain Pine Beetle Infestation
The Forest Plan provides direction for maintaining a mosaic of vegetation conditions to reduce the susceptibility of ponderosa pine stands to mountain pine beetle infestation. Forest Plan Objective 10-07 states that where outbreaks of mountain pine beetle could present risks to management objectives for ponderosa pine, the acreage of ponderosa pine stands that are at medium or high risk for infestation should be reduced.

Currently, 86% of the ponderosa pine stands on NFS land in the project area are rated as being at a high or medium risk of mountain pine beetle infestation. Mountain pine beetle activity is currently at low levels in the Steamboat project area compared to other areas of the Black Hills National Forest. However, existing forest conditions within the project area are conducive to the rapid spread of pine beetles if they become established in the future. Heavier concentrations of pine beetle activity are located immediately west of Steamboat with the potential for infestations to move into the project area. The opportunity exists to reduce the impact of mountain pine beetles should they become better established in the project area by reducing stand density in ponderosa pine.

Proposed Action
The proposed action is intended to be responsive to the purpose of and need for action described above. Forest management activities should move conditions within the project area toward more desirable conditions as described in the Forest Plan. The proposed action includes a variety of commercial and non-commercial vegetation and fuels treatments on approximately 12,380 acres. Stewardship opportunities through which the Forest Service exchanges goods for services may be allowed under this project. Some treatments will stand alone, while others include initial treatments as well as follow-up treatments (e.g. commercial harvest followed by a prescribed burn). The following table lists the vegetation and fuels treatments comprising the proposed action. Design criteria will be established for these activities to help ensure consistency with Forest Plan Standards and Guidelines.

Proposed Vegetation Treatments

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Acres</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commercial Thin (CT)</td>
<td>4,665</td>
<td>Retention densities would range from 40 to 80 square feet of basal area. The best formed, most dominant and vigorous trees would be retained. Commercial thinning reduces stand density, thereby reducing the risk of beetle infestation and lowering fire hazard. Thinning to varying densities creates a mosaic of vegetative structure, and potential wildlife habitat, across the landscape.</td>
</tr>
<tr>
<td>Overstory Removal (OSR)</td>
<td>970</td>
<td>The objective of removing overstory trees is to liberate the established understory regeneration. Pre-commercial thinning may occur following the initial overstory treatment to retain appropriate growing stock levels. Overstory removal is the silviculturally appropriate follow-up treatment in stands that have been treated with a shelterwood cut in the past. Stands treated with an OSR will create temporary open areas (until the established regeneration grows in to the overstory) that provide browse for big game.</td>
</tr>
<tr>
<td>Shelterwood Cut (SC)</td>
<td>1,379</td>
<td>This treatment involves thinning overstory trees to create optimal regeneration conditions. The best formed overstory trees are retained at 20-40 square feet of basal area to provide a seed source for future regeneration. Shelterwood cuts decrease beetle risk and fire hazard by reducing overstory density. They also provide open browsing areas for big game.</td>
</tr>
<tr>
<td>Individual Tree Selection (ITS)</td>
<td>1,186</td>
<td>Individual tree selection is a method of creating or maintaining an uneven-aged stand structure. Uneven-aged stands, when completely regulated, have at least three distinct age classes present. In this method, individual trees in all diameter classes are removed to create a broken or uneven canopy. The...</td>
</tr>
</tbody>
</table>
The largest number of stems is in the smallest diameter class, with the number decreasing more or less regularly with increasing size. The fewest number of stems is in the largest diameter class. Uneven-aged stands provide for a diversity of vegetative structure and wildlife habitat.

Group Selection (GS) 255
Similar to individual tree selection but trees are retained in groups of several trees within close proximity to one another. Group selection is another method of creating or maintaining uneven-aged stand structure. Uneven-aged stands provide for a diversity of vegetative structure and wildlife habitat.

Hardwood Enhancement (HE) 636
Hardwood enhancement is intended to maintain or encourage hardwood growth. It involves removal of conifers from hardwood stands. Depending on site conditions, this may involve removal of commercial-sized pine. Hardwood enhancement treatments maintain diverse habitat favored by several wildlife species. Hardwood stands can also act as fuel breaks as they are less prone to burn than conifer stands.

