WILLOW CREEK
SALVAGE AND FUELS REDUCTION PROJECT

General Description of Analysis Area

The Willow Creek Salvage and Fuels Reduction Project analysis area encompasses six geographic areas including: Bowen, Buffalo Park, Cabin Creek, Little Gravel, Never Summer Wilderness, and Parkca, from the 1997 Revision of the Land and Resource Management Plan for the Arapaho and Roosevelt National Forests and Pawnee National Grassland (Forest Plan). The 71,481-acre analysis area includes National Forest System (NFS) lands between Willow Creek Pass on the north, Hot Sulphur Springs on the south, the Routt National Forest on the west, and the Gravel Mountain area on the east. The primary access for the project area is State Highway 125 and Forest System Roads (FSR). The analysis area contains 70,788 acres of NFS lands and 693 acres of private land, with a portion of NFS lands within a Wildland Urban Interface (WUI) described in the 2006 Grand County Community Wildfire Protection Plan (CWPP). In addition to the WUI described in the CWPP, much of the private property located within and adjacent to the analysis area is developed, including King Mountain Ranch, a commercial resort that provides lodging and other services on private and Forest Service land. Utility corridors are present that provide power and other services to developed private property along Willow Creek and Buffalo Creek. The analysis area contains the Never Summer Wilderness, Bowen Gulch Protection Area, and several inventoried roadless areas (See Table 1). Although no commercial timber harvest is proposed for Inventoried Roadless Areas (IRA), fuel reduction/defensible space activities and the use of prescribed or natural fire to manage vegetation within Inventoried Roadless Areas are part of the Proposed Action.

Table 1. Congressionally Designated Areas (CDA) and Inventoried Roadless Areas (IRA)

<table>
<thead>
<tr>
<th>Area</th>
<th>Acres</th>
<th>Percent of Analysis Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>Never Summer Wilderness</td>
<td>2,249</td>
<td>3</td>
</tr>
<tr>
<td>Bowen Gulch Protection Area</td>
<td>2,955</td>
<td>4</td>
</tr>
<tr>
<td>Gold Run IRA</td>
<td>5,709</td>
<td>8</td>
</tr>
<tr>
<td>Never Summer Adjacent Area IRA</td>
<td>10,367</td>
<td>15</td>
</tr>
<tr>
<td>Troublesome IRA</td>
<td>13,833</td>
<td>19</td>
</tr>
<tr>
<td>NFS Lands not in CDA or IRA</td>
<td>35,675</td>
<td>50</td>
</tr>
<tr>
<td>Private</td>
<td>693</td>
<td>1</td>
</tr>
<tr>
<td>TOTAL</td>
<td>71,481</td>
<td>100</td>
</tr>
</tbody>
</table>

Much of the analysis area is characterized by continuous stands of mature, even-aged lodgepole pine that has been under attack from a region wide mountain pine beetle epidemic. Over the last few years most mature lodgepole pine stands within the analysis area and adjacent private land have experiences mortality rates of greater than 90 percent.

The area contains two developed campgrounds that are operated by concessionaire, and heavily used dispersed camping areas throughout the analysis area. Also, there are several recreational summer residences on NFS lands near the junction of State Hwy. 125 and NFSR108 (Buffalo
Creek Road). An extensive open road and trail system in the area provides numerous recreational opportunities for both summer and winter activities.

There are approximately 196 miles of motorized routes within the analysis area, a density of 1.77 miles of road per square mile. Of the 196 miles of routes, 133 miles are National Forest System Roads (98 miles of which are currently open to the public) and 63 are unauthorized or unclassified routes that are not a part of the Forest’s transportation system and receive no maintenance. The road and trail system developed over time and is a mix of arterial roads, old logging roads, user-created roads, designed trails, and user-created trails.

