

North Fork Vegetation Management Project
Environmental Assessment

Shoshone National Forest
Wapiti Ranger District
Park County, Wyoming

June 2, 2004



Predecisional Document

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<http://www.fs.fed.us/r2/shoshone/forestmgmt/nepa/projectinfo.htm>

Abstract. This Environmental Assessment (EA) is a public document that will provide evidence and analysis for determining whether to prepare an Environmental Impact Statement (EIS) or a Finding of No Significant Impact. The proposed action is to implement vegetative management to mechanically treat and prescribed burn treatment units to address dead and dying trees caused by drought and an insect epidemic. There are three alternatives: a no action alternative and two action alternatives for hazardous fuels reduction. Proposed activities would occur in the North Fork drainage, approximately 30 miles west of Cody in Park County, Wyoming.

Notice to Comment: Pursuant to 36 CFR 215.6, the Forest shall accept comments on the proposed action for 30 days following the date of publication of the notice for public comment—the date of publication will be on or about June 2, 2004. Written comments may be submitted to Marty Sharp at the address listed above. Reviewers should provide the Forest Service with their comments during the review period of the EA. We ask that comments be specific to the issues and actions identified in this EA.

Comments received in response to this solicitation, including names and addresses of those who comment, will be considered part of the public record on this proposed action, and will be available for public inspection. Comments submitted anonymously will be accepted and considered; however, those who submit only anonymous comments will not have standing to appeal the subsequent decision under 36 CFR Part 215. Additionally, pursuant to 7 CFR 1.27 (d), any person may request the agency to withhold a submission from the public record by showing how the Freedom of Information Act (FOIA) permits such confidentiality. Persons requesting such confidentiality should be aware that, under FOIA, confidentiality may be granted in only very limited circumstances, such as to protect trade secrets. The Forest Service will inform the requester of the agency's decision regarding the request for confidentiality, and where the request is denied, the agency will return the submission and notify the requester that the comments may be resubmitted with or without name and address within 10 days.

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1.1 About this Document

The North Fork project has been initiated as part of implementing the 1986 Shoshone National Forest Land and Resource Management Plan (Forest Plan), as amended. The North Fork Vegetation Management Environmental Assessment (EA) has been prepared in compliance with the National Environmental Policy Act (NEPA) and other relevant federal and state laws and regulations. This EA is tiered to the Forest Plan (as amended) and the associated environmental analyses and decision documents. This is not a decision document; the responsible official will document the decision in a Decision Notice after a 30-day public review of the EA.

Tiering is in accordance with CEQ regulations (40 CFR 1502.20 and 1508.28), which allow the responsible official to focus on site-specific issues that are within the scope of a broader plan, program, or analysis that is already approved. All documents are incorporated by reference in this document, and can be reviewed upon request at the Wapiti Ranger District or the Supervisor's Office in Cody, Wyoming.

The Shoshone National Forest is implementing the Shoshone 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). The Forest Plan establishes management direction for the Shoshone National Forest. This direction is described Forest-wide and by management area. Designing and implementing projects consistent with this direction is the means to move the Forest toward the desired future conditions as described in the Forest Plan.

Forest Plan direction established sideboards for the development of alternatives to the proposed action. Within these sideboards, the Interdisciplinary Team (IDT) developed alternatives and mitigation that responded to the issues and concerns. All alternatives and associated management prescriptions and mitigation are designed to be consistent with Forest Plan direction unless specifically noted.

This environmental assessment (EA) discloses the direct, indirect, and cumulative environmental effects that would result from the proposed action and alternatives. The document is organized into these parts:

- *Chapter 1 - Introduction:* This chapter includes information on the history of the project proposal, the purpose of and need for the project, and a brief summary of 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. Issues and concerns are identified in this chapter.
- *Chapter 2 - Alternatives, Including the Proposed Action:* This chapter provides a detailed description of the agency's proposed action and alternative methods for achieving the stated purpose. These alternatives were developed based on issues raised by the public, other agencies, and internal concerns. 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 resource, e.g., forest health, recreation, etc. Within each section, the affected environment is described first, followed by the effects of the No Action Alternative that provide a baseline for evaluation and comparison of the other alternatives that follow.
- Members of the *Interdisciplinary Team* are listed, followed by the *Sources Cited* in the EA.
- *Appendices:* The appendices list the agencies and persons consulted (Appendix A - Public Involvement) and a Scoping Comment Summary (Appendix B). Appendix C, Responses to Comments on the Predecisional EA, is reserved. Best Management Practices are in Appendix D.

Additional information that supports the analysis presented in this document is contained in the project file located at the Wapiti Ranger District, 203A Yellowstone Ave., Cody, Wyoming, 82414. Specialists are available to answer questions or to provide larger scale maps.

1.2 Background

An intense fire season affected the western United States in 2003; many large destructive fires impacted human health and safety and resource values (i.e. the Aspen Fire near Tucson, Arizona and numerous fires in Montana). The numbers, sizes, and intensities of the fires were a result of drought conditions and weather patterns, past fire suppression, and insect and disease mortality in late successional forests.

In August 2003 and closer to home, the East Fire complex in Yellowstone National Park (YNP) and the Norris and Blackwater Fires burned in or adjacent to the North Fork Corridor¹. Fueled by dead and dying trees and strong winds, wildfires closed the east gate to Yellowstone National Park for the majority of a two-week period. These numerous fires in the North Fork drainage and YNP, highlight the hazardous fuel conditions as a result of insect-killed conifers and the potential risk from high intensity wildfire and associated threats to life, property and resource values.

