

United States
Department of
Agriculture

Forest
Service

Black Hills National Forest
Northern Hills Ranger District



Mineral Forest Management Project

Environmental Assessment

October 2005

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, DC 20250-9410, or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

**MINERAL FOREST MANAGEMENT PROJECT
ENVIRONMENTAL ASSESSMENT
OCTOBER 2005**

TABLE OF CONTENTS

GLOSSARY

INTRODUCTION	1
DOCUMENT STRUCTURE	1
1 PURPOSE OF AND NEED FOR ACTION	3
1.1 PROJECT AREA LOCATION	3
1.2 MANAGEMENT AREAS	3
1.3 NEEDS AND OPPORTUNITIES	3
1.3.1 Forest Plan Goals and Objectives vs. Existing Conditions.....	3
1.3.2 Purpose of and Need for Action.....	6
1.4 ISSUES	6
1.4.1 Public Involvement.....	6
1.4.2 Identification of Key Issues.....	7
1.5 DECISIONS TO BE MADE.....	8
2 ALTERNATIVES.....	ERROR! BOOKMARK NOT DEFINED.
2.1 DESCRIPTION OF THE ALTERNATIVES, INCLUDING NO ACTION ..	ERROR! BOOKMARK NOT DEFINED.
2.1.1 No Action Alternative.....	<i>Error! Bookmark not defined.</i>
2.1.2 Alternative 2.....	<i>Error! Bookmark not defined.</i>
2.1.3 Alternative 3.....	<i>Error! Bookmark not defined.</i>
2.2 CONSISTENCY WITH FOREST PLAN AND PHASE 1 AMENDMENT ..	ERROR! BOOKMARK NOT DEFINED.
2.3 ALTERNATIVE DEVELOPMENT PROCESS, INCLUDING ALTERNATIVES CONSIDERED BUT ELIMINATED FROM DETAILED STUDY	ERROR! BOOKMARK NOT DEFINED.
2.4 COMPARISON OF ALTERNATIVES	ERROR! BOOKMARK NOT DEFINED.
3 ENVIRONMENTAL CONSEQUENCES	ERROR! BOOKMARK NOT DEFINED.
3.1 CUMULATIVE EFFECTS AREA AND ACTIVITIES	ERROR! BOOKMARK NOT DEFINED.
3.1.1 Past Actions	<i>Error! Bookmark not defined.</i>
3.1.2 Current Actions.....	<i>Error! Bookmark not defined.</i>
3.1.3 Reasonably Foreseeable Future Activities.....	<i>Error! Bookmark not defined.</i>
3.2 PHYSICAL CONSEQUENCES	ERROR! BOOKMARK NOT DEFINED.
3.2.1 Fuels.....	<i>Error! Bookmark not defined.</i>
3.2.2 Soil and Water.....	<i>Error! Bookmark not defined.</i>
3.2.3 Transportation System	<i>Error! Bookmark not defined.</i>
3.3 BIOLOGICAL CONSEQUENCES	ERROR! BOOKMARK NOT DEFINED.
3.3.1 Forest Vegetation.....	<i>Error! Bookmark not defined.</i>
3.3.2 Wildlife Habitat.....	<i>Error! Bookmark not defined.</i>
3.3.3 Sensitive Plants.....	<i>Error! Bookmark not defined.</i>
3.3.4 Noxious Weeds.....	<i>Error! Bookmark not defined.</i>
3.3.5 Rangeland.....	<i>Error! Bookmark not defined.</i>
3.4 SOCIAL CONSEQUENCES	ERROR! BOOKMARK NOT DEFINED.
3.4.1 Economics.....	<i>Error! Bookmark not defined.</i>
3.4.2 Environmental Justice.....	<i>Error! Bookmark not defined.</i>
3.4.3 Recreation.....	<i>Error! Bookmark not defined.</i>
3.4.4 Scenery.....	<i>Error! Bookmark not defined.</i>
3.4.5 Heritage Resources.....	<i>Error! Bookmark not defined.</i>
4 LIST OF PREPARERS.....	ERROR! BOOKMARK NOT DEFINED.
APPENDIX A - INDEX	ERROR! BOOKMARK NOT DEFINED.
APPENDIX B - BIBLIOGRAPHY	ERROR! BOOKMARK NOT DEFINED.

