

APPENDIX B

Design Features of the Selected Activities

Best Management Practices (BMP)

Appendix A in the Environmental Assessment (EA) includes a complete list of the specific BMPs applicable to all (or one specific) units. Any unit specific or treatment specific BMP will be linked to the applicable implementation area.

Duration of Activities (Includes Season Requirements)

Prescribed burning may begin as early as the fall of 2008 dependant upon burning conditions. Mechanized fuel reduction treatments and other project activities (such as BMPs, culvert removals, and road management actions) may also begin in the fall of 2008.

The specific timing of the burns is based on prescription parameters for weather and fuel moistures determined in a prescribed fire burn plan. Suitable burning conditions typically occur in the spring, summer, or fall seasons although it may be several years before the right burning conditions occur. Burning parameters will be designed to allow fire to accomplish the resource objectives of reducing the encroaching conifer trees, removing dead and dying surface fuels, and rejuvenating shrub/grass/forb dominated openings. Most burn units will probably be ignited by helicopter and may take several days to complete; some units may be hand ignited.

The mechanized fuels reduction treatments with a commercial component may require up to 3 years for completion. Treatments with a non-commercial component (i.e. sapling thinning) may require up to 4 seasons to complete.

Most project activities will not be allowed to occur from April 1 through June 30 to minimize effects to grizzly bears during the critical spring use period. Exceptions to this include prescribed burning, planting, and noxious weed spraying activities. Road treatments (BMPs and culvert removals/replacements), burning of slash or landing piles, and thinning of saplings may also occur during the spring period if they are located along open roads.

Most units do not have any restrictions on treatment activities other than the April 1 to June 30 spring season. A few units require certain seasons of operation due to soils, grizzly bear security core, a known eagle nest near Unit M2, and/or proximity to the Schnaus rental cabin. Table 5 in the Decision Notice identifies seasonal restrictions by unit. Seasonal requirements not displayed in the table include the following:

If Hay Creek or Moran Creek Roads are plowed to provide winter access to mechanical fuels treatment units, then use of the road by contractors will be restricted on weekends and Federal holidays from December 1 to March 31. As a result, snowmobile use will only be permitted on those roads during the weekends during that same time-period. If other

designated snowmobile routes are used for fuels treatments during the winter, snowmobiling may be prohibited during logging activities.

Stream channel work associated with culvert removal and upsizing will be performed between July 15 and August 30 to minimize impacts on fish spawning.

Soil Productivity

All mechanized units that remove commercial products will be logged using designated skid trails, although equipment will occasionally leave the trails to access trees or accomplish other activities.

From a soils viewpoint, logging may occur in either winter or summer (subject to applicable timing restrictions required for other resources such as grizzly bear) with the exception of Unit BB, in which mechanical fuels treatments must occur in the winter. In all seasons, skid trails must be spaced on average 75 to 100 feet apart. The goal is to occupy less than 15 percent of the treatment area, which includes soil disturbance from skid trails, temporary roads, and landings associated with either past activities or proposed activities.

All existing roads and skid trails will be reused to the extent feasible unless doing so will adversely affect soil, water, or other resources. If roads or trails cannot be reused, their extent must be considered when laying out additional skid trails. Whenever possible, logging will occur in the summer when the soils are drier than field capacity as determined by the hand-feel method described in the Soils section (Section O) of the Project File.

Logging in winter will only occur when there is enough settled snow and/or frozen ground to protect the soil from detrimental disturbance. If equipment does not mix soil into the snow or cause muddy water to bleed into the snow, then conditions are right for winter logging.

All mechanical fuel reduction will be accomplished with excavators, chippers, or other equipment that is light on the ground. All equipment will, to the extent feasible, remain on skid trails.

Fuel reduction/slash disposal will occur after the material to be piled has sat for one wet season in Units B, C, Q, R, HH1, and HH2 unless the material is chipped or underburned. These units are slated for patch seedtree treatment and will have a high amount of material removed.