Management Direction

The 1997 Revision of the Land and Resource Management Plan for the Arapaho & Roosevelt National Forests and Pawnee National Grassland (Forest Plan) contains specific management direction for the NFS lands in this area. General direction (paraphrased to fit all geographic areas within the project area) for management of the area, includes (pages 285-321):

- Timber harvests would not occur in Never Summer Wilderness, Bowen Gulch Protection area.
- A full range of silvicultural and harvest practices are likely to occur in areas allowed by the Forest Plan.
- Accept insect and disease losses unless they threaten other ownership or cause unacceptable resource damage.
- Maintain and improve the aspen component to provide for species diversity and associated wildlife habitat.
- Maintain and enhance motorized and nonmotorized recreational opportunities and mitigate between user groups.
- Encourage motorized travel along main roadways only to perpetuate roadless character of surrounding area.
- Maintain and enhance summer range by maintaining road closures and controlling motorized use on tundra to protect summer range. Close roads not identified on the travel management plan for motorized use to increase habitat effectiveness for elk.
- Emphasize watershed rehabilitation where road densities are excessive and are contributing to watershed degradation. This would include road closure and obliterations or limits to motorized use.
- Manage part of the area for the Grand Lake Trail snowmobile trail system.

The 36 CFR Part 294 2001 Roadless Area Conservation Final Rule (Roadless Rule) identifies when an IRA can be entered to remove or treat timber.

The Roadless Rule, in section 294.13, prohibits the cutting, sale, or removal of timber in an IRA except under certain, specified conditions. An exception to this prohibition occurs, and timber may be cut, sold, or removed in an IRA if the Responsible Official determines that:
The cutting, sale, or removal of generally small diameter timber is needed for one of the following purposes and would maintain or improve one or more of the roadless area characteristics as defined in section 294.11:

- To maintain or restore the characteristics of ecosystem composition and structure, such as to reduce the risk of uncharacteristic wildfire effects, within the range of variability that would be expected to occur under natural disturbance regimes of the current climatic period;

Forest Service Identified Issues

Mountain Pine Beetle Infestation: Most of the larger, mature lodgepole pine trees within or adjacent to the analysis area have been killed by the mountain pine beetle.

Fuels/fire hazard: If action is not taken to reduce the current and potential forest fuels accumulation resulting from the MPB infestation, the fire hazard would increase in areas of urban interface as well as increase the hazard of a high intensity/high severity wildfire that could degrade natural resources on the landscape.

Recreation: Extensive tree mortality from the MPB epidemic may degrade the forested setting that recreationists enjoy. Salvaging the dead timber and reducing the fire hazard may affect the natural forest character of the recreation setting of trails, roads, campsites, and vistas. Also, efforts made to salvage the MPB killed lodgepole pine trees within the analysis area may detrimentally affect the views from State Highway 125 and the neighboring communities.

Public Safety: The mountain pine beetle infestation is resulting in an increase in the hazard to public safety from the many miles of roads, developed and dispersed recreation sites, and utility corridors that are surrounded by dead trees.

Wildlife: As lodgepole pine trees die from MPB infestation, forest stands that provide hiding and security cover from human disturbance for wildlife become less effective. Timber harvest and fuel reduction projects would further open these forest stands, widening the disturbance corridors along roads and trails, and likely increase access by recreationists into wildlife habitats. Habitat effectiveness for many wildlife species is expected to decline as the cumulative effects of recreation use, MPB infestation, and timber/fuel treatments interact in the analysis area, and a decrease in use by these species in areas with high recreation use is likely.

Intermix: While only a small portion of the analysis area is within the Granby/Hot Sulphur Springs WUI, there are areas of developed private property located within or adjacent to the National Forest. The beetle infestation ignored ownership boundaries, and many landowners are taking steps to reduce the effects of the MPB infestation on their property and want to see the Forest Service complement their efforts by taking similar steps on federal lands. Some private property owners cannot create defensible space for wildfire around their property without treatment on adjacent federal lands, and want to see the work on their land complemented with work on adjacent federal lands.
Purpose and Need for Action ________________________________________________

The purpose of this initiative is to:

- Salvage recently beetle killed lodgepole pine before it loses its marketable value,
- Potentially lessen the effects of a wildfire on private property and watersheds due to hazardous fuel loading,
- Reduce the hazard from dead trees along roadsides, developed and dispersed recreation areas, utility corridors, and administrative sites, resulting from high level of lodgepole pine mortality from MPB,
- Maintain, restore or improve wildlife habitat and watershed conditions in the long term through road and trail management, aspen expansion, and shrub rejuvenation, and
- Maintain, restore, or improve ecological functions in the area by allowing the management of some naturally ignited wildfires for resource benefit.

