

CHAPTER 1: PURPOSE AND NEED

INTRODUCTION

The Forest Service has prepared this Environmental Impact Statement (EIS) to disclose the effects of fuels reduction treatments in the Basin Creek and Blacktail watersheds in compliance with the National Environmental Policy Act (NEPA) and other relevant federal and state laws and regulations. The 14,320-acre project area includes the southern half of the Basin Creek watershed and a small portion of the Blacktail watershed. These watersheds are located in the Highland Mountains on the Butte Ranger District, Beaverhead-Deerlodge National Forest in southwestern Montana. The project area is bordered on the east by Roosevelt Drive, on the north by the Forest boundary, and on the south and west by the Continental Divide. A portion of the project area is within the Basin Creek Roadless Area 01-430. Refer to **Appendix B, Map 1**. This EIS discloses the direct, indirect, and cumulative environmental impacts and any irreversible or irretrievable commitment of resources that would result from the proposed action and its alternatives.

This EIS is prepared according to the format established by the Council on Environmental Quality (CEQ) regulations implementing NEPA (40 CFR 1500-1508). Chapter 1 describes the purpose and need for the proposed action, and discusses how the project relates to the Deerlodge Forest Plan, National Fire Plan, and the 10-Year Comprehensive Strategy and Implementation Plan for reducing wildland fire risks to communities and the environment. It also identifies the key issues driving the EIS analysis. Chapter 2 describes and compares the proposed action, alternatives to the proposed action, and a no-action alternative, and summarizes the significant environmental consequences by key issue. Chapter 3 describes the natural and human environments potentially affected by the proposed action and alternatives, and describes the effects of the alternatives, including the no-action alternative. Appendix A contains information on consultation and coordination that occurred as part of the project, references, a list of preparers, and a glossary. Additional appendices provide supplementary information as needed to support the information in Chapters 1 through 3.

The Interdisciplinary Team used a systematic approach for analyzing the proposed project and its alternatives, estimating the environmental effects, and preparing this EIS. The planning process complies with NEPA and the CEQ regulations. Planning was coordinated with the appropriate federal, state, and local agencies, and local federally recognized tribes.

Copies of the EIS may be obtained at the Supervisor's office in Dillon or the Butte Ranger Station. Additional documentation, including more detailed analyses of project-area resources, is available for public review, and may be obtained from the Supervisor's Office.

PROJECT LOCATION

The project area is approximately 14,320 acres and is located 8 miles south of Butte, Montana, in the foothills of the Highland Mountains (Appendix B, Map 1). A type of wildland-urban interface area, called an intermix community, occurs within the project area. It encompasses Roosevelt Drive, Basin Creek, China Gulch, and Herman Gulch, and approximately 2,100 acres of private in-holding, including 258 structures and outbuildings. The Basin Creek municipal watershed which serves as one of the primary water sources

for the community of Butte is located within the project area. The municipal watershed is classified as an A-Closed Watershed by Montana Water Quality Standards.

The 1014-acre Basin Creek Research Natural Area is located along the southwest boundary of the project area adjacent to the Basin Creek Inventoried Roadless Area.

BACKGROUND

National Fire Plan

The 2000 and 2002 fire seasons were some of the most challenging on record. Both years, over 5.9 million acres of public and private lands burned—more than twice the 10-year national average. The magnitude of these fires is the result of two primary factors: a severe drought, accompanied by a series of storms that produced thousands of lightning strikes followed by windy conditions; and the long-term effects of almost a century of aggressively suppressing all wildfires that has led to an increased buildup of brush and small trees in forests and rangelands.

In August 2000, President Clinton directed the Secretaries of Agriculture and the Interior to develop a response to severe wildland fires, reduce fire impacts on rural communities, and ensure effective firefighting capacity in the future. The President also asked what actions federal agencies, in cooperation with states and local communities could take to reduce immediate hazards to communities in the wildland-urban interface, and to ensure that fire management planning and firefighting personnel and resources are prepared for extreme wildland fires in the future.

The Forest Service responded in October 2000, with the report "Managing Impacts of Wildfires on Communities and Environment," (USDA Forest Service, 2000) known as "**The National Fire Plan.**" Operating principles directed by the Chief of the Forest Service in implementing the report include: firefighting readiness, prevention through education, rehabilitation, hazardous fuel reduction, restoration, collaborative stewardship, monitoring, jobs, and applied research and technology transfer.

