

Technical Specifications Guidelines Hazardous Fuels Reduction Practices

State of Montana Water Quality Best Management Practices (BMP), Streamside Management Zone (SMZ) guidelines and the Air Quality/burning permit requirements shall be followed when accomplishing all hazardous fuels reduction practices. Consult your Department of Natural Resources & Conservation (DNRC) Service Forester for information regarding these.

Thinning

Thinning is designed to:

- 1) Create space between tree crowns to reduce the chances of a fire jumping between trees.
- 2) Treat fuels between the ground and crowns of larger trees by removing ladder fuels to reduce the chances of a ground fire from becoming a crown fire.

Thinning guidelines:

- 1) The recommended amount of separation between tree canopies is determined by steepness of slope. On the average this requires at least 10 feet (flat to gentle slope / 0–20%); 20 feet (moderate slope / 21–40%); or 30 feet (very steep / over 41%)
- 2) Clumps of large diameter trees up to 1/8th acre in size may be left within thinning areas if noted in the project description section of the cost share agreement. Within the clumps, crown spacing may be less than described in #1 above. The clumps shall be scattered across the project area. A minimum spacing of 10–15 feet between the crowns of the trees shall be obtained around the perimeter of the clumps. Also within the clumps small diameter trees less than 4 inches in diameter shall be cut and the slash treated to meet the downed Woody fuel cleanup guidelines.

Pruning

Tree pruning is designed to:

- 1) To create a distance between the ground fuels and the tree crowns.
- 2) To create a longer distance between branches of thinned trees at ground level.

Pruning guidelines:

- 1) Pruning of all residual trees (trees left after thinning) will be accomplished by cutting off all branch to at least 8 feet above ground level, or to a height of 1/3 the total height of the tree, whichever is less. Branch stubs shall be 3 inches or less after pruning.
- 2) Pruning can occur within riparian or upland areas.

Downed Woody Fuels Cleanup

This could apply for:

- 1) Removal of slash created by thinning and pruning
- 2) Fuels already existing from previous management activities
- 3) Cleanup of naturally occurring downed woody materials on the forest floor.

Downed Woody Fuels Cleanup Guidelines:

All woody debris other than duff and litter will be picked up and either piled by hand or machine for later burning, or chipped with chips spread across the forest floor in an even manner, or taken off site for disposal. Downed woody debris is defined as any woody branch or woody product greater than 2 inches in diameter at the large end and longer than 6 feet in length. Up to 50 pieces exceeding this size may be left per acre. Homeowners may often want to cleanup to a greater standard.

- 1) Hand Piling: Normally used on steep slopes or where equipment is unable to work. Piles should be located and sized to protect residual trees from being scorch when burned. All piles must be 95% disposed of by burning, chipping or by hauling slash off site. Any remaining pieces after burning may be scattered if they met the down woody cleanup guidelines.
- 2) Dozer / Excavator Piling: This method can be effectively used when there are large quantities of fuels that need to be treated. Piles should be located to protect residual trees from scorching when burned and numerous small piles rather than large piles to prevent scorching the soils. All piles must be 95% disposed of by burning, chipping or by hauling slash off site. After burning, any pile residue should be scattered if they met the down woody cleanup guidelines.
- 3) Chipping / Mulching: If the landowner chooses this method, all materials greater than 2 inch in diameter should be chipped or mulched. Debris may be disposed of by piling in concentrations that imitate decaying logs, spread to no more than 2 inches deep or hauling off site.

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