

CHAPTER 1. PURPOSE OF AND NEED FOR ACTION

Document Structure

The Forest Service has prepared this Draft Environmental Impact Statement in compliance with the National Environmental Policy Act (NEPA) and other relevant Federal and State laws and regulations. This Draft Environmental Impact Statement discloses the direct, indirect, and cumulative environmental impacts that would result from the proposed action and alternatives. The document is organized into four chapters:

Chapter 1. Purpose and Need for Action: The chapter includes information on the history of the project proposal, the purpose of and need for the project, and the agency's proposal for achieving that purpose and need. This section also details how the Forest Service informed the public of the proposal and how the public responded.

Chapter 2. Alternatives, including the Proposed Action: This chapter provides a more detailed description of the agency's proposed action as well as alternative methods for achieving the stated purpose. These alternatives were developed based on significant issues raised by the public and other agencies. This discussion also includes mitigation measures. Finally, this section provides a summary table of the environmental consequences associated with each alternative.

Chapter 3. Affected Environment and Environmental Consequences: This chapter describes the environmental effects of implementing the proposed action and other alternatives. This analysis is organized by environmental component.

Chapter 4. Consultation and Coordination: This chapter provides a list of preparers and agencies consulted during the development of the environmental impact statement.

Appendices: The appendices provide more detailed information to support the analyses presented in the environmental impact statement.

Index: The index provides page numbers by document topic.

Additional documentation, including more detailed analyses of project-area resources, may be found in the project planning record located at the Northern Hills Ranger Station in Spearfish, South Dakota.

Introduction

This Draft Environmental Impact Statement (DEIS) discloses the environmental effects of vegetation management activities proposed in the Elk Bugs and Fuels Project area. These activities are proposed by the Northern Hills Ranger District of the Black Hills National Forest to improve the project area forest conditions by reducing mountain pine beetle populations in pine stands, decreasing the risk and hazard of wildfire in the proximity of private lands and homes, and to reduce the susceptibility of vegetation to catastrophic fire and further mountain pine beetle attacks. This Draft Environmental Impact Statement is subject to a 45-day review and comment period. All comments

received on the DEIS will be reviewed and addressed in an appendix to the Final Environmental Impact Statement.

The environmental analysis documented here is tiered to:

- 1) The 1997 Revised Land and Resource Management Plan (“revised Forest Plan”) for the Black Hills National Forest.
- 2) The Final Environmental Impact Statement (“FEIS”) associated with the Revised Forest Plan.
- 3) The environmental assessment and decision notice for the 2001 Phase 1 Amendment (“Phase 1 Amendment”) to the Revised Forest Plan.

Project Area Location

The Elk Bugs and Fuels Project is located in Lawrence and Meade counties, South Dakota, in the northeastern Black Hills. The area contains approximately 44,766 acres of National Forest Land and 15,605 acres of interspersed private and state lands and is located southwest of Sturgis, South Dakota. The project area includes all or portions of the legal descriptions shown in Table 1.

Table 1 Elk Bugs and Fuels Project Location

| Project Area Location | | |
|-----------------------|--------|---|
| Legal Description | | |
| Township | Range | Section |
| 5 North | 3 East | 10,11,12,13,14,15,25,26 |
| 5 North | 4 East | 2,3,4,6,7,8,9,10,11,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36 |
| 5 North | 5 East | 7,18,19,20,21,27,28,29,30,31,32,33 |
| 4 North | 3 East | 1,12 |
| 4 North | 4 East | 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,20,21,22,23,24,25,26,27,28,29,32,33,34,35,36 |
| 4 North | 5 East | 5,6,7,8,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36 |
| 4 North | 6 East | 9,30,31 |
| 3 North | 5 East | 1 |
| 3 North | 6 East | 6 |

Background

Mountain pine beetle populations have been increasing in the Black Hills over the last 5 years. In 1999, 2000, and 2001, aerial surveys indicated a large mountain pine beetle infestation in the Beaver Park area on the Northern Hills Ranger District. Nearly 70% of the forested land in the Beaver Park area was classified in the moderate to high stand susceptibility to infestation category in the year 2000. Prior to the passage of P.L. 107-206, there had been no treatments in the Beaver Park Lawsuit Settlement Area. Mountain pine beetle attacks have spread to locations within the project area not included in P.L. 107-206. As a result, there are epidemic mountain pine beetle populations and associated high levels of tree mortality scattered throughout the project area.