As a part of this process, the Departments of Agriculture and Interior prepared "A Collaborative Approach for Reducing Wildland Fire Risks to Communities and the Environment (August 2001) and the 10-Year Strategy Implementation Plan (May 2002). These documents are available at: <http://www.fireplan.gov>. The **10-Year Comprehensive Strategy** was developed by federal, state, tribal, and local government and nongovernmental representatives for the purpose of improving the management of wildland fire and hazardous fuels, as well as meeting the need for ecosystem restoration and rehabilitation in the United States on federal and adjacent state, tribal, and private forest and range lands.

The goals identified in the 10-Year Comprehensive Strategy include:

- Improve Prevention and Suppression (firefighting readiness, prevention through education)
- Reduce Hazardous Fuels (where negative impacts of wildland fire are the greatest)
- Restore Fire Adapted Ecosystems (rehabilitation and restoration of healthy diverse and resilient ecological systems)
- Promote Community Assistance (increase local firefighting capacity, provide technical assistance and cost-sharing incentives, promote utilization of small-diameter material)

The 10-Year Comprehensive Strategy Implementation Plan (May 2002)

establishes a collaborative, performance-based framework for achieving the goals and actions of the 10-Year Comprehensive strategy, and identifies performance measures, tasks and tools to identify key benchmarks, and track progress over time to achieve national goals at the local level in an ecologically, socially and economically appropriate manner.

The Basin Creek Hazardous Fuels Reduction Project responds directly to Goal 2 of the 10-Year Comprehensive Strategy by focusing on hazardous fuels reduction in a municipal watershed and an urban wildland interface community, where the negative impacts of wildland fire are potentially the greatest.

Local

In a separate collaborative effort, the Butte Ranger District is working with Butte-Silver Bow County to improve fire suppression planning and preparedness in cooperation with the Butte-Silver Bow Fire Protection Association, which has obtained a Western States Wildland/Urban Interface (WUI) grant to assist landowners in Roosevelt Drive with fuel reduction work. Many private landowners have already completed fuels reduction work in areas adjacent to the project area.

The Forest Service has also been involved in fire suppression simulations in the Roosevelt Drive area, along with the Bureau of Land Management, and city, rural, and volunteer fire departments. These drills were executed to improve response in the event of an actual wildland fire in the area.

PURPOSE AND NEED FOR ACTION

The purpose and need for this proposal is to modify vegetative conditions, reduce hazardous fuel accumulations and break up fuel continuity to:

- Increase firefighter and public safety.
- Reduce the potential for wildfire to spread into Basin Creek Municipal Watershed.
- Reduce the potential of damage to public and private property and structures within the project area from wildland fire.

Currently, two hazardous fuels situations occur within the project area. An immediate hazard exists adjacent to private property and along the Forest boundary in the form of standing dead lodgepole pine with red needles, and in Douglas-fir stands with moderate crown fire hazard rating and high canopy bulk density. A future threat occurs in lodgepole pine stands as a result of a mountain pine beetle epidemic creating heavy accumulations of standing and downed fuel. These situations pose a safety hazard to firefighters and the public in the event of a wildland fire. They also increase the risk of damage to the municipal watershed and public and private property.

Essentially all operable ground in the Basin Creek analysis area was harvested, and then slashed and burned, during the mid to late 1800s to support Butte's mining activities. Today, most of the area supports 100 year-old lodgepole pine stands with little surface fuel. Harvest did not occur in some areas that support a mix of Douglas-fir and lodgepole pine with dead and downed woody material.

Sagebrush/grass openings provide defensible space for firefighters engaged in suppression, and these openings are being encroached by conifers. Maintaining and enhancing sage/grass parks by removing

conifers preserves these natural openings so that, in the event of a wildland fire, firefighters have options for safety zones and anchor points.