APPENDIX C - STAND MAP.....ERROR! BOOKMARK NOT DEFINED.

APPENDIX D -RESPONSE TO COMMENTS112

FIGURES

- FIGURE 2-1. ALTERNATIVE 2 VEGETATION TREATMENTS (WEST HALF).**ERROR! BOOKMARK NOT DEFINED.**
- FIGURE 2-2. ALTERNATIVE 2 VEGETATION TREATMENTS (EAST HALF).**ERROR! BOOKMARK NOT DEFINED.**
- FIGURE 2-3. ALTERNATIVE 2 TRANSPORTATION SYSTEM (WEST HALF) **ERROR! BOOKMARK NOT DEFINED.**
- FIGURE 2-4. ALTERNATIVE 2 TRANSPORTATION SYSTEM (EAST HALF) **ERROR! BOOKMARK NOT DEFINED.**
- FIGURE 2-5. ALTERNATIVE 3 VEGETATION TREATMENTS (WEST HALF)**ERROR! BOOKMARK NOT DEFINED.**
- FIGURE 2-6. ALTERNATIVE 3 VEGETATION TREATMENTS (EAST HALF).**ERROR! BOOKMARK NOT DEFINED.**
- FIGURE 2-7. ALTERNATIVE 3 TRANSPORTATION SYSTEM (WEST HALF) **ERROR! BOOKMARK NOT DEFINED.**
- FIGURE 2-8. ALTERNATIVE 3 TRANSPORTATION SYSTEM (EAST HALF) **ERROR! BOOKMARK NOT DEFINED.**
- FIGURE 3-1. CUMULATIVE IMPACTS ANALYSIS AREA – 7TH LEVEL WATERSHEDS**ERROR! BOOKMARK NOT DEFINED.**

TABLES

- TABLE 1-1. PROJECT AREA LEGAL DESCRIPTION.....3
- TABLE 2-1. VEGETATION TREATMENTS - ALTERNATIVE 2**ERROR! BOOKMARK NOT DEFINED.**
- TABLE 2-2. TRANSPORTATION MANAGEMENT - ALTERNATIVE 2**ERROR! BOOKMARK NOT DEFINED.**
- TABLE 2-3. VEGETATION TREATMENTS - ALTERNATIVE 3**ERROR! BOOKMARK NOT DEFINED.**
- TABLE 2-4. TRANSPORTATION MANAGEMENT - ALTERNATIVE 3**ERROR! BOOKMARK NOT DEFINED.**
- TABLE 2-5. COMPARISON OF ALTERNATIVES.....**ERROR! BOOKMARK NOT DEFINED.**
- TABLE 2-6. RESPONSE OF ALTERNATIVES TO ISSUES.....**ERROR! BOOKMARK NOT DEFINED.**
- TABLE 3-1. PAST TIMBER SALES.....**ERROR! BOOKMARK NOT DEFINED.**
- TABLE 3-2. FIRE BEHAVIOR INDICATORS.....**ERROR! BOOKMARK NOT DEFINED.**
- TABLE 3-3. PROJECT AREA WATERSHEDS**ERROR! BOOKMARK NOT DEFINED.**
- TABLE 3-4. BENEFICIAL USES**ERROR! BOOKMARK NOT DEFINED.**
- TABLE 3-5. WATERSHED CONDITION CLASS.....**ERROR! BOOKMARK NOT DEFINED.**
- TABLE 3-6. CONNECTED DISTURBED AREAS**ERROR! BOOKMARK NOT DEFINED.**
- TABLE 3-7. TRANSPORTATION SYSTEM EFFECTS.....**ERROR! BOOKMARK NOT DEFINED.**
- TABLE 3-8. MOUNTAIN PINE BEETLE RISK**ERROR! BOOKMARK NOT DEFINED.**
- TABLE 3-9. HABITAT STRUCTURAL STAGE DISTRIBUTION BY COVER TYPE - EXISTING**ERROR! BOOKMARK NOT DEFINED.**
- TABLE 3-10. HABITAT STRUCTURAL STAGE DISTRIBUTION BY COVER TYPE - ALTERNATIVE 2**ERROR! BOOKMARK NOT DEFINED.**
- TABLE 3-11. HABITAT STRUCTURAL STAGE DISTRIBUTION BY COVER TYPE - ALTERNATIVE 3**ERROR! BOOKMARK NOT DEFINED.**
- TABLE 3-12. PERCENT CHANGE IN HABITAT STRUCTURAL STAGE AND COVER TYPE**ERROR! BOOKMARK NOT DEFINED.**
- TABLE 3-13. GREEN TREE RETENTION ON PINE SITES**ERROR! BOOKMARK NOT DEFINED.**
- TABLE 3-14. THREATENED, ENDANGERED, PROPOSED, AND SENSITIVE WILDLIFE AND FISH SPECIES FOUND ON BHNF**ERROR! BOOKMARK NOT DEFINED.**
- TABLE 3-15. VEGETATION STRUCTURAL STAGE DESCRIPTION.....**ERROR! BOOKMARK NOT DEFINED.**
- TABLE 3-16. PFA VSS DISTRIBUTION.....**ERROR! BOOKMARK NOT DEFINED.**
- TABLE 3-17. WHITE-TAILED DEER HABITAT EFFECTIVENESS.....**ERROR! BOOKMARK NOT DEFINED.**
- TABLE 3-18. ELK HABITAT EFFECTIVENESS**ERROR! BOOKMARK NOT DEFINED.**