On the Shoshone National Forest, the Blackwater Fire burned in the Blackwater drainage 30 miles west of Cody, and the Norris Fire in the Fishhawk Creek drainage. In the last 15 years average fire size has trended upward within the analysis area. This trend accentuates the risk of wildfire and impacts to resources, economics and tourism, and smoke effects to air quality. The larger fires include the 1988 Yellowstone fires (43,921-acre Clover-Mist fire), the 2000 Pahaska fire complex (1,439 acres), the 2001 Arthur fire (2,850 acres), the 2003 East fire complex (23,500 acres), which burned acreage in Crow Creek and Jones Creek on the Forest and the 2003 Blackwater/Norris fires (6,887 acres).

In the North Fork corridor, insect-killed trees are contributing to large, difficult to control, and expensive wildfires. As a result, the North Fork Vegetation Management Project has been initiated to reduce fuels and to enhance suppression capability around developed sites. The corridor attracts an estimated 400,000 visitors each year so visitor safety and tourism are a concern.

The North Fork became a focus of agency, public, and political attention because of recent large wildland fires and hazardous fuels resulting from declining forest conditions caused primarily by severe beetle infestations. Compounding the problem are the ongoing drought, the advanced successional stages of the forest, and nearly a century of fire suppression. Because of these factors, tree mortality in the analysis area range from 10% to over 90%. Of particular concern is the standing dead trees with red needles that are easily ignited and produce very intense stand replacement crown fires that have the potential to threaten human life and property, wildlife habitat, watershed values, municipal water supplies, socio-economics and tourism and other resources. A second concern is the hazardous fuel buildup resulting from these dead trees falling to the ground in the next 5 to 20 years, which will contribute to high intensity stand replacing surface fires.

The insect epidemic has resulted in extreme mortality in the older aged Douglas-fir and Engelmann spruce trees, which are the dominant cover types and to a lesser extent the lodgepole pine, whitebark pine and limber trees. Douglas-fir beetle, spruce beetle, mountain pine beetle, and white pine blister rust infestations are all at or near epidemic status in the analysis area now. There is urgency to implement this proposal soon to reduce the potential for high intensity stand replacing crown fires with associated extreme spotting potential and heavy surface fuels buildup in order to minimize the risks from wildfire to resource values and socio-economic concerns (life, property, tourism, and historical properties).

¹ North Fork corridor is a local term defined as the area of the North Fork Shoshone River drainage between the east and west edge of the Shoshone National Forest boundaries. The east boundary is approximately 30 miles east of Cody, WY. The west boundary is approximately 55 miles west of Cody near the east gate to Yellowstone Park.

In response to this high to extreme fire hazard situation and potential catastrophic² wildfires, the Forest proposes to implement fuel reduction treatments to change fire behavior and fire effects along the North Fork corridor and modify fire movement and spotting potential from wildfire towards developments. These treatments would result in lower flame lengths and intensities, slower rates of fire spread and a reduction in torching and crowning potential at the 90th percentile weather³ and fuel conditions.

Location. The project area begins approximately 30 miles west of Cody and ends 55 miles west, near the boundary of Yellowstone National Park, in Park County, Wyoming (*see* Figure 1). The scope of this analysis is limited to those activities needed to implement the proposed action or alternatives. The project is located in the Shoshone National Forest and can be accessed by the Buffalo Bill Cody Scenic Byway (US Highway 14-16-20). The range in elevation in the analysis area is from about 6,000 feet to about 12,000 feet. The proposed action is initiated by and would occur on the Wapiti Ranger District in the North Fork Shoshone River watershed.

Analysis Area and Project Scale. The analysis was based on both a mid-scale landscape view (analysis area) of the North Fork Shoshone River watershed from drainage headwaters down to the forest boundary on the south side of the river, and down to and including the Big Creek drainage on the north side of the river and a fine-scale project view (project area) that focused on the individual project areas being directly affected. Adjoining administrations are also considered, especially in the context of cumulative effects.