The Basin Creek Watershed serves as a municipal water supply for the City-County of Butte-Silver Bow. The reservoir is one of three water sources, providing approximately 40 percent of the county's water. This water supply has a special designation because it qualifies as an A-Closed Watershed by Montana Water Quality Standards (ARM 17.30.621). The public water supply does not require treatment by a filtration system because of this designation. A-closed watersheds must be protected so waters can be maintained for drinking, culinary, and food processing purposes after simple disinfection. Allowable water quality changes are very limited.

The treatments proposed under this project serve the following needs:

Critical Watershed Protection: Reduce the potential for negative water quality impacts in a municipal watershed. Should a crown fire spread through the area, there is a potential for contribution of sediment and nutrients to the Basin Creek reservoir. Treatments are proposed to reduce the risk of wildfire spread into the municipal watershed.

Wildland-Urban Interface (WUI): Limit the potential for damage to public and private property and structures in the event of wildland fire. Treatments are proposed along the urban interface to serve as a buffer between the watershed and the interface. Treatments are also proposed to allow suppression forces a better probability of successfully attacking a wildfire and increase firefighter and public safety.

SUMMARY OF PROPOSED ACTION

The Forest proposes to modify vegetation and reduce fuels on approximately 2,602 acres within the Basin Creek project area (14,320 acres) to enhance safety for the public and firefighters, reduce risk to people, structures, and the municipal watershed in the event of fire. Fuel reduction, thinning, and prescribed burning treatments include the following:

1. Colonized parks, consisting of sage/grass communities that have been encroached by conifers, would be treated by removing conifers and burning the sagebrush to decrease fire intensity and increase defensible space (approx. 334 acres).
2. Mature Douglas-fir stands at high risk to crown fire would be treated by removing most of the lodgepole pine and thinning the Douglas-fir. Trees would be retained in clusters, but the main objective is to maintain space between tree crowns to reduce the spread of crown fire. The largest diameter and oldest trees would be retained. Remaining slash would be machine piled and burned and some jackpot burning would occur (approx. 709 acres).
3. Mature lodgepole pine at high risk to high intensity surface fire would be treated by removing most of the lodgepole pine, and retaining clusters of small diameter trees and snags in accordance with Forest Plan standards. Slash remaining in the units would be machine piled and burned (approx. 1,158 acres).
4. Small diameter Douglas-fir at moderate risk to crown fire would be treated by removing most of the lodgepole pine and thinning the Douglas-fir. Canopy conditions would become more open to reduce the potential for crown fire. Slash would be machine piled and burned (approx. 284 acres).

5. Small diameter lodgepole pine at moderate risk to both crown and surface fire would be thinned to create an open stand with larger diameter trees. Slash remaining in the units would be machine piled and burned (approx. 117 acres).

Approximately 14 miles of temporary road would be constructed and would be re-contoured, seeded, and covered with slash following implementation. Additional information about the proposed action is provided in Chapter 2. The proposed action is displayed on **Map 3 in Appendix B**.

SCOPE OF THE PROPOSED ACTION

This project includes fuel hazard reduction within the Basin Creek and Blacktail watersheds and intermix communities. Treatments are prescribed on approximately 2,602 acres and include removing live and dead trees to reduce existing and future fuel accumulations and to decrease existing stand densities.

FOREST PLAN MANAGEMENT DIRECTION

National forest planning takes place at several levels: national, regional, forest, and project levels. The Basin Creek Fuels Reduction Project is a project-level analysis. Its scope is confined to addressing the key issues and effects of the project. It does not address decisions made at higher levels.

The Forest Plan embodies the provisions of the National Forest Management Act, its implementing regulations, and other guiding documents. Where appropriate, the Basin Creek Hazardous Fuels Reduction Project FEIS tiers to the Deerlodge Forest Plan and the Deerlodge Forest Plan EIS.

General forest management direction is found in Chapter II of the Deerlodge Forest Plan. The Forest Plan provides Forest-wide goals, objectives and standards for subunits of the forest called Management Areas (MAs). The following paragraphs highlight forest-wide goals, objectives, and standards; and MA goals and standards that are relevant to the proposed action discussed in this assessment.

Forest-wide Goals

- #5. Meet or exceed State water quality standards
- #12. Contribute to the longevity of any threatened and endangered species by conducting management activities to prevent mortality.
- #13. Protect resource values through the practice of integrated pest management.