Glossary (Terms, Abbreviations, and Acronyms)

Aspen Clone

A group of aspen trees derived from a single tree through vegetative reproduction; for the purposes of this project, at least six trees with minimum stem diameter of four inches within a quarter acre.

At Risk Community (ARC)

Communities located in the vicinity of Federal lands that are at high risk of wildfire

BA

Basal area – The cross-sectional area of a stand of trees measured 4.5 feet from ground level. The area is expressed in square feet per acre.

BMPs

Best management practices – Land management methods, measures or practices intended to minimize or reduce water pollution.

Board Foot

A unit of timber measurement equaling the amount of wood contained in a board one inch thick, 12 inches long, and 12 inches wide.

Canopy Closure

The percentage of the ground and/or sky covered by vegetation and/or branches. These are perceived from a human point of view perpendicular to flat ground.

CAR

Community at Risk

CCF

One hundred cubic feet (of wood volume).

CFR

Code of Federal Regulations

Classified Road

A road that is needed and intended for long-term vehicle use.

Closed Road

A road that is closed to all vehicular traffic for more than one year.

CMAI

Culmination of mean annual increment – The point at which a tree or stand achieves its greatest average growth, based on expected growth and assumed management systems and utilization standards.

Commercial Thinning

Removing from a stand some of the trees that have reached sufficient size to be manufactured into a product in order to improve tree spacing and increase growth.

Commercial Timber Sale

The selling of timber from National Forest System lands for the manufacture of commercial products such as lumber, plywood, etc.

Cover Type

The vegetative species that dominates a site.

Cull Logs

Logs that do not meet commercial specifications due to defects in the wood.

Decommissioned Road

In this document, a decommissioned road is one that is permanently removed from the transportation system and closed to vehicle use.

DBH

Diameter at breast height – The diameter of a standing tree at a point 4.5 feet from ground level.

EA

Environmental assessment

Forb

Any herbaceous plant other than those in the grass, sedge, and rush families (any non-grasslike plant that has little or no woody material).

FSH

Forest Service Handbook

Fuel Loading

The volume of the available or burnable fuels in a specified area, usually expressed in tons per acre.

Fuel Treatment

Any manipulation or removal of fuels to reduce the likelihood of ignition and/or lessen potential damage and resistance to control.

Habitat Effectiveness

The capability of an area to support elk or deer based on forage, cover, open roads, and the spatial distribution of these factors.

HSS

Habitat structural stage (see p. **Error! Bookmark not defined.**)

Hard Snag

A dead or partially dead tree composed primarily of sound wood.

IDT

Interdisciplinary team – A group of individuals with different specialized training.

Landing

Any place where round timber is assembled for further transport.

Late Succession

Ecosystems distinguished by old trees and related structural features.

Logging Slash

The wood residue left on the ground after timber harvest (tops, branches, etc.).

Lopping

Cutting fallen tree branches and stems into smaller pieces.

