



## **West Rim Project Area**

**Black Hills National Forest  
Northern Hills Ranger District  
Lawrence County, South Dakota**

**Proposed Action and Request for Comments**

**September 2007**

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## **Introduction**

The Black Hills National Forest Land and Resource Management Plan as amended (Forest Plan) directs management of the Forest toward improving overall forest health with a focus on reducing fire hazard and the risk of mountain pine beetle infestation. The Forest Service is proposing thinning, commercial timber harvest and fuel reduction actions in the West Rim project area to address the need to reduce hazardous fuels. Treated stands are also expected to have a lower risk of mountain pine beetle infestation. Project area background information and a description of proposed actions are described below.

## **Purpose of and Need for Action**

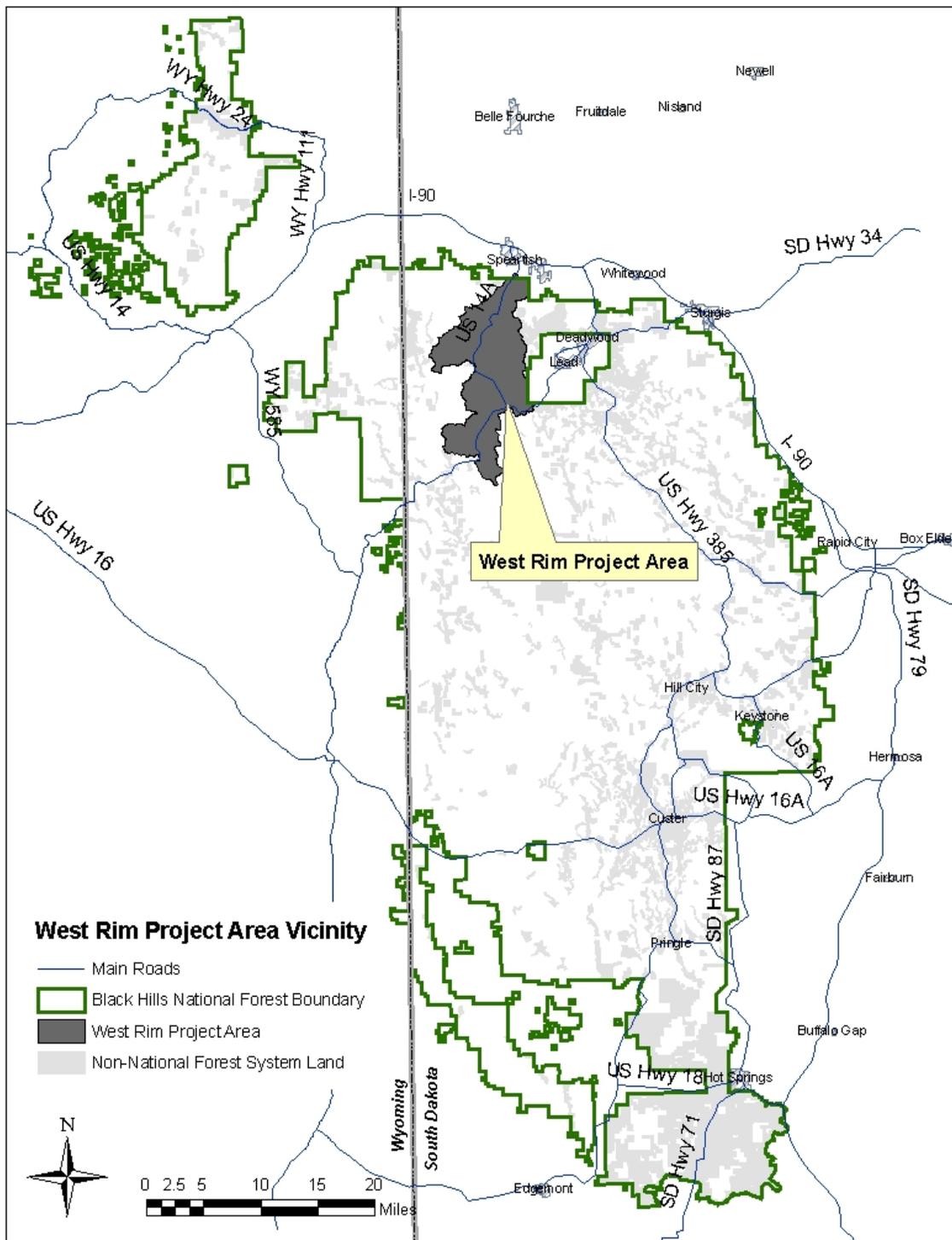
The West Rim project area includes over 10,000 acres of interspersed private land. Nearly a century of fire suppression has allowed fuels in this fire-adapted ecosystem to accumulate to dangerous levels, increasing the risk of a high-intensity wildfire threatening private property in or adjacent to the West Rim project area. With few exceptions, the forest plan calls for managing National Forest System land within the wildland urban interface (WUI) so that 50 to 75 percent of the area has a moderate-to-low fire hazard. For National Forest System land outside the WUI, the objective is to manage the land so that 50 percent of the area has a moderate-to-low fire hazard. Current conditions in the West Rim project area indicate that only 15 percent of the National Forest System land within the WUI and 24 percent of the acres outside of the WUI have a moderate-to-low fire hazard rating. A substantial gap exists between the existing and desired conditions for fire hazard in the West Rim project area.