In the fall of 1998 and spring of 1999, the area received heavy wet snow, combined with winds, that caused damage to trees across much of the analysis area. The broken top trees provide suitable habitat for mountain pine beetles and the broken tops increase fuel loading for potential wildfires.

Wind and snow damage, combined with the effects of tree mortality due to mountain pine beetle infestation, could create fuel conditions that will not allow fire suppression forces to meet the suppression objectives in the LRMP. The potential for a catastrophic wildfire event could increase with further mountain pine beetle infestation.

The areas of mountain pine beetle infestation and snow-damaged timber are in the proximity of the Fort Meade VA Hospital Watershed, Sturgis Experimental Watershed, and Sturgis Community Watershed.

On August 2, 2002, the President signed P.L. 107-206. Section 706 of the Act authorized the Secretary of Agriculture “to undertake actions to address promptly the risk of fire and insect infestations;. . .” [Section 706(b)(1)]. A copy of the pertinent sections of P.L. 107-206 is available for review at the Northern Hills Ranger District office in Spearfish, South Dakota. The following is a summary of activities approved by the Act:

“ . . . the Secretary is authorized to treat additional timber within or outside the existing cutting units for the Piedmont, Kirk, Redhill, Cavern, Deadman, Danno, and Vanocker timber sales and within the analysis areas for these sales as is necessary to reduce beetle infestation and fire hazard;” [Section 706 (c)(1)]. The Act then gives details of the criteria to be used in implementing the additional treatments.

Skid trails “ . . .shall be restored to pre-existing conditions upon completion of treatment activities.” [Section 706(c)(4)]

Buffer Zones. “The Secretary is authorized to reduce risk to private property adjoining the Black Hills National Forest by treating insect infested trees, dead trees, and downed woody materials in T5N, R5E, BHM, Section 35, and T4N, R5E, BHM, Sections 1, 2, and 12 within 200 feet of adjacent property.” [Section 706 (d)(1)]

Additional Treatments. “The Secretary is authorized to treat for insects and fuel reduction National Forest System lands within ¼ mile of private property and other non-National Forest System lands near the community of Sturgis, and shall include, where feasible, the following locations:”

T5N, R5E, BHM Sections 35, 27, 21, 20, and 18. [Section 706(d)(2)(A)]

T5N, R4E, BHM Sections 13, 11, 2, 3, and 4. [Section 706(d)(2)(B)]

Fuel Breaks. “The Secretary shall establish 400-foot fuel breaks as depicted on the map entitled ‘Beaver Park Fuel Breaks and Fuel Treatment Areas’, dated June 11, 2002” [Section 706(d)(3)]. See Alternative maps for the location of the legislated fuel breaks.

Section 706(d)(4) states that all of the activities discussed above that are outside of the Beaver Park Roadless Area shall be limited to no more than 8000 acres of National Forest System land, pending issuance of a decision on this (Elk Bugs and Fuels) project.

Section 706(d)(5) authorizes the Secretary to treat not more than 700 acres within the Forbes Gulch area in order to reduce concentrated heavy fuels. The treatments shall not involve commercial timber sales or road construction, except that the Secretary may permit firewood cutters to remove the timber without construction of any roads.

Additional activities authorized by the Act include improvement of Forest Roads 139.1, 169.1b, 169.1d and 139.1b. The improvements will be minimal in accordance with Section 706 (e)(2).

Section 706(e)(4) authorizes the Secretary to construct two 5-acre helispots within the Beaver Park Roadless Area to transport firefighters and fire equipment into and out of the area.

As stated above, this is only an excerpt from P.L. 107-206. There is more specific information in the Act, but this summarizes most of the activities approved for implementation. Section 706(k) of the Act states, in part, that “. . .the Secretary shall disclose the effect of actions authorized by this section in the proposed Elk Bugs and Fuels project cumulative effects analysis for past, present, and reasonably foreseeable future actions.”