MA

Management area (see p. 3)

MMBF

Million board feet

MIS

Management Indicator Species – Species selected to monitor the effects of planned management activities on populations of wildlife and fish, including those that are socially or economically important.

Mitigation

Actions taken to limit degrading impacts, or to rectify impacts by repairing, rehabilitating, or restoring the affected environment. Compensation of impact by replacing or providing substitute resources or environment. Also may include avoiding impact altogether by not taking a certain action or part of an action.

(40 CFR 1508.20)

Monitoring

The sample collection and analysis of information regarding Forest Plan management practices to determine how well objectives have been met, as well as the effects of those management practices on the land and environment.

NEPA

National Environmental Policy Act of 1969

NFMA

National Forest Management Act of 1976 (amends the Forest and Rangeland Renewable Resources Planning Act)

NFSR

National Forest System Road – A forest road under the jurisdiction of the Forest Service.

Non-commercial Thinning

Removing from a stand some of the trees that are too small to make a merchantable product in order to reduce fuels.

Noxious Weeds

Those plant species designated as weeds by federal state laws; generally non-native, aggressive, and difficult to manage.

PFA

Post-fledging family area (see p. **Error! Bookmark not defined.**)

POL

Products other than logs – Products such as posts, poles, and fiber from trees or parts of trees less than sawlog size.

Prescribed Burning

Controlled application of fire under specified environmental conditions that allow the fire to be confined to a predetermined area while producing the fire intensity and rate of spread required to attain planned resource management objectives.

R2

Region 2 (Rocky Mountain Region of the Forest Service)

Road Density

Miles of road per square mile of land.

Sanitation Treatment

The removal of trees occupied by insect or disease pests to reduce pest populations and limit their spread.

Sawtimber

Trees suitable in size and quality for producing logs that can be processed into lumber; generally those with a diameter of 8 inches or greater.

Seed Tree Cutting

A harvest method that leaves a small number of seed-bearing trees singly or in small groups to provide seed for regeneration of the site.

Sensitive Species

Those plant and animal species identified by the Regional Forester for which population viability is a concern.

Shelterwood Seed Cutting

A harvest method that leaves a portion of the mature stand in place as a source of seed.

Skidding

Moving logs from the stump to a collecting point.

Unclassified Road

A road that is not constructed, maintained, or intended for long-term vehicle use.

USDA

United States Department of Agriculture

USDI

United States Department of the Interior

VSS

Vegetation structural stage (see p. **Error! Bookmark not defined.**)

Water Influence Zone

The land next to streams and lakes where vegetation plays a major role in sustaining the long-term integrity of aquatic ecosystems.

Whole-tree Yarding

Cutting and moving the tree bole, top, branches, and leaves to a centralized landing for processing. Conventional yarding removes the top, branches, and leaves before the bole is moved to the landing.

WUI

Wildland Urban Interface (fuels in areas where humans and their developments meet or intermix with wildland)

WCP

Watershed Conservation Practices
(FSH 2509.25)

INTRODUCTION

The environmental analysis documented here is tiered to:

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

The analysis also references the file titled Analysis and Evaluation of the Mineral Project Area (project file). The project file documents the Interdisciplinary Team's (IDT) evaluation of effects.

The Black Hills National Forest is implementing the Forest Plan as required by the Forest and Rangeland Renewable Resources Planning Act of 1974 (RPA, P.L. 93-378) and the National Forest Management Act of 1976 (NFMA, P.L. 94-588).

This EA documents the site-specific effects of implementing the proposed actions and alternative actions. The FEIS and Forest Plan are available for review at the Northern Hills Ranger District Office in Spearfish, South Dakota, as well as at the Forest Supervisor's Office in Custer, South Dakota.

Document Structure

The Forest Service has prepared this Environmental Assessment in compliance with the National Environmental Policy Act (NEPA) and other relevant federal and state laws and regulations. This Environmental Assessment discloses the direct, indirect, and cumulative environmental impacts that would result from the proposed action and alternatives. This is not a decision document. The responsible official will document the decision in a separate Decision Notice.

This document is organized into five parts:

Purpose of and Need for Action: The section includes information on the history of the project proposal, reasons for the project, how the Forest Service informed the public of the proposal, how the public responded, and the resulting issues used to develop alternatives to the proposal.