Mountain pine beetles are native to the Black Hills. Historically, beetle populations have fluctuated on a cyclical basis, with increases in beetle activity often associated with drought conditions. Western South Dakota is currently experiencing an ongoing drought, and beetle infestations are consequently at a relatively high level. Large patches of beetle-killed trees have the potential to increase fire hazard in the short-term, decrease the aesthetics of affected areas, and can have either beneficial or detrimental effects on wildlife habitat, depending on the species. The forest plan recognizes that insect events are natural processes, but it also contains direction to ensure that such events are not stand-replacing. Preventing epidemic infestations of mountain pine beetles, which result in large areas of dead timber, can be achieved by reducing the density of trees in stands of ponderosa pine. Currently, there is little known beetle activity within the West Rim project area. However, 64 percent of the National Forest System land in the West Rim project area has an insect risk rating of moderate or high, indicating that they are susceptible to infestation if beetles enter the area. Forest Plan direction calls for reducing the insect risk rating in stands at moderate or high risk.

The Forest Plan sets objectives for desired structural stage distributions of ponderosa pine in selected management areas (MA) as a method of achieving a balance between fire hazard, insect risk and structural diversity, which affects the quality of wildlife habitat and aesthetic values. Four of the five management areas that comprise the National Forest System land in the West Rim project area have associated structural stage objectives. In general terms, across these four management areas there is an overabundance of structural stages 4B and 4C (mature forest with high levels of canopy closure) and a deficit of all others. This indicates a large number of dense, overstocked stands, which is reflected in the fire hazard and insect risk ratings described above. The opportunity exists to move the West Rim project area toward the desired structural stage distributions by managing vegetation.

Based on the information presented above, the purpose of and need for action in the West Rim project area is to reduce fire hazard and the risk of mountain pine beetle infestation and to increase structural diversity.

**Map 1. West Rim Project Area Vicinity**



## West Rim Project Area Environment

The West Rim project area is located in the northern Black Hills immediately south of Spearfish, South Dakota (see **Map 1**). The project area includes 43,028 acres of National Forest System (NFS) lands and 10,129 acres of non-NFS lands for a total of 53,157 acres. The project area includes landmarks such as Spearfish Creek, Spearfish Canyon, Spearfish Peak, Terry Peak, Iron Creek Lake, Iron Creek and Bridal Veil Falls. Elevation ranges from approximately 3,800 feet at the mouth of Spearfish Canyon to 6,969 feet atop Terry Peak. Steep slopes are prevalent in Spearfish Canyon with rolling hills, plateaus and scattered mountain peaks typifying the remainder of the project area. Ponderosa pine is the dominant vegetation with large areas of hardwoods and upland meadows interspersed across the project area. On National Forest System lands, there is approximately 34,582 acres of ponderosa pine, 3,939 acres of white spruce, 3,102 acres of quaking aspen, 748 acres of grassland, 535 acres of bur oak, 83 acres of paper birch, and 30 acres of Douglas fir.