The Elk Bugs and Fuels project proposal was designed prior to the passage of P.L. 107-206, which authorizes a specific quantity of treatments on the Northern Hills Ranger District. The treatments authorized by P.L. 107-206 fall both within and outside of the Elk Bugs and Fuels project area and only treat a portion of the original planning area. The Black Hills National Forest has determined that more treatments than authorized by P.L. 107-206 are necessary in order to effectively reduce the spread of mountain pine beetle populations and to reduce the susceptibility of vegetation to catastrophic fire events.

As discussed above, the Elk Bugs and Fuels Project cumulative effects analysis must disclose the effects of the actions authorized by P.L. 107-206. Since many of the actions authorized by P.L. 107-206 fall outside of the Elk Bugs and Fuels Project boundary, it was necessary to expand the boundary of the cumulative effects area. The cumulative

effects boundary encompasses eighteen 7th level sub-watersheds. See the Hydrology section of Chapter 3 for a description of the sub-watersheds and their location. The cumulative effects area includes the Elk Bugs and Fuels Project Area, the area know as the Greater Beaver Park Lawsuit Settlement Area, and those sub-watersheds that contain the remaining actions authorized by P.L. 107-206. The total area for the cumulative effects analysis is approximately 111,258 acres and includes 89,611 acres of National Forest land and 21,647 acres of land in other ownership.

Management Areas

The Revised Forest Plan assigns a management emphasis to each portion of the Forest to meet multiple-use objectives. For each designated management area (MA), Chapter 3 of the Revised Forest Plan includes a description of desired future condition, goals and objectives, standards and guidelines. The Elk Bugs and Fuels Project includes the following management areas:

MA 3.31-Backcountry Motorized recreation Emphasis (426 acres)

These areas are managed to provide recreation opportunities on primitive roads and trails in a semi-primitive setting. (Land and Resource Management Plan (LRMP) pp. III 27-31)

MA 3.32 Backcountry Non-motorized Recreation Emphasis (1644 acres)

These areas are managed to provide recreation opportunities in a semi-primitive setting. Summer use is non-motorized. Over-the –snow vehicles could be allowed during the snow season. (LRMP pp. III 33-37)

MA 5.1 Resource Production Emphasis (11,604 acres)

These areas are managed for wood products, water yield, and forage production, while providing other commercial products, visual quality, diversity of wildlife and a variety of other goods and services. Numerous open roads provide commercial access and roaded recreation opportunities, while closed roads provide non-motorized recreation opportunities. (LRMP pp. III 65-69)

MA 5.2A Fort Meade VA Hospital Watershed (3,299 acres)

This area is managed to protect or improve the quality and quantity of water supplies to the Fort Meade Veterans Administration Hospital. (LRMP pp. III 77-81)

MA 5.3B Sturgis Experimental Watershed (1,070 acres)

This is an area managed to provide for experiments, tests and other activities that obtain, analyze, develop, demonstrate and disseminate scientific information about protecting, managing and utilizing watershed resources. (LRMP pp. III 89-94)

MA 5.4 Big Game Winter Range Emphasis (27,793 acres)

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. (LRMP pp. III 95-100)

As discussed in the Background section, the cumulative effects area for the Elk Bugs and Fuels Project has been expanded to include treatments approved by P.L. 107-206. The total cumulative effects area consists of those management areas described above, which cover the project area, plus two additional management areas.

| | |
|---------|--------------|
| MA 3.31 | 426 acres |
| MA 3.32 | 4,274 acres |
| MA 5.1 | 18,164 acres |
| MA 5.2A | 3,299 acres |
| MA 5.4 | 60,607 acres |

MA 4.1 Limited Motorized Use and forest Product Emphasis (1,771 acres)

These areas are managed for non-motorized recreation, while providing for timber production, forage production, visual quality and a diversity of wildlife. Roads provide intermittent commercial access, but are normally closed to other than administrative use. (LRMP pp. III 45-50)

MA 5.3B Sturgis Experimental Watershed (1,070 acres)