Sale administrators will monitor soil moisture conditions prior to allowing equipment to begin operations in summer and monitor snow and temperature conditions prior to winter logging. This monitoring must be documented in the Timber Sale Daily Report.

All prescribed burning units will be ignited when burning conditions will maintain soil erosion and nutrient levels within the range of historic burns.

All treatment areas currently have less than 15% detrimental soil disturbance. If monitoring after project implementation indicates that detrimental soil disturbance for any given unit exceeds or equals 15 percent, then all or a portion of the following actions will be used to begin the restoration of soil quality. Restoration will occur on sites with a high amount of detrimentally disturbed

ground such as designated skid trails and landings. Site conditions will be used to determine which mitigations will be used. These mitigations do not result in instant restoration of detrimentally disturbed soils; rather they begin the restoration process.

- Scarify heavily used skid trails and landings with the teeth on an excavator bucket to a depth of 2 to 4 inches.
- Plant Montana-certified, weed-free native grasses on the scarified soils as recommended by the Forest Botanist.
- Plant native shrubs/trees where needed to augment natural vegetation and scarification.

All temporary roads constructed for this project that utilize existing road templates will be reclaimed by removing any installed culverts or temporary bridges, by placing large woody material on the template (where that material is available), and by seeding exposed soils with the native plant mix as specified by the Forest Botanist. In addition, all newly constructed temporary roads will be reclaimed after use, as soon as logistically practicable. The reclaiming of new temporary roads will include recontouring the entire road template to natural ground contour and, to the extent feasible, placing the top soil back on the soil surface.

Access/Road

Public access will remain restricted on closed roads on NFS lands during administrative use. Erosion control work (e.g. drain dips) and road maintenance work, such as road grading, will occur as needed.

Skid trails and temporary roads within treatment units that are at risk of off-highway vehicle (OHV) use will be closed in a manner that discourages future OHV use (e.g. slash and down woody material scattered on trail surfaces, or recontouring if necessary). Project implementation personnel will consult with District Recreation Specialists to identify at-risk units and aid in development of mitigation measures. Adequate signing, barriers, and monitoring will be a part of this effort. Any reports of illegal OHV use within the project area will be investigated by Forest Service law enforcement personnel and appropriate actions taken to prevent such use.

To protect the safety of the public using the area, contractors will be required to post signs warning the public of activities and traffic associated with the treatments.

Grading may be needed in order to maintain road drainage during project activities. Dust abatement using non-petroleum based products on NFS open roads and blading will occur as needed on the main haul routes.

Personal use firewood gathering will not be allowed by contractors or other workers on newly constructed roads or any other roads not open to motorized use by the public.

All newly constructed (temporary) roads will be closed by sign or gate to public motorized use during and after road building and other activities. All existing roads currently closed to public motorized use will remain closed during implementation of all activities.

Hunting, transporting of hunters, and transporting of game will be prohibited by timber, road building, or other contract workers while working on or off roads closed to motorized vehicle use by the public.

Old Growth

The Red Whale Project does not treat old growth forest as this forest type is limited in the area due to past fire history and harvest activities.

Snags, Downed Woody Material, Hardwood Tree Species

All large, old ($\geq 18''$ dbh, >150 years) Douglas-fir and western larch trees, live or dead, will be left standing within the treatment units, unless they create a safety hazard. If felled for safety reasons, these trees will be left on site. A maximum of 12 tons per acre of existing downed woody debris will be left on the site. All larger ($>12''$ diameter), soft (partially rotted) downed wood will be left on site as well, unless removal is necessary for operational reasons or to reduce fuels to an acceptable level. Hardwood trees will not be targeted for removal and will be left intact to the extent possible, considering operational feasibility.