There are approximately 403 miles of roads in the West Rim project area. There are also approximately 45 miles of designated non-motorized trails in the project area including trails in the Eagle Cliff, Big Hill and Old Baldy systems. In addition, there are approximately 124 miles of designated snowmobile trails. Four designated picnic grounds are located in the West Rim area: Botany Bay, Long Valley, Dead Ox and Hellsgate.

Nine timber sales were active recently in the project area. Harvest was conducted on the following sales:

Timber Sale	Acres	Timber Sale	Acres
Hanna	37	Park	1,830
Hellox	60	Pond	467
Hellsgate	1,244	Rimrock	726
Keough	185	Tollgate	559
Maurice	6	<b>Total</b>	<b>5,114</b>

## Management Direction

Management direction for the Black Hills NF is set forth in the Forest Plan, which divides the forest into Management Areas that are managed with an emphasis on different resources and uses. The West Rim project area is comprised of the following five MAs:

- MA 4.1 (Limited Motorized Use and Forest Product Emphasis) – 4,001 acres
- MA 4.2A (Spearfish Canyon) – 8,819 acres
- MA 5.1 (Resource Production Emphasis) – 18,678 acres
- MA 5.4 (Big Game Winter Range) – 1,235 acres
- MA 5.6 (Forest Products, Recreation and Big Game Emphasis) – 10,290 acres

## Proposed Action

The proposed action includes a variety of vegetation treatments as well as development of the transportation system needed to facilitate treatments (see **Map 2**). Vegetation would be reduced through commercial timber harvest (approximately 13,379 acres), non-commercial harvest (approximately 13,713 acres), prescribed burning (approximately 13,873 acres), and fuel reduction treatments (468 acres). Stewardship opportunities through which the Forest Service exchanges goods for services may also be allowed under this project. All treatments would retain a portion of the stand on the site; however, there would be a variety of retained densities to provide diversity of size, age, and species structure. The range of treatments includes:

### Non-commercial Thinning

A reduction of standing stems less than 9 inches in diameter, retaining 200-400 stems per acre (~12 foot spacing). Cut material is lopped and scattered within the stand to maintain nutrients on

the site. Stands may be burned to hasten fuel decomposition and reduce uncontrolled fire risk. Approximately 13,713 acres would be treated non-commercially. This includes stands that receive a non-commercial thin only and stands that are thinned non-commercially following commercial harvest to remove excess small diameter vegetation from the understory.

### **Commercial Overstory Removal**

Removal of the remaining overstory trees to liberate the established understory regeneration. Whole tree logging is preferred adjacent to private land to reduce fuels, outside these areas the method determined to be least detrimental to the regeneration would be used. Prescribed burning following treatment is generally not proposed in order to protect regeneration, but is included in selected stands to maintain road-to-road containment perimeters for prescribed burn units. The understory would be thinned to retain appropriate growing stock levels as described in non-commercial thinning above. Approximately 3,491 acres would be treated with an overstory removal. Approximately 505 acres of stands prescribed for overstory removal could also be treated with a prescribed burn.

### **Commercial Seed Cut**

Thinning of the overstory trees to create optimal regeneration conditions. The best formed overstory trees are retained at approximately 30 sq. ft. of basal area (~ 35 foot spacing between trees). Light ground disturbance is encouraged with whole tree logging, opening up mineral soil for seedling establishment. Site preparation for seedling establishment may be accomplished with prescribed burning. Approximately 2,299 acres would be treated with a commercial seed cut. Of those stands, approximately 2,213 acres are also proposed for prescribed burning following timber harvest.