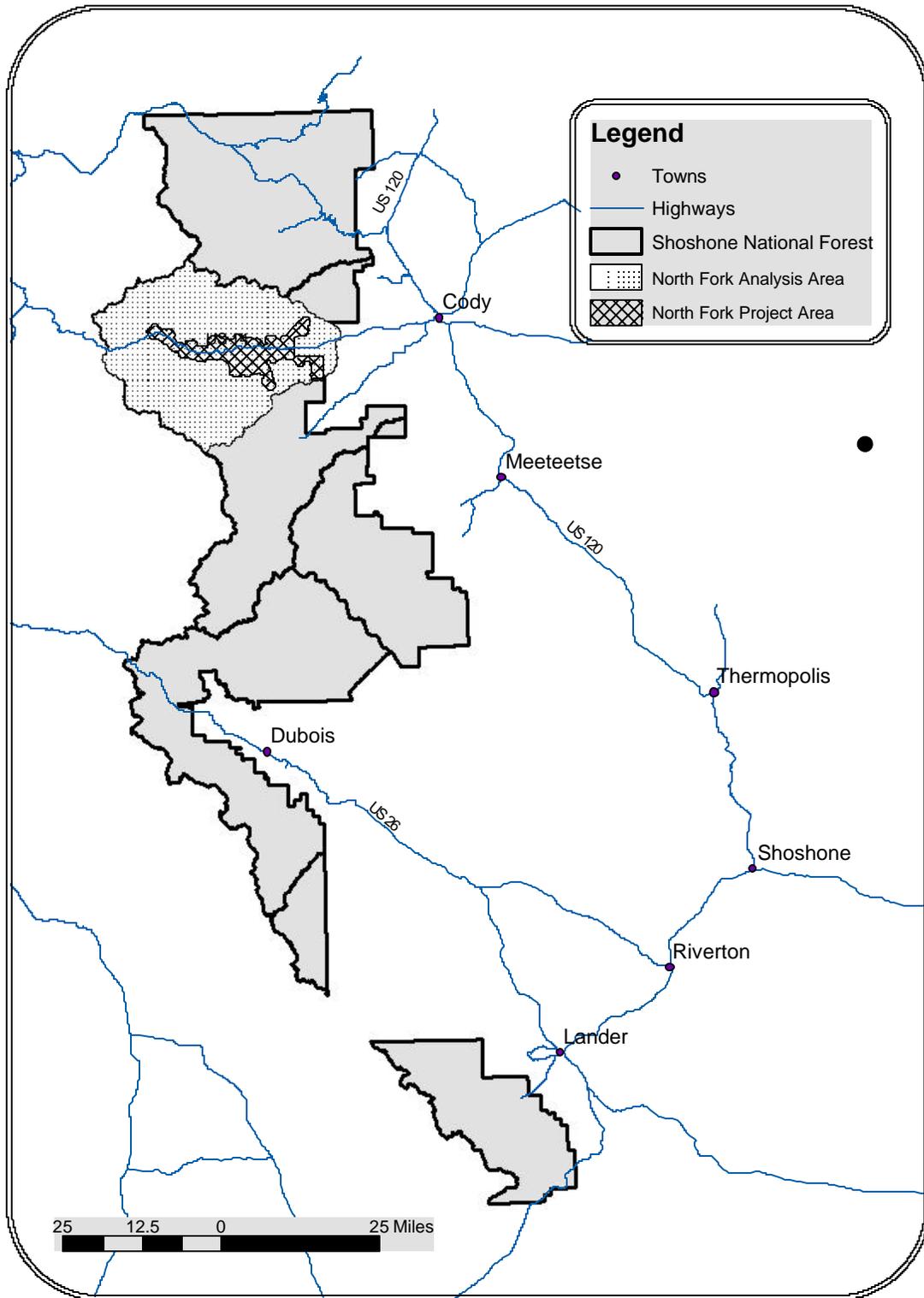
This landscape analysis area is approximately 418, 240 acres; part of this watershed includes a portion of Yellowstone National Park. All actions occur only on National Forest System Lands. The project area boundary is roughly a 0.5-mile buffer around the treatment units totaling about 69,459 acres.

Geographical Information Systems and other data and product accuracy may vary; therefore, the acreages used in the description of the proposed action and the alternatives throughout the document may vary by +/- 5%. This possible variance in acreage was considered in the effects analysis.

² Catastrophic relates primarily to social and economic values. A catastrophic wildfire may be well within the natural range of variability from a resource perspective, but could have catastrophic effects to economic and social values.

³ 90th Percentile refers to the fuel and weather conditions that occur during the fire season 90% of the time. In the NFDRS (National Fire Danger Rating System) it refers to a HIGH fire danger adjective rating. The 97th percentile refers to a VERY HIGH rating.

Figure 1. North Fork vicinity, including the North Fork vegetation management analysis and project area.



1.3 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, Chapter III of the Forest Plan includes a description of desired future conditions, goals, objectives, and standards and guidelines. The applicable Forest Plan management area designations are shown in Figure 2. Portions of the proposed treatment areas occur in each of these management areas listed.

Figure 2. Forest Plan management area designations.

Management Areas	Direction Summaries
1A) Developed Recreation Sites	Provides for developed recreation in existing and proposed campgrounds, picnic grounds, trailheads, visitor information centers, summer home groups and water based support facilities. Proposed sites (sites scheduled for development in the Plan) are managed to maintain site attractiveness until they are developed (Forest Plan III-104-106).
1B) Winter Sports Sites	Provides for downhill skiing on existing sites and maintains selected inventoried sites for future downhill skiing recreation opportunities (Forest Plan III-107-112).
1D) Utility Corridors	Provides for major oil and gas pipelines, major water transmission and slurry pipelines, electrical transmission lines and transcontinental telephone lines (Forest Plan III-114-117).
2A) Semi-primitive Motorized recreation	Provide for semi-primitive motorized recreation opportunities such as snowmobiling, four-wheel driving and motorcycling on roads and trails. Motorized travel may be seasonally prohibited or restricted to designated routes (Forest Plan III-118-123).
2B) Rural and Roaded Natural Recreation	Provide for rural and roaded natural recreation opportunities. Motorized and non-motorized recreation activities such as driving for pleasure, viewing scenery, picnicking, fishing, snowmobiling and cross-country skiing are possible. Conventional use of highway-type vehicles is provided for in design and construction of roads. Motorized travel may be prohibited or restricted to designated routes to protect physical and biological resources (Forest Plan III-124-131).
3A) Semi-primitive Nonmotorized Recreation	Provides for semi-primitive non-motorized recreation in both roaded and unroaded areas. Recreation opportunities such as hiking, horseback riding, hunting and cross-country skiing are available. Seasonal or permanent restrictions on human use may be applied. Areas (Forest Plan III-140-144).
4D) Aspen Management	Management emphasis is on maintaining and improving aspen sites. Other tree species, if present, are de-emphasized. Aspen is managed to produce wildlife habitat, wood products, visual quality, and plant and animal diversity. On larger areas, a variety of aspen stand ages, sizes, shapes, and interspersions are maintained. Both commercial and noncommercial treatments are applied. Diversity objectives are achieved by varying the size, age, shape, and interspersions of individual stands (Forest Plan III-153-157).