Alternatives Including the Proposed Action: This section provides a description of the agency's proposed action as well as alternative methods for achieving the stated purpose. This discussion also includes mitigation measures. Finally, the section provides summary tables for each alternative.

Environmental Consequences: This section describes the environmental effects of implementing the proposed action and other alternatives. This analysis is organized by resource area.

Agencies and Persons Consulted: This section provides a list of preparers and agencies consulted during the development of the environmental assessment.

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

MINERAL PROJECT AREA
ENVIRONMENTAL ASSESSMENT

Additional documentation, including more detailed analyses of project area resources, may be found in the project file located at the Northern Hills Ranger District Office in Spearfish, South Dakota.

1 PURPOSE OF AND NEED FOR ACTION

1.1 Project Area Location

The Mineral project area is located approximately five miles south of Lead, South Dakota, on Northern Hills Ranger District, Black Hills National Forest. Legal description is shown in Table 1-1.

Table 1-1. Project Area Legal Description

Township	Range	Sections
4 North	2 East	9, 10, 11, 14, 15, 23, 24
4 North	3 East	12, 13, 20, 21, 22, 23, 24, 29
4 North	4 East	7, 8, 9, 17, 18, 19
<i>Black Hills Meridian</i>		

The Mineral project area encompasses approximately 9,241 acres, including approximately 5,798 acres of National Forest System lands and about 3,443 acres of private lands. All proposed activities would occur on National Forest System lands. If necessary, logs may be hauled across private lands where the Forest Service has acquired rights-of-way.

1.2 Management Areas

The 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 Forest Plan includes a description of desired future condition, goals, objectives, standards, and guidelines. National Forest System land in the Mineral project area is allocated to Management Area 5.1. 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.

The project Interdisciplinary Team (IDT) reviewed management area designation and found it appropriate.

1.3 Needs and Opportunities

Actions proposed in the Mineral project area are based on objectives found in the Forest Plan and on needs derived from a comparison of desired conditions and existing conditions. This section reviews these site-specific comparisons and defines the purpose of and need for action in the project area.

1.3.1 *Forest Plan Goals and Objectives vs. Existing Conditions*

Chapter 1 of the Forest Plan describes multiple-use goals and objectives for management of the Forest. They include protecting basic resources, providing for a variety of life through diverse ecosystems, providing for sustained commodity uses, and providing scenic quality, recreational opportunities, and heritage resource protection.

This section compares relevant Forest Plan direction to the conditions that currently exist in the project area. The comparisons show where needs and/or opportunities for action exist.

Goal 2. Provide for a variety of life through management of biologically diverse ecosystems.

Objective 201: During the planning period conserve existing hardwood communities and restore historic hardwood communities by 10% Forest-wide over 1995 conditions on sites capable of supporting these communities.

In 1995, there were 201 acres of hardwoods in the project area. Because pine has encroached into hardwood sites, there are currently 149 acres of hardwoods. Opportunities exist to restore hardwood communities in the project area by removing pine from hardwood sites. This would maintain diversity in forest cover types for wildlife habitat, natural fuel breaks, scenery, and ecosystem health.

Objective 204: Conserve and manage white spruce, lodgepole pine, limber pine and Douglas-fir.

Approximately 186 acres of white spruce cover type exist in the project area. Spruce is also present in pine and hardwood stands as an understory or secondary component. No Douglas-fir, lodgepole pine, or limber pine are mapped in the project area. In accordance with Phase I Amendment direction, no vegetation management treatments in spruce stands would take place to avoid decreasing existing or potential American marten habitat.

Objective 205: Restore grassland (meadow and prairie) communities across the Forest by 10% over 1995 conditions. Determine the restoration potential on a site-specific basis based on landform and soils.

In 1995, there were 49 acres of grassland mapped in the project area. Approximately 58 acres of grassland (meadow) currently exist, but this is due to map corrections rather than an actual increase in acreage. These areas are generally associated with small meadow inclusions within forested areas. Opportunities exist to remove conifer trees encroaching into these areas and restore/maintain the meadow vegetation.

Objective 207: Manage at least 5% of the forested landbase for late succession.

Objective 208: Provide smaller late succession patches to meet specific resource elements.