Objectives

Visual Resource: Landscape management will be practiced throughout the Forest and will have special emphasis in visually sensitive areas (as determined by the visual management system (VMS)). A mix of visual quality objectives will be emphasized in project design. (Forest Plan, pg. II-2)

Wildlife: Habitat improvement will center on prescribed burning and travel management. (Forest Plan, pg. II-3)

Fish: Fisheries habitat will be maintained and improved through emphasis on riparian zone restoration and management. (Forest Plan, pg. II-3)

T&E Species: The Forest will participate in any future recovery goals set for T&E species. Procedural and biological requirements for sensitive species will be followed and their habitat protected. (Forest Plan, pg. II-3)

Soils: Soil productivity will be maintained, and sediment resulting from soil erosion will be minimized, by applying soil and water conservation practices. (Forest Plan, pg. II-4)

Water: The quality of water produced on National Forest lands will meet or exceed State water quality standards by applying soil and water conservation practices that have been developed cooperatively by the State Water Quality Agency and the Forest Service. Best Management Practices (BMPs) will be identified for projects that could degrade water quality. (Forest Plan, pg. II-4)

Protection: Fire management will be guided by land and resource management objectives and be coordinated with other Federal and State agencies to provide economical aerial detection, fire dispatch, and initial attack. Effort will be made to harvest ahead of mortality from mountain pine beetle outbreaks by scheduling harvest in moderate and high-risk stands. (Forest Plan, pg. II-5)

Air: Fire management activities will prevent significant air quality deterioration in Class I areas and meet requirements of the MA goals. (Forest Plan, pg. II-5)

Standards and Guidelines

The protection of other resource values, while achieving the goals for management of Forest lands, is provided through incorporation of standards and guidelines specific to these resources. The following standards and guidelines (Forest Plan, Chapter II, pgs. 12 – 32) apply to this project and are relevant to proposed actions.

Visuals

Standard #1 – Use visual quality objectives (VQOs) as more definitive adjectives of the ROS setting descriptions. Environmental analysis and project design will specify how the adopted objectives will be met.

Standard #3 – Manage for a mix of Visual Quality Objective (VQO) based on the ROS class and the sensitivity of the resource.

Wildlife

Standard # 10 – Incorporate appropriate wildlife analysis techniques in all prescribed fire planning for livestock or wildlife forage improvement. Protect critical upland nesting cover, calving cover, travel lanes, and security areas.

Threatened and Endangered Species

Standard #1 – Participate in any future recovery goals set for Threatened and Endangered species.

Species of Special Concern and Sensitive Species

Standard #1 – Identify and protect to the extent practicable, habitat essential for wildlife species listed by the State of Montana as “Species of Special Concern.”

Standard #2 – Insure compliance with procedural and biological requirements for sensitive species.

Fisheries

Standard #3 – Provide clean water and habitat for fish by coordinating Forest activities and by direct habitat improvement.

Timber

Standard #1 – Require silvicultural examinations and prescriptions approved by a certified silviculturist before conducting vegetative management activities on suitable timberland.

Water, Soil, and Air

Standard #1 – Manage municipal watersheds to protect municipal watershed values through applying the Specific Surface Water Quality Standards of the State of Montana.

Standard #3 – Design and implement projects within municipal watersheds in accordance with FSM 2542.12 and specific standards and guidelines in the municipal watershed plans.

Standard #4 – Incorporate BMPs into all land use and project plans.

Standard #8 – Plan all management activities to sustain site productivity.

Standard #10 – Management activities that affect air quality will comply with Federal and State standards and the Montana Airshed Group's Memorandum of Understanding.

Standard #11 – Protect air quality by cooperating with the appropriate State agencies in the State Implementation Plan (SIP), and by meeting the requirements of the SIP and State Smoke Management Plan.

Riparian

Standard #3 – Maintain riparian habitats in a condition which ensures continued regeneration of desired vegetation and continued occupancy of the site by such vegetation.

Facilities

Standard #3 – Temporary roads will be evaluated on a case-by-case basis and reclaimed after use.

Protection

Standard #3 – Emphasize the use of prescribed fire to achieve land management goals.