5A) Nonforested Big Game Winter Range	Provide for winter range in non-forested winter ranges for deer, elk, bighorn sheep and mountain goats. Treatments are applied to increase forage production of existing grass, forb and browse species or to alter plant species composition. Prescribed burning, seeding, spraying, planting and mechanical treatments may occur. Browse stands are regenerated to maintain a variety of age classes and species (Forest Plan III-158-162).
5B) Forested Big Game Winter Areas	Provide for forage and cover on winter ranges. Winter habitat for deer, elk, bighorn sheep and mountain goats is emphasized. Treatments to increase forage production or to create and maintain thermal and hiding cover for big game are applied (Forest Plan III-163--172).
7E) Wood Fiber Production	Provide for wood-fiber production and utilization of large round wood of a size and quality suitable for sawtimber (Forest Plan III-174-180).
8A) Pristine Wilderness	Provides for the protection and perpetuation of essentially pristine biophysical conditions and a high degree of solitude for both wildlife and humans with no perceptible evidence of past human use so that natural biological processes are not adversely or artificially changed over time by human use (Forest Plan III-181-184).
8B) Primitive Wilderness	Provides for the protection and perpetuation of natural biophysical conditions. On-site regulation of recreation use is minimal. Travel is cross-country or by use of low density trail systems (Forest Plan III-185-191).
8C) Semi-primitive Wilderness	Provide for the protection and perpetuation of essentially natural biophysical conditions inside wilderness boundaries. Solitude and a low level of encounters with other users or evidence of past use are not essential parts of the setting. Human travel is principal (Forest Plan III-193-198).
9A) Riparian Area Management	Riparian area management. Resource use will be managed to protect and maintain the riparian area. Vegetation treatment will enhance plant and animal diversity. Primitive, semi-primitive non-motorized, semi-primitive motorized, roaded natural and rural recreation opportunities can be provided. This prescription applies to all riparian areas located anywhere on the Forest, except those in wilderness, research natural areas, and special interest areas (Forest Plan III-207-222).

1.4 Purpose and Need

The purpose and need describes the need to meet a desired condition outlined in the Forest Plan. The existing situation and needs/opportunities are described in Sections 1.4.1 and 1.4.2.

1.4.1 Need for Action

The Forest Plan, Chapter III, includes direction for management of the Forest. This section compares the desired condition based on Forest Plan standards and guidelines to the conditions that currently exist in the analysis area (*see* Figure 3). The comparisons show where an opportunity for action exists.

Figure 3. Description of Forest Plan direction, existing conditions, and opportunities for the analysis area.

Forest Plan Direction	Existing Conditions	Opportunities/Needs
<p>Improve the health and vigor of vegetation types outside wilderness and selected types in wilderness where necessary (III-6).</p> <p>Protect life, property and resource values from wildfire in a cost-efficient manner that maximizes the benefits of shared resources and developing technologies (III-95).</p> <p>Provide cost-effective fire protection to minimize the combined costs of protection and damages and prevent loss of human life (III-10).</p> <p>Maintain fire dependent ecosystems using fires ignited naturally (III-41).</p> <p>Reduce the risk from wildfire or its consequences to life and property</p>	<p style="text-align: center;">Wildfire</p> <p>Current vegetation conditions are contributing to intense stand replacement crown fires putting life, property and other resource values along the North Fork corridor at high risk. These unhealthy forest conditions include dense expanses of even-aged, older late successional conifer species, with heavy accumulations of dead and down fuels with dense understory regeneration that provides ladder fuels for surface fires to torch and produce intense crown fires under low wind conditions.</p> <p>Stand replacement crown fires are costly to suppress and highly unpredictable putting firefighters and public safety at high risk during suppression and protection activities.</p> <p>Wildfire starts anywhere in the analysis area, but primarily south of the corridor, have the potential to grow large and threaten structures and developments in the North Fork corridor due to forest health and natural fuel accumulations.</p> <p>Natural fires are not allowed to play their natural role (primarily wilderness areas) due to the potential threats to structures and developments.</p> <p>The current insect epidemic is creating conditions conducive to intense stand replacing crown fires as well as future dead and down fuels that</p>	<p>Modify fire behavior characteristics such as fire intensity, rates of spread, flame lengths and torching and crowing potential through vegetation treatments along the corridor.</p> <p>Utilize mechanical harvest in accessible areas along the corridor to modify vegetation characteristics that create intense stand replacing crown fire that threatens structures, developments and resource values.</p> <p>Utilize prescribed fire where mechanical harvest is not practical in strategic locations to create a patchwork of vegetation that will modify fire behavior within the corridor as well as wildfires burning into the corridor.</p> <p>Treatment of vegetative conditions within and adjacent to the corridor will enhance opportunities for allowing natural ignited fires to play their natural role.</p>

Forest Plan Direction	Existing Conditions	Opportunities/Needs
<p>within wilderness or to resources, life or property outside wilderness using trained professionals in a cost efficient manner (III-41).</p> <p>Reduce the accumulation of natural fuels (III-8)</p> <p>Prescribed fire will be utilized as a vegetative and fuels management technique where it is the most cost effective and acceptable alternative to achieve management objectives (III-96)</p>	<p style="text-align: center;">Wildfire</p> <p>will add to the already heavy fuel accumulation creating uncharacteristically intense stand replacing surface fires.</p>	<p>Create defensible space and fuel profiles around structures and developments along the corridor that will decrease wildfire effects at the 90th percentile⁴ as well as reduce risk to firefighter and public safety.</p> <p>Restore corridor forest health by removing many of the dead, dying and highly susceptible trees to insect infestation, thinning dense overstocked stands, creating a mix of species and age classes that are more resistant to wildfire effects.</p>

⁴ 90th Percentile refers to the fuel and weather conditions that occur during the fire season 90% of the time. In the NFDRS (National Fire Danger Rating System) it refers to a HIGH fire danger adjective rating. The 97th percentile refers to a VERY HIGH rating.