### **Commercial Clear Cut**

Clear cut harvest involves removal of all trees within a stand or portion of a stand. This treatment is proposed for 186 acres to expand upon and create open meadow areas in Management Area 5.4 (Big Game Winter Range). As specified in the Forest Plan, no single opening would exceed 40 acres. Prescribed burning would be allowed following timber harvest to maintain Structural Stage 1 conditions. Timber production would be foregone on these sites until regeneration and subsequent growth occurs. This treatment would only be conducted on ridgetops. The edges of harvest units would be feathered in to adjacent timbered units to mimic natural openings and to avoid creating stark lines between timbered and open areas.

### **Commercial Thin**

Retention densities vary from 40 to 80 sq. ft. of basal area. The best formed, most dominant, and vigorous trees are retained. Conifers may be removed from within and up to 30 feet from the edge of aspen pockets in excess of ¼ acre. Whole tree harvesting is the preferred logging method. Stands may be burned post-sale to reduce fuel loading. A total of approximately 6,796 acres would be commercially thinned. Of those stands, approximately 6,786 acres are also proposed for prescribed burning following timber harvest.

### **Commercial and Non-commercial Hardwood Enhancement**

Removal of conifers 9” or greater dbh from hardwood stands to maintain or encourage growth of hardwoods. Whole tree logging is the preferred method. This treatment is proposed for a total of 1,034 acres with 607 acres of commercial harvest and 427 acres of non-commercial harvest.