Management Area Goals

Management Area descriptions are found in Chapter III of the Deerlodge Forest Plan. These descriptions provide specific goals and management direction designed to achieve the Forest-wide goals, objectives and standards found in Chapter II of the Forest Plan. Management Areas within the project area are: A5, C3, MC3, D2, MD2, E1, ME1, and J3.

A5: Preserve the near natural but not primitive condition, while recognizing the area's mineral values. Provide elk habitat at the current level, continue livestock grazing, and provide high quality motorized recreation opportunities.

C3: Provide useable big game spring, summer, and fall habitats, emphasizing both forage and cover requirements. Permit livestock grazing.

MC3: Goals are the same as for C3. The letter "M" denotes a municipal watershed.

D2: Provide a balanced amount of livestock forage and big game habitat. Designate forage production from range and wildlife improvement investments for both livestock and wildlife.

MD2: Goals are the same as for D2. The letter "M" denotes a municipal watershed.

E1: Provide healthy stands of timber and economic levels of timber while maintaining overall levels of wildlife habitat, livestock grazing and dispersed recreation.

ME1: Goals are the same as for E1. The letter "M" denotes a municipal watershed.

J3: Provide Research Natural Areas which typify important forest, shrubland, grassland, alpine, and aquatic ecosystems as well as geologic types.

DESIRED CONDITION

The Forest Plan management areas and the National Fire Plan provide the parameters for identifying and defining project-specific desired conditions. The following desired conditions will help enforce project consistency with the Forest Plan, the major issues (described below), and the ecological conditions of the project area.

Desired conditions are as follows:

- Water quality of Basin Creek Municipal Reservoir is maintained in good condition.
- Fuel levels provide an increased likelihood of protecting values at risk from significant losses caused by future fires.
- Fuel levels provide an increased likelihood of safe and effective fire protection, firefighter and public safety.
- Increased space between the tree canopies reduces the potential for crown fire.
- Habitat for threatened and endangered species, MIS (management indicator species) and sensitive species, and big game is maintained or improved.
- Coarse woody debris is sufficient to maintain soil productivity and other resource values.

DECISION TO BE MADE

The actions proposed in this document are not intended to serve as a general management plan for the area. If the Responsible Official selects an action alternative as a result of this analysis, implementation of the activities specifically identified will begin as soon as possible and without further NEPA documentation. The Responsible Official could also modify a selected alternative to address issues at the time of decision. Additional information about what is within and not within the scope of this proposed action and analysis is

provided in the description of the alternatives, including "Alternatives Considered but Not Analyzed in Detail" in Chapter 2.

The Responsible Official is the Beaverhead-Deerlodge National Forest Supervisor. Based on the analysis in the Final EIS, the Responsible Official will make the following decisions and document them in a Record of Decision:

- The extent, if any, of fuel reduction treatments to be implemented. If implemented, where and how these activities would be conducted.
- Management requirements and mitigation measures.
- Appropriate monitoring requirements to evaluate project implementation.
- Whether a site-specific Forest Plan amendment is required for implementation, the nature of the amendment, and whether the amendment would be a significant change to the Forest Plan.

PUBLIC INVOLVEMENT

The Council on Environmental Quality (CEQ) defines scoping as "...an early and open process for determining the scope of issues to be addressed and for identifying the significant issues related to a proposed action" (40 CFR 1501.7). Among other things, the scoping process is used to invite public participation, to help identify public issues, and to obtain public comment at various stages of the EIS process. Although scoping is to begin early, it is an iterative process that continues until a decision is made. In addition to the following specific activities, the Basin Creek project has been listed on the Beaverhead-Deerlodge National Forest Schedule of Proposed Actions since January 2002. To date, the public has been invited to participate in the project in the following ways.

Public Meetings

At least three public meetings were held in Butte to involve and inform stakeholders. Representatives from Montana Department of Environmental Quality (MT DEQ), Environmental Protection Agency (EPA), Butte-Silver Bow County and the Butte Fire Protection District attended meetings held by the Forest Service on November 4, November 14, and November 23, 2003. Personal visits were also conducted with members of the Shoshone-Bannock and Salish-Kootenai tribes.