These actions are needed because:

- Beetle-killed lodgepole pine trees will deteriorate and lose their value as sawtimber, and the ability to sell the trees as sawtimber helps reduce the cost of the required fuels, reduction work.
- The project area is dominated by mature lodgepole pine forests characterized by a low frequency, stand replacement fire regime. The area experienced a MPB epidemic that killed much of the lodgepole pine in the area. High volumes of fuels from MPB mortality would lead to high intensity and, potentially, higher severity wildfires. Extreme fire behavior creates safety concerns for fire fighters, residents and visitors, and potential degradation of resource values,
- Existing hazardous fuels concentrations near and adjacent to the forest boundary are concerns because of the development on private land within and bordering the forest,
- As a result of dead and dying trees there is an increase in the number of hazard trees along open Forest System Roads and other high use recreation areas that could be a threat to users of the roads including impeding evacuation routes and emergency responding vehicles,
- The area’s road system is compromising wildlife habitat effectiveness and contributing sediment into streams. The additional impact from the MPB infestation and the vegetation management treatments could intensify the effects,
- There is a need to allow management of some naturally ignited fires, to reduce the fuel loading created by mountain pine beetle induced mortality, and enhance regeneration of lodgepole pine and other species to increase diversity.

Proposed Action ________________________________________________

The Forest Service proposes to salvage beetle killed lodgepole pine, to reduce the hazardous fuels accumulation, to remove a threat to public safety through removal of hazard trees, to maintain wildlife habitat and watershed condition through management of the district’s transportation system, and allow naturally ignited fires to run their course in remote areas of the landscape through forest management activities in the following key areas on NFS lands within the analysis area:
• Where there are high numbers of beetle killed lodgepole pine, or where hazardous fuels reduction treatments would be beneficial to development on nearby private or public land,
• Adjacent to private property to complement treatment efforts on private lands,
• Where high number of beetle killed lodgepole pine have created a hazardous condition for public safety including along open roads, developed and dispersed recreation areas, and improvements such as utilities,
• Travel routes that are causing negative impacts on wildlife and watershed and that are not required for recreation and management access,
• Use of naturally started fires in remote areas that have a high level of tree mortality from beetle infestations, and cannot be treated by timber harvest or other means to reduce the hazardous fuel situation.

Vegetation Management
Timber Harvest, Fuel Reduction and Hazard Tree Removal: Vegetation treatments would be designed to complement recreation, wildlife, watershed and scenic resource values where possible, and would help meet the objectives of salvaging the beetle-killed timber and reducing hazardous fuel accumulation. Treatments include commercial salvage of lodgepole pine, noncommercial removal of hazardous fuels in stands adjacent to developed private property, and removal of hazard trees along open roads and other high use recreation areas. Proposed treatment methods include:
• Cutting and removing dead trees, primarily in clearcuts, to salvage beetle killed lodgepole pine and to reduce hazardous fuel accumulations.
• Cutting and removing dead trees to create a fuel break and create defensible space in areas near structures and other private property.
• Burning or removing logging-generated slash to reduce fuels and/or to stimulate aspen regeneration.
• Cutting and removing hazard trees for up to 200 feet along either side of open roads, developed and dispersed recreational areas, and areas of improvements such as utility corridors.

Approximately 4,002 acres (See Table 2) are identified for commercial salvage harvest or noncommercial fuels reduction treatment (see Vegetation Management Proposed Action Map). Proposed treatments include: commercial salvage of lodgepole pine stands with ground based logging equipment, and non commercial fuels treatments that would remove hazardous fuels such as dead trees and ladder fuels from around private property or areas with no access. An estimated 30 acres of fuels reduction/defensible space work is proposed for some areas within the Troublesome IRA that are adjacent to developed private property and recreational residences on the Forest. Trees to be retained would include uninfested non lodgepole pine species that are not needed to be removed to accomplish objectives. Also as much advanced tree regeneration of any species as possible would be left. Roadside hazard tree removal would consist of commercial harvest of all trees that could fall onto open roads, including non lodgepole pine species if they are at risk of windthrow, while advanced tree regeneration would be retained.
Table 2. Vegetation treatments identified in the Proposed Action All acres are approximate.