1.4.2 Purpose for Action

Purpose and Need. The purpose of this project is to reduce the high wildfire potential on federal lands and the wildfire threat to private property and resource values in the North Fork corridor.

Based on review of the site-specific conditions and needs described in Section 1.4.1, the decision maker has chosen to focus on the following direction from the Forest Plan and other directives such as the National Fire Plan, the Healthy Forest Initiative and the Healthy Forests Restoration Act of 2003.

- Reduce the risk from wildfire or its consequences to life and property outside wilderness using trained professionals in a cost efficient manner.
- Protect life, property and resource values from wildfire in a cost-efficient manner that maximizes the benefits of shared resources and developing technologies.
- Provide cost-effective fire protection to minimize the combined costs of protection and damages and prevent loss of human life.
- Reduce the accumulation of natural fuels.
- Improve the health and vigor of vegetation types outside wilderness.
- Maintain fire dependent ecosystems using fire ignited naturally.
- Prescribed fire will be utilized as a vegetative and fuels management technique where it is the most cost effective and acceptable alternative to achieve management objectives.
- Maintain municipal watershed and water quality.
- Provide for winter range in non-forested winter ranges for deer, elk, and bighorn sheep. Browse stands are regenerated to maintain a variety of age classes and species (Forest Plan III-158-162).
- Provide for forage and cover on forested winter ranges. Winter habitat for deer, elk, and bighorn sheep is emphasized. (Forest Plan III-163-172).

On December 3, 2003, President Bush signed into laws the Healthy Forests Restoration Act of 2003 (HFRA) to reduce the threat of destructive wildfires, this legislation helps to further the President's Healthy Forests Initiative to care for forests and rangelands, reduce the risk of fire to communities, help save the lives of firefighters and citizens, and protect threatened and endangered species (Federal Register/Vol. 69, No. 6). In line with HFRA, the primary purposes for action in the North Fork are fuels reduction, wildlife habitat enhancement and forest health. The primary purpose will vary in different treatment areas, but for efficiency, it is logical to pursue all purposes simultaneously to capitalize upon the economies of large-scale treatment and to minimize the duration of disturbance activities on wildlife.

The project area encompasses a designated wildland/urban interface "community" within the vicinity of federal lands that are at high risk from wildfire. These "Communities at Risk" (under the National Fire Plan (Federal Register Vol. 66, No. 3) are high priority areas as much of the project area has high-risk fire regimes and is classified as fire condition classes 2.⁵ The fire regimes in these condition classes have been moderately altered from their historical fire frequencies. To restore their historical fire regimes, these lands require some level of restoration through mechanical and prescribed fire treatments (*Integrating Fire and Natural Resource Management-A Cohesive Strategy for Protecting People by Restoring Land Health, DOI, March 2001 Draft*).

Existing Conditions. The existing conditions are summarized below, highlighted in Section 1.4.1 and discussed in detail in Chapter 3. Opportunities/needs are also identified in this Section 1.4.1.

⁵ Condition class 2 areas are lands under which the fire regimes have been moderately altered from historical ranges. There exists a moderate risk of losing key ecosystems from fire; fire frequencies have departed from historical frequencies by multiple return intervals, resulting in moderate changes to the size, frequency, intensity, or severity of fires or landscape patterns and vegetation attributes have been moderately altered from historical range of the attributes.

Management actions for fuel reduction, wildlife habitat maintenance and enhancement, and forest health are needed, as the current situation does not meet the desired condition(s) for the area. Fuel reduction treatments are needed as demonstrated by the increased number of devastating stand replacement crown fires and the increase in areas categorized as high risk due to the insect mortality and fuel loads. Strategies to implement fire risk reduction activities are developed and analyzed in this document. The rationale for the proposed action is based on the need to reduce the risk of high-intensity wildland fire to private property values while providing for firefighter and public safety and better protection of lives and property, communities and municipal watersheds, and ecosystems. Values at risk, include:

- Approximately 68 recreation residences (summer homes) in 14 recreation residences groups totaling 162 buildings.
- 12 special uses lodges/resorts complexes totaling 230 buildings with cabins, sheds, etc.
- One organizational camp and lodges and one roadside chapel.
- Recreation facilities: ten trailheads, eight campgrounds, winter sports/ski area, three picnic areas, Wayside Visitor Center and a scenic byway.
- The historic Wapiti Ranger Station and other National Register sites.
- Twelve utility corridors, 37.9 miles of power poles and lines, and buried phone cables and boxes with above ground poles and lines that cross waterways.
- Miscellaneous: Two river rafting use sites, out buildings, storage sheds, garages, barns, corrals, out houses, radio repeater, fire memorial, etc.
- Inventory of all buildings, improvements, and infrastructure totals 462 individual buildings/developments.

All of these developments are on National Forest System lands. Many of the lodges are eligible for the National Register of Historic Places. Additionally, the Buffalo Bill Cody Scenic Highway provides the only ingress/egress through the east entrance to Yellowstone National Park via Cody, Wyoming. The infrastructure in much of the area is such that firefighting capabilities are limited or hindered by narrow, dead end roads, and one-way in/out routes.

The reoccurring drought conditions exacerbate the risk of wildfire and human health and safety concerns and forest health conditions such as insect epidemics and excessive fuel levels.

Much of the forest in the North Fork corridor is older, consisting of mature to over mature stands at the end of the successional process. This makes trees highly susceptible to wildfire and insect and disease attacks, particularly during drought. A high percentage of the trees are dead and dying throughout the North Fork corridor, creating hazardous conditions conducive for intense crown fires particularly where the red needles are still attached to the trees in close proximity to the developments and values at risk above. Where needles have fallen off the trees, fire behavior is significantly reduced but in time when the trees begin falling and accumulating on the ground, intense stand replacing surface fires can be expected.

