Middle Fork Fuels Reduction Project

Purpose of the Project

The Middle Fork Fuels Reduction Project area has been identified as a wildland/urban interface (WUI) area of high priority for treatment. This is due to the concentration of private dwellings adjacent to National Forest System (NFS) lands and to the potential for fires starting in or spreading from these NFS lands. These potential fires may not necessarily be an abnormal occurrence from an ecological standpoint; however, the loss and damage that they might inflict on human and other resource values could be significant and would be considered unacceptable by many.

The Middle Fork Fuels Reduction Project (Middle Fork Project) has been designed to address the need for fuels reduction treatment in this WUI area. The purpose of these fuel reduction activities would be to create forest stand conditions that would lower the risk of future high intensity and severity wildfire (i.e., reduce the probability of a crown fire). Mechanical treatments and prescribed fire would be used to reduce the risk to wildland firefighters and residents of the WUI in the event of fire and to facilitate protection of human and natural resource values. In addition to fuel reduction, the prescribed fire treatments would also be designed to create a mosaic of vegetation conditions across the landscape that would benefit wildlife. Mechanical fuels treatments would be primarily focused near the boundaries of private and NFS lands, and forest cover retention for wildlife would be a high priority in much of the project area.

The Proposed Action

The Middle Fork Project proposal encompasses approximately 2,056 acres of NFS lands. Mechanical and hand treatments would be used to reduce tree densities and remove downed wood and slash on approximately 1,185 acres (see Tables 1, 2, and attached Map). Prescribed burning would be applied to approximately 871 acres (see Table 3) to reduce fuels and benefit wildlife.

Proposed mechanical and hand fuel reduction treatments would take place on land designated as Forest Plan Management Areas (MA) 4, 5, 7, 8, 13, 15, 15B, 16, 16B, 17, and 18. Proposed prescribed burning would take place in MA 2A, 2B, 8, and 16. The proposed activities would be consistent with the Forest Plan direction for these management areas. Each MA is briefly described below.

- MA 2A – Unroaded lands suited for dispersed recreation that meets the Recreation Opportunity Spectrum (ROS) classification of semi-primitive non-motorized.
- MA 2B – Unroaded lands suited for dispersed recreation that meet the ROS classification of semi-primitive motorized.
- MA 4 – Includes all campgrounds, picnic areas, boat launches, and other developed recreation sites excluding Big Mountain.
- MA 5 – Roaded timberlands in areas of high scenic value.
- MA 7 – Timberlands in areas of high scenic value.
- MA 8 – Unroaded timberlands in areas of high scenic value.
- MA 13 – Timberlands capable of providing mule deer and elk winter habitat.

- MA 15 – Timberlands where timber management with roads is economical and feasible.
- MA 15B – Timberlands where timber management with roads is economical and feasible, but special consideration must be made for the cross-country skiing use of the area.
- MA 16 – Timberlands where timber management is feasible using aerial logging systems.
- MA 16B – Timberlands where timber management is feasible using aerial logging systems with consideration for high recreation values and winter cross-country ski use.
- MA 17 – Riparian areas consisting of aquatic, riparian, and a portion of terrestrial ecosystems along perennial stream reaches, and some important streams with typically a seasonal flow. Timber management is feasible.
- MA 18 – Lands designated for wild, scenic, and recreation river management under the Wild and Scenic Rivers Act.

Mechanical Fuels Reduction

The 49 units proposed for mechanical or hand fuel treatment have been strategically located within the project area to focus on lands closest to private property while minimizing resource impacts. There are four main types of treatments included in this proposal; thinning, group selection, seedtree or shelterwood harvest, and hand fuel reduction. Generally, the mechanical treatment units would utilize ground based equipment for fuels reduction. The exception would be in units 9, 12, and 14 which are anticipated to need a skyline system to accomplish fuels reduction and units 31, 32, and 36 which are anticipated to require a helicopter.

Thinning treatments would usually remove the smaller and less vigorous trees first, favoring the larger, healthier larch, Douglas-fir, spruce, and lodgepole pine for leave trees. Spacing of trees would be variable depending upon the tree size, but would average between 15 and 25 feet between tree stems. The objective is to leave adequate distance between the tree crowns – both now and as the trees continue to grow – to reduce the risk of fire spread through the tree canopy. Most of the understory trees (mainly spruce, subalpine fir, and Douglas-fir) would be removed, though some may be left to provide species and forest structure diversity. The majority of hardwood trees would be left as well, although some may be felled for operational reasons. Thinning treatments would occur in mature stands and in sapling sized stands that resulted from past timber harvest.

Group selection is primarily proposed in forests dominated by spruce. This would result in small openings in the units of less than 2 acres. Group selection, rather than thinning, is used for fuels reduction in an attempt to reduce the amount of windfall in the remaining trees while providing areas of regeneration for favored species. This method of fuels reduction results in a discontinuous forest canopy which reduces the risk of fire spread through the tree crowns.

A seedtree or shelterwood harvest is a treatment designed to reduce fuels and provide adequate space for regeneration. Spacing between leave trees will generally be between 30 and 70 feet, with seedtree treatments leaving the least number of trees. The trees left in these areas would be primarily larch and Douglas-fir, which are less prone to windthrow in an open forest stand than species such as spruce or lodgepole. These units are intended to have regeneration of western larch and Douglas-fir primarily, either through natural regeneration or planting.

Hand fuel reduction treatments would be accomplished using chainsaws to cut or prune trees; the resulting slash and down wood would usually be hand piled. Trees targeted for removal would generally be small understory trees, although larger trees may be pruned in some areas to reduce ladder fuels. Hand fuel reduction is used where equipment use is not necessary due to the relatively small amount of material to be cut and piled or where other resource concerns (sensitive soils or riparian vegetation) limit the use of equipment.