<table>
<thead>
<tr>
<th>Proposed Treatment</th>
<th>Acres Proposed for Treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Salvage Clearcut with reserves</td>
<td>3,258</td>
</tr>
<tr>
<td>Overstory Removal</td>
<td>484</td>
</tr>
<tr>
<td>Group Selection/Salvage</td>
<td>36</td>
</tr>
<tr>
<td>Roadside Hazard Tree Removal</td>
<td>13</td>
</tr>
<tr>
<td>Fuels mitigation/shaded fuel break</td>
<td>181</td>
</tr>
<tr>
<td>Fuels mitigation in roadless</td>
<td>30</td>
</tr>
<tr>
<td><strong>Total acres proposed for treatment</strong></td>
<td><strong>4,002</strong></td>
</tr>
</tbody>
</table>

Slash treatments would include lop and scatter, whole tree yarding, and piling of landing slash for later burning or removal by the Forest Service. In addition, for fuels mitigation treatments the slash would be disposed of by chipping, piling, or other method to further reduce fuels in areas around private property development. Most units will resemble a clearcut with scattered advanced natural regeneration and snags after harvest. Vegetation would be restored by natural regeneration.

Most proposed timber harvests are accessible by existing roads, however there are about 700 acres of commercial timber between the Kaufmann Creek Road and State Hwy. 125 (See Vegetation Management Proposed Action Map), that would require an estimated 8 miles of specified new road construction. These roads would be closed to the public during and immediately after harvest, then parts or all of the road would be obliterated after post sale improvement activities, possibly up to 10 years after harvest. The remainder of the treatment areas would be accessed by existing roads and by constructing approximately 9 miles of temporary roads that would be closed with recontouring and seeding after harvest.

Prescribed Fire: The Forest Service proposes to make 42,896 acres of forest and shrubland available for prescribed burning, over a multi-year period (See Potential Prescribed Fire Areas Map). It is expected that prescribed fire would not burn every acre in the treatment area, but would be allowed to run its course based on topography and climate conditions and would be controlled by fire breaks and equipment during implementation. These burns would only be implemented when pre-established conditions (e.g., temperature, moisture, wind) meet specifications in an approved prescribed fire plan prepared before burning. Treatments include burning in sagebrush and aspen to rejuvenate these habitat types for wildlife and range; and burning stands of beetle-killed lodgepole pine, either by under burning or as a stand replacement fire, to accelerate regeneration, reduce hazardous fuels, and to improve wildlife habitat (See Table 3).

Table 3. Potential prescribed burn areas identified in the Proposed Action
All acres are approximate.

<table>
<thead>
<tr>
<th>Proposed Treatment</th>
<th>Acres Proposed for Treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aspen-Shrubland Rejuvenation/Expansion</td>
<td>24,606</td>
</tr>
<tr>
<td>Hazardous Fuel Reduction-lodgepole pine</td>
<td>18,263</td>
</tr>
<tr>
<td><strong>Total acres proposed for treatment</strong></td>
<td><strong>42,869</strong></td>
</tr>
</tbody>
</table>
The long term goal is to restore and maintain fire regimes in these fire dependent ecosystems, thereby reducing hazardous fuel accumulations and encouraging natural regeneration and diversity.

Prescribed burns would be ignited from the ground (by hand) and/or from the air (using helicopters). In some cases vegetation may be cut by and hand and cleared to create a line of cleared vegetation for a defendable boundary to the fire. A fire would only be ignited when it is determined that the fire can be held. Also a contingency plan would be prepared if the fire exceeds its parameters.

**Use of Naturally Ignited Fire:** The Forest Service proposes to amend the Forest Plan to allow use of some naturally ignited fires from lightning to reduce hazardous fuels and encourage natural tree regeneration on approximately 68,972 of the 70,788 acres in remote areas within the analysis area (See Table 4).

<table>
<thead>
<tr>
<th>Geographic Area</th>
<th>Acres Proposed for Fire Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bowen-partial</td>
<td>2,955</td>
</tr>
<tr>
<td>Buffalo Park-all</td>
<td>14,934</td>
</tr>
<tr>
<td>Cabin Creek-all</td>
<td>11,512</td>
</tr>
<tr>
<td>Little Gravel-partial</td>
<td>15,648</td>
</tr>
<tr>
<td>Parkca-all</td>
<td>23,923</td>
</tr>
<tr>
<td><strong>Total available acres proposed for fire use</strong></td>
<td><strong>68,972</strong></td>
</tr>
</tbody>
</table>

The proposal is designed to maintain fire regimes and return intervals in forested stands that rely on disturbance for replacement. This would achieve benefits to resources such as wildlife by encouraging natural regeneration and increase diversity, and would allow reduction of fuel loading that have resulted from high levels of lodgepole pine mortality from mountain pine beetle.