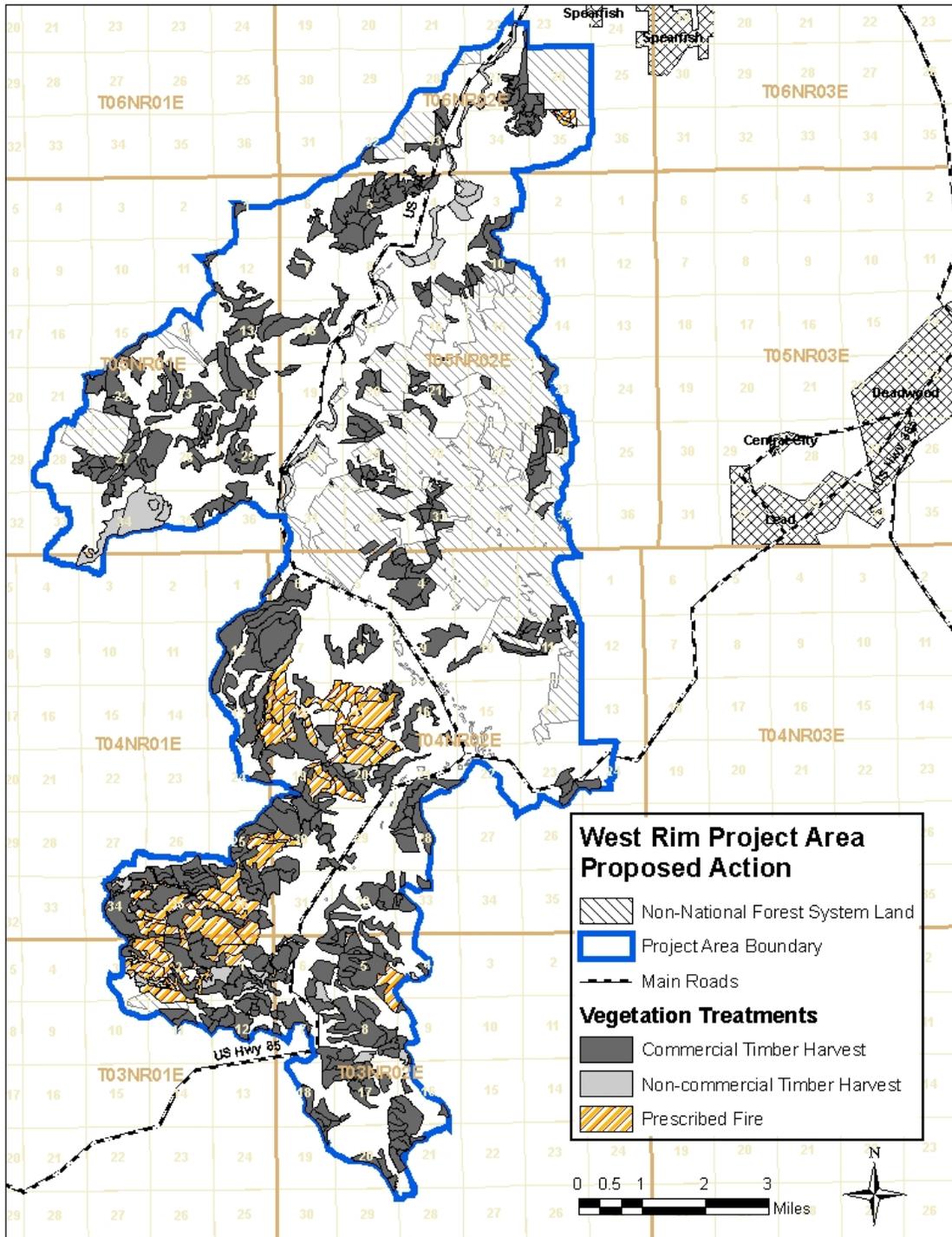
### **Prescribed Fire**

Stands where vegetation would be reduced by prescribed burning. At least 50% of the trees greater than 9 inches diameter would be retained. A total of 13,873 acres across the project area are proposed for prescribed burning. Approximately 2,857 acres of that total would receive prescribed fire only (referred to as a “broadcast burn”) without any previous vegetative treatment.

## Fuel Reduction

Reduction of ground fuels using either hand tools or machinery. This treatment would involve cutting and piling of small diameter trees to reduce fuels. Piled material would be burned, usually during winter months when snow is on the ground. This treatment is prescribed in areas not accessible for conventional commercial or non-commercial harvest or along private property boundaries to create fuel breaks. Fuel reduction is proposed on 468 acres.

Map 2. Proposed Action



## **Road Construction and Maintenance**

Construction of new roads and maintenance of existing roads would be required to access some stands proposed for treatment. Approximately 35 miles of new construction and 126 miles of reconstruction or pre-use maintenance of existing roads would be required. All new roads constructed for this project would be closed following harvest activities. Existing non-Forest System roads that are identified as causing resource damage may also be closed under this project.

## **Planning Process**

Public involvement is a key element of the land management planning process. Public input at this point in the process will help identify issues associated with the West Rim 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 to be circulated for public comment in early 2008. Based on the analysis and public input, the district ranger will decide which alternative to implement.

## **Where to Get More Information**

The Northern Hills Ranger District invites you to an open house to discuss the West Rim project on Wednesday, September 19, 2007 from 6:00-8:00 PM at the Northern Hills Ranger District Office, 2014 North Main St., Spearfish, SD.

To find out more or to be placed on a mailing list for the Draft Environmental Impact Statement, contact District Ranger Rhonda O'Byrne or Assistant NEPA Planner Chris Stores at the Northern Hills Ranger District, (605) 642-4622.

## **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 electronic mail. Phone calls may be placed to the above number. Faxed comments should be sent to (605) 642-4156. Electronic comments should be sent to: [comments-rocky-mountain-black-hills-northern-hills@fs.fed.us](mailto:comments-rocky-mountain-black-hills-northern-hills@fs.fed.us). Please indicate "West Rim Project" in the subject line. Written comments should be addressed to:

Northern Hills Ranger District  
Attn: West Rim Project  
2014 North Main St.  
Spearfish, SD 57783

## **Comments Needed by...**

We welcome comments at any time. However, to consider your comments as we prepare alternative actions and the Draft Environmental Impact Statement, they must be received or postmarked by October 15, 2007.

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