The five percent identified for late succession management includes Management Area 3.7 and smaller stands or patches identified in the Resource Information System (RIS) database. The project area does not contain Management Area 3.7 or any identified smaller stands or patches of late-succession forest as referenced in Objectives 207 and 208. An opportunity exists to provide structural diversity in the project area by moving stands towards late succession conditions.

Objective 209: Manage at least 5% of the forested landbase for the grass/forb structural stage.

Approximately 192 acres (3.5%) of the forested landbase are in grass/forb habitat structural stage. An opportunity exists to increase this value and move toward the objective.

Objective 211: In ponderosa pine forested portions of a watershed, maintain an average of 2 hard snags per acre on south-facing slopes and 4 hard snags per acre on north-facing slopes, well dispersed across the watershed through the rotation. Calculate as a per-acre average for the watershed; some acres may have no snags while others may exceed the average. In other forest types maintain an average of 6 hard snags per acre, well dispersed across the watershed.

Snag data are incomplete. The project area was analyzed assuming that existing snag density does not meet Forest Plan direction. The Forest Plan also requires that, in

watersheds not meeting this objective, sufficient large, green trees should be retained to provide future large-diameter snags (standards 2302 and 2306). There is a need and an opportunity to leave sufficient live green trees to provide large-diameter snags throughout the life of the stand.

Objective 214: *Restore riparian shrub communities across the Forest by 500 acres during the plan period on sites capable of supporting this community.*

The project area contains riparian areas associated with several streams and wetlands. Some have been negatively affected through disturbance by vehicles. There is an opportunity to improve riparian condition through reduction of disturbance.

Objective 217: *Maintain habitat for game and fish populations at the State objectives in effect in 1996.*

The project area provides habitat for game species such as deer, elk, and turkey. There is an opportunity to increase habitat values by creating forage and closing roads.

Objective 218: *Conserve or enhance habitat for resident and migratory non-game wildlife.*

Objective 220: *Conserve or enhance habitat for federally listed threatened, endangered or proposed species.*

Objective 221: *Conserve or enhance habitat for sensitive species and species of special interest (management indicator species).*

Bald eagles are the only threatened or endangered species that may occur in the project area. Three animal species and three plant species listed as “sensitive” by the Rocky Mountain Region of the Forest Service have been documented in the project area. Habitat for other sensitive and management indicator species exists in the project area.

There is a need to conserve or enhance habitat for these species and an opportunity to do so through thinning, fuel reduction, prescribed fire, and transportation system changes.

Objective 223: *Use management ignited fires and prescribed natural fires to achieve desirable vegetative diversity and fuel profiles on 8,000 acres [across the National Forest] per year for the next decade.*

Objective 224: *Reduce or otherwise treat fuels commensurate with risks (fire occurrence), hazard (fuel flammability), and land and resource values common to the area.*

Objective 227: *Manage 28,900 acres [across the National Forest] of activity fuels and 4,000 acres [across the National Forest] of natural fuels each year during the next decade, consistent with the need to protect life, property and natural resources from the threat of wildfire.*

Hazardous fuels exist in parts of the project area. There is a need to reduce fuel accumulation in these areas and an opportunity to do so using prescribed fire and mechanical treatments. Years of fire suppression have increased the potential for large crown fires. There is a need to reduce this potential to protect critical plant and animal habitat, timber values, private land, and visual quality in the area. There are opportunities to reduce fuels and large fire potential through timber harvest, fuel treatments, and prescribed burning.

Objective 228: *Within planning units where outbreaks of mountain pine beetles could threaten management objectives, maintain or reduce acreage of ponderosa pine stands that are in medium or high risk condition for infestation.*

Aerial surveys in the last two years have found approximately 1,470 acres in the project area with at least one tree per acre infested with mountain pine beetle (USDA Forest Service 2004c, 2005a). Beetle populations are at epidemic levels in parts of the project

area. Heavy infestations with considerable tree mortality exist in several locations. Thirty-six percent of the pine acres in the project area are at high risk of mountain pine beetle infestation, and another 17% are at medium risk.

Reduction of acres at high and medium risk is needed to minimize potential loss of resource values to mountain pine beetles. There is an opportunity to reduce the potential for infestation by thinning dense timber stands and conducting sanitation harvests.

Goal 3. Provide for sustained commodity uses in an environmentally acceptable manner.