Noxious Weeds/Sensitive Plants

Specific actions related to noxious weed concerns include the following:

- All off-road logging and construction equipment use associated with this project and temporary road construction will be power scrubbed or steam cleaned on the undercarriage and chassis before transport to the project area. This cleaning shall remove all soil, plant parts, seeds, vegetative matter, or other debris that could contain or hold seeds. All subsequent move-ins of equipment to the project area shall be treated in the same manner as the initial move-in. Off-road equipment includes all logging and construction machinery, except for log trucks, chip vans, service vehicles, water trucks, pickup trucks, cars, and similar vehicles.
- Landings, temporary roads, and roadsides with soil disturbance will be seeded with a Montana-certified, weed-free grass ground cover as soon as practical after disturbance, to provide for site protection until native species are established (seed mix specified by the Forest Botanist).

If noxious weeds are found on NFS roads used for hauling of commercial products, spraying of these weeds will occur along the road prisms generally at least 2 times, once before hauling and once after hauling is completed. Although the intent is to spray pre- and post-hauling, there may be some exceptions to this due to timing of logging and appropriate season of application. Spraying typically occurs during the spring or fall usually between June and early July, or during September.

Other roads that will be bermed that are unassociated with unit treatment activities, (i.e. not used for hauling) will be surveyed and evaluated for possible weed treatments before roads are

bermed. Treatment of these roads will be evaluated and prioritized with the strategy outlined in the Flathead National Forest Noxious and Invasive Weed Control Decision Notice (May 2001).

If unknown populations of sensitive plants were found during project implementation, they will be evaluated and protected as necessary to retain population viability.

These treatments will not eliminate the potential for new weed populations, but they will reduce the potential. Implementation of treatments will depend on sufficient availability of funds from implementing the contract. Should there be insufficient funds available from this contract, treatments will compete for funding with other Forest-wide stewardship resource conservation projects, or will be prioritized with other Forest weed sites-of-concern using the Forest annual weed budgets.

Visuals

If piling and burning of slash is the chosen method of disposal of fuels, additional efforts will be made to dispose of any piles clearly visible from homes and open roads. If pile remnants still occur after the first treatment and continue to have visual impacts, further efforts will be made to dispose of this material. These efforts could include re-piling and then burning, chipping/shredding, or hauling the material away. Generally, slash and woody debris will be disposed of within two years following treatment.

Air Quality

All prescribed burning will comply with the Smoke Management Plan prepared by the Montana Air Quality Bureau and administered by the Montana State Airshed Group (Forest Plan, page II-64) through a Memorandum of Agreement. The Environmental Protection Agency (EPA) has approved these plans as meeting the requirements of the Clean Air Act as amended in 1990 and 1999 (42 U.S.C. 7401 et seq.). The U.S. Forest Service is a member of the Montana/Idaho State Airshed Group. This coordination ensures that during project implementation burning only occurs under conditions that would protect air quality and meet state and national standards.

Water, Riparian Areas, and Fish

All treatments will comply with Montana Stream Management Zone (SMZ) laws and Inland Native Fish Strategy (INFISH) direction. This includes retaining INFISH buffers along stream channels as follows:

Fish-Bearing Streams	300 ft
Permanently Flowing, Non-Fish Bearing Streams	150 ft
Seasonally Flowing or Intermittent Streams	50 ft
Seasonally Flowing or Intermittent Streams (Priority Watersheds: Whale & Red Meadow)	100 ft
Ponds, Lakes, or Wetlands > 1 Acre	150 ft
Ponds, Lakes, or Wetlands < 1 Acre	100 ft
Landslide Prone Areas	100 ft

No fire ignition for prescribed burns will occur within INFISH buffers to minimize vegetation loss and sediment delivery to streams.

All timber sale contracts will require dust abatement measures and log haul restriction during spring break-up to minimize the delivery of sediment to streams.

Best Management Practices (BMPs) will be employed during all applicable project activities. BMPs will include the stabilization of all reconstructed stream channels with straw mats, the planting of native grasses and shrubs, and other measures as necessary. Refer to Appendix A in the EA for a detailed discussion of BMPs and Soil and Water Conservation Guidelines.