From a habitat standpoint, the conifer trees are colonizing open meadows and aspen stands, reducing the occurrence of these habitat types in the area. From an economic feasibility standpoint, the dead trees in the project area will rapidly decay to an unmerchantable condition. Actions would move fuels/vegetation toward desired conditions, primarily through tools such as prescribed fire and mechanical methods such as commercial timber harvest.

The proposed action and action alternatives are designed (*see* Section 2.2) to reduce hazardous fuels while minimizing the affect to other resource values such as wildlife, recreation, and watershed. The project would change current vegetation trends to begin moving the area toward the desired vegetation conditions of improved forest health and decreased risk of catastrophic fire.

Desired Conditions. The purpose and need is focused primarily on reducing hazardous fuels in the wildland-urban interface. The objectives are to: 1) decrease the vegetative conditions that lend themselves to crown fires, 2) lower the spread and intensity of wildfires within the corridor, and 3) increase firefighter and public safety and protection of structures and developments. The desired conditions are formulated with these objectives in mind. The desired conditions are:

- The health and vigor of the vegetation would be enhanced with a mix of species and age classes that are and more resilient to insects, disease and wildfire effects.
- Spacing between tree canopies will become more open (40 and 80 square feet of basal area per acre); increased space between canopies reduces the spread of wildfire from one tree to another in crown fires.
- Canopy base height⁶ would be increased effecting a change in torching probability and crown fire potential.
- Grasslands and meadows with a reduced number of colonizing trees to provide for defensible space around facilities. Structure ignitability will be reduced through collaboration and training with owners to increase survivability.
- Reduced fuel levels that increase the likelihood of protecting property and resource values from substantial losses caused by future fires.
- Low levels of downed logs and woody fuels (less than 15 tons/acre) with coarse woody debris sufficient to maintain soil productivity and other resource values.
- Habitat for threatened and endangered species, MIS (management indicator species) and sensitive species, and big game is maintained or improved.
- Maintain/improve transition, wintering, and birthing habitat for bighorn sheep.
- Reduce the amount of excessive conifer invasion into meadows, sagebrush/grassland and riparian zones in selected areas to maintain or enhance wildlife habitat.
- Rejuvenate decadent stands of deciduous vegetation on sites with at least moderate productivity
- Treat decadent stands of sagebrush on sites with at least moderate productivity to set back succession
- Enhance the distribution of seral stages (progressive development of vegetation from grass-forb, shrub-seedling, pole-sapling, young, mature, and overmature) within selected areas
- Restore wildfire as a natural disturbance process (allows natural role of fire in wilderness areas) for remote parts of the North Fork area.
- Return targeted wetlands and riparian areas to an earlier seral stage.
- Municipal watershed and water quality is maintained in good condition.
- In the long term, visual resource conditions are maintained/enhanced.

1.5 Proposed Action

A proposed action is defined early in the project-level planning process. This serves as a starting point for the IDT, and gives the public and other agencies specific information on which to focus comments.

This proposed action is initiated by the Wapiti Ranger District of the Shoshone National Forest, with the intent to begin implementation of the project in the fall of 2004 at the earliest. The project analysis area for the proposed action is located west of Cody, Wyoming in the North Fork Shoshone River corridor.

Proposed activities are tied to the purpose and need in Sections 1.4.1 and 1.4.2 and are summarized below. Additional details and other connected activities are discussed in Chapter 2.

The proposed action can be summarized as using prescribed fire and/or mechanical treatment⁷ methods for fuel treatments, fire behavior modification and habitat enhancement. The primary activities and approximate acreages to be implemented over about the next ten years or more are:

- Mechanical treatments for fuel reduction on 1, 353 acres in 31 units.
- Hazard tree removal on about 209 acres along the power line corridor.
- Mechanical treatments for forest health in suited timber base on 113 acres in two units.
- Mechanical treatments for wildlife on 241 acres in 12 units.
- Mechanical and prescribed burning treatments for fuel reduction on 200 acres in five units.
- Mechanical and prescribed burning treatments for wildlife on 270 acres in 19 units.

⁶ Canopy base height – the lowest level above the ground at which there is sufficient amount of canopy fuel to propagate fire vertically into the canopy. Canopy base height is an effective value that incorporates ladder fuels such as shrubs and understory trees.

⁷ Mechanical treatments include all methods of modifying the fuels profile except for fire use applications, chemical treatments and livestock grazing. Mechanical treatments include: tree removal, tree thinning, scattering, chipping, piling, felling and piling, and crushing.

- Prescribed burning treatments for wildlife habitat enhancement on 4, 898 acres in 11 units.
- Prescribed burning treatments for fuel reductions on 8,586 acres in 38 units around 45 developed areas (Wildland-Urban Interface).
- Mechanical treatments would produce approximately 10 million board foot (MMBF) of timber.

Prescribed burning treatments for fuel reduction would occur in RARE II areas and wilderness areas.

The proposed action would enhance the defensibility of the developments in the corridor but would not prevent the possibility of a large wildfire occurring in the North Fork drainage. The proposed action would have a limited effect on the current insect and disease problems in the drainage. Much of the area is in wilderness, RARE II areas, or has operability problems in terms of access, slope, river crossings, etc. However, these projects can reduce hazardous fuels in priority areas such as areas with high resource values or private property or developments.

1.6 Public Involvement

The proposal was listed in the Schedule of Proposed Actions report. The proposal was provided to the public and other agencies for comment during the scoping period January 27 to March 1, 2003. The scoping notice was also available online at <http://www.fs.fed.us/r2/shoshone/projects/>.