Meadow Enhancement (ME) 200
This treatment involves removal of pine in historical meadow areas to increase vegetative diversity and grass production in meadow communities. As with hardwood enhancements, some removal of commercial-sized pine may occur. Meadow enhancements maintain open grassy areas and provide for habitat diversity. These open grassy areas also provide fuel breaks that can slow down an advancing wildfire.

Non-commercial Thin (NCT) 1,408
Non-commercial thinning would involve the reduction of standing stems less than 9 inches in diameter, retaining 200-400 stems per acre. Cut material is lopped and scattered within the stand to maintain nutrients on site. The purpose of non-commercial thinning is to remove excess regeneration from the understory, providing the remaining trees greater access to nutrients. Non-commercial thinning also removes fuels from the understory.

Product-other-than-log (POL) 1,031
Products other than logs are made from trees generally 5-9” diameter at breast height (DBH). The primary objective of these treatments is to increase growth and vigor of remaining trees. Suppressed, defective, and excess trees are removed. This treatment may be commercial or non-commercial, depending on the pulp and pole markets. Dominance is a desirable characteristic and is taken into account during tree retention selection. POL thinning reduces stand density, thereby reducing fire hazard and beetle risk.

Patch Clearcut (PC) 190
Patch clearcut involves the removal of all conifers from patches not to exceed 10 acres in size. The size and number of patches harvested in any given stand would vary depending on site characteristics. Patches would be irregularly shaped to blend into the landscape, creating a more natural appearance. The intent of this treatment is to create open browsing areas with adjacent thermal cover for big game. The open areas created by patch clearcuts can also provide fuel breaks that can slow down an advancing wildfire.

Understory Thin (UT) 460
Understory thins are proposed to maintain or enhance habitat conditions in certain stands, such as goshawk nesting areas and late successional forest (structural stage 5). Non-commercial sized (less than 9” DBH) trees would be removed to reduce understory density and competition for resources. Doing so also creates a diversity of vegetative structure in the understory. Understory thinning also reduces the amount of surface fuels available to a wildfire.

Total Acres Treated 12,380

Secondary Treatments
The vegetation treatments listed above represent the primary treatment proposed. For each individual stand, secondary treatments are likely included to account for heterogeneity across the stand (i.e., the primary treatment may be appropriate for the majority of the stand, but another treatment may be most appropriate for the remainder). For example, the majority of a given stand might be treated with an overstory removal while the rest is treated with a shelterwood cut due to differing forest structure.
across the stand. This strategy of mixing prescriptions across the stand is also used to provide visual diversity in treatment units.

In addition, non-commercial thinning as displayed in the table accounts for the stands where a non-commercial thin is the primary treatment. No commercial harvest would occur on those stands. In addition, non-commercial thinning is also proposed as a secondary treatment for the majority of the commercial harvests displayed in the table. This allows flexibility in the event that additional removal of small diameter understory material is necessary following the commercial harvest to achieve the desired stand conditions.

**Prescribed Fire**
Prescribed fire is proposed on 10,608 acres of the Steamboat project area. The intent of prescribed burning is to reduce surface fuels and the risk of uncontrolled fires. Low-intensity understory burns will be initiated with mortality of trees 9” DBH or greater limited to 10%. Prescribed burns can also provide browsing areas for big game when vegetation re-sprouts following the burn. In most cases, prescribed burns would be conducted in stands after they have been treated by one of the above vegetation treatments under the Steamboat Project, or in stands that have already undergone a prior vegetation or fuels treatment during a past project.

**Sanitation Harvest**
One of the difficulties in managing for lower risk of mountain pine beetle infestation is being able to respond quickly to emerging beetle outbreaks. In an effort to allow flexibility in the future, a sanitation harvest provision will be included in the Steamboat Project. This provision allows for the future harvest of a limited number of pine stands that are not identified for treatment under the Steamboat Project. If an outbreak were to occur in these stands after implementation of the Steamboat Project had begun, prescriptions would be developed and reviewed by the IDT to ensure that no resources would be negatively impacted by additional harvest. The intent of the treatments would be to remove beetle-hit trees and to thin the surrounding stands to reduce the probability of the infestation spreading. Currently, pine beetle activity is relatively low in the Steamboat project area, but beetles are widespread in areas to the south and west. This provision is designed to allow the Forest Service to be more responsive to beetle outbreaks as they occur within the project area.