Culverts will be removed or upsized on several bermed roads within the project area to improve aquatic conditions (Table 10). Stream channel work associated with culvert removal and upsizing will be performed between July 15 and August 30 to minimize impact on fish spawning. Mitigation measures as described in Appendix D of the U.S. Fish and Wildlife Service's Biological Opinion of the Effects to Bull Trout and Bull Trout Critical Habitat from Road Management Activities on National Forest System and Bureau of Land Management Lands in Western Montana will be followed (Project File Exhibit L-6).

Table 10. Culvert Removal or Upsizing.

Road #	Culverts Upsized	Culverts Removed
9839	-	7 ¹
1675	-	1
5241	1	-
1671	2	-
1662	-	5
1677	2	-
1681	3	12
Total	8	25

¹ At six stream crossings

Wildlife and Threatened, Endangered, and Sensitive Species

If a den, nest site, or other important habitat feature for any threatened, endangered, or sensitive species is discovered within or in close proximity to any treatment unit, project activities will be suspended until the District Wildlife Biologist approves a resumption of activities.

Documentation of a discussion between the contractor/purchaser and a Forest Service representative (e.g. Sale Administrator) regarding the requirements/responsibilities relative to the Northern Continental Divide Ecosystem Food Storage Order shall be provided to the District Wildlife Biologist.

Any sightings or sign of grizzly bear use of the project area will be documented and a copy of this documentation will be provided to the District Wildlife Biologist.

Vegetative screening adjacent to open roads will be provided, if available, for some units in order to provide additional wildlife security for large mammals during hunting season. Screening will be site-specific and depend upon the capability of the existing vegetation to provide screening; screening could be provided by tall shrubs, or sapling and larger size trees. Screening will be provided, if available, in Units C, D, E, G, L, Q, 4C, 4D, DD, 4M, 4N, 4P, and 4Q.

Heritage

If previously unknown heritage resources are encountered during implementation of the project, activities at the site will be halted and the Forest Archaeologist will be notified immediately. Activities will not resume until adequate protective measures are developed and specified in the field.

Fuel reduction treatments will occur around the known heritage sites in Unit BB. This will include thinning of the dense tree cover around the historic structures to protect them against possible loss in a future fire. Treatment will avoid direct disturbance of the structures, which may involve directional felling or hand thinning/removal of trees that are very close to the structures.

Monitoring

The Contract Administrator monitors all treatment units during implementation to ensure that contract specifications and applicable treatment objectives are being met. Contract specifications will be included to ensure resource protection during implementation. Refer to the specific resource areas above regarding individual resource treatment specifications.

To ensure the regeneration units are adequately stocked, monitoring the establishment and survival of planted or naturally regenerated conifer and shrub seedlings will be required. Additional monitoring will likely occur (depending upon funding sources) to assess the result of treatments on specific resources, including the following.

- Evaluation of post-treatment forest conditions (tree density, species, soil condition, down woody debris, etc.) within 3 years following treatments in all units.
- Culvert removal sites will be monitored the second season following removal to insure the prescribed erosion control has been effective and no additional work (e.g. grass seeding) is necessary. No monitoring report is required for this activity.
- In all treated areas and other disturbed ground (such as constructed temporary roads and log landings), and along all system roads used to transport forest products, annual surveys will be conducted for three years following sale activities to identify any invasion of noxious weeds. Should weeds be discovered, the site will be evaluated for treatments and prioritized with the strategy outlined in the Flathead National Forest Noxious and Invasive Weed Control Decision Notice (May 2001).
- Monitor quality of forage vegetation in wildlife habitat improvement units.
- Winter monitoring of snowshoe hare response to thinning design in Unit T4.
- Monitor Units H, K, L, O, BB, CC, and DD to determine if treatments meet soil quality standards. These units are the most likely to be close to the exceeding the soil quality standards. If monitoring indicates soil quality standards are exceeded, then additional

units will be inspected. If the activities cause 15 percent or more detrimental soil disturbance, then restoration activities will occur to move the units towards improved condition.