Table 1. Mechanical Treatment Units

Unit	Acres	Management Area	Treatment Type
1	8	8	Thinning
2	43	17	Thinning
3	8	17	Thinning
4	3	17	Hand fuel reduction
5	112	17	Group Selection
6	31	17	Thinning
7	15	7	Thinning
8	2	7	Hand fuel reduction
9	36	15	Seedtree
10	28	15	Thinning
11	56	15	Thinning
12	28	15	Thinning
13	192	15	Thinning
14	87	15	Thinning
15	47	15	Group Selection
16	36	15	Thinning
17	40	18	Thinning
18	9	18	Seedtree
19	27	16	Seedtree
20	19	16	Thinning
21	10	16	Group Selection
22	2	16	Group Selection
23	14	18	Thinning
24	121	15	Thinning
25	46	18	Group Selection
26	20	18	Shelterwood
27	7	15B	Seedtree
28	10	4	Thinning
29	6	4	Hand fuel reduction
30	4	4	Hand fuel reduction
31	26	15B	Shelterwood
32	19	16B	Seedtree
33	20	4/5	Thinning
34	17	5	Seedtree
35	7	13	Seedtree
36	28	5	Thinning
37	1	13	Hand fuel reduction
Total	1,185		

Table 2. Summary of Mechanical Treatments

Treatment Type	Units	Acres
Thinning	1, 2, 3, 6, 7, 10, 11, 12, 13, 14, 16, 17, 20, 23, 24, 28, 33, 36	784
Group Selection	5, 15, 21, 22, 25	217
Seedtree / Shelterwood	9, 18, 19, 26, 27, 31, 32, 34, 35	168
Hand Fuel Reduction	4, 8, 29, 30, 37	16

Within all treatment units, downed wood (including existing fuels and those created by the tree cutting activities) would be removed to a relatively low level (less than 12 tons per acre) to reduce potential surface fire intensity. In most units this would be accomplished through the use of ground based equipment, such as piling of slash in the unit by excavators, or by removing material to a landing area. In the hand fuel reduction units, removal of excess downed wood would likely occur by hand piling. Some larger diameter (>12") downed wood would be left, if available, to provide for long-term soil productivity and wildlife needs. Any larger diameter (>18" diameter) larch or Douglas-fir snags would be left for wildlife habitat, except where felling is necessary for operational reasons.

No new permanent roads would be constructed to conduct fuel reduction activities for this project. Most units would be accessed for treatment using existing local, county, state, or NFS roads. Some units would require construction of short temporary roads or the use of historical road templates.

There are some units where private roads would likely be necessary to access the unit. These include Units 1, 2, 3, 4, 18, 21, 22, and 36. Permission from landowners along private roads would be necessary to treat these units.

All treatment activities would be designed to meet Regional Soil Quality Guidelines that restrict detrimental soil disturbance to less than 15% of the activity area. Effects to soils would be avoided or minimized by using low impact equipment to remove wood; use of designated skid trails; or limiting activities to winter months while operating on frozen ground or snowpack. Many of these practices would also help avoid or minimize the spread of noxious weeds. Additional measures would be used to further minimize noxious weed spread, such as cleaning equipment before entering the treatment areas and seeding disturbed areas with Montana-certified weed-free grass ground cover. Temporary and historic roads would be rehabilitated following fuel treatments. All NFS roads utilized during fuels reduction activities would be improved and/or maintained to Montana State Best Management Practices (BMP) standards.

Most mechanized equipment would not be allowed to operate during the spring grizzly bear use period (April 1 – June 30). No mechanical treatments within old growth forest would occur. All treatments would be in compliance with Montana Stream Management Zone (SMZ) laws and Inland Native Fish Strategy (INFISH) direction.

Trees removed may provide a commercial product, and sale of these commercial products would be pursued to increase the economic efficiency of the project and reduce costs to taxpayers.

Prescribed Fire

There are five proposed prescribed burn units covering approximately 871 acres. The units are all located east of the Great Bear Wilderness. They focus primarily on south or southeast aspects and range from about 3,600 feet in elevation near the bottom of the units, to nearly 7,000 feet elevation at the upper portions of some units. They have been specifically located to take advantage of natural barriers and to prevent undesired fire spread. These barriers include rocky areas near the ridgetops, and north aspects that are less prone to burn in the spring and fall. Details outlining implementation strategies and desired weather conditions for prescribed burning would be described in a future site specific prescribed fire burn plan. This plan would include an analysis of risks and identify mitigation methods to avoid an escaped fire.

Heavily forested conditions exist across most of the area on the more northern and eastern aspects near the prescribed burn units. More open forest and shrub-dominated openings exist in some portions of the burn units, typically on the drier southerly aspects. The prescribed fire treatments would be designed to target the shrub dominated areas of the burn units. The objective of the prescribed burning would be to reduce conifer encroachment into the shrub dominated areas, rejuvenate wildlife browse by stimulating re-sprouting of fire adapted shrubs and grasses, create a more diverse mosaic of vegetation conditions across this landscape, reduce down fuel accumulations, and diversify wildlife habitat. Whitebark pine occurs at the highest elevations. An assessment would be made before prescribed burning to determine any healthy areas of whitebark pine. Efforts will be made to avoid causing mortality from prescribed fire in areas of healthy whitebark pine.

Implementation of the prescribed burns could extend for several years into the future depending on the occurrences of desirable prescribed burning weather opportunities.

Table 3. Prescribed Fire Units

Unit	Acres	Management Area
A	70	8
B	241	16, 2A
C	250	2B
D	233	16
E	77	2A
Total	871	