Using the comments from the public, other agencies, and tribes, the IDT developed a list of key issues to address and activities to implement.

Documentation, such as mail lists, correspondence, news releases, newspaper articles, etc. are found in the project file. All comments received through scoping and the public involvement processes were considered in developing the issues and alternatives, which directed the analysis process.

- Scoping is to determine the scope of the issues to be addressed and to identify significant issues related to the proposed action (40 CFR 1501.7). Public involvement began during the summer of 2002, when three public meetings were held. A proposal to reduce hazardous fuels in the North Fork was listed in the Schedule of Proposed Actions. The proposal was provided to the public and other agencies for comment during scoping; public involvement and collaboration efforts included:
 - Media and congressional representatives tour/newspaper articles
 - Forest officials and WY G&F appeared on local radio talk show
 - Public meeting on June 27th, 2002 with about 150 in attendance
 - July 13th, 2002 bus tour of the North Fork Corridor with approximately 50 attending
 - September 7, 2002, public meeting to develop goals and prioritize projects in the North Fork
 - January 27, 2003 scoping letter for the North Fork corridor sent out
 - Ongoing coordination and implementation of small projects in cooperation with cabin owners and lodge owners (Blackwater Lodge, Boy Scout Camp, Eagle Creek area, summer home groups)
 - September 3, 2003 presentation on the North Fork projects to the Cody Chamber of Commerce
 - Update letter sent out November 20, 2003 on the North Fork Hazardous Fuels Reduction projects
 - Field visit to the North Fork and Eagle Creek area with Wyoming Outdoor Council and Greater Yellowstone Coalition (GYC) representatives
 - Presented to the Level 1 team at the December 15, 16 2003 meeting. (USFWS).
 - District Ranger occurred on local radio talk show (December 16, 2003)
 - District Ranger met with Park County Commissioners (December 17, 2003)
 - Articles and open house notices in Cody and Powell newspapers
 - Open house held on December 17, 2003 on the North Fork Hazardous Fuels Reduction projects, including Eagle Creek project area, with 30 in attendance
 - Met with new GYC staff person in Cody (3/23/04)

Scoping/Collaboration. Public involvement began during the summer of 2002, when three public meetings were held (as described above). A proposal to reduce hazardous fuels in the North Fork and its progress

was listed in the Schedule of Proposed Actions for the past several years. The proposal was provided to the public and other agencies for comment during scoping.

In addition to the general public and interested parties, these agencies, organizations and persons were contacted over the last several years through scoping or other means: Yellowstone National Park, BLM, USFWS, State of Wyoming, county commissioners, chamber of commerce, congressional representatives, rural fire districts, land owners, timber industry, recreation and tourism industry, user groups such as Backcountry Horsemen and Trout Unlimited, environmental groups, realtors, commercial fuelwood cutters, and recreation residences and lodge owners. The Wyoming Game and Fish Department assisted with planning the public involvement and participated in key collaboration efforts.

1.7 Issues

Issues are often cause and effect relationships associated with the proposed action. They are generally points of dispute or contention, or areas of uncertainty relative to a proposal. Public input helped determine the issues relative to the physical, biological, social, and economic resources, and design criteria that were responsive to issues and concerns was incorporated into the design of this proposal. Issues define perceived or real potential conflicts or problems to be addressed or resolved by the analysis. Although there were many issues or areas of concern relative to this proposal, the following were the primary subjects determined to be key issues.

1.7.1 Key Issues

The key issues are those issues that the decision maker needs to consider in selecting an alternative. The key issues include significant issues as defined in NEPA regulations (40 CFR 1500.4[1]) that are used in the development of alternatives to the proposed action. The key issues received the most public and internal specialist concern. Guided by the Forest Plan, the IDT developed project design features and alternatives to the proposed action to address the key issues, comments, and concerns identified during scoping (*see* Appendix B).

Key issues were put in the form of issue statements. Each is an objective statement that defines the specific conflict, problem, or point of uncertainty that was analyzed, evaluated, and resolved. Issue statements defined the issues so they could be objectively analyzed. Key issues are within the scope of the project decision and can be tracked through the document. Most issues have indicators for display of effects. Indicators are measures and standards by which the effects of the differing alternatives can be quantified, displayed, and compared.

Although there were many issues or areas of concern relative to this proposal, the following were the primary subjects determined to be key issues:

Issue Statement # 1 – Wildfire

There is a concern about the high to extreme fire hazard on the North Fork as a result of the current insect infestation, late successional forests, drought conditions and fuel accumulations due to past suppression practices. The current forest conditions have the potential to put many of the buildings and developments at a risk of burning as well as altering wildlife habitat, visual settings and recreational experiences causing major impacts to the social and economic conditions in the area.

There are points of contention as to the role of wildfire as a natural process within the ecosystem, the environmental and social effects of wildland fire in comparison to the effects of fuel reduction methodologies, and the actual effectiveness of such strategies.

Indicator(s): Potential effects of the different alternatives will be estimated based upon:

- Number of developed sites having suppression capability enhanced by creation of defensible space.
- Acres demonstrating a change in fire behavior in relation to fire size, fire effects, flame lengths, rates of spread, and torching and crowning potential.

- Change in project area suppression capability in relation to resistance to control, firefighter and public safety.

Issue Statement # 2 – RARE II Areas

There is concern that entry into RARE II areas for mechanical treatment of vegetation, especially activities that require road construction (including temporary roads), activities that employ mechanical methods, or activities that require timber harvest/product removal could adversely impact the wild character, natural settings, ecosystem processes, vegetation characteristics, secure wildlife habitat values, and unmodified (by humans) visual aspects of the areas. In addition, there is much unsettled controversy relative to roads and harvest or fuel treatments in RARE II.