**Transportation System**
To facilitate the treatments described above, an estimated 18 miles of new road construction and 4 miles of new road conversion (i.e., adding an existing non-system route to the NFS) is necessary. In addition, approximately 76 miles of existing NFS road would require pre-use maintenance or reconstruction. One mile of existing road is proposed for decommissioning. Short segments of temporary road may be identified at the time of implementation to assist in removing timber from harvest units. All roads constructed or converted under this project would be closed following the completion of management activities. The method of closure will depend on site conditions and be determined at the time of closure. New roads constructed or converted under the Steamboat Project would not be open to motorized vehicle use under the Forest-wide travel management plan nor would the Steamboat Project close any roads currently open to motorized travel.

**Watershed Improvement Projects**
Per Forest Plan direction, watershed improvement projects must be undertaken when activities are being proposed in Class 3 watersheds, which are identified as being highly sensitive to management activities. All of the 7th-level watersheds that comprise the Steamboat project area are identified as
Class 3. Therefore, a variety of watershed improvement projects are planned, including meadow and hardwood enhancement along streams and reduction in the number of connected disturbed areas (CDAs) through road maintenance/improvement.

Proposed Action Maps
Three maps of the proposed action, displaying vegetation treatments, prescribed burning and the transportation system, are located at the end of this document. Due to the constraints of displaying map elements in black and white, these maps do not show all of the individual treatment types listed above. For the purposes of the black and white vegetation treatment map, even-aged treatments include commercial thin, overstory removal, seed cut and patch clearcut. Uneven-aged treatments include individual tree selection, group selection and uneven-aged thinning. If you would like to review more detailed color maps that display all of the treatments described in the table above, please visit the Black Hills National Forest web page at http://go.usa.gov/1Xt. Color maps are also available upon request (see contact information below).

Planning Process
Public involvement is a key element of the land management planning process. The National Environmental Policy Act (NEPA) provides the framework for public participation in the federal decision making process. Public input at this point in the process will help identify issues associated with the Steamboat project area and guide development of alternatives to the proposed action. Foresters, biologists and others will analyze the effects of the proposed action and alternatives on the physical, biological and social environment. The Forest Service will present the results of this analysis in a Draft Environmental Impact Statement (DEIS) to be circulated for public comment in spring 2011. Comments on the DEIS will be solicited from the public and other federal, state and local agencies before a Final Environmental Impact Statement (FEIS) is published. Based on the analysis and public input, the District Ranger will decide which alternative to implement in the Steamboat project area and will document her decision in a Record of Decision (ROD), tentatively scheduled for September 2011.

Where to Get More Information
To find out more about this project, contact Chris Stores, Assistant NEPA Planner, at the Northern Hills Ranger District, (605) 642-4622. If you choose to comment on the proposed action, you will automatically be placed on the mailing list for the DEIS. If you do not wish to comment at this time, but would like to be mailed a copy of the DEIS when it is available, please contact Chris Stores at the phone number above.

Public Meeting
The Northern Hills Ranger District invites you to an open house to discuss the Steamboat project on Wednesday, January 12, 2011 from 5:30-7:00 PM at the Fire Hall in Piedmont, SD. Forest Service personnel will be on hand to help answer questions you might have or to accept comments on the proposed action. Larger scale color maps of the project area and the proposed treatments will be available for review.

Tell Us What You Think
We invite your review of the proposed action. Your comments will help us develop a practical project and conduct meaningful analysis. Comments can be submitted by mail, phone, fax, or email. Phone calls may be placed to the above number. Faxed comments should be sent to (605) 642-4156. Be sure to indicate “Steamboat Project” on the cover page of any faxed materials. Electronic comments should
be sent to: comments-rocky-mountain-black-hills-northern-hills@fs.fed.us. Please indicate “Steamboat Project” in the subject line of your email. Written comments should be addressed to:

Northern Hills Ranger District
Attn: Chris Stores, Steamboat Project Leader
2014 North Main St.
Spearfish, SD 57783

Comments Needed By January 14, 2011
We welcome comments at any time. However, to consider your comments on the proposed action as we develop alternatives to be analyzed in the DEIS, they must be received or postmarked by January 14, 2011.

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