This is an area managed to provide for experiments, tests and other activities that obtain, analyze develop, demonstrate and disseminate scientific information about protecting, managing and utilizing watershed resources. (LRMP pp. III 89-94)

[See Figure 1]

Purpose and Need for Action_____

The Purpose and Need for action in the Elk Bugs and Fuels Project area is based on the Black Hills National Forest Land and Resource Management Plan (LRMP) and analysis of mountain pine beetle activity completed by Region 2 Forest Health Management Staff. This project proposal is designed to move the area from its existing condition towards the desired future condition as described in the LRMP. The Purpose and Need is to reduce mountain pine beetle populations in pine stands, decrease the risk and hazard of wildfire in the proximity of private lands and homes, and to reduce the susceptibility of vegetation to catastrophic fire and further mountain pine beetle attacks. The following “needs” have been identified in order to accomplish the purpose and need:

1. Mountain pine beetle populations have reached epidemic levels. Stand conditions are conducive to sustaining continued high levels of beetle caused mortality. Wind and snow damage combined with tree mortality due to mountain pine beetle infestation has created fuel conditions exceeding Forest Plan objectives. Therefore, there is a need to reduce the susceptibility of vegetation to uncharacteristically intense wildfire and outbreaks of mountain pine beetle. (LRMP I-9)
2. There is a need to cooperate with the South Dakota Division of Forestry, Community of Sturgis, and other private entities in efforts to decrease the risk of a mountain pine beetle outbreak that could affect the Sturgis Community Watershed, private lands, and homes. Beetle control efforts are taking place within the Sturgis Community Watershed and private lands. Beetle control on National Forest lands in the vicinity of this watershed is important to the success of control efforts taking place on adjacent lands. (LRMP Goal 7)
3. Since mountain pine beetles are at epidemic levels throughout much of the project there is a need to reduce beetle populations in affected stands. (LRMP Guideline 4205)
4. Since P.L. 107-206 did not authorize treatments adjacent to all areas of private lands and homes within the project area, there is a need to reduce the susceptibility to catastrophic, high intensity wildfire in the proximity of these areas. (LMRP I-9)
5. There is a need to disclose the effect of actions authorized by Section 706 of P.L. 107-206, except for subsections (f)(1) and (g), in the cumulative effects analysis for past, present, and reasonably foreseeable future actions. [P.L. 107-206 Section 706 (k)]
6. In most cases, the natural succession of hardwood stands, in the absence of fire, moves towards ponderosa pine or white spruce. Hardwood stands are generally less flammable and burn less readily during wildfire. Therefore, there is a need to maintain or enhance the existing hardwoods by removing conifers. (Objective 204)
7. Congress has recognized the importance of sustainable commodity use in laws including the Multiple-Use Sustained Yield Act, the National Forest Management Act, and the 1872 Mining Act. There is a need to emphasize long-term production of commodities for economies, communities and people in an environmentally sound manner. (LRMP I-17; Objective 303, p. I-18)

8. There is a need to provide an adequate transportation system for both short- and long-term access for the management of the National Forest lands within the Elk Bugs and Fuels project area. Investments to the existing Forest Service road system are needed to maintain or improve the safety or operating efficiency of roads. Where there is a need to initiate vegetative treatments and adequate access does not exist, investments in new roads are needed.

Poorly maintained roads, improperly located roads, or roads no longer needed can have adverse effects on watersheds. There is a need to ensure that the transportation system within the project area will not degrade water quality. Opportunities exist to maintain and enhance water quality by eliminating roads no longer needed for management purposes. (Objective 309)

Proposed Action

The Northern Hills District of the Black Hills National Forest proposes to perform vegetation management to reduce the spread of mountain pine beetles and the threat and severity of potential wildfires by; commercial and non-commercial thinning, creating fuel breaks, removing encroaching pine from hardwood stands, and reducing fuels. The Proposed Action also proposes the associated road improvement activities necessary to implement the proposed treatments, and decommissioning of roads no longer needed for management purposes. A more detailed description of the Proposed Action can be found in Chapter 2.