If amended the Forest Plan would include a Wildland Fire Implementation Plan (WFIP) that would include the following parameters for use of fire in these areas. 1) The approved area including the Maximum Manageable Area (MMA-the maximum geographic limits of spread within which a wildfire use fire is allowed to spread), 2) The fire behavior prescription to be applied, and 3) Smoke management mitigation measures.

**Transportation System Management**

The Forest Service is proposing to manage Forest System Roads by designing actions to maintain recreation and management access while complementing wildlife and watershed values. Routes used by full sized vehicles and one motorized trail would be affected by this decision. Management of existing trails used only by ATV, mountain bike, snowmobile, foot or horse travel would not be addressed in this proposal. Proposed management may include:
- Constructing roads or trails required for recreation or management access if done without compromising wildlife and watershed values.
• Converting routes used by full-sized vehicles to trails to improve the range of recreation opportunities available and to continue to provide needed recreation or management access without compromising wildlife and watershed values.
• Closing (decommission) routes used by full-sized vehicles, to reduce negative impacts on wildlife and watershed, that are not required for recreation or management access.
• Converting closed routes to allow for administrative access only.
• Conversion of a way to a non-motorized trail to enhance recreational access.
• Construction of new road for access during harvest.

Motorized routes currently open to the public: The transportation proposed action would decrease the routes open to motorized access from approximately 98 to 85 miles, maintaining adequate recreational access in the area for the public.

Motorized routes currently closed to the public: The transportation proposed action would rehabilitate and obliterate approximately 86 miles of routes not currently open to the public, such as Level 1 roads (roads currently closed to all use), old logging roads, and user created routes, thereby improving wildlife habitat and watershed condition.

Converting Motorized Route to a Non-Motorized Trail: The transportation proposed action would convert approximately 2 miles of a route that is currently open to motorized travel to a non-motorized trail in order to improve watershed conditions from eroding soils.

Conversion of a way to a non-motorized trail: The transportation system proposed action would convert approximately 2 miles of a way to a non-motorized trail to enhance recreational access.

Construction of new roads to access to harvest areas: The proposal is to construct approximately 8 miles of new road to access treatment areas between Kaufmann Creek and Bronco Creek. These roads would be closed to the public during and immediately after harvest, then parts or all of the road would be obliterated after post sale improvement activities possibly up to 10 years after harvest.

Routes not on the travel system may be rehabilitated, including user created routes that may develop in the future. See the Transportation Management Proposed Action Map for specifics of the transportation proposal.

One of the objectives of this project is to complement the fuel reduction efforts currently underway on private lands. Because of this, some of the proposed treatment areas are adjacent to private lands. Existing public access routes would be used by the Forest Service and its contractors where possible. In some cases, a need for additional access across private land may be needed.

When a need for access across private lands is identified, Forest Service policy requires that the long-term access need for all uses of National Forest land be considered, not just the immediate need to complete a specific project. Therefore, long-term access, including perpetual public access across private land where necessary, would be pursued prior to accomplishing fuel reduction treatments adjacent to private land. If it is determined that perpetual access across
private land is not needed for long-term management of National Forest land, temporary access would be requested.

**Decision to be made by the Forest Service**

- Which areas to treat, if any,
- What types of vegetation treatment and the scope of treatments to use, if any,
- How to best implement vegetation treatments, if any,
- What changes in road management, if any, and
- Whether or not to amend the Forest Plan to allow for managing naturally ignited fires under prescription in remote areas of the landscape.

**One Environmental Assessment, two Decision Notices**

Although only one EA would be prepared, two decision documents (Decision Notices, or DNs) may be issued. One DN would cover the timber harvests, prescribed fire, and transportation system portion of the decision under NEPA and Forest Service regulations. A second decision would cover the proposed forest plan amendment to allow use of natural fire in portions of the analysis area. The Fire Use decision is a Forest Supervisor decision. Both DNs would be appealable (36 CFR Part 215).