Objective 303: Offer 838 MMBF of sawtimber and 21 CCF of roundwood per decade.

This objective applies to the entire Forest and has not yet been met for the current decade. There is a need to provide sawtimber and roundwood and an opportunity to do so through timber harvest.

1.3.2 Purpose of and Need for Action

In summary, desired future conditions in the Mineral project area include a diversity of tree species, sizes, and age classes, a variety of other vegetation types such as meadows, habitat for a variety of plant and wildlife species, scenic views, reduced fire hazards, endemic levels of forest pathogens, healthy, vigorous forest stands to ensure a sustainable supply of timber, and protection of all basic resources. The purpose of and need for the Mineral project is to work towards these desired future conditions and implement the Forest Plan and Phase 1 Amendment, specifically by thinning and regenerating forest stands, reducing hazardous fuels, maintaining or enhancing plant and wildlife habitat, and improving management of the transportation system.

1.4 Issues

1.4.1 Public Involvement

Public involvement in this project began in January 2000 when the Mineral project was listed in the Black Hills National Forest's Quarterly Schedule of Proposed Actions. Public scoping was conducted in September 2002 and included a field tour of the project area. Over 750 individuals and/or groups were contacted during the public scoping phase of the project, including those on the Northern Hills District mailing list, federal, state, and local government officials, permit holders, and private landowners. Eighteen parties submitted written comments by letter or e-mail and two individuals submitted additional comments by telephone (see project file).

1.4.2 Identification of Key Issues

The IDT identified issues relating to the proposed action based on input from Forest Service resource specialists, other agencies, organizations, landowners, and members of the general public. The Forest Service separated the issues into two groups: key (or “significant”, as directed by the Council on Environmental Quality (CEQ) regulations (40 CFR 1500.4(g) and 1501.7)) and other issues. The CEQ regulations for implementing NEPA require this delineation 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....” Key issues were defined as those directly or indirectly caused by implementing the proposed action. Other 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) not related to the decision to be made; or 4) conjectural and not supported by scientific or factual evidence. A list of other issues and reasons regarding their categorization as non-key is in the project record.

The Forest Service identified five key issues raised during scoping. These issues are:

1. Wildlife habitat

Members of the public and the IDT have expressed concerns about possible direct, indirect, and cumulative effects of the proposed forest treatments on wildlife habitat in or near the project area.

Indicator:

- Condition of habitat for threatened, endangered, proposed, sensitive, and management indicator species.

2. Travel and access management

Proposed transportation changes could have both negative and beneficial effects. There are concerns that road closures could increase wildfire suppression response times and detrimentally affect existing dispersed recreational use of the area. The same road closures could improve wildlife habitat and opportunities for non-motorized recreation.

Indicators:

- Miles of roads open, closed, and decommissioned; road density.
- Deer and elk habitat effectiveness; condition of habitat for other species affected by open roads.

3. Forest health

Various interested parties, including private landowners, county commissioners, and members of the local fire service, expressed concerns about hazardous fuels and mountain pine beetle infestations in the project area. If dense pine stands are not treated, mountain pine beetle infestations could increase to epidemic populations and also increase wildfire potential.

Indicators:

- Acres of thinning.
- Acres of fuel treatments and relationship to private property.
- Acres of pine at moderate and high risk of mountain pine beetle infestation.
- Fire torching and crowning indices.

4. Timber production

The proposed vegetative management actions could provide raw materials for the local wood products industry and help meet Forest Plan direction for timber harvest.

Indicator:

- Volume of commercial timber that would be produced.

5. Scenic values

Scenic quality of areas proposed for treatment are valued by neighboring landowners and the general public.

Indicator:

- Acres and results of treatment in areas of high scenic integrity.

1.5 Decisions to be Made

This Environmental Assessment (EA) does not document a decision. The purpose of this document is to disclose the effects and consequences of proposed actions and alternatives. The Responsible Official will make decisions based on consideration of this analysis.

Decisions to be made for this project are:

- Should resource management activities such as timber harvest, timber stand improvement, hardwood conservation, meadow enhancement, transportation system management, fuel reduction, monitoring, and associated actions be implemented in the Mineral project area at this time?
- If so, where in the project area should these actions occur? What design criteria and mitigation measures should be applied?