Decision Framework

Given the purpose and need, the deciding official reviews the proposed action, the other alternatives, and the environmental consequences in order to make the following decisions:

- (1) Whether or not the proposed activities and alternatives are responsive to the issues, are consistent with Forest Plan direction, meet the purpose and need, and are consistent with other related laws and regulations directing National Forest Management Activities;
- (2) Which actions, if any, to approve; and
- (3) Whether or not the information in the analysis is sufficient to implement proposed activities.

Public Involvement

The Notice of Intent (NOI) was published in the Federal Register on November 15, 2002. The NOI asked for public comment on the proposal from November 15, 2002 to December 16, 2002. In addition, as part of the public involvement process, the agency mailed 1,538 Scoping Letters to organizations and individuals. A press release announcing the scoping period was prepared and an article published in the Rapid City

Journal on November 17, 2002. The comment period for the project ended on December 16, 2002.

Using the comments from the public, other agencies, and organizations, the interdisciplinary team developed a list of issues to address.

Issues

The Forest Service separated the issues into significant and non-significant issues. Significant issues were defined as those directly or indirectly caused by implementing the proposed action. Non-significant issues were identified as those: 1) outside the scope of the proposed action; 2) already decided by law, regulation, Forest Plan, or other higher level decision; 3) irrelevant to the decision to be made; or 4) conjectural and not supported by scientific or factual evidence. The Council on Environmental Quality (CEQ) NEPA regulations provides the direction for this distinction in Sec. 1501.7, "...identify and eliminate from detailed study the issues which are not significant or which have been covered by prior environmental review (Sec. 1506.3)..." A list of non-significant issues and reasons regarding their categorization as non-significant are found in Appendix A.

The Forest Service identified the following significant issues during scoping:

Issue A: Decommission fewer roads.

Members of the public expressed concern over the amount of road decommissioning. One concern was the potential effect proposed decommissioning could have on access for fire control. Another concern was that reducing the miles of roads available to the public would increase resource damage by concentrating use on the remaining roads, .

Indicator measures: Miles of road proposed to be decommissioned.

Issue B: Use only existing roads and build no new roads.

Comments were received suggesting no new roads should be built. It was also suggested that fewer roads could be built by using existing road prisms.

Indicator measures: Amount of new road construction proposed for each alternative.

Issue C: Thin more areas, particularly small diameter pine stands.

Comments suggest there should be more aggressive thinning of small diameter pine stands. The concern is that without aggressive thinning, within a few years

the forest may be in a similar condition regarding the potential for large fires and mountain pine beetle attacks.

Indicator measures: Number of acres of small diameter pine stands thinned.

Issue D: Provide more grass, forb, and shrub habitat within the project area.

Comments were received recommending more grass, forb and shrub habitat treatment within the project area. Suggested methods include; providing patch clearcuts within stands to be thinned, burning to benefit native hardwoods and shrubs, and variable thinning on north and south facing slopes. There are also opportunities to improve meadows by removing encroaching pine trees and burning to improve grass/forb habitat.

Indicator measures: Number of acres of grass, forb, shrub, and meadow habitat improved.

Issue E: Maintain or create big game habitat in Management Area 5.4.

A comment was received pointing out that if big game habitat were created or maintained in MA 5.4, it might reduce the amount of time these animals spend on private land.

Indicator measure: Big game habitat effectiveness.

Issue F: Propose more treatments near private property.

The Lawrence County Fire Advisory Board presented a plan in which they propose a 200-foot radius survivable space zone around structures in Lawrence County. The plan also proposes 197 Wildland Urban-Interface “zones” around all inhabited structures in Lawrence County. The intent of these ½ mile radius buffer zones is to reduce fuels around private property with structures to the point where the average worst condition during a wildfire would not support a high intensity crown fire. This issue is based on a proposal for additional fuel reduction in the Wildland Urban-Interface zones throughout the project area.

Indicator measure: Acres of treatments within ½ mile of private property.

Issue G: Do not harvest any commercial timber.

Commenter suggests an alternative proposing no commercial timber harvest. The alternative would accomplish mountain pine beetle treatments and fuel reduction without selling any commercial timber volume.

Indicator measure: Whether or not an alternative proposes commercial timber harvesting.

Other Related Efforts

Implementation of treatments approved by Public Law 107-206.