Public Mailing

On May 29, 2002, a letter providing information and seeking public comment was mailed to approximately 480 individuals and groups. This included federal and state agencies, Native American groups, municipal offices, businesses, interest groups, and individuals. A total of 23 responses to this initial mailing were received. This scoping notice was also available online at www.fs.fed.us/r1/b-d/ in the reading room.

A postcard was mailed on February 11, 2003, to update the mailing list and inform interested parties of the project status.

Local News Media

A press release was printed in The Montana Standard on June 18, 2002.

Notice of Intent

A Notice of Intent to prepare an environmental impact statement was published in the Federal Register on April 14, 2003.

KEY ISSUES

Three key issues were identified through public involvement and interdisciplinary analysis of this proposal. Inventoried roadless area preservation and effects to threatened Canada Lynx habitat are driving issues leading to alternative development. Adverse effects to scenery do not drive an alternative; however a Forest Plan amendment would be required to implement Alternatives 4 or 5. Hazardous fuel accumulations and the risk of wildfire spreading into the Basin Creek municipal watershed are key issues addressed by the purpose and need, and are incorporated in all action alternatives.

Fuels reduction treatments and tree cutting in an inventoried roadless area would have a detrimental impact on roadless area characteristics.

Issue Indicators:

- Acres of harvest in inventoried roadless areas
- Acres of burning in inventoried roadless areas
- Compliance with Roadless Area Conservation Rule
- Change to the six wilderness attributes
- Change to the nine Roadless Area Conservation Characteristics

Fuels reduction treatments would adversely affect threatened Canada Lynx habitat.

- Changes in the percentage of available lynx foraging, denning, and overall changes in general lynx habitat to an unsuitable condition.
- Compliance with applicable standards and guidelines outlined in the Lynx Conservation Assessment and Strategy (Ruediger et al. 2000).

Fuels reduction treatments would diminish visual quality in the project area.

- Compliance with Forest Plan visual quality standards.

RESOURCE CONCERNS

The following public concerns and resource areas are important and were considered in the analysis of key issues, however they were determined not to be key issues in that they would not drive alternatives. Some are already addressed through analysis, mitigation, and other processes. Others are covered by the Forest Plan or their resolution is beyond the scope of this project.

Aquatic Habitats and Species	Fuel reduction treatments, associated burning, road construction and reconstruction may reduce habitat quality and affect aquatic species, including westslope cut-throat trout and boreal toad (sensitive species). Compliance with INFISH Standards/Guides and application of mitigation measures address this concern.
Wildlife Habitats and Species	Fuel reduction treatments, associated burning, road construction and reconstruction may affect habitat quality and some wildlife species. The analysis will include various wildlife species responses to fuel reduction treatments and changes in the quality and quantity of affected habitat.
Hydrology	Fuel reduction treatments, associated burning, road construction and reconstruction may affect water and sediment production potentially exceeding the thresholds of channel stability.
Soils	The existing condition of the Blacktail watershed currently exceeds the soil quality standard for limiting detrimental soil disturbances. This condition occurs primarily on private land where the Forest Service is not authorized to apply mitigation and restoration activities.
Recreation	Fuel reduction treatments could affect recreational settings and conflict with recreation activities.
Noxious Weeds	Noxious weeds will be controlled pursuant to Forest Plan direction and the 2002 Beaverhead-Deerlodge FEIS and Record of Decision for noxious weeds. Refer to Appendix E.
Heritage Resources	Fuel reduction treatments, associated burning, road construction and reconstruction may adversely affect heritage resources. Mitigation measures address this concern.
Old Growth	No treatments are proposed in old growth under any alternative.
Snag Management	All Action Alternatives will ensure an adequate amount of snags, as well as downed woody debris are available. All action alternatives will retain a minimum of five snags per acre. The Forest Plan requires a minimum of 15 trees in five-acre clusters (averages 3 per acre).
Protection of Riparian Areas	No treatments are proposed in riparian areas under any alternative.
Mineral Resources	Mitigation measures may be required for mineral exploration in China Gulch, depending on the timing and duration of fuel reduction activities.
Lands	Two acres of trespass occur on Forest Service Lands under Alternative 2.
Air Quality	All action alternatives will comply with the Clean Air Act.
Unroaded Areas	(Waiting for analysis from specialist)
Economics	All action alternatives would provide jobs and an economic benefit.