Indicator(s): Potential effects of the different alternatives will be estimated based upon:

- Acres/Percent of RARE II affected by mechanical treatments for fuels
- Miles of temporary roads within RARE II

Issue Statement # 3 – Wildlife

There is concern that conifer encroachment has become excessive on bighorn sheep transition and winter ranges near escape cover and within movement corridors. In addition, there is concern that the amount and/or condition of deciduous vegetation (cottonwood, aspen, and other woody species) within and adjacent to some riparian areas may be declining due to advancing succession.

There is concern that activities associated with mechanical treatment of vegetation and prescribed burning, especially activities that require temporary road construction, road reconstruction, or reoccurring helicopter activity has the potential to adversely affect wildlife and their habitats, especially wintering and birthing areas for big game as well as areas of secure habitat for grizzly bears during the non-denning period. Roads and the use associated with improved access has the potential to disturb and displace wildlife, hinder movement and alter movement patterns for some larger ranging species, and decrease wildlife habitat effectiveness.

Indicator(s): Potential effects of the different alternatives will be estimated based upon:

- Acres of big game habitat where encroachment is reduced and/or forage improved
- Acres of riparian deciduous vegetation (cottonwood and shrubs) enhanced
- Acres of secure habitat inside grizzly bear recovery area temporarily impacted by temporary roads
- Acres of secure wildlife habitat temporarily impacted by temporary roads within analysis area

Issue Statement # 4 – Soil, Water, and Aquatic Resources

There is concern about the possible effects of mechanical treatment, road building, and prescribed burns on soil, water, and aquatic resources (e.g. excessive erosion and sedimentation delivered to the stream system). Specifically, there is concern relative to the type and locations of river crossings, location and amount of roads required, location and amount of mechanical treatment, and the location and extent of prescribed burns, including the timing of these activities. Roads and other disturbed soils can experience erosion. Disturbed areas located near streams can deliver excessive sediment directly to streams.

Indicator(s): Potential effects of the different alternatives will be estimated based upon:

- Miles of temporary roads, in particular, the lengths of temporary roads along streams including period of use
- Number, type (i.e. low water fords, bridges, etc), timing, and locations of stream crossings
- Acres treated by mechanical methods and timing of these activities
- Acres treated through prescribed burns and timing of these activities

1.7.2 Other Issues and Concerns

Other issues and concerns raised were considered by the IDT and are summarized and responded to in Appendix B. Many of these were addressed in the EA through changes or additions to the proposals, mitigation measures, or the display of additional information in the analysis.

All issues, concerns, and questions were given in-depth review and consideration, however only key issues were analyzed in detail. A number of issues and concerns other than those determined to be key issues surfaced relative to this proposal. These issues, while valid and important, were determined to be not significant within the context of the NEPA process. That is, they did not specifically drive the formulation of alternatives; therefore, they were not analyzed in depth. Reasons are that the issue:

- Is outside the scope of the proposal or cannot be addressed at the project level (i.e. is a Forest Plan issue)
- Is already decided or related to non-discretionary standards (by law, Forest Plan, etc.)
- Is irrelevant to the decision (i.e. the issue exists whether or not the proposal is implemented)
- Is conjectural and not supported by scientific evidence
- Is not essential for a reasoned choice among alternatives for the project

Many of these issues or concerns related to non-discretionary standards and mitigation/conservation measures that will be implemented as an essential part of any management action in this area. These non-discretionary measures, standards, BMPs, etc. are required by law, regulation, Forest Plan, and other mandated direction and will be implemented if any of the action alternatives are implemented. Therefore, as there is no option relative to their application, they are not key issues. Each of these issues and concerns will be addressed in some manner, and effects relative to each will be disclosed within the document as required.

There is concern about the spread of invasive species and noxious weeds in the North Fork corridor, especially in disturbed areas such as temporary roads, prescribed burn and mechanical treatment units. Monitoring has shown a substantial increase in invasive species or weed expansion in the North Fork (Forest-wide Weed Coverage Map). Although invasive species and noxious weeds did not drive the development of a new alternative, the effects of the action alternatives will be displayed and project design features implemented to minimize the threat of the spread on invasive species.

There is concern about the possible short and long-term effects of mechanical treatment, road building, and prescribed burns on recreation settings and experiences, including recreation residence, lodges and other permit holders such as outfitters. Visual resources, tourism and socio-economics are also concerns, specifically negative economic impact if a large fire forced a lengthy closure of the east gate to Yellowstone National Park and the affect to local economies, lodge owners, outfitters and summer homeowners of such an action.

1.8 Decision Framework

An EA is not a decision document. The purpose of this document is to disclose the effects and consequences of the proposed action and alternatives and to solicit public input. The responsible line officer will make a decision based on consideration of the purpose and need for the project, the effects of the alternatives, and public involvement.

For this project the responsible official, Forest Supervisor Rebecca Aus, must decide:

- Whether to implement the proposed action, alternatives to the proposed action, or the no action alternative. The decision will be documented in a Decision Notice that will be issued no sooner than 30 days after the EA is distributed for public review and comment.
- Whether to prepare an environmental impact statement. If the environmental analysis indicates to the decision maker that impacts associated with the alternatives are not significant, then she will make a finding (Finding of No Significant Impact (FONSI), 40 CFR 1508.13) that allows the action to proceed without preparing an environmental impact statement.
- Whether site-specific Forest Plan amendment(s) are required for implementation, the nature of the amendment(s), and whether the amendment(s) would be a significant change to the Forest Plan.